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PLATO ON REIFICATION AND
INTELLECTUAL PROPERTY

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Abbreviations used

Principles of Plato's theory of forms

(C)	Principle (P.) of causation
(IS)	P. of the impurity of sensibles
(NC)	P. of non-causation by contraries
(O)	P. of oneness
(OM)	P. of one over many
(P)	P. of purity
(U)	P. of uniqueness
(RP)	P. of radical purity
(RS)	P. of radical separation
(S)	P. of separation
(SP)	P. of self-predication

Arguments, assumptions, and models

[DP]	Definition of "... partakes of ..."
LA	Likeness Argument
(NI)	Non-identity assumption
[PM]	Pattern Model
TBA	Third Bed Argument
[TM]	Thought Model
TMA	Third Man Argument

Standard editions

DK	Diels and Kranz, <i>Fragmente Der Vorsokratiker</i> .
LSJ	Liddell and Scott, <i>A Greek-English Lexicon</i> .

Rules of logic

$\wedge E$	"... and ..." elimination
$\wedge I$	"... and ..." introduction
$\vee E$	"... or ..." elimination
$=E$	Identity elimination
$=I$	Identity introduction
A	Assumption
CP	Causal proof
EE	Existence quantor elimination
EI	Existence quantor introduction
K	Axiom of distribution
MPP	<i>Modus ponendo ponens</i>
RAA	<i>Reductio ad absurdum</i>
RN	Rule of necessitation
UE	Universal quantor elimination
UI	Universal quantor introduction

Others

iff	if and only if
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1 INTRODUCTION

Abstract property. When we use concepts of intellectual property, above all those of patents and copyrights, we seem to commit ourselves to some form of metaphysical realism about abstract objects, for property is, roughly put, a bundle of rights, privileges, powers and immunities somebody has in respect to something,¹ and “we ought to be able to specify what the relevant object of property is to which the incidents of ownership relate.”² Precisely this, however, seems to be difficult. James Bessen and Michael Meurer point out that “the annual number of patent lawsuits filed in the U.S. has roughly tripled from 1970 to 2004”³ and argue that this is largely due to the “fuzzy boundaries”⁴ of patents. Thomas Powers makes the similar argument that the “meandering of case law”⁵ in the area of copyright stems from the difficulty of drawing a sufficiently clear line between ideas and their expressions. Apparently, there is something about the concept of property and abstract objects that leads us to describe them in a way that leaves too much room for interpretation, which suggests that abstract objects are somewhat ill-suited for property protection. Thus Christian Schmidt, to name but one,⁶ quips that the application of the concept of property to the intellectual realm “seemingly succeeds without effort at what has presented itself as a difficulty to be overcome ever since the beginnings of modern philosophy, the jump from the *res extensa* to the *res cogitans*.”⁷

My thesis. I will argue that the descriptions of abstract objects that are used in order “to specify what the relevant object of property is to which the incidents of ownership relate” leave too much room for interpretation because: (1:)⁸ the form of metaphysical realism about abstract objects that using concepts of intellectual property commits to is a flavour of Platonism, though one that Plato, at least the late one, would find unpalatable; (2:) this flavour of a

¹ Cf. Mossoff, “What Is Property?”; Stepanians, “Eigentum zwischen ‚Ding‘ und ‚Bündel‘”; Schmidt, *Individualität und Eigentum*, chap. 1; Bessen and Meurer, *Patent Failure*, chap. 1.

² Biron, “Two Challenges to the Idea of Intellectual Property,” 386. See also Wreen, “The Ontology of Intellectual Property.”

³ “What’s Wrong with the Patent System?”.

⁴ Ibid. See also their *Patent Failure*.

⁵ “Metaphysics in the Realm of Software Copyright Law,” 99.

⁶ The case against intellectual property as *property* is also made by, among others, Drahos, *A Philosophy of Intellectual Property*, chap. 7–9; Lessig, *Code*, chap. 10; Stallman, “Did You Say ‘Intellectual Property’?”. For a discussion, see my “Kalkulierte Originalität,” sec. 1.

⁷ “Die zwei Paradoxien des geistigen Eigentums,” 758 (my trans., his italics).

⁸ Throughout this work I will use numbers or abbreviations in brackets, e.g., (1), [4], (NI), to refer to statements that have been made earlier. These labels will be introduced using a colon, i.e., (NI) is introduced as “(NI:).” To avoid confusion between numeric labels and enumerations, the latter are also written with colons.

Platonic model of abstract objects abets describing abstract objects as concrete ones or, put technically, the reification of abstract objects (from the Latin *res facere*, making a thing), to the effect that the descriptions so given lack the normative force that they would require to be useful in litigation.

Outline. I will first sketch out a Platonic model of abstract objects, namely, Plato's middle period theory of forms, and then argue that Plato, at the end of his middle period, not only realises that his middle period theory reifies abstract objects, which gives rise to difficulties similar to those encountered in intellectual property litigation, but also pins down the premises of his theory that lead to the reification of abstract objects (in chap. 2). Since my aim is to expound the model of abstract objects that is employed in intellectual property litigation and the reasons for which this model yields descriptions that lack normative force, the bulk of my argument rests on this part of my thesis. Having done this I will argue that concepts of intellectual property strongly suggest a model of abstract objects that is similar to Plato's middle period theory of forms and that we can explain that software patents are fuzzy, context-sensitive, and often appear to be trivial by drawing on Plato's discussion of reification in the *Parmenides* (chap. 3). Software patents are chosen as an example for three reasons: (1:) whereas copyright is about expressions of abstract objects, patents are about abstract objects as such, which renders them a better example for property rights; (2:) software patents are the subject of a particularly controversial debate, to the effect that they are well researched, including empirical studies; (3:) software provides an example that should be comprehensible to a broad audience, that is, in comparison to other patentable subject matters, for example, chemical processes, medicines, or genetically engineered organisms. I will conclude with a summary of my findings and suggestions for further research (chap. 4).

2 PLATO'S *PARMENIDES* ON REIFICATION

What about the large itself and the other large things? If you look at them all in the same way with the mind's eye, again won't some one thing appear large, by which all these appear large?

—Plato, *Parmenides*, 132a

A substantive makes us look for a thing that corresponds to it.

—Wittgenstein, *The Blue Book*, 1

2.1 Introduction

We tend to talk about abstracta as if they were some kind of things; for example, “justice is desirable” seems to imply that there is something, namely, “justice,” that has the property “... is desirable,” similarly, “red is a colour” seems to imply that there is something “red” that has the property “... is a colour.” Plato sees this as one piece of evidence, among others, that there are such things as justice or redness, which he calls “forms,”⁹ for if we know that justice is desirable, about what do we know that it is desirable, if not justice? Put another way, if we know that something, *a*, has a property, *F*, *a* must exist, at least in some sense, for our knowledge must refer to something, otherwise that knowledge would be false and, ergo, not be knowledge at all; regardless of what kind of thing *a* denotes.¹⁰ Wittgenstein, by contrast, argues that the way we talk about abstracta is a source of “bewilderment”;¹¹ it is not that he does not agree that there is something about “*a* is *F*” that seems to imply that for *a* to be *F*, *a* must first of all *be*, “a substantive makes us look for a thing that corresponds to it,”¹² but when we look for such a thing, we do so because we expect our language to reflect, in a direct way, what there is, and it is this expectation that he deems unreasonable.

⁹ Although it is customary to emphasise that one refers to Platonic forms by writing them with a capital “F,” i.e., as “Forms,” this strikes me as too technical. Plato chooses the term “form” (*eidos*) for a reason, the forms he talks about are just that—forms; a too technical rendering of the term risks obscuring this.

¹⁰ Cf. *Cratylus*, 439b–440e; *Republic*, 5.476e–478d; *Parmenides*, 160b–164b; *Theaetetus*, 184d–190a, 188d–189b, and 201d–208b; *Sophist*, 236d–264c. Plato's writings are cited from the *Complete Works*, ed. by Cooper and Hutchinson.

¹¹ *The Blue and Brown Books*, 1.

¹² Ibid. Schneider points out that Wittgenstein probably wrote this passage with Plato in mind. See his “Sagen‘ und Zeigen‘,” 109–110. Wittgenstein, indeed, notes that his standpoint is “opposed to the one represented by Socrates in the Platonic dialogues.” *Bergen Electronic Edition*, Ms. 302.14 (my trans.). See also Ms. 309.30 and 309.42–44.

Wittgenstein finds that rather when we say “justice is desirable” or “red is a colour,” we say something about the roles that the words “justice” and “red” play in our language-games.¹³ For example, we may use “justice is desirable” to clarify the rule “to do one’s own part is just,” or rather to clarify that “justice is desirable” expresses a rule; or we may say “red is a colour” in the course of an explanation of the rule “stop at red lights,” and that, so Wittgenstein, would not imply that there is a mysterious being, redness, that has the property “... is a colour,” but that the word “red” should be understood in a similar way as “yellow” and “green.” That being so, the inference from “*a* is *F*” to “*a* is” is a non sequitur, for without doubt the rules of our language-games have no impact on the fundamental ontological furniture of the universe. Put differently, when we try to account for the meanings of words such as “just” or “red” by “looking for things that correspond to them,” then we account for these words as if their role in our language-games were to denote ordinary things, without being aware of the “as if”—in other words, we *reify* their meanings.¹⁴ We do this, according to Wittgenstein, because we are misled by the “surface grammar”¹⁵ of our language, for we appear to learn the meaning of words by pointing at things; for example, people who want to build a house may “make a convention” about the meanings of the words they need to coordinate their actions by “pointing to a building stone and saying ‘that is a pillar’,”¹⁶ and we seem inclined to take this connection between the copula “is” and our explanation by way of pointing at something anywhere, even into the abstract realm where, however, there is nothing at which we could point. But it is not just us who are misled by the surface grammar of our language, Plato may be misled by the surface grammar of his language too, for Gregory Vlastos argues that he assumes that “the verb ‘is’ and all its substantival, adjectival, or adverbial variants have a single meaning.”¹⁷ Plato, indeed, would find that when we say “that is a pillar,” we mean that “that” has the form of a pillar, that “that,” in a way, resembles pillariness; in other words, “is” prompts us to make a comparison,¹⁸ and, at least during his middle period, Plato appears prepared to take this connection anywhere, whether we talk about shuttles or virtue, beds or the form of beds, “is” works in the same way.¹⁹

¹³ Cf. *Philosophical Investigations*, sec. 1–15, 23, 47, 143–148, and 652–656; *Philosophical Grammar*, sec. 27–30, 45–56, and 68.

¹⁴ Wittgenstein himself does not use the term, but Demmerling proposes a Wittgensteinian theory of reification, with which my usage of “... reifies ...” conforms. See his dissertation, *Sprache und Verdinglichung*, chap. 2 and 4. Demmerling has also written a short paper in English, where he outlines the argument of his dissertation, namely, “Language and Reification.”

¹⁵ *Philosophical Investigations*, sec. 644.

¹⁶ Wittgenstein, *Philosophical Grammar*, sec. 19.

¹⁷ “The Third Man Argument,” 334. Wittgenstein, likewise, uses the different functions of “is,” “as the copula, as the sign of equality, and as the expression of existence,” to illustrate how our everyday language gives rise to “the most fundamental confusions.” *Tractatus*, sec. 3.323 and 3.324.

¹⁸ Cf. *Cratylus*, 398a–d, 439a–b; *Phaedo*, 96e–102a; *Republic*, 6.508d–511e, 7.514a–518b, 10.596b–598d; *Symposium*, 209e–212c. See sec. 2 for a discussion.

¹⁹ Aristotle, likewise, argues that “the exponents of the forms [...] cannot explain what are the imperishable substances of this kind which exist besides particular sensible substances; so they make them the same in kind

Yet in the *Parmenides*, a dialogue Plato writes at the end of his middle period,²⁰ he himself shows that if we “look at [ordinary things and forms] in the same way” (132a),²¹ we get caught up in a regress, to wit: (1:) assume that we say that something is such-and-such, then we do because it resembles a form (e.g., we call some flower “red” because it resembles redness); (2:) thus, if we “look at [these two] in the same way,” they will appear to us alike (we may look at the flower and then imagine redness and will find their colours to be similar); (3:) but if two things appear to us as alike, that would seem to be because they share the same form (if the flower and redness have a similar colour, then this would seem to be because there is something about their colours that is similar, say, another shade of red that is located between them in the colour spectrum); (4:) so there would have to be another form, by virtue of which that thing and the first form appear to us as alike (this new shade of red); (5:) but the same reasoning can be repeated for this new form, and for the form after that, and so on, ad infinitum (cf. 132a–b, 132d–133a). What we should make of this regress has been the subject of much debate. Generally speaking, there are three positions: (1:) the *Parmenides* is a “record of honest perplexity,”²² it discusses difficulties for Plato’s theory of forms that he, Plato, cannot or at least does not address;²³ (2:) the *Parmenides* discusses difficulties for the theory of forms, but Plato can and does address them;²⁴ (3:) the *Parmenides* discusses difficulties, but not of the theory of forms, but of misrepresentations, misconstructions, or incorrect uses of that theory.²⁵ (2) is also my own point of view,²⁶ for reasons that will

as perishable things (for these we know); i.e., they make ‘Ideal Man’ and ‘Ideal Horse’, adding the word ‘Ideal’ to the names of sensible things.” *Metaphysics*, 7.1040b. See also 1.990b–991b, 7.1038b–1040b.

²⁰ Cf. Brandwood, “Stylometry and Chronology”; Meinwald, *Plato’s Parmenides*, chap. 10. Lienemann, by contrast, writes that “the *Parmenides* is customarily counted among the group of Plato’s late dialogues, though it is usually seen as one of the earliest of that group.” *Die Argumente des Dritten Menschen in Platons „Parmenides“*, 17 (my trans.). That said, whether the *Parmenides* is a late dialogue of Plato’s middle period or an early one of his late period makes no difference for the purposes of this chapter.

²¹ Unless specified otherwise, references in this chapter are to the *Parmenides*.

²² Vlastos, “The Third Man Argument,” 343.

²³ So, e.g., Owen, “The Place of the *Timaeus* in Plato’s Dialogues”; Vlastos, “The Third Man Argument”; “Text and Logic of the Third Man”; Allen, *Plato’s Parmenides*. To avoid confusion, Allen argues that the *Parmenides* is aporetic, but that these aporias are only an important lesson to be learnt, rather than being fatal to the theory.

²⁴ So, e.g., Ryle, “Plato’s ‘Parmenides’”; Runciman, “Plato’s *Parmenides*”; Meinwald, *Plato’s Parmenides*; “Good-bye to the Third Man”; Peterson, “Plato’s *Parmenides*”; “The Language Game in Plato’s *Parmenides*”; Rickless, “How *Parmenides* Saved the Forms”; *Plato’s Forms in Transition*; Scolnicov, *Plato’s Parmenides*.

²⁵ So, e.g., Cherniss, “*Parmenides* and the *Parmenides* of Plato”; “The *Timaeus* and Plato’s Later Dialogues”; Peck, “Plato Versus *Parmenides*”; Bestor, “Plato’s Semantics and Plato’s ‘*Parmenides*’”; Wieland, *Platon und die Formen des Wissens*, § 7; Schudoma, *Platons Parmenides*; Graeser, “Plato’s *Parmenides*.” Bestor is an exception, and an original one, for he also holds that the *Parmenides* is not about the theory of forms, but argues that the purpose of the dialogue is to confuse Plato’s students, so that they are more receptive to new ideas.

²⁶ Thereon, I follow Meinwald and Scolnicov. Correspondingly, I believe that Plato develops his views over the course of his career, with the *Parmenides* marking off an important step in this development. I do not think, however, that he at any point abandons his theory of forms. My position on this question is close to that of

become clear over the course of this chapter. But it is not my aim to contribute yet another defence of this position to the discussion. Rather, my aim in this chapter is to show that the first part of the dialogue (i.e., 130b–134e) can, from this point of view, be read as a discussion of reification, and a thorough one at that. Typically, such readings are offered by proponents of (3),²⁷ who argue roughly as follows: (a:) the regress obtains only because the forms are treated as ordinary things (because we look at redness “in the same way” as at red things); (b:) forms, as far as Plato is concerned, are the opposite of ordinary things (redness is not just another red thing); therefore, the *Parmenides* cannot be about the theory of forms, at least not as Plato would want us to understand it. By contrast I will argue, contra (a), that the regress obtains because forms are treated, in a way, *as if* they were ordinary things and, contra (b), that Plato, in his middle period, does treat forms, in a way, *as if* they were ordinary things. This shift in perspective from (3) to (2) allows one to see more in the *Parmenides* than a showcase of absurdities that ensue from the reification of forms. The dialogue rather turns out to be a thorough review of the account of predication Plato advances in his middle period; and in this review he brings out with great clarity the assumptions that lead him to liken forms to things. Of course, if this is so Wittgenstein’s advice would seem to come a bit late; apparently, Plato, at least later in his career, knows what he is looking for.

To make my case, I will first sketch out my construal of Plato’s middle period theory of forms in order to have reference frame to which the *Parmenides* can be related (in sec. 2). Next, I will argue that proem of the dialogue (126a–130b) indicates that it is concerned with the connection between predication and metaphysics (sec. 3) and that its first part discusses different metaphysical frameworks, which explore either different ways to thrash out implicit assumptions that Plato makes in his middle period or nearby alternatives. These assumptions will be pinned down by way of logical analysis (sec. 4). I will conclude with a short summary (sec. 5).

2.2 Plato’s Middle Period Theory of Forms

Plato’s argument for the forms. Plato argues that we need to assume that there are forms in order to explain the possibility of knowledge. Put roughly, his argument can be construed as follows: (1:) knowledge of a property, *F*, needs to refer to something that inter alia enables us to account for beliefs to the effect that something is *F* (e.g., if Sally has knowledge of the

Meinwald, see her *Plato’s Parmenides*, chap. 10. For a defence of developmentalist readings of Plato, see Kraut, “Introduction to the Study of Plato.”

²⁷ Cherniss, Peck, Wieland, and Graeser argue along these lines. Wieland, however, offers a more complex argument than the others; to wit, that the *Parmenides* explores the consequences of making forms the subjects of statements, for, so Wieland, whether a form applies to something is context-dependent. But if we talk about forms, rather than using them as a means by which to talk about something else, we cannot do otherwise but to isolate them from such contexts. However, this reduces them to things.

colour “red” then she should, by virtue of that knowledge, be able to account for the belief that roses are red); (2:) something’s being-*F* is explained by its conformance to the model of being-*F*, which on account of being what it is to be *F* is itself *F* (e.g., Sally may justify her belief that roses are red by calling to mind the colour “red” and prompting us to compare roses to that colour); (3:) the things that are given to us by the senses, sensibles, are subject to change insofar as they may or may not appear to us as *F*, depending on where or when we see them, so they cannot be what it is to be *F* (e.g., roses may appear to be red at day, but greyish at night, so we should not look to them in order to assess whether something is red); therefore, there must be something other than sensibles, to which knowledge of *F* refers—the form of *F*, *F*-ness, which is what it is to be *F*.²⁸ That is, the sense of “to be” in which Plato contends that there *are* forms is determined by their normative role, namely, guiding our judgements, and the way in which he expects them to play that role, namely, by being models of the properties whose forms they are. To understand what Plato’s argument implies we need to spell it out step by step.

Plato models his account of knowledge on the skills of craftspeople. For example, a carpenter can be said to know shuttles in terms of being able to make one after a model.²⁹ That is, Plato appears to assume that knowledge has two aspects, it *refers* to models (e.g., that of shuttles), but is the *competence* to put those models to use (e.g., to make another copy).³⁰ Correspondingly, Plato regards knowledge as valuable for guiding actions so that they succeed and for being stable insofar as we are unlikely to change our mind about something we think we know, for we are eo ipso aware of our knowledge being knowledge.³¹ Accordingly, he argues that somebody, *S*, knows a property, *F*, if and only if (iff) (1:) *S* has a true notion of *F*-ness and (2:) is able to justify that notion.³² (1) ensures that *S*’s notion of *F*-ness guides her actions, that is, those relating to something’s being-*F*, so that they succeed. (2) ensures that *S* is aware of (1); moreover, since (2) requires not only that *S* has an explanation for (1), but also that she is able to defend this explanation, knowledge of *F* includes the competence to account for beliefs on whether something is *F*,³³ otherwise *S* could not assess whether her explanation is sufficient. *S*’s competence to do actions of a type, ϕ , by contrast, stands in no need of further explanation, for whereas her notion of *F*-ness represents something external,

²⁸ See *Parmenides*, 128e–130a and 135a–c. Plato explores somewhat similar lines of thought in *Cratylus*, 386e–390e and 439a–440e; *Republic*, 6.505b–513e and 10.595a–602b; *Phaedo*, 75a–e, 78b–84b, and 95e–105c; *Symposium*, 209e–212c. Aristotle also reports that this is the reasoning by which Plato holds that we need to assume that there are forms. See *Metaphysics*, 1.987a, 13.1078b, 13.1086a–b. See also Fine, *On Ideas*, sec. 4.2.

²⁹ See *Cratylus*, 386e–390e; *Protagoras*, 349e–350b; *Republic*, 4.428b–e, 10.596b–597c.

³⁰ Cf. Fine, “Knowledge and True Belief in the *Meno*”; Wieland, *Platon und die Formen des Wissens*, chap. 3.

³¹ See *Meno*, 97a–98e. See also Fine, “Knowledge and True Belief in the *Meno*,” sec. 2, 3, 7, and 8.

³² See *Meno*, esp. 71b, 80d–85d, 97a–98a; *Republic*, 6.510b–511e.

³³ See Franklin, “The Structure of Dialectic in the *Meno*”; Notomi, “Socratic Dialogue and Platonic Dialectic”; Scolnicov, “The Two Faces of Platonic Knowledge.”

the intentions because of which she φ -s and her competence to φ are internal to her.³⁴ In short, Plato holds that “a man who has knowledge would be able to give an account of what he knows.”³⁵

When we are asked to give an account of why something is F , Plato argues that the safest answer that we can give is that it is F because of its “sharing in”³⁶ that “which we mark with the seal of ‘what it is’ [to be F].”³⁷ He parallels this “sharing in” that which is “what it is” to be F to the imitation of a model.³⁸ Put another way, we may account for something’s being- F by pointing out that it is similar to the relevant model of being- F . For example, we account for a stick’s being 1 metre long by pointing out that the stick is about as long as the measurement we happen to call a “metre.” F things may, as a consequence, be “more” or ‘less’ F , whereas ‘what it is’ to be F must, on account of being the model of being- F , be ‘most’ F . For example, the chances are that our stick is not precisely as long as the metre, yet provided their difference in length is within a reasonable margin of error, we would still say that it is 1 metre long. In other words, things that are 1 metre long are more or less so in terms of being more or less close in length to the metre, which is ‘most’ 1 metre long in terms of being closest in length to itself.³⁹ Put briefly, Plato finds that we account for something’s being- F by pointing out that it is similar to our yardstick for being- F . Notably, there need not be anything metaphysically mystifying about models in order for them to play that role, the only thing something must be in order to be useful as a yardstick for being- F is— F .⁴⁰

³⁴ See Wieland, *Platon und die Formen des Wissens*, chap. 3. Plato does not discuss competence as such, but Wieland’s interpretation sits well with four of Plato’s claims: (1:) knowledge of a craft is, in some sense, self-knowledge; (2:) because knowledge of a craft allows us to do a cost-benefit analysis, such knowledge guides not only the choice of our means, but also the choice of our ends and, in this sense, guides our decisions regarding which ends we want to achieve; (3:) ends form a hierarchy, with particular ends at the bottom and more abstract ends at the top, so that the realisation of each end serves to meet a higher one, up to the highest and most abstract—the Good itself, which we cannot do otherwise but desire; (4:) knowledge of the Good is to be acquired by induction from the models that guide our actions (there is no regress lurking here, since we neither need knowledge of the Good nor a concept of competence in order to act). See *Meno*, 77b–78b and 87c–90e; *Phaedrus*, 230a; *Protagoras*, 343b, 345a–c, 352a–355e; *Republic*, 6.484c, 6.505b–506a, 6.509d–511e.

³⁵ *Phaedo*, 76b.

³⁶ *Ibid.*, 100d; see also 96e–102a.

³⁷ *Ibid.*, 75d. Put another way, the things that “we mark with the seal of ‘what it is’ [to be F]” play, among others, the role of a formal cause. See Aristotle, *Metaphysics*, 1.988a–b. Cf. Vlastos, “Reasons and Causes in the *Phaedo*”; Nehamas, “Self-predication and Plato’s Theory of Forms”; Fine, “Forms as Causes.” That said, forms are more than formal causes, though the precise nature of their causal powers is far from clear. See Fine, “Forms as Causes”; Dancy, *Plato’s Introduction of Forms*, sec. 13.2.4.

³⁸ See *Cratylus*, 398a–d, 439a–b; *Republic*, 6.508d–511e, 7.514a–518b, 10.596b–598d; *Symposium*, 209e–212c. Cf. Vlastos, “The Third Man Argument,” sec. 2; Fine, *On Ideas*, sec. 4.7. White discusses the difficulties of construing a coherent doctrine of Plato with respect to the *Phaedo* and the *Republic* in his “Plato’s Middle Dialogues and the Independence of Particulars,” sec. 4.

³⁹ Cf. *Cratylus*, 432a–433a.

⁴⁰ Wittgenstein has suggested such a reading of Plato to Geach and Bluck, who developed this suggestion.

Plato, however, takes the Heraclitean point of view that what is given to us by our senses is in continuous flux.⁴¹ Therefore, he regards properties of sensibles as unstable in two respects: (1:) Plato finds that some properties express relations to other objects, so that these properties are localised to contexts which determine between which objects those relations obtain. For example, to say that Simmias is large is to say that he is large in relation to other people present in a given situation.⁴² Plato regards such properties as contrary if they express different directions of the same relation;⁴³ if an object, *a*, is larger than another object, *b*, then *b* is smaller than *a*, here, "... is larger than ..." and "... is smaller than ..." are not different relations but two directions of the same relation, so that the properties that correspond to these directions, "... is large" and "... is small," are contrary in this sense (other examples are "... is beautiful"/"... is ugly," "... is just"/"... is unjust," and "... is one"/"... is many"). Accordingly, he holds that sensibles may possess contrary properties, so that the same sensible may be *F* in one context, but contrary to *F* (hereafter, "con-*F*") in another. For example, Simmias is taller than Socrates but smaller than Phaedo, so he is, in this sense, tall and small at the same time, which makes him a poor yardstick for assessing sizes.⁴⁴ (2:) Furthermore, Plato experiences sensibles as prone to change so that the same sensible may be *F* at one point in time, but not-*F* at another. For example, he would argue that not even the prototype metre bar is 1 metre long in a stable manner, for suppose that the predicate "... is 1 metre long" has been defined as "... is as long as the prototype metre bar" at a point in time, *t*₁, and that heat is applied to the bar at a later point in time, *t*₂, to the effect that the bar expands. Now, if the bar really were the standard for being 1 metre long it would, by definition, still be 1 metre long at *t*₂,⁴⁵ but this is counter-intuitive. Rather, we would say that it is longer than 1 metre at *t*₂,⁴⁶ so the bar cannot be the standard we are look-

See Geach, "The Third Man Again"; Bluck, "Forms as Standards." Lienemann discusses this reading in her *Die Argumente des Dritten Menschen in Platons „Parmenides“*, chap. 13.

⁴¹ See Aristotle, *Metaphysics*, 1.987a, 13.1078b. See also Irwin, "Plato's Heracliteanism"; Fine, *On Ideas*, sec. 4.5. Heraclitus, Parmenides, and Zeno are cited from Diels and Kranz, *Fragmente Der Vorsokratiker* (abbreviated as "DK").

⁴² Owen discusses this feature of relations in Plato in his "A Proof in the ΠΕΡΙ ΙΔΕΩΝ," 107–111. See also Strang and Rees, "Plato and the Third Man," 158–162; Fine, *On Ideas*, sec. 11.2.

⁴³ Cf. *Phaedo*, 70e–72d. Plato, however, does *not* intend this as a definition, but rather as a sufficient condition for properties to count as contrary; he also gives examples for contrary properties that fail to satisfy this condition: "... is equal"/"... is unequal" (74c and passim), "... is odd"/"... is even" (103e–105a), and "... is musical"/"... is unmusical" (1c.). White points out that it would be a mistake to think that Plato is confused to treat "... is large" and "... is small" as contrary, just because they express the same relation, for there is no obvious way to define either property in terms of that relation. See his "Plato's Metaphysical Epistemology," sec. 4.

⁴⁴ See *Phaedo*, 96d–97b and 100e–103c; *Republic*, 5.478e–479d, 7.523b–525a. Cf. DK 22 B 51, 59–61, 126.

⁴⁵ That is what Wittgenstein thinks. See *Philosophical Investigations*, sec. 50.

⁴⁶ Cf. Kripke, *Naming and Necessity*, 53–57.

ing for.⁴⁷ In essence, Plato argues that sensibles make for poor yardsticks because their properties are context-dependent and subject to change.

This being so, knowledge of being-*F* needs to refer to something other than sensibles that are *F* in order to enable us to account for beliefs on whether something is *F*. Fittingly, Plato finds that when we assert that different things share a property, we assume that they are of a common form, which is apprehended by the mind and not the senses,⁴⁸ and is what our name for that property picks out.⁴⁹ Put simply, properties *are* forms.⁵⁰ For example, the property “... is 1 metre long” *is* the length we happen to call “metre.” Thus, *F*-ness must not only be *F*, for otherwise it could not be *F*-ness, but also nothing but *F* and what being *F* entails, for it has no way of becoming anything else but *F*.⁵¹ The metre must be 1 metre long, otherwise it would not be the length that we call “metre.” Furthermore, it’s hard to see how the metre could end up having other properties save for those that being 1 metre long entails. In other words, Plato holds that knowledge of being-*F* must refer to *F*-ness in order to enable us to account for beliefs on whether something is *F*, for *F*-ness is the only reliable yardstick for being-*F*, and knowledge ex hypothesi must be reliable. This must not be confused with the premise discussed earlier, that something is *F* because of being similar to the model of being-*F*, for this premise is meant to elucidate the way in which we explain something’s being-*F*, whereas the conjecture discussed now, that “*F*” refers to the form common to *F* things, accounts for how such explanations can be meaningful (see table 1 for a précis of the metaphysics we end up with as a consequence).

⁴⁷ See *Cratylus*, 411a–d and 439b–440e; *Phaedo*, 65a–66a and 78b–79a; *Symposium*, 207b–208b. Cf. DK 22 B 12, 91. What if we defined “... is 1 metre long” as “... is as long as the prototype metre bar at time *t*”, would that not allow us to say that the prototype metre bar has a different length than 1 metre at any point in time other than *t*? Yes, but Kripke and Plato would both maintain that we still would not use the prototype metre bar as standard, though for different reasons. Kripke argues that we could still say that if heat had been applied at *t*, the prototype metre bar would have had a different length than 1 metre even at *t*. See *Naming and necessity*, 56–57. Plato would argue that “the prototype metre bar at time *t*” refers to the form of that bar at that time, not to the bar itself, for there is only one point in time at which “the prototype metre bar at *t*” refers to a sensible, namely, *t*, so either beliefs that reference this definition at any other point in time are meaningless or the definition, in fact, refers to a form.

⁴⁸ See *Cratylus*, 439b–440e; *Phaedo*, 65d–e, 75a–e, and 78d–79b; *Republic*, 6.509c–511e.

⁴⁹ See *Republic*, 10.596a–597d; *Meno*, 72b–c.

⁵⁰ Unsurprisingly, it is in fact not that simple. Just what exactly forms are is far from clear. Were we to merit accuracy over explanatory value, the above would have to be put the other way round, it is not that forms are properties, but that properties are forms; that is, in my reading Plato holds that *F* is a genuine property iff *F* is a form. Cf. Peck, “Plato Versus Parmenides,” 163; Fine, “The One Over Many”; *On Ideas*, chap. 8. That said, for the purposes of this chapter the above approximation will do.

⁵¹ See *Phaedo*, 74e, 78c–84b, 102e–103c.

	<i>sensibles</i>	<i>forms</i>
<i>apprehended by</i>	the senses	the mind
<i>relation to properties</i>	likeness	identity
<i>modal status of properties</i>	contingent	necessary

Table 1: Plato's metaphysics in a nutshell

"*F*-ness is *F*" must not be understood to imply "there exists an *x*, so that *x* is *F*-ness and *x* is *F*" ($\exists x(x = F\text{-ness} \wedge Fx)$), as if *F*-ness' existence were one thing and its being-*F* another. Ancient Greek knows no clear distinction between "... is *F*" and "... is," rather "*x* is" can be used as a shorthand for "*x* is ⟨of a particular character⟩," which of course implies that in a way there is an *x* that is of that particular character. But, as Charles Kahn stresses, our understanding of "the phrase 'there is' as representing a univocal concept of existence for a subject of predication, as distinct from the content of the predication itself—as distinct from the 'essence' of the subject or the kind of thing it is"⁵² simply does not apply (where helpful, "to be" will hereafter be written as "to be ⟨*F*⟩" to emphasise this dual character). We should, in other words, understand that the claim that there *are* forms can be given a *weaker* reading than the one to which we may feel drawn at first sight.⁵³

Plato's notion of predication. Plato talks about predication by using phrases such as "applying a name."⁵⁴ That is, he breaks down beliefs of the form "*a* is *F*" into an object, *a*, and the name of a form, "*F*", so that the name "*F*" is applied to *a*; to understand what he means by "name," it is helpful to keep in mind that he holds names to be, in some sense, connected to meanings,⁵⁵ for example, "Astyanax" is made up from "*astu*" (city) and "*anax*" (lord), rendering "Astyanax" an apposite name for the ruler of a city.⁵⁶ As a consequence, names have truth values and require justification, so "the giving of names can't be as inconsequential a

⁵² "The Greek Verb 'to Be' and the Concept of Being," 248. See also Kahn, "The Thesis of Parmenides"; "Some Philosophical Uses of 'to Be' in Plato"; Matthen, "Greek Ontology and the 'Is' of Truth." Plato's use of "is" in this way is particularly apparent in the *Phaedo*, 101c–101d. Scolnicov discusses the purport of this usage of "is" for reading the *Parmenides* in his *Plato's Parmenides*, 16–17.

⁵³ Of course, in the *Phaedo*, 105c–108c Plato draws on the forms to establish that the soul is immortal, which is anything but a "weak" claim. But we should take care to note that he does not argue that the soul is immortal by virtue of being a form or existing in the same way; rather, his argument can roughly be summarised as follows: (1:) only what can change can perish; (2:) the soul is affected by the forms and by sensuousness; (3:) the forms stabilise the soul by virtue of being stable themselves; (4:) the senses destabilise the soul by virtue of their being unstable; therefore, souls that transcend (4) are immortal. (1), (2), (3), and (4) are certainly all quite strong claims to make, but (3) is much more a claim about the nature of the soul than about the nature of forms, and so is compatible with a weaker reading of the conjecture that there *are* forms.

⁵⁴ See *Republic*, 10.596a.

⁵⁵ That is the whole point of the *Cratylus*.

⁵⁶ See *ibid.*, 392b–393a.

matter”⁵⁷ as one may think. Accordingly, Plato argues that things “bear the same name as,”⁵⁸ “acquired their name by having a share in,”⁵⁹ or “get their name”⁶⁰ from the forms, which by contrast “deserve [their] own name” (see table 2).⁶¹ Put differently, names of properties *in sensu strictissimo* refer only to the form that is the property that they name, but are applied to other things as eponyms, so “*a* is *F*” depending on whether *a* picks out *F*-ness or something else means either “*F*-ness is what the name ‘*F*’ designates” (call this the “designatory usage” of “is”) or “*a* is called by the name of *F*-ness” (call this the “eponymous usage” of “is”).⁶²

	<i>F</i> things	<i>F</i> -ness
<i>metaphysics</i>	get a share in <i>F</i> -ness	is <i>F</i> -ness
<i>semantics</i>	are called by the name of <i>F</i> -ness	is what “ <i>F</i> ” designates

Table 2: Plato’s metaphysics and semantics

So far my take on predication in Plato’s middle period dialogues for the most part conforms with those of Harold Cherniss, Reginald Allen, Frank White, and Thomas Bestor. However, we part ways when they go on to argue that on account of Plato’s distinction between these usages of “is,” “*F*-ness is *F*” should not be read as predicating *F* of *F*-ness, but only as identifying *F*-ness with the property we call “*F*.” Were this correct it would be hard to see, to say the least, how forms should perform their role as models. For example, if the metre were not 1 metre long then how could we use it as a yardstick for being 1 metre long?⁶³ Cherniss, Allen, White, and Bestor reason as follows: (1:) Plato holds that *F*-ness is what the name “*F*” designates; (2:) if *F*-ness is what the name “*F*” designates, then “*F*-ness is *F*” means “*F*-ness is identical to that which the name ‘*F*’ picks out”; (3:) Plato holds that

⁵⁷ Ibid., 390d.

⁵⁸ *Phaedo*, 78e.

⁵⁹ Ibid., 102b.

⁶⁰ Ibid., 103b.

⁶¹ Ibid., 103e.

⁶² Plato gives quite a clear account of his theory of names at *Cratylus*, 432a–433a. See also Aristotle, *Metaphysics*, 1.987b. Later in his career Plato writes that “primary elements ... have no account,” but “can only be named.” *Theaetetus*, 201e. Cf. Fine, “Plato on Naming.” Cf. also Wittgenstein, *Philosophical Investigations*, sec. 46–51; Ryle, “Logical Atomism in Plato’s ‘Theaetetus’.”

⁶³ Allen argues that we could explain the “community of character” between the metre and things that are 1 metre long, that is, between forms and their exemplifications, “by treating exemplifications not as substances in which qualities inhere but as relational entities, entities in which resemblance and dependence combine so as to destroy the possibility of substantiality.” “Participation and Predication in Plato’s Middle Dialogues,” 164. Yet this would seem to imply that qualities “inhere” in forms, but how can “*F*-ness is *F*” then be no more than an expression of identity? That said, Allen at least tackles the problem. Cherniss, White, and Bestor do nothing of the sort.

the name “*F*” is applied to things because they resemble *F*-ness; (4:) identity and resemblance are different relations; (5:) Plato is aware of (4); therefore, Plato cannot, on the pain of inconsistency, hold that “*F*” can be applied to *F*-ness. (1), (2) and (3) are supposedly evident. (4), according to Gregory Vlastos, is something Plato gets wrong, for Plato, so Vlastos, assumes that “the verb ‘is’ and all its [...] variants have a *single* meaning.”⁶⁴ Bestor replies that getting (4) wrong would seem to be difficult: “‘Cakes have sugar in them.’ Yes. ‘Sugar has sugar in it.’ No.”⁶⁵ Moreover, (5) is evidenced by Plato distinguishing a designatory and an eponymous usage of “is.” Where Cherniss, Allen, White, and Bestor go astray, however, is in equating the “is” of identity, as in “*a* is *a*,” with Plato’s designatory usage of “is” and the “is” of predication, as in “*a* is *F*,” with his eponymous usage of “is.” This leads them to assume that, to Plato, “*F* is predicated of ...” implies “... resembles *F*-ness” in each and every case, which it does not. What does imply “... resembles *F*-ness” is the *justification* of “*F* is predicated of ...,” but such a justification is needed only for things other than *F*-ness. *F*-ness is *F simpliciter*.⁶⁶ (3), in other words, is false and needs to be replaced with (3’); Plato holds that the name “*F*” applies to things, *except F-ness*, iff they resemble *F*-ness. (3’) makes all the difference, because (1) evidently entails (6:) “the name ‘*F*’ applies to *F*-ness,” which (1), (2), (3) and (4), however, rule out; that is, (1), (2), (3) and (4) are inconsistent. (1), (2), (3’) and (4), by contrast, permit (6), so they make for a consistent set of premises. Of course, (1), (2), (3’), (4), and (5) do not sustain the conclusion drawn by Cherniss, Allen, White, and Bestor that Plato cannot hold (6). Put simply, just because Plato distinguishes different uses of “is” he, as should go without saying, need not draw these distinctions along the same lines we do. Above all “*F*-ness is *F*” means “*F*-ness is what ‘*F*’ picks out” no less than “*F* is predicated of *F*-ness,” that is, Vlastos is right at least insofar as Plato seems to see no need to differentiate between the “is” of predication and that of identity (see fig. 1).⁶⁷

⁶⁴ “The Third Man Argument,” 334 (his emphasis). Put another way, Vlastos denies (4).

⁶⁵ Bestor, “Plato’s Semantics and Plato’s ‘Parmenides’,” 56.

⁶⁶ Cf. Fine, *On Ideas*, chap. 4 and 8.

⁶⁷ Cf. Cherniss, “The Timaeus and Plato’s Later Dialogues,” sec. 2; Allen, “Participation and Predication in Plato’s Middle Dialogues,” sec. 2; White, “Plato’s Middle Dialogues and the Independence of Particulars,” 206–207; Bestor, “Plato’s Semantics and Plato’s ‘Parmenides’,” sec. 1, 2, and 6. Mates tries to come up with an analysis of “is” that explains and defends Plato’s usage. See his “Identity and Predication in Plato.”

		applying a name	
Plato		designatory usage of "is"	eponymous usage of "is"
modern	"is" of identity	"is" of predication	

Figure 1: Distinctions between usages of "is"

Gail Fine defends a position somewhere between that of Cherniss, Allen, White, and Bestor on the one hand, and that of myself on the other, namely, that "*F*-ness is *F*" means that *F*-ness manifests *F*, but that nevertheless *F* is *not* predicated of *F*-ness.⁶⁸ Presumably, this is because according to her reading of Plato names are applied for a reason, so that predication, for him, should appear to go hand in hand with justification.⁶⁹ Fine has a point insofar as *F*-ness is *F* regardless of whether or not we predicate *F* of it. In this respect, as the eponymous usage of "is" indicates, *F*-ness differs from other things which, in a stricter sense, are *F* only by virtue of us applying the name "*F*" to them. That is, Plato neither needs to nor actually holds anything along the lines of "*F*-ness can be used as model for being-*F* iff *F* is predicated of the form of *F*." But if Fine means to say that "*F*-ness is *F*" must not be read as predicating *F* of *F*-ness, which, to be fair, she may not, this would seem to be wrong, because even if we need not predicate *F* of *F*-ness in order for *F*-ness to make for a useable yardstick for being-*F*, we should still be allowed to do so. After all, *F*-ness is *F* and Plato's terminology for designation, "deserving a name," and predication, "applying a name," suggests that he agrees, for surely a name can be applied to that which deserves it. That said, Plato indeed binds predication closely to justification, which given that "*F*-ness is *F*" predicates *F* of *F*-ness without requiring justification, or at least without requiring the same kind of justification that would be required for predicating *F* of any other thing, would seem to commit him to distinguishing different modes of predication. Of course, such a distinction is not only far from intuitive, but also explored nowhere in Plato's middle period dialogues, except for the *Parmenides*,⁷⁰ which, however, belongs to the end of this period.⁷¹ We may, therefore, safely assume that he was unaware of this commitment for the better part of his middle period.⁷²

⁶⁸ See *On Ideas*, 206–207.

⁶⁹ See *ibid.*, sec. 4.7. See also Nehamas, "Self-predication and Plato's Theory of Forms."

⁷⁰ See Meinwald, *Plato's Parmenides*; "Good-bye to the Third Man"; Peterson, "Plato's Parmenides."

⁷¹ See Brandwood, "Stylometry and Chronology."

⁷² Vlastos tries to construe such a distinction between different modes of predication, arguing that besides the common or garden type of predication, as in "Simmias is tall" ($a \in F$), Plato knows something Vlastos calls "Pauline Predication," an example for which is "justice is pious." Vlastos argues that "*F*-ness" can be read as a shorthand for "things that are *F*," so that a sentence of the type "*F*-ness is ..." should be read as "it is necessary that things that are *F* are also ..." ($\Box(F \subseteq G)$). See his "A Note on 'Pauline Predications' in Plato." Malcolm

For all this, there are good reasons for trying to dispel the assumption that forms manifest the properties whose forms they are. “The metre is 1 metre long” sounds plausible enough, but there’s no denying that “sugariness is sugary” is hard to swallow, for sugariness is some kind of abstract object and abstract objects, sadly perhaps but without doubt, are no sweeties. Prior to the *Parmenides* Plato lacks the means by which to address the intricate difficulties to which “*F*-ness is *F*” gives rise, but to get these difficulties straight we must acknowledge that he, even before the *Parmenides*, provides us with the means to quell sugariness’ sweet aftertaste. If we feel that “sugariness is sugary” entails “sugariness tastes sweet” then we have implicitly given “sugariness is sugary” a non-Platonic analysis. Needless to say however, “sugariness is sugary” makes little sense outside of a Platonic framework and should rather be analysed as follows, in three steps: (1:) to predicate “sugary” of sugariness is to apply the name “sugary” to sugariness, so we arrive at “the name ‘sugary’ applies to sugariness;” (2:) “sugary,” then, is the name of the form common to sugary things, which is the molecular structure $C_{12}H_{22}O_{11}$,⁷³ so we arrive at “the name that designates the molecular structure $C_{12}H_{22}O_{11}$ applies to sugariness;” (3:) the form that sugary things have in common *is* sugariness, thus we end up with “the name that designates the molecular structure $C_{12}H_{22}O_{11}$ applies to the molecular structure $C_{12}H_{22}O_{11}$,” and there is no way from there to “the molecular structure $C_{12}H_{22}O_{11}$ tastes sweet.” Put another way, we must keep in mind that Plato understands “*a* is *F*” not as predicating, in our terms, *F* of *a*, but as claiming that *a* is of the form of *F* so that “*F*-ness is *F*” holds true come what may, regardless of what we imagine forms to be, “the molecular structure $C_{12}H_{22}O_{11}$ ” is merely a pointer in the right direction, as long as we imagine them as something that qualifies, one way or the other, as a *form*—be it shapes, sizes, or molecular structures. Moreover, forms are apprehended by the mind and not by the senses,⁷⁴ so there is no way that sugariness could *taste* sweet. That is, “... is *F*” and “... appears as *F*” are not distinct properties but, on a Platonic reading, two ways in which we attribute the same property, *F*, to something; not even sweetness *tastes* sweet.⁷⁵ Undistracted by all these sweet things, we may focus on the more intricate difficulties to which “*F*-ness is *F*” gives rise, but since analysing these profits from a more formal

says all there is to say about Pauline Predication, namely, that some claims of the form “*F*-ness is *F*” may be instances of Pauline Predication, but that most of them cannot be explained that way. See Malcolm, “Vlastos on Pauline Predication.” Lienemann provides an extensive discussion of various approaches to predication in Plato in her *Die Argumente des Dritten Menschen in Platons „Parmenides“*. Further surveys can be found in Hunt, “How (not) to Exempt Platonic Forms from Parmenides’ Third Man,” 1–9; Pelletier and Zalta, “How to Say Goodbye to the Third Man,” appendix.

⁷³ Admittedly, there is a problem with this example. Plato thinks that there are forms for being sugar, being a bed and being just and that they are all the same kind of form, but of course the forms of being a bed or being just cannot be molecular structures. $C_{12}H_{22}O_{11}$ is only intended to illustrate how predication works in Plato, it is of limited use as an example of a Platonic form.

⁷⁴ See *Phaedo*, 65d–e and 78d–79b; *Republic*, 6.509c–511e and 7.532a–524b.

⁷⁵ Cf. Peck, “Plato Versus Parmenides.” Peck appears to feel that this allows us to address *all* difficulties that “*F*-ness is *F*” entails, which in my opinion it does not. We will return to this later.

approach, we will first construe an axiomatic model of Plato's middle period theory of forms.

Formalising the forms. Plato often draws on the forms and at times talks about their nature, but at no point spells out a theory of them, that is, a more or less comprehensive set of logically interrelated principles.⁷⁶ Therefore, in order to have a point of reference to which our reading of the *Parmenides* can be compared we need to construe such a theory based on the commitments that can be distilled from Plato's arguments about the forms.⁷⁷ Above all, Plato argues that it is necessary for *F*-ness to be *F*, whereas it is possible for sensibles to be either *F* or not-*F*. Using this as a starting point, we can define two relations between properties that allow us to formalise Plato's views: (1:) a property, *F*, entails another property, *G*, iff it is necessary that anything that is *F* is also *G*; (2:) *F* is contrary to *G* iff it is impossible that something that is *F* is also *G*.⁷⁸ (1) addresses that some properties entail other properties, for example, "... is red" entails "... is coloured". (2) approximates Plato's usage of "... is contrary ...," but will do for our purposes; to be sure, (2) may at first sight seem at odds with his observation that sensibles *may* possess contrary properties, but he does not argue they might at the same time possess contrary properties in *one* context, but in *different* ones. That is to say, forms and sensibles differ inter alia insofar as *F*-ness cannot be con-*F*, whereas sensibles may be *F* in one context and con-*F* in another, but not even sensibles may, at the same time, be *F* and con-*F* in the same context.⁷⁹ Put formally these become:

$$(D1:) \text{ entails}(F, G) =_{df} \Box \forall x(Fx \rightarrow Gx)$$

F entails *G* iff it is necessary for any object, *x*, that if *x* is *F*, *x* is also *G*.

⁷⁶ Wieland goes so far as to deny that Plato has anything that resembles a theory of forms, arguing not only that such a theory is nowhere to be found, but also that Plato expresses opposition to coming up with a doctrine of the forms in the *7th Letter*, 341c–342a. Wieland is aware that the *7th letter* may be spurious and finds further evidence for his claim in the critique of writing put forward in the *Phaedrus*, 274b–278b. See *Platon und die Formen des Wissens*, §§ 1, 2, and 5. That said, the views about the nature of forms that Plato expresses in his dialogues seem too consistent to be entirely ad hoc, though unsurprisingly they are not entirely so. We therefore seem best advised to keep in mind that any theory of forms, in the broad sense of "theory" as outlined above, that is construed from Plato's dialogues is based on choices as to how their inconsistencies should be flattened out, but to draw on such construals as tools nevertheless to aid us in our interpretation.

⁷⁷ There's a good deal of wiggle room regarding which of these claims carry enough weight to qualify as principles, their exact meaning, and their interrelations. We will focus on those claims that make a difference to interpreting the *Parmenides*. That is to say, the list of principles compiled here does not aim for completeness. Rickless, for those interested, comes up with a more exhaustive one in his *Plato's Forms in Transition*. See also Fine, *On Ideas*.

⁷⁸ Proofs that rely on modal operators hold in *K*. See the discussion in the appendix for the rationale behind using modal operators to express contrary properties.

⁷⁹ "It is obvious that the same thing will not be willing to do or undergo opposites in the same part of itself, in relation to the same thing, at the same time." *Republic*, 4.436b.

(D2:) $\text{contrary}(F, G) =_{df} \Box \forall x (Fx \rightarrow \neg Gx)$

F is contrary to G iff it is necessary for any object, x , that if x is F , x is not G .

We can now operationally define forms as those objects that possess only the property whose form they are and the properties this property entails (Plato, as we will see, assumes that sensibles always have “excess” properties, so this is all we need).⁸⁰ Correspondingly, we may also define that something is a form iff there is a property whose form it is. Put formally:

(D3:) $\text{form}(x, F) =_{df} \forall G (Gx \leftrightarrow \text{entails}(F, G))$

x is the form of F iff, for any property, G , x is G iff F entails G .

(D4:) $\text{isform}(x) =_{df} \exists F (\text{form}(x, F))$

x is a form iff there is a property, F , whose form x is.

(D3) and (D4) allow, in principle, that sensibles may be forms; it is just that sensibles, as we will see, fail to live up to their requirements. As a consequence, many axioms, theorems and principles that make claims about the forms can be read in two ways: (1:) as describing the nature of forms and (2:) as laying down conditions that anything that shall play the explanatory role of a form must meet.

(D1) and (D3) imply that forms possess the properties whose forms they are,⁸¹ for F -ness possesses every property that is entailed by F , and, eo ipso, every property entails itself; this is the *principle of self-predication* (see proof 1 in the appendix). Put formally:

(SP:) $\forall F \forall x (\text{form}(x, F) \rightarrow Fx)$

For any property, F , and any object, x , if x is the form of F , then x is F .

(D1) and (D3) also allow to axiomise Plato’s metaphysics in respect to properties: (1:) for any property, F , there is an object that is “‘what it is’ to be F ,” namely, that which possesses F and the properties that F entails but no others; (2:) objects are differentiated by their properties, so two objects are the same iff they have the same properties;⁸² (3:) each form is exactly the same in all contexts and at any point in time, that is to say, it is necessary for each form to be the form that it is. Put formally:

(A1:) $\forall F (\exists x (\text{form}(x, F)))$

For any property, F , there is an object, x , so that x is the form of F .

(A2:) $\forall x \forall y \forall F ((Fx \leftrightarrow Fy) \leftrightarrow x = y)$

For any two objects, x and y , iff x and y have the same properties, then x is y

⁸⁰ (1) is adapted from Pelletier and Zalta, “How to Say Goodbye to the Third Man,” sec. 5.

⁸¹ See *Phaedo*, 65d and 100c; *Protagoras*, 330c and 331b; *Symposium*, 209e–212c. Cf. Fine, *On Ideas*, sec. 4.7; Dancy, *Plato’s Introduction of Forms*, chap. 7.

⁸² (A1) and (A2) are also adapted from Pelletier and Zalta. Plato appears to assume something along the lines of (A2) in his discussion of identity and flux in *Cratylus*, 439b–440e.

(A3:) $\forall F \forall x (form(x, F) \rightarrow \Box form(x, F))$

For any property, F and any object, x , if x is the form of F , then it is necessary that x is the form of F .

(A1) makes precisely the kind of existence claim that is warned against in the above. This is a side effect of using the predicate calculus and a good example as to why Cherniss decries the tendency to “whelm [Plato’s text] with the symbols of modern logic.”⁸³ There is no remedy to this side effect, we simply have to keep in mind that this particular “there is” raises a different kind of existence claim than the one to which we are used.

(A1) and (A2) entail that there is one and only one form for each property, for there must be a form for any F , and the form of F , on account of being the form of F , has no other properties but F and the properties that F entails (i.e., it has no accidental properties). So if there were another form of F , it would have the same properties as the first one (i.e., forms cannot differ by virtue of accidental properties) and, therefore, *be* the first one (see proof 2); this is our first theorem. (A3) entails that forms possess all of their properties necessarily, for they possess only the properties that are entailed by the property the form of which they are, and each of them is the form of the same property in all contexts and at all times. Therefore, each form has the same properties in all contexts and at all times; this is our second theorem (see proof 3). Put formally:

(T1:) $\forall F (\exists! x (form(x, F)))$

For any property, F , there is one and only one object, x , so that x is the form of F .

(T2:) $\forall x (isform(x) \rightarrow \forall F (Fx \rightarrow \Box Fx))$

For any object, x , if x is a form, then for any property, F , if x is F , then it is necessary that x is F .

(T1) makes sure that “the form of ...” always refers to one and only one object, which allows us to introduce a definite descriptor:

(D5:) $\Phi_F =_{df} \iota x (form(x, F))$

F -ness is the x that is the form of F .

(T1) and (T2) allow us to deduce three further principles: (1:) (T1) requires that forms are unique,⁸⁴ for there is one and only one form for each property; this is the *principle of uniqueness* (since (1) is merely another way to write (T1), no proof is given); (2:) (T2) entails that forms are pure in the sense that it is impossible that F -ness is con- F ,⁸⁵ for F -ness is

⁸³ “The Timaeus and Plato’s Later Dialogues,” 257.

⁸⁴ Cf. *Republic*, 10.597c–d.

⁸⁵ See *Phaedo*, 78d, and 102e–103c; *Republic*, 5.478e–479d. (2) is adopted from Rickless. See his “How Parmenides Saved the Forms,” 506; *Plato’s Forms in Transition*, 5–6. Rickless thanks a referee for pointing out that any account of the purity principle may be inconsistent with *Republic*, bk. 6. There Plato appears to argue

F necessarily, and two properties are contrary iff it is impossible that anything has both of them at once; this is the *principle of purity* (see proof 4); (3:) each form is “one,” in terms of being countable,⁸⁶ for the conjunction of (A2) and (2) entails that forms of contrary properties are distinct (see proof 5), and what can be distinguished can be counted; this is the *principle of oneness*. In addition, (3) appears to imply to Plato that forms are also “one” in terms of not being made up of parts that possess contrary properties.⁸⁷ For example, if a part of the metre had a colour then the metre could not be the metre, for only surfaces can be coloured, but the metre is a length. When Plato says that the forms are “one”⁸⁸ he seems to mean both of these senses. Put formally:

- (U:) $\forall F(\exists x(x = \Phi_F \wedge \forall y(y = \Phi_F \rightarrow x = y)))$
 For any property, F , there is an object, x , so that x that is F -ness and for any object, y , if y is F -ness, then y is x .
- (P:) $\forall F \forall G \forall x((x = \Phi_F \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Gx)$
 For any two properties, F and G , and any object, x , if x is F -ness and F is contrary to G , then it is impossible that x is G .
- (O:) $\forall F \forall G \forall x \forall y((x = \Phi_F \wedge y = \Phi_G \wedge \text{contrary}(F, G)) \rightarrow x \neq y)$
 For any two properties, F and G , and any two objects, x and y , if x is F -ness and y is G -ness and F is contrary to G , then x is not y .

that all forms participate in the Good, and “all forms” for certain includes Badness, so that Badness must be at the same time good and bad, for a form must possess the property of which it is the form, but “... is good” and “... is bad” are, no doubt, contrary, so there seems to be a form that has contrary properties. Rickless, without going into details, questions whether this reading of the *Republic* is correct. See “How Parmenides Saved the Forms,” note 12. Wieland fortunately offers a reading that is consistent with the purity principle, to wit, that Plato’s point is not that all forms participate in the Good, but that we cannot do otherwise but intend what we regard as good. See his *Platon und die Formen des Wissens*, chap. 3. Also, if our axioms and definitions are not completely amiss, the purity principle follows from Plato’s views on the nature of forms.

⁸⁶ See *Republic*, 5.475e–476d, 7.524b–525a. (3) is also adapted from Rickless. See “How Parmenides Saved the Forms,” 509–510; *Plato’s Forms in Transition*, 37–38.

⁸⁷ To be precise Plato argues that things that are unaffected by change, i.e., the forms, are “most likely” not composites. See *Phaedo*, 78c–e. Mills points out that the term Plato uses, “*asuntheton*,” means “‘incomposite’ only in the sense of ‘not having been put together’, and not in the sense ‘without parts’.” “Plato’s *Phaedo* 74b7–c6, Part 2,” 45 (Ancient Greek transliterated). And since later in the *Phaedo* Plato argues for (2), this seems to suggest that (2) refines this view, which after all is only “most likely.” This is because if forms were simples then there would seem to be no point in worrying about them to allow for contrary properties, they could have no other properties but the one whose form they are at any rate. In fact, Plato even makes such an argument for harmonies, which despite being made up of parts cannot admit parts that have properties that would destroy the harmony. See *Phaedo*, 92a–94b. Also, this reading renders his views on the nature of forms consistent with his accounts of names and definitions, for if forms were simples it would be unclear how they could be named or defined in his sense. Cf. *Cratylus*; *Phaedrus*, 265d–266c.

⁸⁸ *Republic*, 5.476a, 7.524b.

(P), (O), and (U) play the dual role mentioned earlier. On the one hand they describe the nature of forms, while on the other hand they are conditions that anything that shall qualify as form needs to meet. Plato, as needs to be noted, proves, or rather tries to prove, (U) from the assumption that there is a form for any set of things that share the same property,⁸⁹ which is, so to speak, his (A1), reasoning that if there were more than one form of the same property those forms would also constitute a collection of things that share the same property. So there would have to be yet another form for them, which would then be the actual form of that property.

(T2), furthermore, entails that forms are pure in the stronger sense that if a form is F it is impossible for that form to be $\text{con-}F$,⁹⁰ for forms have all their properties necessarily, so if a form is F , it is necessary that this form is F , and two properties are contrary iff it is impossible that anything has both of them at once. So it is impossible that a form that is F is $\text{con-}F$; this is the *principle of radical purity* (see proof 6). Put formally:

$$(RP:) \quad \forall F \forall G \forall x ((\text{isform}(x) \wedge Fx \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Gx)$$

For any two properties, F and G , and any object, x , if x is a form and x is F and F is contrary to G , then it is impossible that x is G .

Other than forms, sensibles may have contrary properties, this is the *principle of the impurity of sensibles*.⁹¹ Put formally:

$Sx \dots x$ is a sensible.

$$(IS:) \quad \forall F \forall G \forall x ((Sx \wedge Fx \wedge \text{contrary}(F, G)) \rightarrow \Diamond Gx)$$

For any two properties, F and G , and any object, x , if x is a sensible and x is F and F is contrary to G , then it is possible that x is G .

At this point we should populate our universe of discourse a bit. Since sensibles are eo ipso extended in space, each of them must, depending on its current context, be either large or small; so there is at least one pair of contrary properties one of which every sensible has. This is our one and only lemma. Put formally:

$$(L1:) \quad \exists F \exists G (\text{contrary}(F, G) \wedge \forall x (Sx \rightarrow (Fx \vee Gx)))$$

There are two properties, F and G , so that F is contrary to G and for any object, x , if x is a sensible, then x is F or G .

⁸⁹ See *ibid.*, 597c–d.

⁹⁰ Although this principle follows from (T2) and therefore from assumptions about the nature of forms to which Plato is most probably committed, he does not allude to such a principle in any middle period dialogue, except for in the *Parmenides*, 129b–c and 129e–130a. (RP) is again adapted from Rickless. See “How Parmenides Saved the Forms,” 511–512; *Plato's Forms in Transition*, 5–6.

⁹¹ See *Cratylus*, 439b–440e; *Phaedo*, 95e–105c; *Republic*, 5.478e–479d. This principle is also adapted from Rickless. See “How Parmenides Saved the Forms,” 506–507; *Plato's Forms in Transition*, 23–24.

This concludes our formalisation of Plato's metaphysics, we may now turn to his account of justification.

* * *

Plato holds that the being- F of something, a , (1:) stands in need of explanation except when a is F -ness and (2:) can be explained by a standing in a relation to F -ness, which he refers to as "*metekkhō*" (partake of). (1) and (2) imply that if a is F , then it is F *because* of partaking of F -ness. In this sense F -ness is the "cause" of a 's being- F (to avoid confusion with modern notions of causation, such causes will hereafter be referred as "T-causes"). Put formally:

$$(D6:) \quad T\text{-causes}(x, y, F) =_{df} \Box(\text{partakes}(x, y) \leftrightarrow Fy)$$

x T-causes y to be F iff it is necessary that y is F iff y partakes of x .

Russ Dancy calls this a "transmission theory of causality"⁹² (hence the "T"), because F -ness is supposed to somehow transmit its being- F to a . Put roughly, T-causation is a type of formal causation.⁹³

(1:) (D6) allows us to say that anything other than F -ness can be F only if F -ness T-causes it to be F ; this is the *principle of causation* ("principle of T-causation" would have been better, but "principle of causation" is more commonplace).⁹⁴ Plato supports (1) by arguing that (2:) the T-cause of something's being- F cannot be con- F ;⁹⁵ this is the *principle of non-causation by contraries*. Put formally:

$$(C:) \quad \forall F \forall x ((Fx \wedge x \neq \Phi_F) \rightarrow T\text{-causes}(\Phi_F, x, F))$$

For any property, F , and any object, x , if x is F but not F -ness, then F -ness T-causes x to be F .

⁹² *Plato's Introduction of Forms*, 148.

⁹³ See note 28 above for pointers regarding discussions on causation in Plato.

⁹⁴ See *Cratylus*, 439a–440e; *Phaedo*, 95e–105c; *Republic*, 6.508d–513e, 7.514a–518b, 10.596b–598d; *Symposium*, 209e–212c. (1) is adapted from Dancy. See his *Plato's Introduction of Forms*, sec. 13.2.4. See also Rickless, "How Parmenides Saved the Forms," 503–504; *Plato's Forms in Transition*, 21–23 and 29–32. However, Rickless expresses reservations about (1) in his earlier piece, arguing that Plato may restrict the principle of causation to properties for which there are corresponding forms because he makes no further reaching claims in the *Phaedo*. According to my reading, however, forms *are* properties, so this constraint is irrelevant. On the relation of forms and properties, see also Fine, "The One Over Many"; *On Ideas*, chap. 8.

⁹⁵ See *Phaedo*, 101a–b. (2) is adapted from Rickless. See *Plato's Forms in Transition*, 21–23. See also Dancy, *Plato's Introduction of Forms*, sec. 13.2.4. At first sight (2) may seem to follow from the assumption that F -ness T-causes a to be F by transmitting its properties to a and Plato's version of the law of non-contradiction (see note 53 above), for if there were a context, w , in which something, a , that is con- F T-causes something else, b , to be F , then a would also transmit con- F to b , so b would be F and con- F in w , that is, at once and in the same context, which is impossible, so there can be no such context; but all that can be proven in this way is that a cannot be con- F in any context in which it transmits its being- F to something, but this is not the relevant, or even a meaningful, sense of "having contrary properties." Plato's argument is simply that something that may just as well be con- F does not make for a reliable T-cause.

(NC:) $\forall F \forall G \forall x \forall y ((\text{contrary}(F, G) \wedge T\text{-causes}(x, y, F)) \rightarrow \Box \neg Gx)$

For any two properties, F and G , and any two objects, x and y , if x and y are contrary and x T-causes y to be F , then it is impossible that x is G .

(C) also plays the aforementioned dual role, it does not only describe how things, other than F -ness, can be F , but also regulates what kinds of things can act as T-causes.

That said, what kind of relation is “... partakes of ...”? At this point we only know that “... partakes of ...” must be so that F -ness *transmits* its properties to anything that stands in this particular relation to it.⁹⁶ Plato uses “... partakes of ...” interchangeably with “*eikazō*” (imitate, resemble),⁹⁷ typically without any difference in meaning.⁹⁸ This suggests that “... partakes of ...” can be defined in terms of imitation. Put formally:

(D7:) $\text{partakes}(x, \Phi_F) =_{df} \text{imitates}(x, \Phi_F, F)$

x partakes of F -ness iff x imitates F -ness in respect to being- F .

(D7) makes good sense of the transmission condition, for we may intuitively say that a imitates b iff b has similar properties as a . Put formally:

(D8:) $\text{imitates}(x, y, F) =_{df} Fy \rightarrow Fx$

x imitates y in respect to being- F iff x is F if y is F .

“... imitates ...” can be further clarified by calling to mind intuitive characteristics of imitation: (1:) imitation is irreflexive, that is, nothing imitates itself; (2:) imitation is non-symmetric, that is, that a imitates b does not entail that b imitates a ; (3:) imitation is not transitive, that is, that a imitates b and b imitates c does not entail that a imitates c .⁹⁹ (1), (2), and (3) should not come as news, they are merely somewhat formal ways to assert perfectly ordinary features of imitation. Put formally:

(I1:) $\forall F \forall x (\neg \text{imitates}(x, x, F))$

For any property, F , and any object, x , x does not imitate itself in respect to being- F .

(I2:) $\forall F \forall x \forall y (\text{imitates}(x, y, F) \rightarrow \neg \text{imitates}(y, x, F))$

For any two objects, x and y , if x imitates y in respect to being- F , then y does not imitate x in respect to being- F .

(I3:) $\forall F \exists x \exists y \exists z (\text{imitates}(x, y, F) \wedge \text{imitates}(y, z, F) \wedge \neg \text{imitates}(x, z, F))$

For any property, F , there are three objects, x , y , and z , so that

⁹⁶ Thereon, cf. Dancy, *Plato's Introduction of Forms*, chap. 5–7.

⁹⁷ See *Phaedo*, 74a; *Republic*, 10.595a–598c.

⁹⁸ Cf. Cherniss, “The *Timaeus* and Plato's Later Dialogues,” sec. 2. Even in the *Phaedo* where he notes that he “will not insist on the precise nature of [this] relationship” (100d), Plato speaks of things being “like” (74a) forms.

⁹⁹ Cf. *Republic*, 10.595a–598d.

x imitates y in respect to being- F , y imitates z in respect to being- F ,
but x does not imitate z in respect to being- F .

(IS) and (NC) entail that no sensible that has a property to which there is a contrary property can be the T-cause of that property, for by virtue of (IS) that sensible may in another context have that contrary property. But (NC) demands that T-causes cannot have contrary properties in any context (see proof 7). This is our third theorem. Put formally:

(T3:) $\forall F \forall x \forall y ((Sx \wedge Fx \wedge \exists G(\text{contrary}(F, G))) \rightarrow \neg T\text{-causes}(x, y, F))$
For any property, F , and any two objects, x and y , if x is a sensible and F , and there is a property, G , so that G is contrary to F , then x is not the T-cause of y being- F .

In a similar fashion, (P) and (IS) entail that no sensible can be the form of a property for which there is a contrary property,¹⁰⁰ for given any pair of contrary properties, by virtue of (IS), it is possible for sensibles to have either of them. But by virtue of (P) it is impossible for the form of either of these properties to have the other one; this is the *principle of separation* (see proof 8). Put formally:

(S:) $\forall F \forall x ((Sx \wedge \exists G(\text{contrary}(F, G))) \rightarrow x \neq \Phi_F)$
For any property, F , and any object, x , if x is a sensible and there is a property, G , so that G is contrary to F , then x is not F -ness.

Correspondingly, (RP) and (IS) entail that no sensible that has a property for which there is a contrary property can be a form, for if a sensible has a property for which there is a contrary property, then by virtue of (IS) that sensible may possess that contrary property, but by virtue of (RP) forms may not possess contrary properties; this is our fourth theorem (see proof 9). Put formally:

(T4:) $\forall F \forall G \forall x ((Sx \wedge Fx \wedge \exists G(\text{contrary}(F, G))) \rightarrow \neg \text{isform}(x))$
For any two properties, F and G , and any object, x , if x is a sensible and x is F and there exists a property, G , so that G is contrary to F , then x is not a form.

(U) and (S), given (L1), entail that there is at least one form that is not a sensible,¹⁰¹ for according to (L1) there are contrary properties, and by virtue of (U) there must be a form for both of these properties, but by virtue of (S) no sensible can be either of these forms

¹⁰⁰ See *Phaedo*, 74b–c. (S) is also adapted from Rickless, who refers to (S) either as “(D)” (for “distinction”) or as “NI1” (for “non-identity”). See “How Parmenides Saved the Forms,” 506–507; *Plato’s Forms in Transition*, 38–40.

¹⁰¹ In the *Phaedo*, Plato names several things that are marked with “the seal of ‘what it is’” (75d) and of which he explicitly says that they could not be sensibles, e.g., “the Just” (65d–e), “the Beautiful” (l.c. and passim), “the Good” (65d–e), “the Equal” (74a and passim), all of which have contraries.

since they are the forms of properties to which there are contraries; this is our fifth theorem (see proof. 10). Put formally:

(T5:) $\exists F(\neg S(\Phi_F))$

There is a property, F , so that F -ness is not a sensible.

Correspondingly, (T4) and (L1) entail that no sensible can be a form,¹⁰² for on account of (T4) nothing that has a property to which there is a contrary can be a form, but by virtue of (L1) any sensible has at least one property to which there is a contrary; this is the *principle of radical separation* (see proof 11): Put formally:

(RS:) $\forall x(Sx \rightarrow \neg isform(x))$

For any object, x , if x is a sensible, then x is not a form.

(T3), (T5) and (RS) make clear that sensibles cannot be the forms that (C) demands, (T3) and (T5) for some properties, (RS) for all of them. But without forms we would, in Plato's eyes, lack the means to tell true accounts from false ones, and he warns us to "not allow into our minds the conviction that argumentation has nothing sound about it."¹⁰³

Therefore, Plato argues that for any set of pairwise distinct things that share a property, there is a form of which any member of this set partakes;¹⁰⁴ this is the *principle of one over many*. Put formally:

(OM:) $\forall F \forall x_1 \dots \forall x_n ((Fx_1 \wedge \dots \wedge Fx_n \wedge x_1 \neq x_2 \wedge \dots \wedge x_{n-1} \neq x_n) \rightarrow$

$\exists y(y = \Phi_F \wedge partakes(x_1, y) \wedge \dots \wedge partakes(x_n, y)))$

For any property, F , and any set of objects, $x_1, \dots$, and x_n , if $x_1, \dots$, and x_n are all distinct from each other and F , then there is an object, y , so that y is F -ness and $x_1, \dots$, and x_n partake of y .

* * *

This concludes our collection of principles and although the above is simply a model of Plato's thought, and one that does not aim for completeness, it should suffice as an outline for something that deserves to be called a "theory."

¹⁰² Indeed, Plato describes forms and sensibles in a way that suggests that it's obvious, at least in his eyes, that they are distinct kinds of things. See *Cratylus*, 439b–440e; *Phaedo*, 65d–e, 75a–e, 78d–79b; *Republic*, 6.509c–511e. Rickless comes up with a similar argument for (RS), which he calls "(RD)" (for "radical distinctness") or "NI2" (for "non-identity") in "How Parmenides Saved the Forms," 512; *Plato's Forms in Transition*, 50–51.

¹⁰³ *Phaedo*, 90e.

¹⁰⁴ See *Republic*, 10.596a; *Meno*, 72b–c. (OM) is also adapted from Pelletier and Zalta. See "How to Say Goodbye to the Third Man," sec. 5. Rickless construes the principle of one over many along similar lines. See "How Parmenides Saved the Forms," 518–519; *Plato's Forms in Transition*, 16. Similarly to (C), however, he restricts the principle in his earlier piece to properties for which there are forms; again, this restriction is irrelevant in my reading.

2.3 Socrates Introduces the Forms (126a–130b)

Setting the scene (126a–128e). Plato opens the *Parmenides* with a framing narrative that takes the contemporary reader back to a time when Socrates was still young.¹⁰⁵ Cephalus, the narrator of the story, recounts how he and “fellow citizens” (126b) of his meet Glaucon and Adeimantus during a visit in Athens, together with whom they then seek out Antiphon to have him recite a conversation between Socrates, Zeno, and Parmenides. Antiphon, however, was not present at the discussion and so it was only relayed to him by Pythodorus, who had been present. That said, we learn that Antiphon has not only “heard [the conversation] often” (126c) but also “practiced it to perfection” (l.c.), though he later loses his interest in philosophy because when he meets Cephalus and his acquaintances he “devotes most of his time to horses” (l.c.). John Cooper points out that a conversation worth being relayed through no less than three proxies must be fairly significant.¹⁰⁶ Wolfgang Wieland complements this by suggesting that Plato intends this framing narrative to, on the one hand, establish that the Socrates depicted in the *Parmenides* is not the philosophical hero with whom Plato’s readers are familiar from his earlier dialogues (i.e., not *yet*) and, on the other hand, to assure us that Cephalus’ account is accurate, not in terms of historical accuracy, for the conversation is no doubt fictive,¹⁰⁷ but in terms of portraying the early theory of forms unadulterated by later developments. Antiphon has not only practiced the conversation “to perfection” but also, having lost interest in philosophy, is unlikely to confuse its content with elaborations of his own or Socrates’ subsequent development, of which he will have taken no notice. A similar case can be made for Cephalus, who is from Clazomenae and, prior to his present visit, has not been to Athens for a long time, so he will be unfamiliar with Socrates’ later thought as well.¹⁰⁸ Samuel Scolnicov adds that Glaucon and Adei-

¹⁰⁵ Plato tends to name the characters in his dialogues after real figures, but even though the former are based on the latter, the connection is a loose one. In the *Parmenides* all characters, except perhaps Cephalus, about whom we know nothing except for what is said in the dialogue, are based on real people. Just to avoid confusion, references to the discussants of the *Parmenides* are references to Plato’s *dramatis personae* unless the context suggests otherwise. Allen provides an extensive discussion of the historical background of the *Parmenides*. See his *Plato’s Parmenides*, 69–75.

¹⁰⁶ See his introductory comments to the *Parmenides* in Plato’s *Complete Works*, 360.

¹⁰⁷ Socrates and Parmenides, the *dramatis personae*, defend positions that Socrates and Parmenides, the historical figures, do not hold. See Allen, *Plato’s Parmenides*, 72–74. Socrates, for all we know, does not regard forms as “separate” (cf. 130b and *passim*). See Fine, *On Ideas*, sec. 4.4. Parmenides, for all we know, does not regard perception as a condition for knowledge (cf. 134e–135e). See Kirk and Raven, *Presocratic Philosophers*, chap. 10. Mansfeld, correspondingly, argues that ages and dates given in the dialogue are at odds with Apollodorus’ dating of Zeno. See his “Aristotle, Plato, and Preplatonic Doxography and Chronography,” 43–45. Burnet, however, points out that Apollodorus’ dating of Zeno is at best an educated guess, and in fact, a pretty implausible one. See his *Early Greek Philosophy*, sec. 84. Mansfeld, curiously, makes no mention of Burnet’s objections.

¹⁰⁸ See *Platon und die Formen des Wissens*, 113–114. Clazomenae is also the hometown of Anaxagoras, which Schudoma reads as a hint that the dialogue tries to localise the discussion of Plato’s theory of forms as some kind of middle-position between the “empiricism” of the Ionians, one of which is Anaxagoras, and the

mantus, who are Socrates' interlocutors in the *Republic*, are "not the type of men to swallow a garbled story."¹⁰⁹ In short, we are signalled that we are about to hear an accurate depiction of the beginnings of the theory of forms.¹¹⁰

Antiphon then describes the context in which the discussion between Socrates, Zeno, and Parmenides takes place, namely, a reading of a book of Zeno that "he had just brought to Athens for the first time" (127c) and Socrates is "eager to hear" (l.c.). Yet Pythodorus, the first proxy, is not present during this reading. He knows the book already and joins the others just when Zeno is about to finish (127d).¹¹¹ Apparently, Plato expects his readers to be acquainted with Zeno's paradoxes and we should try to live up to his expectations. One of the few arguments of Zeno's treatise to survive is this:

[1:] If there is many [*ei polla estin*], things must be just as many as they are, no more and no less. And if they are just as many as they are, they must be limited.

[2:] If there is many, the things that are, are infinite [*apeira ta onta estin*]; for there will always be other things between the things that are, and yet others between those others.¹¹²

[1] is straightforward enough, [2] may require some explanation. [2] presumes that, because space is a continuum, that is, infinitely divisible, what is in space is also infinitely divisible, so that (a:) everything that is in space is made up of parts, one in the front, one in the back, one "between those others," and so on; (b:) but those parts are also in space; (c:) so each of those parts is also made up of parts; (d:) those parts are also in space; (e:) and so on, ad infinitum. Therefore, there is an infinite number of things. Zeno's move from "is in space" to "is infinitely divisible" may seem unwarranted, but the assumption that he tries to disprove, "'what is' is many," must be read as expressing the view that "what is" are the things as we perceive them. "Many" (*polus*) is often used to refer to the content of perception, and in this reading the move from "is in space" to "is infinitely divisible" makes sense. Zeno, in short, argues that what we see cannot be "what is".¹¹³

"rationalism" of the Eleatics, above all Parmenides and Zeno. See her *Platons Parmenides*, 15. Allen, by contrast, finds that Cephalus being from Clazomenae "requires no explanation beyond the fact that relations between Athens and Clazomenae were historically close." Allen, *Plato's Parmenides*, 71. See also note 147 below.

¹⁰⁹ Scolnicov, *Plato's Parmenides*, 44.

¹¹⁰ By contrast, Gill argues that the three proxies are meant to cast doubt on the accuracy of the overall account, perhaps in order to invite the readers to address some of the problems on their own. See her introduction, which is only included in the 1996 edition, to the *Parmenides*, 4. Plato however goes to lengths to assure us that Antiphon and Cephalus are reliable, which would seem pointless if he wanted us to doubt them.

¹¹¹ Pythodorus is not only a "friend of Zeno's" (126b), but is also said to be his student in the *Alcibiades*, 119a. So it is no surprise that he knows Zeno's treatise, despite it not having been available in Athens.

¹¹² DK 29 B 3.5–11, as translated by Kirk and Raven; except for the opening clause "*ei polla estin*" (lit., "if many is"), which they render as "if there is a plurality," but which is rendered as "if there is many" above for consistency. See their *Presocratic Philosophers*, passage 366 on 288. Cf. LSJ, s.v. "*polus*."

¹¹³ Cf. DK 29 B 1–3. Allen provides an extensive discussion of Zeno and of what Plato may make of Zeno's

However, Socrates turns his attention to another argument in the book which he, apparently unsure as to whether he got the point or not, sums up as follows:

[3:] If the things that are, are many [*ei polla esti ta onta*], they must then be both like and unlike, [4:] but that is impossible, because unlike things can't be like or like things unlike. (127e)¹¹⁴

[3] is reminiscent of [1] and [2], save for the fact that Socrates renders the premise under consideration as "*ei polla esti ta onta*" (literally, "if many is that 'what is'"), whereas Zeno writes "*ei polla estin*" (literally, "if many is"). We should also note that Socrates uses "*esti*" as copula, while Zeno uses "*estin*" to assert that plurality is and only thereafter allows himself to say "*apeira ta onta estin*" (literally, "that 'what is' is infinite"); that is, making use of "*estin*" as copula. [4] spells out a suppressed premise, but one that at first sight seems dubious, for "... is like" and "... is unlike" are shorthands for "... is like (something)" and "... is unlike (something)" and no doubt something can be like one thing *and* unlike another.¹¹⁵ For all that, Zeno agrees to Socrates' summary nonetheless (l.c.). Understandably, Socrates next seeks to clarify [4], asking Zeno whether [4] obtains because things cannot have contrary properties, and again Zeno agrees (127e–128a).

At this point Socrates accuses Zeno of trying "to fool [them] into thinking he is saying something different" from Parmenides (128a). Parmenides says that "the all is one" (128b). Zeno says that "it is not many" (l.c.). Socrates, however, turns out to be the one who makes a fool of himself. Zeno replies that his "book comes to the defence of Parmenides' argument against those who try to make fun of it" (128c), that it was written "out of a young man's competitiveness" (128e) and that, as a matter of fact, it only came into circulation because "someone made an unauthorised copy" (128d);¹¹⁶ that is, he stresses that he never claimed to say "something different" from his teacher. Yet we must be careful to understand Socrates correctly. He does not accuse Zeno of saying the same thing as Parmenides solely on the grounds of Zeno reaching a similar conclusion; this he could have done without discussing [4]. This suggests that he harbours a suspicion. [4] is, to say the least, counter-intuitive, so

paradoxes in *Plato's Parmenides*, 76–103. Cf. also Kirk and Raven, *Presocratic Philosophers*, chap. 11. My reading is closer to that of Kirk and Raven than to that of Allen.

¹¹⁴ Gill and Ryan translate "*ei polla esti ta onta*" as "if things are many," but this would be inconsistent with the translation of Zeno's fragment given above. That said, given the topic under discussion "the things that are" seems a less than ideal translation of "*ta onta*" as well, for "*onta*" may also mean "sum," "reality," or "truth." Put another way, "*ta onta*," in our case, appears to refer to the totality of what there is; where helpful this will be stressed by rendering "*ta onta*," "what is." Cf. LSJ, s.v. "*onta*." Plato's original text is taken from *Platonis Opera*.

¹¹⁵ That being so, Allen doubts that Zeno in fact holds [4]. See his *Plato's Parmenides*, 92–99. Yet one of Parmenides' teachings is that we ought to prefer reason over perception and, by the same token, intuition, so why should Zeno, his student, be troubled by holding a counter-intuitive view?

¹¹⁶ Palmer points out that we are well advised not to regard Zeno's account of the circumstances under which he wrote his book and under which it got published as historically accurate. See his *Plato's Reception of Parmenides*, 95–98 and 102–103.

Zeno, presumably, has a reason for holding [4]. Socrates asks for that reason, and Zeno says that he holds [4] because things cannot have contrary properties. But this is no more palatable than [4], for no doubt the same thing can be *F* in one context and *con-F* in another. So Zeno, presumably, has reason to maintain that things cannot have contrary properties as well. Now Socrates does not ask for this reason, but apparently suspects him of maintaining that things cannot have contrary properties because he assumes that things must be “one” in the sense of Parmenides. Consequently then, as we will see, they could not have contrary properties indeed. In other words, Socrates suspects Zeno of not merely reaching a similar conclusion as Parmenides, but of even setting out from the same premises. In order to better understand why Socrates levels this charge, we need to turn briefly to Parmenides himself.

Parmenides’ argument may seem simple enough, the only path of enquiry, he says, is “that ⟨being⟩ is and that not being is not.”¹¹⁷ But we must keep in mind Charles Kahn’s advice that “to be” in Ancient Greek tends to be “overdetermined,”¹¹⁸ so that “several grammatical readings of a single occurrence are not only possible but sometimes required for the full understanding of the text.”¹¹⁹ Therefore a more accurate rendering of Parmenides’ dictum would be: “that [1:] ⟨being⟩ is ⟨such-and-such⟩ and that [2:] not-being is not ⟨such-and-such⟩.”¹²⁰ [1] asserts that “to be” means “to be such-and-such,” any being must possess properties and we cannot split one from the other. To be sure, when we say “*a* is *F*” we may be under the impression that there is a thing, *a*, a property, *F*, and a relation between them, which we express by “... is ...”. But this is impossible, for if *a* is *F*, there neither is an *a* that is, as it were, yet unadulterated by *F*-ness nor a free floating *F*-ness unaffixed to being, so if we were to form the belief “*a* is *F*” by glueing them together, we would have to tear them apart first. Conversely, [2] asserts that we cannot say, think, or know anything about not-being, because not-being possesses no properties whatsoever. Moreover, we cannot even say, think or know propositions of the form “*a* is not *F*,” for such propositions express a claim about *a* as it is not, but there is no such thing as the *a* that is not and we cannot say, think or know anything about not-being (neither can we understand “*a* is not *F*” as if there were a thing, *a*, and property, *F*, that “... is not ...” expresses to be unrelated).¹²¹ In other words,

¹¹⁷ DK 28 B 2.3, translation adopted from Hrachovec, “Approaches to Parmenides B 2.3 and B 2.5,” 4. Hrachovec stresses that “*hopos estin*” (lit., “that ⟨...⟩ is”) contains an ellipsis, which is rendered as “⟨being⟩” above; this follows the translations proposed by Diels. Kahn discusses this ellipsis in “The Thesis of Parmenides,” 708–713. See also Kirk and Raven, *Presocratic Philosophers*, 269–270. Kahn, and Kirk and Raven translate “*hopos estin*” as “that ⟨it⟩ is,” where “it” should be read in the same way as in “it rains.”

¹¹⁸ “Some Philosophical Uses of ‘to Be’ in Plato,” 105.

¹¹⁹ Ibid.

¹²⁰ On the use of “*einai*” as “to be ⟨such-and-such⟩,” esp. in Parmenides, see Kahn, “The Greek Verb ‘to Be’ and the Concept of Being,” esp. 251; “The Thesis of Parmenides”; “Some Philosophical Uses of ‘to Be’ in Plato,” 111–112; Matthen, “Greek Ontology and the ‘Is’ of Truth”; Scolnicov, *Plato’s Parmenides*, 16–17.

¹²¹ DK 28 B 2.3 is construed here along the lines suggested by Hrachovec, “Approaches to Parmenides B 2.3 and B 2.5.” Curd proposes, correspondingly, that Parmenides claims “that each thing that is can be only one thing; it can hold only the one predicate that indicates what it is, and must hold it in a particularly strong way.” *The Legacy of Parmenides*, 66. Palmer argues that Plato’s reading of Parmenides is, in effect, similar to Curd’s.

Parmenides argues that beliefs are meaningful iff they are about being as it is. Notably, this seems to imply *ex definitione* that all meaningful beliefs are true (and vice versa) because they reflect being as it is. Socrates' précis of Parmenides' dictum "the all is one" (128a) is, therefore, best read as "being $\langle F \rangle$ is one," in the sense that "being $\langle F \rangle$ " cannot be thought of as being made up of "being" and " F ," for there is neither "being" in itself, nor an " F " itself, there is only "being- F ." Thus, what *is* F cannot meaningfully be said or thought to be con- F because in order for us to be able to say or think that it is con- F we would have to strip it of its F -ness, for nothing can be F and con- F at the same time, but this would be to speak or think about what is not, namely, something that is F and not F , which would be nonsense. Of course, things often seem to be F in one context and con- F in another, which Parmenides acknowledges, but he insists that our speech, thoughts and knowledge can only be meaningful if they are about being as it *is* and not being as it seems to us.¹²²

Thus, Socrates appears to charge Zeno with saying the same things as Parmenides because "the things that are" could not have contrary properties if they qualified as being in Parmenides' sense, which strongly suggests that Zeno assumes that they do. However, Zeno denies this charge. He does not profess to reach a different conclusion from Parmenides, but insists that he arrives there via a different argument; otherwise, he could hardly "come to the defence" (128c) of his teacher.¹²³ That being so, the "are" (*esti*) in "if the things that are, are many" (*ei polla esti ta onta*) may be understood in another sense than Parmenides', which is apparently just what Socrates wanted to hear.

Socrates' speech (128e–130b). Free to give "are" another interpretation, Socrates goes on to question whether things cannot have contrary properties, asking in quite a suggestive manner:

Don't you acknowledge that there is a form, itself by itself, of likeness, and another form, opposite to this, which is what unlike is? Don't you and I and the other things we call "many" get a share of [*metambanein*] those two entities? And don't things that get a share of likeness come to be like in that way and to the extent that they get a share, whereas things that get a share of unlikeness come to be unlike, and things that get a share of both come to be both? And even if all things get a share of both, though they are opposites, and by partaking of them are both like and unlike themselves, what's astonishing about that? (129a)

Socrates implies that those who gainsay that "the all is one" should see no reason to accept that things cannot have contrary properties either, for there appear to be two ways in which

See Palmer, *Plato's Reception of Parmenides*, chap. 5. See also Scolnicov, *Plato's Parmenides*, 18–22. Cf. Kirk and Raven, *Presocratic Philosophers*, chap. 10.

¹²² See DK 28 B 6.4–9 and 8.53–59. Cf. Kirk and Raven, *Presocratic Philosophers*, 271–272 and 280–281.

¹²³ See Palmer, *Plato's Reception of Parmenides*, 98–100.

something can be $\langle F \rangle$, (1:) a proper one that applies to forms, each of which is “itself by itself,” and (2:) a derivate one that applies to other things, which are $\langle F \rangle$ by “get[ting] a share” $\langle$ of F -ness $\rangle$, so there is no reason why things, save for F -ness, could not be F and con- F (Socrates switches between “*metalambanō*”/“get a share of” and “*metekhō*”/“partake of” with no apparent difference in meaning, my own use of “to get a share of” and “to partake of” reflects his). (1) corresponds to the designatory usage of “is,” (2) to the eponymous usage. Socrates’ distinction between (1) and (2) may also explain why he recounts the premise that Zeno disproves as “the things that are, are many,” which is closer to (2), rather than as “there is many” (*polla estin*), which is closer to (1), for whereas “the things that are, are many” asserts that “the things that are” *relate* to “[the form of the] many,” “there is many” asserts, in a true Parmenidean fashion, that “many” *is*, that is to say, that we can say, think and know, meaningfully that sensibles are such-and-such. Accordingly, Socrates argues that something can be “one by partaking of oneness” *and* “many by partaking also of multitude” (129b).¹²⁴ Zeno has no way of objecting to Socrates’ rendering of the premise, for this would mean a retreat to a Parmenidean notion of being $\langle -F \rangle$, and Socrates, by having charged Zeno with doing precisely this, has made sure that this retreat is blocked. Put briefly, Socrates asks if the belief “ a is $\langle F \rangle$ ” may also express a relation between a and “what it is” to be $\langle F \rangle$, then what keeps a from entering into another relation, this time to “what it is” to be $\langle$ con- F $\rangle$?

Socrates elaborates on the claims his question implies with a theory of his own, which, to no surprise, bears a striking resemblance to Plato’s middle period theory of forms. To be precise, Socrates first alludes to (SP) (129a), (C) (129a–b), (IS) (129a–b and d–e), (P) (129b–e), and (RP) (129c), and then contrasts “visible things” (129e) with forms, which he describes as “things that are grasped by reasoning” (130a). Socrates appears quite confident in this account and he even dares to challenge Zeno five times (*passim* in 129b–130a), asserting that there is nothing remarkable about showing that “visible things” have contrary properties, but that he would be “impressed” (129e) if somebody could show that forms have contrary properties. Pythodorus understandably expects Parmenides and Zeno to get annoyed, but finds to his surprise that they “paid close attention to Socrates and often glanced at each other and smiled, as though they admired him” (130a). Indeed, Parmenides appears interested in Socrates’ account, asking whether these forms were “*khōris*”/“separate” (130b) from “the things that partake of them” (l.c.), which Socrates affirms.¹²⁵ To be clear Parmenides does not ask about (S) or (RS),¹²⁶ which at any rate follow from (IS), (P),

¹²⁴ Scolnicov, by contrast, finds that “there seems to be no appreciable difference between [*‘polla estin’* and *‘polla esti ta onta’*].” See his *Plato’s Parmenides*, note 4 on 46.

¹²⁵ Scolnicov points out that Plato uses the term “*khōris*” for forms nowhere else but in the *Parmenides*. See *ibid.*, 51. See also Fine, “The One Over Many”; *On Ideas*, chap. 4 and 8; Peck, “Plato’s Parmenides,” 129.

¹²⁶ Unfortunately, it is customary to refer to (S) and (RS) as principles of “separation,” though the name is misleading; probably for this reason Rickless refers to (S) and (RS) as principles of “non-identity.” Making matters worse, it is also customary to refer to another assumption of Plato as “non-identity assumption,” even

and (RP). He asks whether Socrates understands his thesis that beliefs of the form “ a is F ” (where $a \neq F$ -ness) are meaningful by virtue of a “getting a share” of F -ness, to imply that a ’s being- F can be divided into three elements: (1:) a ’s being-..., (2:) F -ness, and (3:) the relation of “... getting a share of ...” that obtains between them, so that F -ness is “separate” from a in the sense that “ F ” and “ a ,” refer to distinct things, F -ness and a ’s being-.... Parmenides’ question is less innocuous than it may seem, for the idea that beliefs can be divided in this way is precisely what he argues against (see fig. 2 for a schematic comparison of Socrates’ and Parmenides’ analyses of “... is $\langle F \rangle$ ”), and knowing the pitfalls of Socrates’ thesis he takes up his challenge and sets out to show that if there were “separate” forms, these forms would be “one” *and* “many,” that is, have contrary properties.

Parmenides	“ $\langle \dots \rangle$ is $\langle F \rangle$ ”	being- F
Socrates	“ a is F ” (where $a \neq F$ -ness)	<i>signifies</i> { a , “... gets a share in ...,” F -ness}

Figure 2: Analyses of “is”

The story so far. Socrates’ challenge to Zeno, namely, to demonstrate that the forms possess contrary properties, sets the theme for the next part of the dialogue; in order for the forms to be able to play their role as models they must be “one,” that is, they need to meet (U), (O), and (P), maybe even (RP), and to show that forms are “many” is nothing other than to show that they fail to meet at least one of those conditions, shaking the foundations of Plato’s understanding of predication and justification. Plato has chosen his cast of characters well, for there are two parallels between him and Parmenides that pertain to the present investigation: (1:) the forms, on account of being changeless and satisfying (O) as well as (RP), qualify as Parmenidean beings;¹²⁷ (2:) Plato adopts Parmenides’ argument that knowledge $\langle$ of F -ness $\rangle$ must be about something that is $\langle F \rangle$, though he tries to weaken this argument insofar as speech and thought may be about things that merely appear to us $\langle$ as $F \rangle$.¹²⁸ Plato indicates his indebtedness to Parmenides in the dialogue. Socrates is reported to be “eager” (127c) to hear Zeno, but the dialogue leaves no doubt that Socrates has no prior knowledge of Zeno’s treatise. Not only has Zeno brought the treatise to Athens for the “first time” (l.c.), but Socrates also charges him with trying “to fool [them] into thinking he is saying something dif-

though this assumption is about forms being “separate” from things; accordingly, Rickless refers to *this* assumption as that of “separation.” See *Plato’s Forms in Transition*, xiii. Although Rickless’ labels make somewhat more sense, the customary ones are used throughout this work.

¹²⁷ Cf. Palmer, *Plato’s Reception of Parmenides*, chap. 1 and 3; Scolnicov, *Plato’s Parmenides*, 16–22; Iber, “Platons eigentliche Leistung im Dialog Parmenides,” 185–191.

¹²⁸ Palmer works out in detail the parallels between Parmenides’ poem and the argument that knowledge cannot refer to what we see in the *Republic*, 5.476e–478d. See *Plato’s Reception of Parmenides*, chap. 3 and 4.

ferent” from Parmenides (128a). Although the charge appears to be part of the build-up of Socrates’ argument, he surely would have made his point differently had he been aware of the purpose of the treatise. At the same time, his charge reveals that he is acquainted with Parmenides’ position. Socrates, in short, is not so much “eager” to hear Zeno as to hear a student of Parmenides, who just happens to be Zeno. Parmenides would also seem to be a natural choice for an opponent of the independence of forms and Plato’s notion of predication. That said, Parmenides’ role may be more ambivalent because, as Andreas Graeser points out, his language “evokes a thing-like conception of all reality.”¹²⁹ For instance, Parmenides writes that “what is clings close to what is”¹³⁰ or that being is a “well-rounded sphere.”¹³¹ Although we are well advised to read such passages metaphorically, for, as Geoffrey Kirk and John Raven stress, had Parmenides “been asked whether his ‘being’ was solid [...], his answer would have been a hesitant negative,”¹³² Graeser is right that Parmenides’ language suggests that the being that he is talking about is the being such-and-such of a thing.¹³³

Furthermore, Graeser argues that Parmenides’ role in the dialogue should alert us that the *Parmenides* cannot be about Plato’s middle period theory of forms, for Parmenides is in no position to lecture Socrates. Rather, Plato adopts Parmenides as chief interlocutor to parody a “reificative form of consciousness,”¹³⁴ which Parmenides exemplifies. True, Parmenides is an unusual lead for a middle period dialogue, even for a late one,¹³⁵ but unusual ends call for unusual means, and if Plato intends the *Parmenides* to be a thorough review of his own theory then this would seem, as an end, unusual enough. At any rate, there appear to be only two reasons for which Parmenides should be in no position to lecture Socrates and if there is another one, Graeser does not tell: (1:) Parmenides’ notion of being is at odds with Plato’s metaphysics, which after all includes (S) and (RS). (2:) Socrates is Plato’s philosophical hero, not only in a literary sense. (1), as we have seen, is too simple, Plato’s forms qualify as Parmenidean being(-F), and if the *Parmenides* is not intended to review the theory of

¹²⁹ Graeser, “Plato’s Parmenides,” 15.

¹³⁰ DK 28 B 8.25, as translated by Kirk and Raven. See their *Presocratic Philosophers*, passage 348 on 275. Graeser cites this passage as an example.

¹³¹ DK 28 B 8.43, as translated by Kirk and Raven. See their *Presocratic Philosophers*, passage 351 on 276.

¹³² Kirk and Raven, *Presocratic Philosophers*, 270.

¹³³ Correspondingly, Gill finds that “Plato chooses Parmenides as the main speaker in the *Parmenides* because he will use Parmenidean themes in his investigation of forms.” See her introduction to the *Parmenides*, 10 (her italics). Palmer argues that Plato seeks to bring out the differences between his appropriation of Parmenides and that of Gorgias. Cf. *Plato’s Reception of Parmenides*, chap. 5. Palmer has a strong case, especially for the second part of the dialogue, but the setting and the difficulties for the theory of forms discussed in the first part suggest that Plato draws on Gorgias to situate these difficulties in a wider context.

¹³⁴ Graeser, “Plato’s Parmenides,” 15.

¹³⁵ Lienemann regards the *Parmenides* as an early dialogue of Plato’s late period. See *Die Argumente des Dritten Menschen in Platons „Parmenides“*, 17. If Lienemann is right then there is nothing unusual about Socrates playing only a minor part, for he has little more than cameo appearances in most of the late dialogues, namely, in the *Timaeus*, the *Critias*, the *Sophist*, and the *Statesman*, and does not appear at all in the *Laws*.

forms, why is the theory Parmenides is about to examine defended by Socrates?¹³⁶ Graeser argues that this is because Plato wants to ridicule misinterpretations of his theory. But surely this, if anything, would be a good reason to let Socrates play his customary role because it is his theory, that is, in Plato's literary universe, so it is he who should set it straight; anything else would be bound to create more confusion, not less. (2), in fact, is not as incongruous with the setting of the dialogue as one may suppose. Of course, Plato's portrayal of Socrates as annoying, presumptuous, and ignorant is not exactly charming, yet his interlocutors seem more than willing to let him get away with this, attributing his flaws to his youth. Besides, as we will see later, there will be a dramatic turn of events on in the dialogue that vindicates Socrates' theory (at 134e–135e). Furthermore, Socrates looks back to this conversation with Parmenides, in the *Theaetetus*, 183e, calling him “in the words of Homer, [...] ‘reverend’ and ‘awful’ [in terms of ‘inspiring wonder’],” so why should Parmenides be in no position to lecture young Socrates? Plato, in short, casts Parmenides in the lead for the dialogue that bears his name because he is the right interlocutor for Socrates to question a “thing-like conception of all reality,” but this does not imply that the conception of reality he questions is anything other than his own.

2.4 Aporias of the Theory of Forms (130b–134e)

Outlook. Parmenides is about to respond to Socrates' challenge, that is, to demonstrate that the forms have contrary properties. Parmenides does so in the same manner as Socrates examines the positions of his interlocutors in other middle period dialogues, he questions Socrates about his theory of forms and then reduces his answers to absurdities. Put simply, Socrates struggles because his thesis, that things that fail to be $\langle F \rangle$ can, meaningfully, be said or thought to be $\langle F \rangle$ insofar as they “get a share” $\langle \text{of } F\text{-ness} \rangle$, suggests that “... getting a share ...” is a relation between things. Parmenides is aware of this, as Samuel Rickless remarks, the smiles that Parmenides and Zeno exchange are “knowing smiles.”¹³⁷ However, he cannot attack Socrates' position right away as the forms that Socrates has mentioned up to this point, “likeness” and “unlikeness” (129a), “oneness” and “multitude” (129b), and “rest” and

¹³⁶ We are still far from a consensus on how to read the *Parmenides*. Still, there appear to be majority opinions on some aspects of its interpretation. One majority opinion is that the dialogue is about Plato's middle period theory of forms, one way or the other. To name only some more recent contributions, see Meinwald, *Plato's Parmenides*; Allen, *Plato's Parmenides*, 89–90; Rickless, “How Parmenides Saved the Forms,” sec. 3; *Plato's Forms in Transition*, 46–52; Schudoma, *Platons Parmenides*, 15–19; Scolnicov, *Plato's Parmenides*, 48–52; Lienemann, *Die Argumente des Dritten Menschen in Platons „Parmenides“*, chap. 1. Although my own interpretation follows suit, one has to grant Graeser that Socrates' speech at 128e–130b could just as well outline another theory that merely resembles Plato's middle period theory of forms, and loosely at that. Parmenides' summary of Socrates' account of predication at 130e–131a, however, bears a striking resemblance to the *Phaedo*, 100e–103c.

¹³⁷ *Plato's Forms in Transition*, 53.

“motion” (129d), are far from thing-like. Therefore, Parmenides begins his examination of Socrates’ theory by pointing out that there need to be forms of sensibles as well (130b–e), only thereafter he can call Socrates’ account into question.

Socrates, of course, is not one to give up easily. Before he concedes to being at a loss as to how things can “get a share” in the forms, he defends his theory by refining his metaphysics, which he does along the lines of two distinctions: (1:) forms inhere in/are besides the things that get a share of them, (2:) forms are $\langle F \rangle$ in the same way as/in another way than “visible things”; in essence, Socrates’ refinements and Parmenides’ rejoinders can be grouped into four arguments (see table 3, which cites the custom labels of these arguments; columns correspond to (1), rows to (2); the discussion proceeds clockwise from the upper left). Thus, the first part of the dialogue can be read as a complete, if somewhat terse, assessment of the metaphysics available to Socrates in the vicinity of his theory.¹³⁸ That being so, we should expect the discussion to be broad, rather than limited to Plato’s middle period metaphysics. Since Socrates improves upon his theory in the course of the discussion, we may except that the metaphysics of each subsequent argument are closer to Plato’s own than that of the previous one.

	<i>forms inhere in things</i>	<i>forms are besides things</i>
<i>same way of being</i>	Pie Model (130e–131e)	Third Man Argument (132a–b)
<i>different ways of being</i>	Likeness Argument (132c–133a)	Thought Model (132b–c)

Table 3: Socrates’ metaphysics and Parmenides’ objections

After Socrates has exhausted all combinations of (1) and (2), Parmenides interprets the results of their discussion, explaining that we cannot acquire knowledge of forms that are separate from the things that partake of them, for such forms are by definition beyond our perception and, in this sense, out of our cognitive reach. Usually, this is regarded as a challenge to Socrates’ hypothesis in its own right, and is called the Greatest Difficulty (133a–134e), but, as we will see, this is mistaken.¹³⁹ Parmenides raises a new point, but this point can

¹³⁸ Ryle finds that although “Socrates is now bankrupt of any answer” to the question of how sensibles relate to forms, “the debate is so far inconclusive that the fact that Socrates cannot answer the question does not imply that there is no answer.” “Plato’s ‘Parmenides,’” 137. Here, Ryle is in my opinion mistaken. Parmenides appears to draw a conclusion after the fourth argument, saying, “Then do you see, Socrates, [...] how great the difficulty is if one marks things off as forms, themselves by themselves?” (133a), which would seem to make little sense if the discussion had not been exhaustive.

¹³⁹ See, e.g., Forrester, “Arguments an Able Man Could Refute”; Bestor, “Plato’s Semantics and Plato’s ‘Parmenides,’” sec. 9; Meinwald, *Plato’s Parmenides*, 12, 17–19, 159–162; Rickless, “How Parmenides Saved the Forms,” sec. 4.5; *Plato’s Forms in Transition*, sec. 2.6; Graeser, “Die größte Aporie in Platons Parmenides”; “Plato’s Parmenides,” sec. 7. Notable exceptions are Peck, “Plato’s Parmenides”; Allen, *Plato’s Parmenides*,

only be understood against the backdrop of the preceding discussion, where he has shown that it's difficult to glue things and forms back together again once they have been separated.¹⁴⁰

The extent of forms (130b–e). Parmenides begins his examination by asking Socrates what kinds of things he assumes there to be forms for.

[Parmenides:] [1:] “Is there a form, itself by itself, of just, and beautiful, and good, and everything of that sort?”

[Socrates:] “Yes,” he said.

[Parmenides:] [2:] “What about a form of human being, separate from us and all those like us? Is there a form itself of human being, or fire, or water?”

[Socrates:] Socrates said, “Parmenides, I’ve often found myself in doubt whether I should talk about those in the same way as the others or differently.”

[Parmenides:] [3:] “And what about these, Socrates? Things that might seem absurd, like hair and mud and dirt, or anything else totally undignified and worthless? [...]”

[Socrates:] “Not at all,” Socrates answered. “On the contrary, these things are in fact just what we see. Surely it’s too outlandish to think there is a form for them. Not that the thought that the same thing might hold in all cases hasn’t troubled me from time to time. Then, when I get bogged down in that, I hurry away, afraid that I may fall into some pit of nonsense and come to harm; but when I arrive back in the vicinity of the things we agreed a moment ago have forms, I linger there and occupy myself with them.”

[Parmenides:] “That’s because you are still young, Socrates,” said Parmenides, “and philosophy has not yet gripped you as, in my opinion, it will in the future, once you begin to consider none of the cases beneath your notice. Now, though, you still care about what people think, because of your youth.” (130b–e)

On the one hand, Socrates’ replies indicate that the things that he had in mind when he came up with his theory of forms are things such as those in group [1], and, on the other hand, reveal that he is unprepared to follow through with his theory. Rickless proposes that Socrates is troubled by the things in [2] and [3] because of (SP) and (RS); for we may, as (SP) requires, imagine justice as just, beauty as beautiful, and goodness as good without finding ourselves at odds with (RS). Justice, beauty, and goodness do not have any sensible qualities at any rate. But when we imagine, for example, humanity as human, we appear to be at odds with (RS), for imagining a human without sensible qualities is difficult. Rickless deems this a genuine inconsistency in Plato’s middle period theory of forms.¹⁴¹ It isn’t. To

193–203; Scolnicov, *Plato’s Parmenides*, 68–73.

¹⁴⁰ For different takes on how to structure the first part, see Peck, “Plato’s Parmenides,” 130; Scolnicov, *Plato’s Parmenides*, fig. 1 on 24.

¹⁴¹ Cf. *Plato’s Forms in Transition*, sec. 2.1. Rickless claims that this suggests, as in fact almost *all* other arguments in the *Parmenides* do, that (RP) must be dropped, which according to Rickless would avoid each and every difficulty for Socrates’ hypothesis discussed in the dialogue. (RP), however, expresses an aspect of the nature of forms that one can hardly imagine the theory of forms could do without. It is (RP) because of which

be sure, the thought of humanity walking around on two legs is, though not exactly difficult to entertain, a tad bizarre, but, as argued above, (SP) implies nothing of this sort, “humanity is human” just means, on the assumption of Aristotle’s definition of “human” as “bipedal animal,”¹⁴² “the name that we use to designate the form of ‘being a bipedal animal’ applies to the form of ‘being a bipedal animal’.” Mildly interesting? Yes. Nonsense? No. Of course, humans are bipedal animals, but walking around is not a feature of their form and, thus, nothing their form needs to engage in. The same goes for water, which, granted, “tastes good after an hour of hiking,”¹⁴³ but while this may be brought about by its molecular structure, there can be no doubt that the structure H₂O itself lacks this feature. Correspondingly, it is difficult to imagine that Plato would hope that he, after a prolonged walk, could refresh himself with a cup of wateriness.¹⁴⁴

Yet Rickless has a point. (RS) and (SP) may conflict for the things in groups [2] and [3], and precisely for the reason that Rickless gives, but whether they do depends on how one tries to resolve the tension between the forms being separate and, at the same time, Parmenidean beings. Approaching this step-by-step then: (a:) assume that there is a sensible, *a*, that belongs in group [3] because of being of a particular form, *F*-ness, for example, muddiness; (b:) since forms are separate, “*a* is *F*” can be broken up into {*a*, “... gets a share of ...,” *F*-ness}, which on a Parmenidean reading would seem to imply that *F*-ness is some kind of “incomplete” being, as if we could think of *F*-ness as the “...-*F*” in “being-*F*” (and, for that matter, the same goes for *a*, just vice versa); (c:) yet according to (SP), *F*-ness is *F*, and because *F*-ness is, as form, a Parmenidean being, “*F*-ness is *F*” means that *F*-ness is being-*F* and, in this sense, “complete”; (d:) apparently, we substituted another being-... for the one we have just subtracted; (e:) now, Parmenidean being is being such-and-such, and the such-and-such of things in group [3] ex hypothesi seems to be a sensible quality, because Parmenides selects them as examples of “undignified” things and Socrates, before being corrected, finds that “these things are in fact just what we see,” which suggests that *F*-ness’ being is similar to being of sensibles—and on this assumption, humanity *may* go for a walk

forms, but not sensibles, qualify as models. Were forms and sensibles on par in this respect, then it would be hard to see for what Plato would need the forms at all. (NC), *pari passu*, would have to be dropped as well, which Rickless embraces. We may rightly wonder what would be left of the middle period theory of forms if Plato followed Rickless’ advice. Moreover, this would imply that Plato means all arguments of the first part to be on equal footing, which he clearly does not.

¹⁴² See *Metaphysics*, 13.1079b.

¹⁴³ Rickless, *Plato’s Forms in Transition*, 55.

¹⁴⁴ Scolnicov, as many others, tries to find the feature by virtue of which things are placed in either group [1], [2], or [3], arguing that [1] contains axiological concepts, [2] things for which a naïve account of unity would seem to suffice, and [3] mixtures or collections, for which a more complex notion of unity seems to be required. See *Plato’s Parmenides*, 53–54. That is true enough, but nothing in the text suggests that this is what is at stake; our only hint is that the things in [3] are “undignified,” which at best suggests they lack a proper, that is, an immaterial, form by virtue of which they are what they are. To avoid confusion there is no doubt that Plato in fact accepts forms for the things in group [2] and little if any doubt that he would accept forms for the things in group [3]. Thereon, cf. Bestor, “Plato’s Semantics and Plato’s ‘Parmenides’,” sec. 3.

and, afterwards, refresh itself with a cup of wateriness. Put another way, for the above defence of claims of the form “ F -ness is F ” being forceful there need to be two ways of being $\langle F \rangle$, but because Socrates second way of being $\langle F \rangle$, getting a share $\langle$ of F -ness $\rangle$, depends on being $\langle F \rangle$ proper, it is unclear whether “getting a share $\langle$ of F -ness $\rangle$ ” qualifies as independent mode of being.

That said, we again must be careful to get the course of the conversation right. Socrates refuses to admit forms for the things in group [3] because he fears he might “fall into some pit of nonsense” if he did. Parmenides answers that this is “because [he is] still young” and “care[s] about what people think,” that is, the “pit of nonsense” is filled with contradictions to common sense, not with the inconsistencies of Socrates’ theory. Socrates has not yet likened the being of forms to that of things, not because he is aware of the difficulties into which that gets him, but because, for reasons quite mundane, he shies away from the consequences of his own theory. To get into a position to be able to exploit the tension between forms being “separate” as well as Parmenidean beings, Parmenides must make clear to Socrates that he should “consider none of [these] cases beneath [his] notice.” This time Socrates does not object, so Parmenides can press on.¹⁴⁵

The Pie Model (130e–131e). At this point Parmenides outlines what he surmises to be Socrates’ understanding of predication, which, prior to this point, had not been spelled out.

[Parmenides:] “But tell me this: is it your view that, as you say, there are certain forms from which these other things, by getting a share of them, derive their names—as, for instance, they come to be like by getting a share of likeness, large by getting a share of largeness, and just and beautiful by getting a share of justice and beauty?”

[Socrates:] “It certainly is,” Socrates replied. (130e–131b)

Whereas Parmenides’ outline of Socrates’ understanding of predication echoes the *Phaedo*, 102b–103e, the metaphysics that he assumes at this point (we begin at the upper left cell of table 3, forms inhere in things and are $\langle F \rangle$ in the same way) are at odds with the *Phaedo*, 65d–e, 75a–e, 78d–79b, and passim, where Socrates the elder argues that forms are apprehended by the mind, not the senses. Socrates the younger, however, has implicitly accepted the metaphysics under discussion already, so his assent to Parmenides’ outline of his understanding of predication gives Parmenides the go-ahead to open the first round.

[Parmenides:] “So does each thing that gets a share get as its share the form as a whole or a part of it? Or could there be some other means of getting a share apart from these two?”

¹⁴⁵ Put another way, the theme of the first part is how forms can on the one hand explain the being $\langle -F \rangle$ of “visible things,” but on the other hand be “separate” from them. Cf. Peck, “Plato’s Parmenides,” 129. As a consequence of this focus, how forms explain each others being such-and-such, e.g., how justice explains virtue’s being just, receives no attention whatsoever in the first part of the dialogue.

[Socrates:] “How could there be?” he said.

[Parmenides:] “Do you think, then, that the form as a whole—one thing—is in each of the many? Or what do you think?”

[Socrates:] “What’s to prevent its being one, Parmenides?” said Socrates.

[Parmenides:] “So, being one and the same, it will be at the same time, as a whole, in things that are many and separate; and thus it would be separate from itself.” (131a–b)

Socrates, unsurprisingly, feels that Parmenides’ argument is beside the point, but before we turn to his reply we need to put on record that Parmenides’ argument is, in fact, spot on. Socrates just conceded forms for ordinary things, and not only did he make no effort to differentiate between the being of forms and that of things, the conjunction of his account of predication, which implies that forms are “separate,” and their nature, which is that of Parmenidean being, suggests that such a difference is difficult to make, something of which Parmenides is well aware. Therefore, Parmenides has every right to take “getting a share ⟨of *F*-ness⟩” literally; things “get a share of” a form in the same way that guests at a party get a share of the pie, and if our metaphysics allowed for everybody at the party to get the *whole* pie, then the pie, no doubt, would experience the pastry equivalent of an identity crisis.¹⁴⁶ Socrates, as is to be expected, protests; this is not what he means by “getting a share.”¹⁴⁷

[Socrates:] “No it wouldn’t,” Socrates said. “Not if it’s like one and the same day. That is in many places at the same time and is none the less not separate from itself. If it’s like that, each of the forms might be, at the same time, one and the same in all.”

[Parmenides:] “Socrates,” he said, “how neatly you make one and the same thing be in many places at the same time! It’s as if you were to cover many people with a sail, and then say that one thing as a whole is over many. Or isn’t that the sort of thing you mean to say?”

[Socrates:] “Perhaps,” he replied. (131b–c)

Socrates does two things by drawing an analogy between forms and the day (this analogy, probably, shall remind us of the metaphor of the sun in the *Republic*, 6.507b–509b), (1:) he

¹⁴⁶Rickless mentions that the term “Pie Model” was coined by Russ Dancy, though apparently in an unpublished manuscript. See “How Parmenides Saved the Forms,” note 20 on 514; *Plato’s Forms in Transition*, note 2 on 56. This passage is also often referred to as the *Whole-Part Dilemma*.

¹⁴⁷Meinwald points out that the explanatory scheme “*a* is *F* by virtue of getting a share of *F*-ness” stems from Anaxagoras, who, just like Socrates in the current passage, regards “... getting a share of ...” as a physical relation. See her *Plato’s Parmenides*, 11–12; “Good-bye to the Third Man,” 375–376. At this point, we may remember that Cephalus, the first narrator, is from Anaxagoras’ home town Clazomenae. Furthermore, Socrates mentions Anaxagoras in the *Phaedo*, 96a–99d, as one of the thinkers to whom he turned when he was young in order to understand how things come to be *F*. That said, the hints to Anaxagoras are quite subtle and difficult to decipher, for while he gets his fair share of attention in other dialogues, Socrates does not appear to hold him in high esteem; he says that “the man made no use of mind [*nō*],” ad loc., 96b, that “mind and mindlessness [*anoias*]” are the subjects on “which Anaxagoras has the most to say,” *Phaedrus*, 270a (my emphasis), and calls his theories “absurd,” in the *Apology*, 26e. We should probably read 130e–131e as an attempt by Plato to clarify that his “*a* is *F* by virtue of partaking of *F*-ness,” despite the similar terminology, must not be confused with Anaxagoras’ “*a* is *F* by virtue of getting a share of *F*-ness.”

introduces another way in which things can “get a share” of forms, and (2:) he, so to speak, rearranges the elements of his metaphysics, placing the forms “over” rather than “in” things. (1) depends on (2), Socrates’ analogy implies a different metaphysics to the one assumed at this stage of the dialogue. Parmenides, as Reginald Allen and Samuel Scolnicov note,¹⁴⁸ rejects Socrates’ proposal for precisely this reason and gets the things back into the shade—by hoisting a sail. Socrates is unsurprisingly hesitant in his affirmation that this is what he “mean[s] to say.”

[Parmenides:] “In that case would the sail be, as a whole, over each person, or would a part of it be over one person and another part over another?”

[Socrates:] “A part.”

[Parmenides:] “So the forms themselves are divisible, Socrates,” he said, “and things that partake of them would partake of a part; no longer would a whole form, but only a part of it, be in each thing.”

[Socrates:] “It does appear that way.”

[Parmenides:] “Then are you willing to say, Socrates, that our one form is really divided? Will it still be one?”

[Socrates:] “Not at all,” he replied. (131c)

Again, Parmenides’ argument is less obscure than it may seem; if things “get a share” of forms in the same way as each of the guests at our party gets a share of the pie, then neither the pie nor the forms are still “one.” They have been divided into parts, the pie and the forms simply are no more. Socrates concedes that the forms, under these circumstances, cannot be “one,” which allows Parmenides to move on to questioning the relation “... getting a share of ...”.

[Parmenides:] “No,” said Parmenides. “For suppose you are going to divide largeness itself. If each of the many large things is to be large by a part of largeness smaller than largeness itself, won’t that appear unreasonable?”

[Socrates:] “It certainly will,” he replied.

[Parmenides:] “What about this? Will each thing that has received a small part of the equal have something by which to be equal to anything, when its portion is less than the equal itself?”

[Socrates:] “That’s impossible.”

[Parmenides:] “Well, suppose one of us is going to have a part of the small. The small will be larger than that part of it, since the part is a part of it: so the small itself will be larger! And that to which the part subtracted is added will be smaller, not larger, than it was before.”

[Socrates:] “That surely couldn’t happen,” he said. (131c–e)

To be sure, slicing up forms and distributing their pieces is strange enough, but Parmenides wants to show that as a consequence the forms cannot play the explanatory role that

¹⁴⁸ See Allen, *Plato’s Parmenides*, 131–133; Scolnicov, *Plato’s Parmenides*, 57–58.

Socrates assigns to them in his account of predication. Therefore, he takes the time to spell out what these results mean, choosing “... is large,” “... is the same size as ...,” and “... is small,” each of which is eo ipso connected to perception (and is reminiscent of the discussion of Simmias’ largeness in the *Phaedo*, 100e–103c) and the contradictions to (P)/(RP) follow immediately.¹⁴⁹ Of course, there is an air of curiosity about the whole passage. As Graeser notes, “nowhere is the *Bewußtseinsgestalt* [form of consciousness] of reification more drastically emphasised than in the alternative: sharing in [*F*-ness] itself means either sharing in the whole of [*F*-ness], or sharing in a part of it.”¹⁵⁰

The Third Man Argument (132a–b). Now Parmenides comes back to the analogy of the day that Socrates proposed. Thus the metaphysics under discussion shifts (namely, from the upper left cell of table 3 to the upper right one. The forms are now assumed to be “besides” things, but still are $\langle F \rangle$ in the same way).

[Parmenides:] “I suppose you think each form is one on the following ground: [1:] whenever some number of things seem to you to be large, perhaps there seems to be some one character, the same as you look at them all, and from that you conclude that [2:] the large is one.”

[Socrates:] “That’s true,” he said.

[Parmenides:] [3:] “What about the large itself and the other large things? If you look at them all in the same way with the mind’s eye [*ean hōsautōs tē psukhē epī panta idēs*], [4:] won’t some one large again appear [*oukhi hen ti au mega phaneitai*],¹⁵¹ by which all these appear large?”

[Socrates:] “It seems so.”

[Parmenides:] [5:] “So another form of largeness will make its appearance, which has emerged alongside largeness itself and the things that partake of it, and [6:] in turn another over all these, by which all of them will be large. [7:] Each of your forms will no longer be one, but unlimited in multitude.” (132a–b)

¹⁴⁹ Rickless takes this to support his reading of the previous passage. See *Plato’s Forms in Transition*, sec. 2.2. Yet this would seem to imply that Plato took this to be a serious problem, which is unlikely to say the least. Socrates discusses being large by virtue of partaking of largeness in the *Phaedo*, 96a–105c, which antedates the *Parmenides* but features an older Socrates, and the unity of wholes in the *Philebus*, 15a–18e, which postdates the *Parmenides*. In neither dialogue does he seem troubled by arguments of the sort Parmenides brings forward. In fact, a similar reasoning as that at 131c–e is ridiculed in the *Phaedo*, and, put bluntly, that Plato would ridicule a reasoning that *is* ridiculous only to realise later that it wasn’t that ridiculous after all is hard to swallow. Also, that forms are “in” things in a physical sense is grossly at odds with his middle period theory of forms, and we should note that Socrates seems reluctant to agree to Parmenides’ portrayal of his views throughout the passage. Thereon, cf. Bestor, “Plato’s Semantics and Plato’s ‘Parmenides’,” sec. 5; Graeser, “Plato’s Parmenides,” sec. 3.

¹⁵⁰ Graeser, “Plato’s Parmenides,” 22 (quote emended for consistency).

¹⁵¹ Gill and Ryan prefer to translate “*oukhi hen ti au mega phaneitai*,” as “again won’t some one thing appear large,” but give “won’t some one large again appear” as alternate rendering in note 8 of their translation; following Rickless the above adopts the alternative rendering. See *Plato’s Forms in Transition*, note 7 on 66.

At first sight, the Third Man Argument (TMA) is baffling,¹⁵² for [3] and [4] seem to come out of nowhere; why is “the large” another large thing, and even if we grant that, why does there “appear” yet another “one large”? Obviously there are some gaps that need filling, but to do so we need to locate them first. Let us begin with a simple but more formal representation of what Parmenides appears to be saying.

- (i:) For any set of large things, there is a form, largeness, by virtue of partaking in which all members of this set are large ([1] above).
- (ii:) There is a set of large things, $\{a, b\}$ (implied by [1]).
- (iii:) So, there is a form, largeness, over $\{a, b\}$, by virtue of partaking of which a and b are large ([2]). (i), (ii)
- (iv:) So, there is a new set of large things, $\{a, b, \text{largeness}\}$ ([3]). (iii), ?
- (v:) So, there is a form, largeness₂, over $\{a, b, \text{largeness}\}$, by virtue of partaking of which a, b , and largeness are large ([4]). (i), (iv)
- (vi:) So, there is a new set of large things, $\{a, b, \text{largeness}, \text{largeness}_2\}$ ([5]). (v), ?
- (vii:) So, there is a form, largeness₃, over $\{a, b, \text{largeness}, \text{largeness}_2\}$, by virtue of partaking of which a, b , largeness, and largeness₂ are large ([6]). (i), (vi)
- (viii:) Steps (iv) and (v) can be repeated indefinitely (implicit). (iv)–(vii)
- (ix:) Therefore, forms are “unlimited in multitude.” ([7]). (viii)

In other words, Parmenides argues that if there were a form “over” any set of things sharing a property, F , then there would be an infinite number of forms for that property, because the form of F , apparently, would be another F thing, so that there would be yet another form of F “over” this new set of F things, and so on ad infinitum. This regress consists of a repetition of two moves: (A:) the move from (ii) to (iii), (iv) to (v), and (vi) to (vii), which generates a form for each set of large things; (B:) the one from (iii) to (iv) and (v) to (vi), which asserts that each form of F is yet another F thing.

(A) is an instance of (OM).¹⁵³ (B), however, appears to be a non-sequitur, because from what is said in this passage there appears to be neither a reason (a:) for largeness to be large nor, if there is a reason, (b:) for largeness _{$n+1$} to be different from largeness _{n} ; either way, largeness _{n} or largeness _{$n+1$} would not be a new member of the set of large things. (a), of course, is easily addressed, because by virtue of (SP) largeness is itself large. (b), by con-

¹⁵² Just in case you are also baffled by its name, apparently, by the time of Aristotle, regress arguments of this kind were a common topic and “... is a man” the usual example, cf. *Metaphysics*, 1.990b–991b and 7.1038b–1039a. The label was then probably applied ex post to the argument in the *Parmenides*. See Lienemann, *Die Argumente des Dritten Menschen in Platons „Parmenides“*, note 1 on 55.

¹⁵³ Mignucci discusses in extenso how to properly formalise [1]. See his “Plato’s ‘Third Man’ Arguments in the *Parmenides*,” sec. 3.

trast, is more difficult. If we assume that the members of the initial set of large things are sensibles, which is a safe assumption, then largeness by virtue of (S) or (RS) cannot be one of these things. However, this covers only the step from (iii) to (iv), but not the one from (v) to (vi), for largeness₂ precisely because of (S) or (RS) cannot be a sensible, so the step from (v) to (vi) is still ungrounded. Now the metaphysics Socrates and Parmenides assume at this point may allow us to treat largeness, largeness₂, etc., as sensibles (after all, the being<-F> of forms is assumed to be similar to that of sensibles), but this would generate a flat contradiction rather than a regress.¹⁵⁴ In short, (B) appears to consist of three steps, showing that (a) as well as (b) obtain, and (c:) collecting the members of each set of large things and each subsequent form of "... is large," largeness_{n+1}, into a further set of large things. But why (b) obtains is unclear (hereafter, these steps are referred to as "(Ba)," "(Bb)," and "(Bc)").

Gregory Vlastos argues that step (Bb) draws on a suppressed premise, which he construes as follows:

[NI_V.] If anything has a certain character, it cannot be identical with the form in virtue of which we apprehend that character. If x is F , x cannot be identical with F -ness.¹⁵⁵

Vlastos calls this premise the "nonidentity assumption."¹⁵⁶ Put formally, [NI_V] becomes:

$$\forall F \forall x (Fx \rightarrow x \neq \Phi_F)$$

For any property, F , and any object, x , if x is F , then x is not F -ness.

Vlastos is right that we need something along the lines of [NI_V] to get the regress going, and [NI_V] does just that. However, it is also inconsistent with (SP) because each form is "itself by itself," but, in conjunction with [NI_V], this entails that no form is identical to itself (see proof 12), which, needless to say, is nonsense. But why should Plato employ a premise that flies in the face of (SP), which is implied by the very nature of forms? Furthermore, even if [NI_V] were an important part of his middle period theory of forms, why should he come up with a complicated regress to prove his theory inconsistent if there is a flat contradiction that would be much easier to exploit? Vlastos is aware of these questions and argues that Plato isn't.¹⁵⁷ But that Plato holds [NI_V] without being aware of it seems unlikely to say the least (and he could hardly assess [NI_V] as a premise to which he was not, in fact, committed without intending to do so).

¹⁵⁴ At first sight, the same seems to go for the formalisation of the TMA given below, which uses "... is F -ness" ($\dots = \Phi_F$), rather than "... is the form of F " ($form(\dots, F)$), to say that something is the form of F ; this is meant to reflect the ambiguity of " F -ness is F ," which may mean that F -ness is the same as F as well as that F is predicated of F -ness (see sec. 1.2 above and below). But the formalisation of the TMA could just as well be spelled out using "... is the form of F " instead of "... is F -ness," which would make no difference to the overall reasoning.

¹⁵⁵ "The Third Man Argument," 325.

¹⁵⁶ Ibid.

¹⁵⁷ See *ibid.*, 327–329.

Vlastos' approach of tackling the TMA using the tools of logical analysis was groundbreaking, but his results questionable. This lead many other scholars to follow in his footsteps, attempting to find an analysis of the TMA that satisfies three interpretative constraints: (1:) the TMA should turn out valid; (2:) its premises should seem so innocuous that the TMA makes an interesting point; (3:) the analysis should be corroborated by or, at least, not be ruled out by textual evidence.¹⁵⁸ Vlastos' analysis satisfies (1), fails at (2), and fares so-so in regard to (3). That said, a thorough review of the vast literature on the TMA would require a book of its own.¹⁵⁹ Yet at least insofar as authors who agree with (1) and (2) are concerned,¹⁶⁰ such a review seems unnecessary. Allow me to make my point by example: S. Marc Cohen argues that we should spell out the TMA without rendering (SP) or the non-identity assumption explicit premises, for neither of them is made explicit in the text. Instead he proposes a more complex rendering of (OM) that subtly includes (SP) and a non-identity assumption:

For any set of F 's, there is exactly one form immediately over that set.¹⁶¹

The clou of Cohen's rendering of (OM) is that if there is a form "over" any set then (SP) is implied by forms being eligible for set membership, for there is always a set that is made up of each form of F and the set of F things "over" which it is, and non-identity is implied by forms not being members of that set, for each form of F is at a higher level than the F things "over" which it is (unsurprisingly, his definition of "over" is quite complex; in fact, too complex to be discussed here). Cohen's analysis satisfies (1) as well as (2) and does better than Vlastos' at (3). Yet Cohen remains close to Vlastos, he keeps (OM) and adopts (SP) as well as [NI_V] by recasting predication (" x is F ") in terms of set membership ($x \in F$).¹⁶² Put simply, (1) is a tough constraint to meet, so any analysis of the TMA that does so will remain close to Vlastos', that is, make assumptions along the lines of (OM), (SP) and [NI_V]. By the same token, any analysis that also meets (2) and (3) will make similar adaptations as Cohen, that is, replace predication, that is, " x is F ," in (SP) or [NI_V] with another relation.

¹⁵⁸ See, to name but a few, Geach, "The Third Man Again"; Strang and Rees, "Plato and the Third Man"; Cohen, "The Logic of the Third Man"; Peterson, "A Reasonable Self-Predication Premise for the Third Man Argument"; Mignucci, "Plato's 'Third Man' Arguments in the Parmenides"; Meinwald, "Good-bye to the Third Man"; Rickless, "How Parmenides Saved the Forms," sec. 4.2; *Plato's Forms in Transition*, sec. 2.7; Frances, "Plato's Response to the Third Man Argument in the Paradoxical Exercise of the Parmenides"; Pelletier and Zalta, "How to Say Goodbye to the Third Man"; Hansen, "Interpretations and Solutions to the Third Man." Vlastos, as must be added, revises his analysis of the TMA in "Text and Logic of the Third Man."

¹⁵⁹ Lienemann has written that book, *Die Argumente des Dritten Menschen in Platons „Parmenides“*.

¹⁶⁰ We will later discuss some authors who disagree with these points; none of the aforementioned do.

¹⁶¹ "The Logic of the Third Man," 462.

¹⁶² Throughout this study predicate letters are, where sets are concerned, used as shorthands for the set of things that possess the predicate in question.

Typically, following Sandra Peterson, with something along the lines of “ x is F in virtue of F -ness” or “ x ’ being- F is explained by F -ness.”¹⁶³

Hence, we go for a version of Peterson’s non-identity assumption, which reads

Nothing is $[F]$ in virtue of itself (non-self-explanation).¹⁶⁴

Since “... partakes of ...” in “ x partakes of F -ness” ($partakes(x, \Phi_F)$) has the purpose of explaining x ’s being- F , we can translate Peterson’s non-identity assumption into:

(NI:) $\forall x \forall y (partakes(x, y) \rightarrow x \neq y)$

For any two objects, x and y , if x partakes of y , then x is not y .¹⁶⁵

(NI) is consistent with (SP) and, as we will see, triggers the regress at the heart of the TMA, but where does it come from? Plato never discusses (NI), or, for that matter, any other version of the non-identity assumption. We can adduce three arguments for (NI): (a:) (I1), given (D7), entails (NI), for “... partaking of ...” is defined as “... imitates ...,” and nothing imitates itself (see proof 13); (b:) the relation between F -ness and F things appears to be so that F -ness cannot be an F thing, either because F -ness is “over” F things (i.e., from the perspective of (OM), Strang and Cohen argue this way) or because nothing explains itself (i.e., from the perspective of (C));¹⁶⁶ (c:) (NI) follows from the premise that forms are “separate” and how this premise is thrashed out under assumption of the metaphysics that Parmenides examines at this stage of the dialogue. (a), while noteworthy, does not permit Parmenides to avail himself of (NI) at this point; on the one hand, “... partakes of ...” is yet undefined, so he cannot assume that “... partakes of ...” means “... imitates ...,” while on the other hand it is doubtful that this definition sits well with the current metaphysics. (b) only requires that forms are “separate” in some way, but makes no provision regarding which way, so while (NI) satisfies (b), (b) does not demand (NI). (c), therefore, seems to be the best argument for

¹⁶³ See “A Reasonable Self-Predication Premise for the Third Man Argument,” note 6. See also Sharvy, “Plato’s Causal Logic and the Third Man Argument.”

¹⁶⁴ Peterson, “A Reasonable Self-Predication Premise for the Third Man Argument,” 453.

¹⁶⁵ Save for (NI) not mandating that y is a form, which strikes me as superfluous, (NI) is similar to the non-identity assumptions proposed in Vlastos, “Text and Logic of the Third Man,” 291; Allen, *Plato’s Parmenides*, 156; Rickless, “How Parmenides Saved the Forms,” 519–520 (called “(NSE)” for “no self explanation”); *Plato’s Forms in Transition*, sec. 2.2 (called “NSP” for “no self participation”); Pelletier and Zalta, “How to Say Goodbye to the Third Man,” 173; Hansen, “Interpretations and Solutions to the Third Man,” 68.

¹⁶⁶ (NI), in other words, is backed by three assumptions: (1:) “... partakes of ...” plays an explanatory role, (2:) nothing explains itself, and (3:) F -ness being- F neither requires nor admits of explanation. Schweizer, by contrast, following Cohen, holds that (1’:) “... partakes of ...” should be defined in terms of set membership and, proceeding from there, argues that (2’:) forms partake of themselves and (3’:) F -ness being- F requires and admits of participation. Cf. Schweizer, “Self-predication and the Third Man.” (1’) is open to debate, but Plato would probably hold that things are members of a set *because of* not *in terms of* partaking of a form. (2’) and (3’) are at odds with Plato’s account of predication, unless one grants that forms partake of each other in a different way than sensibles partake of forms; this seems plausible, but Schweizer does not grant this.

(NI). To spell it out: (a:) “... partakes of ...” ex hypothesi obtains between “separate” things; (b:) so, if a partakes of b , then a is separate from b ; (c:) in the context of the TMA, “ a is separate from b ” means a is besides b ; (d:) so, if a is separate from b , a is not the same as b . That being so, (NI) appears to be the missing step (Bb).¹⁶⁷

(NI) generates the regress in the TMA, which we may now formalise. Where lines correspond to those of the simplified version of the TMA given above, the corresponding roman literals will be used. We start with some preliminaries, namely, instances of (SP) and (OM) for “... is large” that we will need later on.

Lx ... x is large.

(SP)	(1)	$\forall x(form(x, L) \rightarrow Lx)$	(SP) UE
(SP)	(2)	$\forall x(x = \Phi_L \rightarrow Lx)$	1 by (D5)
(OM)	(3)	$\forall x_1 \dots \forall x_n((Lx_1 \wedge \dots \wedge Lx_n \wedge x_1 \neq x_2 \wedge \dots \wedge x_{n-1} \neq x_n) \rightarrow \exists y(y = \Phi_L \wedge partakes(x_1, y) \wedge \dots \wedge partakes(x_n, y)))$	(OM) UE

(OM) generates a largeness, c_1 , that is “over” the set of large things $\{a_1, b_1\}$; this is *step (A)*.

(ii)	(ii)	$La_1 \wedge Lb_1 \wedge a_1 \neq b_1$	A
(OM)	(4)	$(La_1 \wedge Lb_1 \wedge a_1 \neq b_1) \rightarrow \exists y(y = \Phi_L \wedge partakes(a_1, y) \wedge partakes(b_1, y))$	3 UE
(OM), (ii)	(5)	$\exists y(y = \Phi_L \wedge partakes(a_1, y) \wedge partakes(b_1, y))$	(ii), 4 MPP
(iii)	(iii)	$c_1 = \Phi_L \wedge partakes(a_1, c_1) \wedge partakes(b_1, c_1)$	A

(SP) entails that c_1 is itself large; this is *step (Ba)*.

(SP)	(6)	$c_1 = \Phi_L \rightarrow Lc_1$	2 UE
(iii)	(7)	$c_1 = \Phi_L$	(iii) $\wedge E$
(SP), (iii)	(8)	Lc_1	6, 7 MPP

(NI) entails that c_1 can neither be identical to a_1 nor to b_1 ; this is *step (Bb)*.

(NI)	(9)	$partakes(a_1, c_1) \rightarrow a_1 \neq c_1$	(NI) UE
(iii)	(10)	$partakes(a_1, c_1)$	(iii) $\wedge E$
(NI), (iii)	(11)	$a_1 \neq c_1$	9, 10 MPP

¹⁶⁷ Bluck, to the best of my knowledge, is the only author to argue that the non-identity assumption, regardless of which rendering, should be jettisoned, and the reason for which his argument fails may give us an idea as to why this is a road less travelled. Bluck accepts that (1:) “if x is a form by which y is made to be an F , then y is not a form by which x is made to be an F ,” but finds that this does not entail (2:) “ x is not itself a form by which x is made to be an F .” (1) expresses that T-causation is asymmetric, on which most scholars seem to agree (even Schweizer allows non-symmetric T-causation only for forms). (2) is a version of the non-identity assumption. See “Forms as Standards,” 125–126. (1), however, *does* entail (2), asymmetric relations are eo ipso irreflexive. Thus, denying the non-identity assumption commits one to the position that T-causation is non-symmetric, but this is difficult ground to hold. On the non-identity assumption in general see Lienemann, *Die Argumente des Dritten Menschen in Platons „Parmenides“*, chap. 15.

(NI)	(12)	$partakes(b_1, c_1) \rightarrow b_1 \neq c_1$	(NI) UE
(iii)	(13)	$partakes(b_1, c_1)$	(iii) $\wedge E$
(NI), (iii)	(14)	$b_1 \neq c_1$	12, 13 MPP
(NI), (iii)	(15)	$a_1 \neq c_1 \wedge b_1 \neq c_1$	11, 14 $\wedge I$

So we have got a new set of large thing $\{a_1, b_1, c_1\}$; this is *step (Bc)*.

(SP), (NI), (ii), (iii)	(iv)	$La_1 \wedge Lb_1 \wedge Lc_1 \wedge a_1 \neq b_1 \wedge a_1 \neq c_1 \wedge b_1 \neq c_1$	(ii), 8, 15 $\wedge I$
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Repeating (A) for $\{a_1, b_1, c_1\}$ yields another largeness, a_2 , that is “over” $\{a_1, b_1, c_1\}$.

(v)	(v)	$a_2 = \Phi_L \wedge partakes(a_1, a_2) \wedge partakes(b_1, a_2) \wedge partakes(c_1, a_2)$	A
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Repeating (B) for $\{a_1, b_1, c_1\}$ and a_2 establishes that a_2 is large and neither a_1 , nor b_1 , nor c_1 , so we get a new set of large things $\{a_1, b_1, c_1, a_2\}$.

[...]	(vi)	$La_1 \wedge Lb_1 \wedge Lc_1 \wedge La_2 \wedge a_1 \neq b_1 \wedge a_1 \neq c_1 \wedge b_1 \neq c_1 \wedge a_1 \neq a_2 \wedge b_1 \neq a_2 \wedge c_1 \neq a_2$	[...] $\wedge I$
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Repeating (A) for $\{a_1, b_1, c_1, a_2\}$ yields another largeness, b_2 , that is “over” $\{a_1, b_1, c_1, a_2\}$.

(vii)	(vii)	$b_2 = \Phi_L \wedge partakes(a_1, b_2) \wedge partakes(b_1, b_2) \wedge partakes(c_1, b_2) \wedge partakes(a_2, b_2)$	A
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At this point it is obvious that we can repeat moves (A) and (B) indefinitely, so largeness is “unlimited in multitude.”

	(viii)	Repetition of (A) and (B) for each new set of L things ad infinitum.	
[...]	(16)	$c_1 = \Phi_L \wedge \dots \wedge c_n = \Phi_L \wedge c_1 \neq a_2 \wedge \dots \wedge c_1 \neq c_n \wedge \dots \wedge c_{n-1} \neq c_n$	[...] $\wedge I$
[...]	(17)	$\exists x_1(x_1 = \Phi_L \wedge \dots \wedge c_n = \Phi_L \wedge x_1 \neq a_2 \wedge \dots \wedge x_1 \neq c_n \wedge \dots \wedge c_{n-1} \neq c_n)$	16 EI
		$\vdots$	
[...]	(18)	$\exists x_1 \dots \exists x_n(x_1 = \Phi_L \wedge \dots \wedge x_n = \Phi_L \wedge x_1 \neq x_2 \wedge \dots \wedge x_1 \neq x_n \wedge \dots \wedge x_{n-1} \neq x_n)$	[...] EI
		$\vdots$	
(SP), (OM), (NI), (ii)	(ix)	$\exists x_1 \dots \exists x_n(x_1 = \Phi_L \wedge \dots \wedge x_n = \Phi_L \wedge x_1 \neq x_2 \wedge \dots \wedge x_1 \neq x_n \wedge \dots \wedge x_{n-1} \neq x_n)$	[...] EE

■

What to make of the TMA? Colin Strang notes that Parmenides, when he says “I suppose you think each form is one on the following ground,” alludes to the so-called Third Bed Argument (TBA) in the *Republic*, 10.597c–d. There Plato tries to show that because F -ness is “over” each set of F things, that is, because of (OM), there can be only one form of F , that

is, (U) (the property he chooses as an example is "... is a bed," hence the name).¹⁶⁸ That is, the same reasoning that proves (U) also proves that (U) is false. (U), however, is a condition for the "oneness" of forms, which is what Parmenides seeks to disprove. To illustrate, suppose that there were many forms of *F*, since there is only one *F* and forms have no accidental properties. Each of these forms would be the same as any other form of *F*, so the form of *F* would be "one" and "many."¹⁶⁹ The TMA and the TBA differ insofar as (NI) appears to not be a premise of the TBA. (NI), furthermore, can neither be obtained from other middle period dialogues, nor from the principle that *F*-ness is that which is "over" *F* things or the constraint on explanation that nothing accounts for its own being-*F*, but only from the assumption that the forms are "separate" and how "separate" is spelled out at this point of the dialogue. This strengthens the case that the TMA is intended, first and foremost, to be a part of the grander assessment of whether there is a metaphysics that can sustain Socrates' account of predication. Of course, to say that (OM), (SP), and (U) become inconsistent under assumption of a metaphysics in which forms and ordinary things are put on the same level is not much of an interpretation. To better understand why the regress in the TMA obtains we, briefly, discuss different reasons for supposing that the TMA is invalid. Unsurprisingly, such reasons are more easily found in scholars who deem the TMA to be at odds with Plato's theory of forms than in those who regard the TMA as a "record of honest perplexity,"¹⁷⁰ for the former, but not the latter, need to explain *why* the TMA is invalid according to the theory of forms.¹⁷¹ Again, a thorough review of the literature on the TMA is beyond the scope of this chapter,¹⁷² thus we will discuss the three most common strategies used by defenders of the middle period theory by way of example: (1:) "*F*-ness is *F*" does

¹⁶⁸ See "Plato and the Third Man." Strang is backed by Fine, *On Ideas*, 203–204. Parry, by contrast, argues the other way round, because the TBA is valid the TMA cannot be. See his "The Uniqueness Proof for Forms in Republic 10." We come back to Parry below.

¹⁶⁹ Cf. Mignucci, "Plato's 'Third Man' Arguments in the Parmenides," sec. 5; Scolnicov, *Plato's Parmenides*, 62; Rickless, *Plato's Forms in Transition*, 69–75. Mignucci, Scolnicov, and Rickless argue that because the TMA is about oneness it is *not* about (U); it is unclear to me why one should rule out the other, though they are right that to read the TMA to be about (U) alone, unconnected to the being "one" of forms, which is the overall theme of the first part, is not backed by the text.

¹⁷⁰ Vlastos, "The Third Man Argument," 343.

¹⁷¹ Aristotle regards the TMA as valid, offering similar arguments in *Metaphysics*, 1.990b–991b and 7.1038b–1039a. Although this gives us a *prima facie* reason to suppose that the TMA discusses something that, in the Academy, is deemed a serious difficulty for the theory of forms, it does *not* imply that Plato holds this view or, if he does, feels that he cannot address this difficulty, for, as Fine shows, Aristotle translates Plato's theory of forms into his own framework, and Plato could on good grounds oppose that move. See "The One Over Many"; *On Ideas*, chap. 16. Also, Cherniss argues that Aristotle, in *Metaphysics*, 13.1079b, realises that the clause "*ho esti*"/"what it is," which qualifies the being of forms, blocks the TMA if it is understood to turn "*F*-ness is 'what it is' to be *F*" into an identity statement. See "The Timaeus and Plato's Later Dialogues," 261–262. Kahn discusses the usage of "*ho esti*" in "Some Philosophical Uses of 'to Be' in Plato," appendix.

¹⁷² "As soon as one begins to read the relevant literature on the subject one gets the impression that everything (and the opposite of everything) has been said." Mignucci, "Plato's 'Third Man' Arguments in the Parmenides," 143.

not mean “ F is predicated of F -ness.” (2:) “ F is predicated of F -ness” means something different from “ F is predicated of a ” if $a \neq F$ -ness. (3:) F -ness is no “visible thing,” so its being- F warrants no justification. (1) targets (SP), (2) the connection between (SP) and (OM), and (3) the application of (OM) and (NI) to forms (which one is restricted to “visible things” makes, effectively, no difference).¹⁷³

(1) Harold Cherniss, Reginald Allen, and Thomas Bestor argue that the TMA cannot target Plato’s theory of forms because the TMA depends on (SP), which, however, is a misconstrual of the claim that F -ness is F , for (SP) treats the “is” in “ F -ness is F ” as the “is” of predication, but the middle period theory of forms implies that this “is” must be read as the “is” of identity, and this reading does not give rise to the TMA.¹⁷⁴ Yet, as argued above, this is a misinterpretation of Plato’s account of predication. Plato distinguishes a designatory usage and an eponymous usage of “is,” but these usages cannot be equated with the “is” of identity and “is” of predication respectively. Rather if the “is” in “ a is F ” is used in the designatory way, this implies that a is identical to F and that F is predicated of a . Allen makes the interesting point that the TBA works on the assumption that “ F -ness is F ” means “ F -ness is the same as F ,” but causes the TMA on the assumption that “ F -ness is F ” means “ F is predicated of F -ness,”¹⁷⁵ which indicates, according to my understanding of Plato’s account of predication, that the TMA highlights an inconsistency in the designatory usage of “is.” Vlastos also proposes a reading of “ F -ness is F ” that avoids the TMA. Ancient Greek allows to use “ F -ness” as shorthand for “things that are F ,” thus, so Vlastos, “ F -ness is F ” should be read as “ F -ness is such that anything that has this property is [necessarily] F ”;¹⁷⁶ he dubs this usage of “ F -ness is ...” “Pauline Predication.”¹⁷⁷ What both approaches, that of

¹⁷³ Hunt, in his survey of positions on the TMA, refers to something along the lines of (1) as “Disqualification Strategy,” because “the essential point of denying (SP) is to disqualify the [F -ness] under the membership conditions set forth in [(OM) and (NI)],” to (2) as “Equivocation Strategy,” because it assumes that there are two senses of “... is F ” that the TMA equivocates, and to (3) as “Exemption Strategy,” because forms should be exempted from the “entry conditions” of (OM) and (NI). See his “How (not) to Exempt Platonic Forms from Parmenides’ Third Man,” 1–9. (1) differs insofar from the “Disqualification Strategy” as some authors whom Hunt subsumes under the “Equivocation Strategy” fall under (1). Hunt argues that (2) collapses into (1) because the TMA clearly favours the reading of “... is F ” that (1) seeks to disqualify. This is a simplification that suits his purposes, but not ours, for which it is important that there is a sense in which self-predication is true. Cf. also Mignucci, “Plato’s ‘Third Man’ Arguments in the Parmenides”; Lienemann, *Die Argumente des Dritten Menschen in Platons „Parmenides“*.

¹⁷⁴ See Cherniss, “The Timaeus and Plato’s Later Dialogues,” sec. 2; Allen, “Participation and Predication in Plato’s Middle Dialogues”; Bestor, “Plato’s Semantics and Plato’s ‘Parmenides’,” sec. 6. White raises the same point as Cherniss, Allen, and Bestor, but does so only en passant. See “Plato’s Middle Dialogues and the Independence of Particulars,” 206–207.

¹⁷⁵ See Allen, *Plato’s Parmenides*, 161–164.

¹⁷⁶ Adapted from “A Note on ‘Pauline Predications’ in Plato,” 99.

¹⁷⁷ At first sight, Vlastos may seem to belong to (2), rather than (1), but when we look more closely we will see that Pauline Predications express no predication, but rather that a property, F , entails a property, G ($\Box(F \subseteq G)$ where F and G may be the same property). Peterson, from whom the term originates, offers a more complex account of Pauline Predication than Vlastos. See her “A Reasonable Self-Predication Premise for the

Cherniss, Allen, and Bestor on the one hand and that of Vlastos on the other, have in common is that they read the “is” in “ F -ness as F ” as indicating another relation than predication (the reading of Cherniss, Allen and Bestor can be schematised as “ F -ness = F ,” that of Vlastos as “ $\square(F \subseteq F)$ ”), so that either way “ F -ness is F ” makes no claim about F -ness. But if F -ness is not F , how should we use it as a yardstick for being- F ? Put differently, neither approach can explain how F -ness T-causes things to be F .¹⁷⁸

(2) Arthur Peck argues that the TMA cannot be about the middle period theory of forms because Parmenides deliberately fails to respect Socrates’ distinction between “... is large” and “... appears as large.”¹⁷⁹ Evidently, Socrates declares that forms are F , whereas sensibles appear as F , but the TMA evidently only gets off the ground on the assumption that “... is F ” has the same meaning whether attached to a form or a sensible; if either (SP) asserted that forms are F in another way than sensibles (say, if we replaced “ $form(x, F) \rightarrow Fx$ ” with “ $form(x, F) \rightarrow xF$ ”) or the antecedent of (OM) were restricted to things appearing as F (say, if we replaced “ $F(x_1) \wedge \dots \wedge F(x_n)$ ” with “ $f(x_1) \wedge \dots \wedge f(x_n)$ ”), then the TMA would not follow.¹⁸⁰ Parmenides, so Peck, assumes there to be something that being- F and appearing-as- F have in common, “...- F ,” and applies (SP) and (OM) as if they referred to this “incomplete” F -ness. But, according to Socrates, largeness as apprehended by the senses (which Peck calls “ K -ness(H)”) is something different to largeness as “apprehended by reasoning” (“ K -ness(L)”).¹⁸¹ Peck makes good sense of the TMA, rather than being “separate” from things in the sense of (NI), forms are $\langle F \rangle$ in a different way, which must be reflected by the form of (SP) and (OM) (as suggested). Otherwise “ K -ness(L)” is assimilated to “ K -ness(H),” and the distinction between “... is F ” (“... is $F(L)$ ”) and “... appears as F ” (“... is $F(H)$ ”) allows us, in principle, to construe (SP) and (OM) in a way that honours this point (that is not to say that (S) or (RS) should or even could play the role of (NI), but that forms

Third Man Argument.” Ultimately, however, the same points can be made for her account as well. Vlastos and Peterson may object that my reading ignores the “it is necessary that ...” ($\square$) in their analyses of “ F -ness is F ,” by virtue of which Pauline Predications *do* make a statement about the nature of F -ness. But this objection misses my point, which is that these statements are not of the sort that could ground T-causation, which in my reading is a strict requirement. Peterson later drops Pauline Predication in favour of Meinwald’s predication *pros heauto*. See Peterson, “Plato’s Parmenides.”

¹⁷⁸ Vlastos develops his reading on the basis of claims of the form “ F -ness is G ,” for example, “justice is pious,” to which it indeed seems well suited. But as Malcolm shows, while there are occurrences of “ F -ness is F ” that can be read as Pauline Predications most of them cannot. See Malcolm, “Vlastos on Pauline Predication.” Lienemann discusses Pauline Predication in extenso in her *Die Argumente des Dritten Menschen in Platons „Parmenides“*, chap. 7–8. She also finds that, in its totality, the textual evidence speaks against reading “ F -ness is F ” as “ F -ness = F .” See *ibid.*, chap. 9.

¹⁷⁹ See “Plato Versus Parmenides.” Geach, in a similar manner, argues that F -ness is the yardstick for being- F , so that being- F of F -ness is different to the being- F of other things, so that (SP) cannot mean that F -ness is F in the same way as other things. See his “The Third Man Again.” Sharvy also proposes a similar solution. See his “Plato’s Causal Logic and the Third Man Argument.”

¹⁸⁰ Cf. steps (A) and (Ba) above.

¹⁸¹ Peck choses “ K ” arbitrarily, it has the same function as our “ F ,” “ H ” is short for “*horōmenois*”/“visible things”(130a) and “ L ” is short for “*logismō lambanomenois*”/“apprehended by reasoning” (l.c.).

must be conceptualised so that (P), (RP), *and* the non-identity of forms and their participants are implied).

(3) Andreas Graeser, finally, argues that the TMA cannot be about the middle period theory of forms because it is “evidently only permissible if the pertinent form may be seen conceptually as a thing-like construct.”¹⁸² Put another way, (OM) ranges over things, not forms, and the TMA, as spelled out above, ensues because forms, which ought to be represented by predicate letters (F, G, H , etc.), are represented by definite descriptors (Φ_F, Φ_G, Φ_H , etc.), that is, treated as if they were things.¹⁸³ Otherwise, (OM) could not be applied to them. The use of definite descriptors is licensed by (A1) and (A2), the former of which draws on (D1) and (D3). (A2), whatever its merit, only asserts an identity condition, which, as such, cannot be responsible for forms being treated as if they were things.¹⁸⁴ (A1), by contrast, asserts that “for any property, F , there *is* an object, x , so that x is the form of F ” (“ $\forall F(\exists x(form(x, F)))$ ”). Yet this existence claim by itself implies nothing about the kind of being the forms enjoy (recall that the “ $\exists x(\dots)$ ” in (A1) was a crutch to begin with). (A1), however, refers to (D1) and (D3), which when combined assert that “ x is the form of F iff, for any property, G , x is G iff it is necessary for any object, y , that if y is F , y is also G ,” which entails that the forms by definition meet (SP), for they have every property that the property whose form they are entails and any property entails itself (again, see proof 1). Thus, (D1), (D3), and (A1) are responsible for the regress. (A1), furthermore, plays a similar role for our axiomatic model as (OM) does for Plato. This being so, (3) offers in effect the same explanation as (2), though not the same remedy; the TMA is again explained as a consequence of forms being $\langle F \rangle$ in the same way as ordinary things, that is, as a consequence of (OM)/(A1) and (SP)/(D1) and (D3). Graeser, accordingly, echoes Peck when he argues that

the crucial point in the regress argument at 132a6–a7 is provided by the expression *ean hōsautōs tē psukhē epi panta idēs*. Looking “with your mind ... in like manner” [Gill and Ryan translate “look at ... in the same way with the mind’s eye”] at the large things *and* at the [form] of largeness or largeness itself means to infer that such

¹⁸² Graeser, “Plato’s Parmenides,” 28. Scolnicov offers a similar reading. See his *Plato’s Parmenides*, 61–63. Parry argues that (OM) should be restricted to things in the same way as (C). See his “The Uniqueness Proof for Forms in Republic 10.” Schweizer, conversely, argues that (NI) should be restricted to things. See his “Self-predication and the Third Man.” Fine makes the *prima facie* similar yet more sophisticated argument that forms are not “separate” in the sense of anything along the lines of [NI_v] or, for that matter, (NI). See “The One Over Many”; *On Ideas*, chap. 4, 8, 15 and 16. She is probably right, but the point of the first part of the *Parmenides* is to determine what *is* the sense in which forms are “separate,” so we cannot dismiss the TMA on these grounds.

¹⁸³ To avoid confusion, (a:) forms *are* treated as things, and (b:) this is *indicated* by them being represented by definite descriptors. (a) does not *entail* (b). (OM) can be applied to forms because they are put on the same level as things, but this does not require the use of definite descriptors (cf. note 139 above).

¹⁸⁴ (A2) is only required for the use of definite descriptors, which, as argued above, are not the cause of the regress.

[forms] and participants manifest themselves [...]. From the Platonic point of view, this description of the epistemological situation is untenable.¹⁸⁵

To be sure, “looking with one’s mind” is a curious description, it is quite literally difficult to see what Parmenides expects Socrates to catch sight of when he *looks* at largeness itself with his mind. But whether it is “untenable” is far from clear, for “looking with one’s mind” seems an apt metaphor for how we, according to the *Phaedo* and the *Republic*,¹⁸⁶ form the belief that *a* is *F* (where *a* ≠ *F*-ness), namely, by comparing *a* to *F*-ness. For example, if we wanted to work out the colour of Rudolph the Reindeer’s nose, we would supposedly call redness to mind and, looking at redness with our “mind’s eye” and at Rudolph with our real eyes, compare redness to Rudolph’s nose. What the TMA teaches us in this reading is that we cannot form the belief that *a* is *F* (where *a* ≠ *F*-ness) by placing *a* and *F*-ness side by side, as if on a table and comparing them. This is because if we presume that we compare things by looking for the form that they have in common, then we have to look for yet another form to assess whether *a* and *F*-ness are alike. For example, suppose that somebody, call him Nicholas, asks us why we find Rudolph’s nose to be red, if we replied “look at redness, don’t you see that Rudolph’s nose looks similar?”, Nicholas would counter “I’ve looked at redness and Rudolph’s nose, but I don’t understand what you mean when you say that they ‘look similar’, can you explain that?” The catch here is not only that we cannot explain that redness, on account of (SP) and (NI), lacks the normative force that is required to put an end to this game of giving and asking for reasons, but also that this question is legitimate because, on account of (OM), we ought to be able to give a reason for redness and Rudolph’s nose looking alike.¹⁸⁷

¹⁸⁵ Graeser, “Plato’s Parmenides,” 26 (his emphasis, quote emended for consistency, Ancient Greek transliterated).

¹⁸⁶ Since the TMA operates on similar assumptions as the TBA, it is of significance that Plato, ad loc., moves effortlessly from applying (OM) to beds to applying (OM) to forms of being a bed; if Plato means the TBA to be valid then, contra Parry, he probably means the TMA to be valid too. This may have to do with the examples at hand, “looking with one’s mind” makes more sense for the form of being a bed than largeness, that is, it makes more sense for a non-relative property than for a relative one. On the role of forms for explaining relational properties, see Owen, “A Proof in the ΠΕΡΙ ΙΔΕΩΝ.”

¹⁸⁷ Thus, if we responded to Nicholas “redness is what it means to be red, that’s all there is to it; there is no reason why redness is red, and asking for one will not get you anywhere,” we would obviously miss his point; neither did he question that redness is red, nor did he ask for a reason as to why redness is red. What this answer amounts to is restricting (OM) in the same way as (C), that is, excluding forms from the antecedent. Parry proposes to do precisely this. Cf. “The Uniqueness Proof for Forms in Republic 10.” Geach argues in a similar vein that *F*-ness is *F* no matter what and, therefore, has a different justificatory status than other *F* things. Cf. “The Third Man Again.” Parry and Geach, in short, confuse the role of (OM), to explain the meaning of “... partakes of *F*-ness,” with that of (C), to explain when something other than *F*-ness “... is *F*.”

The Thought Model (132b–c). Socrates tries to escape the Third Man by proposing that

[TM:] maybe each of these forms is a thought and it would not be proper for it to come to be anywhere else but in minds [*kai oudamou autō prosēkē eggignesthai allothi ē en psukhais*].¹⁸⁸ (132b)

Put another way, he argues that forms are such that we cannot “look” at F -ness and F things “in like manner.” F -ness, adopting Peck’s symbolism, is no longer $F(H)$ (“ F as apprehended by the senses”) but $F(L)$ (“ F as apprehended by reasoning”). Here the metaphysics under discussion shifts again (this time, from the upper right cell of table 3 to the lower right one; forms are $\langle F \rangle$ in a different way from sensibles and besides them, for they are “in minds”). [TM] appears to assert that “visible things,” in and of themselves, have nothing in common in the sense that each of them is such-and-such, but no two such-and-such’s are alike, so that any likeness that we apprehend is something we “apprehend by reasoning” and has little to do with the things as they are for themselves. Put graphically, suppose there are two “visible things,” a and b , and that a appears as “ FG ” and b as “ HF ”. Now, we may think that a and b have F in common, but there is no being- F . All there is is a ’s being- FG and b ’s being- HF , so that the being- F that we apprehend as what a ’s being- FG and b ’s being- HF have in common is a result of our reasoning, not a feature of a and b .

Socrates’ proposal can be reflected in our formal language as follows:

$F(L)(x)$... x is F as apprehended by reasoning (“ x is $F(L)$ ”).

$F(H)(x)$... x is F as apprehended by the senses (“ x is $F(H)$ ”).¹⁸⁹

Of course, we must adapt our axiomatic model accordingly. Let us assume that “... entails ...,” and “... is contrary to ...” have been redefined for “... is $F(L)$ ” (instead of “... is F ”), this allows us to redefine forms in accordance with [TM], as objects that possess, as apprehended by reasoning, only the property whose form they are and the properties this property entails. Put formally:

(D3’:) $form(x, F) =_{df} \forall G(G(L)(x) \leftrightarrow entails(F, G))$

x is the form of F iff, for any property, G , x is $G(L)$ iff F entails G .

(D3’) replaces (D3), which affects (SP), (U), (P), (O), and (RP), requires changes to (D8) as well as (OM), and allows for a simplification of (C). At this point, however, we only

¹⁸⁸ At this point the above diverges from the translation of Gill and Ryan, who render “*oudamou autō prosēkē eggignesthai allothi ē en psukhais*” as “occurs only in minds,” and instead follows that of Scolnicov, save for that “*psukhais*” is rendered as “minds,” not “souls.” See his *Plato’s Parmenides*, 63. Scolnicov’s translation has the main advantage of putting a stronger emphasis on forms being, so to speak, at another place than things.

¹⁸⁹ “... is $F(L)$ ” and “... is $F(H)$,” to be clear, are *not* different modes of predication but, at this point of the dialogue, different modes of being- $\langle F \rangle$ (though the distinction may look to be epistemic in nature). Plato ties predication closely to justification and the connection between these two modes of being- $\langle F \rangle$ and how claims of the form “... is F ” are to be justified remains to be spelled out.

want to see whether Socrates manages to flee the Third Man, for which adapting (SP) and (OM) suffices:

(SP'): $\forall F \forall x (form(x, F) \rightarrow F(L)(x))$

For any property, F , and any object, x , if x is the form of F , then x is $F(L)$.

(OM'): $\forall F \forall x_1 \dots \forall x_n ((F(H)(x_1) \wedge \dots \wedge F(H)(x_n) \wedge x_1 \neq x_2 \wedge \dots \wedge x_{n-1} \neq x_n) \rightarrow$

$\exists y (y = \Phi_F \wedge partakes(x_1, y) \wedge \dots \wedge partakes(x_n, y)))$

For any property, F , and any set of objects, $x_1, \dots$, and x_n , if $x_1, \dots$, and x_n are all distinct from each other and $F(H)$, then there is an object, y , so that y is F -ness and $x_1, \dots$, and x_n partake of y .

(SP') and (OM') replace (SP) and (OM) respectively. As a result, the TMA breaks off at step (iii) because F -ness, being $F(L)$, is no member of the set of $F(H)$ things (moreover, (S), (RS), (T3), (T4), and (T5) no longer follow, but the distinction of two modes of being $\langle -F \rangle$ works much to the same effect, so this need not concern us).¹⁹⁰

Parmenides, however, bars that escape route.

[Parmenides:] [1:] "What do you mean?" he asked. "Is each of the thoughts one, but a thought of nothing [*oudenos*; literally, 'not one']?"

[Socrates:] "No, that's impossible," he said.

[Parmenides:] "Of something, rather?"

[Socrates:] "Yes."

[Parmenides:] [2:] "Of something that is, or of something that is not [*ontos ē ouk ontos*]?"

[Socrates:] "Of something that is [*ontos*]."

[Parmenides:] [3:] "Isn't it of some one thing, which that thought thinks is over all the instances, being some one character?"

[Socrates:] "Yes."

[Parmenides:] [4:] "Then won't this thing that is thought to be one, being always the same over all the instances, be a form?"

[Socrates:] "That, too, appears necessary." (132b–c)

Parmenides brings out two features of [TM]: (a:) thought plays a dual role, on the one hand it is the *process* through which forms "come to be," and on the other hand it is where forms "come to be" in, and thus, its own *object*;¹⁹¹ (b:) since F -ness is an object of thought,

¹⁹⁰ (OM'), as should be noted, would be of no use in the TBA, for if we assumed that there are two forms of being a bed, then (OM') would not, as (OM) generate a form "over" these two forms. Of course, this is precisely why the TMA is avoided. To get the TBA to come out as valid but the TMA to come out as invalid requires a more sophisticated account of the ways in which sensibles partake of forms and forms relate to each other than [TM], or anything else in the first part of the dialogue for that matter, has on offer (cf. note 138 above).

¹⁹¹ Allen points out the importance of this distinction and that it is not exclusive, a thought may be the object

F-ness must, in some way, be “what is” (*ontos*). To better understand in what way it is helpful to reconstruct Parmenides argument more formally:

- (i:) If *x* can be described, then *x* exists (Parmenidean dictum).
- (ii:) *x* is a form iff *x* is “one” over a set of “many” things,
 {*a*, *b*, ...} (definition).
- (iii:) If *x* is a thought, then *x* is about something that can
 be described ([1] above).
- (iv:) So, if *x* is a thought, then what *x* is about exists ([2]). (i), (iii)
- (v:) [TM] asserts: thought is about that (i.e., an object) which is
 thought (i.e., by a process) to be “one” over a set of “many”
 things, {*a*, *b*, ...} ([3]).
- (vi:) So, thoughts are about forms ([4]). (ii), (v)
- (vii:) Therefore, forms exist. (iv), (vi)

(i) may seem sound strange to modern ears, but it is accepted by Socrates for the reasons given earlier. (ii) and (iii) should not raise any eyebrows. (v), contra Peck,¹⁹² in no way confuses the object of thought with the process of thought (i.e., Parmenides does not claim the object of thought to have an object, cf. fig. 3). (vii), therefore, is sound, that is, given the assumptions made at this point of the dialogue. What (vii) is not, however, is clear, for there are two ways in which we can read the claim that forms “exist”/are “something that is.”

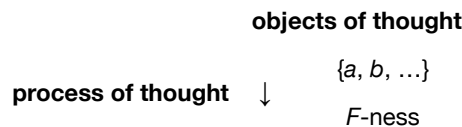


Figure 3: The distinction object/process of thought

(a:) Christoph Helmig reads [4] to assert that forms have a “*fundamentum in re*,”¹⁹³ which, to be sure, seems to make good sense of [TM], for *a*, *b*, etc., are so, namely, “*FG*,” “*FH*,” etc., that our thought processes can think a form, namely, *F*-ness, to be over them; that is, insofar as “*FG*,” “*FH*,” etc., are all “...*F*...,” *a*, *b*, etc., seem to have something in common.

of a thought process, that is, Parmenides’ argument cannot be read to conclude, “forms are objects of thought, therefore they cannot be thoughts.” See his *Plato’s Parmenides*, 170–177. That said, my agreement with Allen ends here, for he connects this passage with the next one by drawing on premises from the Pie Model, which is unwarranted. Cf. Helmig, “Plato’s Argument Against Conceptualism.” Rather, the connection between this and the next passage is construed taking hints from Scolnicov, *Plato’s Parmenides*, 63–64.

¹⁹² See “Plato Versus Parmenides,” 174–177. Helmig, who differs from Peck insofar as he deems Socrates, not Parmenides, the one who confuses matters, holds that the point of [1]–[4] is to show that forms are objects of thought, not thought processes, but nothing Socrates says indicates that he gets this distinction wrong to begin with. Cf. “Plato’s Argument Against Conceptualism,” 309–324.

¹⁹³ “Plato’s Argument Against Conceptualism,” 311 and passim (his italics).

Yet if we read the above passage in this way then the forms would ex hypothesi be thoughts, but by virtue of [4] inhere in things; that is, [4] would in itself be a *reductio ad absurdum* of [TM]. Socrates, however, shows no signs of deeming [4] absurd, and that he would miss the point is unlikely, for this would imply that he did not know what he was talking about when he replied “of something that is” (*ontos*). (b:) Socrates therefore does not mean that forms have a “*fundamentum in re*,” but that their being-*F(L)* qualifies as “*ontos*.” [TM], in other words, is tenable,¹⁹⁴ but as Parmenides is about to show it is incompatible with Socrates’ notion of predication.

[Parmenides:] “And what about this?” said Parmenides. “Given your claim that other things partake of forms, won’t you necessarily think either that each thing is composed of thoughts and all things think, or that, although they are thoughts, they are unthinking [*anoēta*; figuratively, ‘thoughtless’, ‘silly’]?”

[Socrates:] “That isn’t reasonable either, Parmenides,” he said. (132c)

At first sight, Parmenides *reductio ad absurdum* seems to be unfair. Socrates could reply, as Bestor thinks he should,¹⁹⁵ that “*a* partakes of *F*-ness,” on account of [TM], means that *a* in a way corresponds to *F*-ness, which, of course, would in no way imply that *F*-ness would have to be *in a*. “... partakes of ...” and [TM] are, however, a different kettle of fish. While they are both schemata that yield causal explanations, they not only differ in what they shall explain (“*a* partakes of *F*-ness” explains how *a* comes to be *F*, [TM] explains how *a*, *b*, etc. cause *F*-ness to come to be in the mind), but also work in opposite directions (see fig. 4). Crucially, these directions matter to what is explained.

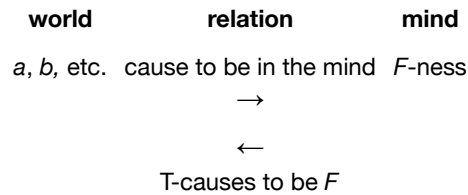


Figure 4: [TM] and T-causation

“... partakes of ...” plays an important part in Socrates’ notion of predication, for if *a* is *F* by virtue of partaking of *F*-ness, then *S* can (a:) explain/(b:) justify her belief that *a* is *F* to *T* by prompting *T* to call to mind *F*-ness and compare it to *a*. In order for (a) to be possible, *S* and *T* must share the same notion of *F*-ness, and in order for (b) to be possible, *F*-ness must be, in a normative sense, prior to *a*. Suppose that we define “... partakes of ...” in terms of [TM]; for example, *x* partakes of *F*-ness iff *x* is a member of the set of things “over” which

¹⁹⁴ Though Plato does not in fact hold [TM], for reasons that will become obvious soon.

¹⁹⁵ Cf. Bestor, “Plato’s Semantics and Plato’s ‘Parmenides’,” sec. 7. Bestor, to avoid misunderstandings, does not argue that [TM] is sound, he just says that Parmenides’ argument against [TM] isn’t either.

F-ness is thought, then *F*-ness would be (a':) private to the thought which thinks *F*-ness to be "over" this set (*S* cannot reasonably prompt *T* to call *her* thought to mind) and (b':), in a normative sense, posterior to *x* (suppose that *S* and *T* came up with a convention on *F*-ness, but disagreed as to whether *a* is *F*; neither *S* nor *T* can call upon their thoughts of *F*-ness in order to justify their beliefs, for their thoughts are caused by the things they perceive and, therefore, cannot be used as a yardstick by which to assess them). Put simply, if Socrates were to define "... partakes of ..." in terms of [TM], he would have to come up with a different account of predication altogether (in order to address (a') and (b')).

This being so, Socrates accepts that [TM], on account of his hypothesis that things are *F* by virtue of partaking of *F*-ness, implies that our thoughts T-cause things to be *F*—which *is* "silly" (*anoēta*).

The Likeness Argument (132d–133a). Socrates, in a way, refines the thought model, by proposing that

[PM:] these forms are like patterns set in nature, [DP:] and other things resemble [*eoikenai*] them and are likenesses; and this partaking of the forms is, for the other things, simply being modelled [*eikasthēnai*] on them. (132d)

[PM] is a refinement of [TM] insofar as what we "apprehend by reasoning" now *has* a "*fundamentum in re*,"—"patterns set in nature." For one final time, the metaphysics under assumption shifts (from the lower right cell in table 3 to the lower left one; now, the forms are "in" "visible things," that is, *insofar* as these things resemble them but still are $\langle F \rangle$ in a different way, because their being $\langle -F \rangle$ is unqualified). [PM] is reminiscent of the *Cratylus*, 386e–390e, and the *Republic*, 10.596b–598d, where forms also play the role of models, and bears a resemblance to the *Phaedrus*, 265d, where Socrates argues that definitions should "cut nature at its joints," the *Timaeus*, 52b, where sensibles are said to be "similar" (*homoios*) to forms, and the *Statesman*, 285d–e, where a young Socrates learns that "for some of the things there are [*ontōn*, which, here, refers to intelligible things, i.e., forms],

there are certain perceptible likenesses.”¹⁹⁶ [DP] is simply Socrates’ (D7).¹⁹⁷ (D7), however, refers to (D8), which needs to be adapted to [PM] as follows:

(D8’:) $imitates(x, \Phi_F, F) =_{df} F(L)(\Phi_F) \rightarrow F(H)(x)$
 x imitates F -ness in respect to being- F iff x is $F(H)$ if F -ness is $F(L)$.

[PM] avoids the “silliness” of [TM], but *prima facie* retains the distinction “... is $F(L)$ ”/ “... is $F(H)$,” which allows to escape the Third Man. Parmenides, however, will show Socrates that this escape route leads him back to whence he came.

[Parmenides:] [1:] “If something resembles the form,” he said, “can that form not be like what has been modelled on it, to the extent that the thing has been made like it? Or is there any way for something like to be like what is not like it?”

[Socrates:] “There is not.”

[Parmenides:] [2:] “And isn’t there a compelling necessity for that which is like to partake of the same one form as what is like it?”

[Socrates:] “There is.”

[Parmenides:] [3:] “But if like things are like by partaking of something, won’t that be the form itself?”

[Socrates:] “Undoubtedly.”

[Parmenides:] [4:] “Therefore nothing can be like the form, nor can the form be like anything else. [5:] Otherwise, alongside the form another form will always make its appearance, and [6:] if that form is like anything, yet another; [7:] and if the form proves to be like what partakes of it, a fresh form will never cease emerging.”

[Socrates:] “That’s very true.”

[Parmenides:] [8:] “So other things don’t get a share of the forms by likeness; we must seek some other means by which they get a share.”

[Socrates:] “So it seems.” (132d–133a)

[1] asserts that if x imitates F -ness (i.e., “[x] is modelled on [F -ness]”), then x and F -ness will be alike “to the extent that [x] has been made like [F -ness]”; for example, if a carpenter

¹⁹⁶ These similarities are particularly interesting since the *Phaedrus* was written about the same time as the *Parmenides*, while the *Timaeus* and the *Statesman* were written later. Cf. Brandwood, “Stylometry and Chronology.” This suggests that in Plato’s eyes [PM] can be salvaged. Owen takes the opposite view and argues that because Parmenides’ arguments against the forms are fatal, the *Timaeus*, contra stylistic evidence, must have been written before the *Parmenides*. Cf. “The Place of the *Timaeus* in Plato’s Dialogues.” Yet Parmenides himself does not regard his arguments as fatal (cf. 134e–135e), so we may wonder why Owen does. Moreover, that Parmenides teaches these lessons to a young Socrates would suggest that the older Socrates who defends the theory of forms in the *Cratylus*, the *Phaedo*, and the *Republic* has found a way to address these difficulties. If Plato intended to revise his theory, he would choose a different dramatic setup.

¹⁹⁷ Mignucci, by contrast, argues that Socrates says that “ x partakes of F -ness” *implies* “ x imitates F -ness,” rather than to *define* “ x partakes of F -ness” as “ x imitates F -ness,” because “not every resemblance can be conceived as a participation.” “Plato’s ‘Third Man’ Arguments in the *Parmenides*,” 170. [DP] and (D7), however, are restricted to the imitation of forms and, *prima facie*, what is said in the *Parmenides* and the *Republic* suggests that to imitate F -ness is to partake of F -ness.

makes a shuttle according to a form, then the shuttle and the form will be alike *to the extent* to which the carpenter succeeded. [2] makes the plausible, that is, in a Platonic framework, claim that two things are alike iff they are of the same form. This, as Scolnicov notes, foreshadows the definition of “... is like ...” as “whatever has a property the same” (139e).¹⁹⁸ [DP], [1] and [2] cause something like a regress: (a:) if x imitates F -ness they are alike; (b:) if F -ness and x are alike they partake of the same form; (c:) if x and F -ness partake of the same form they imitate that form; (d:) if x and F -ness imitate that form they are like that form; (e:) nothing is like itself; (f:) thus, this form is not F -ness; (g:) repeat for the new form from step (a), ad infinitum. Thus, it is by virtue of this new form that x is like F -ness, not by virtue of F -ness. [3], then, points out that by virtue of [2] x must be like F -ness *by virtue of* F -ness, not by virtue of F -ness₂; the “itself” in [3] refers to the form that the argument starts with in [1] and that is alluded to in [2].¹⁹⁹ [4] infers that the assumption that “visible things” are like forms must, therefore, be rejected. [5], [6], and [7] explicate the chain of F -nesses that would be generated otherwise; likely, also to remind us of the TMA.²⁰⁰ [8] finally concludes that as a result things cannot partake of F -ness by virtue of being like F -ness. Put more formally:

- (i:) If x imitates F -ness, then F -ness is like x in respect to being- F (“in respect to being- F ” for “to the extent to”; [1] above).
- (ii:) If $x_1, \dots, \text{ and } x_n$ are like each other in respect to being- F , then there is a form, F -ness, of which $x_1, \dots, \text{ and } x_n$ partake ([2], keeping “in respect to being- F ” from (i)).
- (iii:) Nothing is like itself (implicit).

¹⁹⁸ See Scolnicov, *Plato's Parmenides*, 67.

¹⁹⁹ Contra Schofield, “Likeness and Likenesses in the Parmenides,” 63–65. Schofield contends that “itself” in [3] refers to the “like” in [3]. Scolnicov, rightly, counters that this understanding of likeness is at odds with that given at 139e and points out that “itself” means “that very form of which we are talking” See his *Plato's Parmenides*, 67.

²⁰⁰ Similar interpretations are defended by Hathaway, “The Second ‘Third Man’”; Prior, “‘Parmenides’ 132c–133a and the Development of Plato's Thought”; Mignucci, “Plato's ‘Third Man’ Arguments in the Parmenides,” sec. 7; Scolnicov, *Plato's Parmenides*, 64–68; Lienemann, *Die Argumente des Dritten Menschen in Platons „Parmenides“*, chap. 11 and 12. Hathaway, Mignucci, and Lienemann, however, treat [3] as an independent assumption, whereas I read [3] as a consequence of [2] that is made explicit in order to bring out the contradiction between [2] and [5]. Prior loses [3] in transliteration. Scolnicov offers no formalised analysis of the argument, so it is difficult to say where he stands on the matter. Vlastos, by contrast, argues that the Likeness Argument (LA) draws on the same premises and comes to the same conclusion as the TMA. See “The Third Man Argument,” sec. 1.B. Schofield shows that this reading cannot be reconciled with the text, and proposes to, rather, construe the LA, roughly, as follows: (a:) suppose a is like; (b:) so, a imitates likeness; (c:) so, likeness is like a ; (d:) so, likeness is like; (e:) so likeness imitates likeness; (e:) nothing imitates itself; (f:), so we get a new form of being like, likeness₂, which is like likeness; (g:) and so on, ad infinitum. See “Likeness and Likenesses in the Parmenides.” Vlastos is followed by Fine, *On Ideas*, sec. 15.3. Schofield is followed by Allen, *Plato's Parmenides*, 179–193; Rickless, “How Parmenides Saved the Forms,” sec. 4.4; *Plato's Forms in Transition*, sec. 2.5. Scolnicov and Lienemann highlight the shortcomings of Schofield's reading.

- (iv:) So, if F -ness is like x in respect to being- F , then there is a form, F -ness₂, of which F -ness and x partake (skipped). (ii)
- (v:) So, if F -ness is like x in respect to being- F , then there is a form, F -ness₂, which F -ness and x imitate ([5]). [DP], (iv)
- (vi:) So, if F -ness is like x in respect to being- F , then there is a form, F -ness₂, which is like F -ness in respect to being- F (skipped). (i), (v)
- (vii:) So, if F -ness₂ is like F -ness in respect to being- F , then there is a form, F -ness₃, which is like F -ness₂ in respect to being- F ([6]). (vi)
- (viii:) So, “a fresh [F -ness] will never cease emerging” ([7]). (vii), (iii)
- (ix:) But x is like F -ness in respect to being- F by virtue of partaking of F -ness ([3]). (ii)
- (x:) So, “nothing can be like [F -ness], nor can [F -ness] be like anything else” ([4]). (viii), (ix)
- (xi:) Therefore, “other things don’t get a share of the forms by likeness” (i), (ii), (x)

(i) translates “to the extent to” into “in respect to being- F ,” assuming that wherein something that is F and F -ness will be alike is in being- F and F -ness’ being “more” F than other things is covered by the distinction “... is $F(H)$ ”/“... is $F(L)$ ” (i.e., something that is $F(L)$ is ex hypothesi “more” F than something that is $F(H)$). (ii) draws on a corresponding understanding of “... is like ...,” thus rendering likeness a ternary relation, rather than a binary one, seems legitimate,²⁰¹ because: (a:) [1] and [2] draw on the same notion of likeness, and likeness is a ternary relation in [1]; (b:) “of the same one form” in [2] suggests a ternary relation as well; (c:) so does “whatever has a property the same.” (iii) goes without saying, so

²⁰¹ Lee argues that imitation for Plato is a 4-ary relation: “ x imitates y in respect to Φ because of Ψ ,” where Φ is a feature of y , and Ψ the reason for which x counts as imitating y , which, for Lee, includes rules that allow to translate y ’s being- Φ into x ’s approximating- Φ ; e.g., if x is a map and y is the area that the map covers, then Ψ includes the rules that allow us to translate the map’s representation of that area into the features of that area, Φ . See Lee, “The Second ‘Third Man’,” sec. 2. Yet in my reading such rules would rather seem to be part of our knowledge of forms, and without these rules Φ and Ψ collapse into each other, so we may render imitation as a ternary relation. Ψ , it should be noted, cannot be a relation, as Parmenides himself will make clear at 133a–134e. Thereon, cf. also Ryle, “Plato’s ‘Parmenides’,” 137–140. Hathaway also renders imitation a ternary relation. See Hathaway, “The Second ‘Third Man’,” 81. Hathaway, however, is troubled by this construction, because he lacks an identity condition for forms (i.e., (A2)) his ternary notion of likeness generates different forms for different things that are alike, so that (viii) no longer contradicts (ix). Mignucci, wrongly takes this as evidence against rendering likeness a ternary relation, though he admits that this would be plausible. See Mignucci, “Plato’s ‘Third Man’ Arguments in the Parmenides,” 175–176.

we should not wonder why Parmenides does not say it.²⁰² (iv) to (xi) stay close to the text, save for spelling out some implicit steps.

(i), (ii), and (iii) are the premises of the Likeness Argument (LA), which we can formalise as follows:

- (i) $\forall F \forall x (\text{imitates}(x, \Phi_F, F) \rightarrow \text{like}(\Phi_F, x, F))$
For any property, F , and any object, x , if x imitates F -ness in respect to being- F , then F -ness is like x in respect to being- F .
- (ii) $\forall F \forall x_1 \dots \forall x_n (\text{like}(x_1, \dots, x_n, F) \rightarrow \exists y (y = \Phi_F \wedge \text{partakes}(x_1, y) \wedge \dots \wedge \text{partakes}(x_n, y)))$
For any property, F , and any set of objects, $x_1, \dots$, and x_n , if $x_1, \dots$, and x_n are alike in respect to being- F , then there is an object, y , so that y is F -ness and $x_1, \dots$, and x_n partake of y .
- (iii) $\forall F \forall x (\neg \text{like}(x, x, F))$
For any property, F , and any object, x , x is not like itself in respect to being- F .

We can now give a formal version of the LA. Where lines correspond to those of the simplified version of the LA given above, the corresponding roman literals will be used.

We begin by showing that if x and F -ness are like each other, then there must a form that both of them imitate.

- | | | | |
|---------|------|---|--------------|
| (ii) | (1) | $\forall x_1 \dots \forall x_n (\text{like}(x_1, \dots, x_n, F) \rightarrow \exists y (y = \Phi_F \wedge \text{partakes}(x_1, y) \wedge \dots \wedge \text{partakes}(x_n, y)))$ | (ii) UE |
| (ii) | (iv) | $\forall x (\text{like}(\Phi_F, x, F) \rightarrow \exists y (y = \Phi_F \wedge \text{partakes}(x, y) \wedge \text{partakes}(\Phi_F, y)))$ | 1 UE |
| (ii) | (v) | $\forall x (\text{like}(\Phi_F, x, F) \rightarrow \exists y (y = \Phi_F \wedge \text{imitates}(x, y, F) \wedge \text{imitates}(\Phi_F, y, F)))$ | (iv) by (D7) |
| 2 | (2) | $\text{like}(\Phi_F, a, F)$ | A |
| (ii) | (3) | $\text{like}(\Phi_F, a, F) \rightarrow \exists x (x = \Phi_F \wedge \text{imitates}(a, x, F) \wedge \text{imitates}(\Phi_F, x, F))$ | (v) UE |
| (ii), 2 | (4) | $\exists x (x = \Phi_F \wedge \text{imitates}(a, x, F) \wedge \text{imitates}(\Phi_F, x, F))$ | 3, 2 MPP |
| 5 | (5) | $b = \Phi_F \wedge \text{imitates}(a, b, F) \wedge \text{imitates}(\Phi_F, b, F)$ | A |
| 5 | (6) | $b = \Phi_F$ | 5 $\wedge$ E |

So far we have shown that if something, a , is like F -ness, then it is so by virtue of a form of F , b , which, however, is F -ness. F -ness is the reason for which a and F -ness are alike; but F -ness imitates b , so we get another form of F , c .

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|---|-----|---------------------------------|--------------|
| 5 | (7) | $\text{imitates}(\Phi_F, b, F)$ | 5 $\wedge$ E |
|---|-----|---------------------------------|--------------|

²⁰² That (iii) is required for the LA to be valid strikes me as so obvious as to warrant no defence. Those who disagree, however, can find one in Hathaway, "The Second 'Third Man'."

(i)	(8)	$\forall x(\text{imitates}(x, \Phi_F, F) \rightarrow \text{like}(\Phi_F, x, F))$	(i) UE
(i)	(9)	$\text{imitates}(\Phi_F, \Phi_F, F) \rightarrow \text{like}(\Phi_F, \Phi_F, F)$	8 UE
(i), 5	(10)	$\text{imitates}(\Phi_F, b, F) \rightarrow \text{like}(b, \Phi_F, F)$	9, 6 =E
(i), 5	(11)	$\text{like}(b, \Phi_F, F)$	7, 10 MPP
(i), 5	(12)	$b = \Phi_F \wedge \text{like}(b, \Phi_F, F)$	6, 11 $\wedge$ I
(i), 5	(13)	$\exists x(x = \Phi_F \wedge \text{like}(x, \Phi_F, F))$	12 EI
(i), (ii), 2	(14)	$\exists x(x = \Phi_F \wedge \text{like}(x, \Phi_F, F))$	4, 5, 13 EE
(i), (ii)	(15)	$\text{like}(\Phi_F, a, F) \rightarrow \exists x(x = \Phi_F \wedge \text{like}(x, \Phi_F, F))$	2, 14 CP
(i), (ii)	(16)	$\forall x(\text{like}(\Phi_F, x, F) \rightarrow \exists y(y = \Phi_F \wedge \text{like}(y, \Phi_F, F)))$	15 UI
(i), (ii), 5	(17)	$\forall x(\text{like}(b, x, F) \rightarrow \exists y(y = \Phi_F \wedge \text{like}(y, b, F)))$	6, 16 =E
(i), (ii), 5	(18)	$\text{like}(b, \Phi_F, F) \rightarrow \exists x(x = \Phi_F \wedge \text{like}(x, b, F))$	17 UE
(i), (ii), 5	(19)	$\exists x(x = \Phi_F \wedge \text{like}(x, b, F))$	11, 18 MPP
(vi)	(vi)	$c = \Phi_F \wedge \text{like}(c, b, F)$	A

At first sight, c is the same as F -ness. However, because b imitates c , c must be like b , but nothing can be like itself, so b and c cannot be the same (we skip (vii), Parmenides mentions yet another F -ness, but this deduction is long enough already and yet another F -ness would add nothing to the overall argument).

(iii)	(iii)	$\forall x(\neg \text{like}(x, x, F))$	A
(vi)	(20)	$\text{like}(c, b, F)$	(vi) $\wedge$ E
21	(21)	$c = b$	A
(vi), 5	(22)	$\text{like}(c, c, F)$	6, 20 =E
(iii)	(23)	$\neg \text{like}(c, c, F)$	(iii) UE
(vi), (iii), 5	(24)	$\text{like}(c, c, F) \wedge \neg \text{like}(c, c, F)$	22, 23 $\wedge$ I
(iii), 5	(viii)	$c \neq b$	21, 24 RAA

Therefore we get a chain of F -nesses, each of which differs from the previous one, but nothing keeps, say F -ness₇ from being F -ness₃; that is, for any position in the chain, n , F -ness _{n} can only be shown to differ from F -ness _{$n-1$} and F -ness _{$n+1$} .²⁰³ Yet this is all Parmenides needs, since each of these F -nesses is *and* is not *the* F -ness, F -ness is, again, “one” and “many.”

(vi)	(25)	$c = \Phi_F$	(vi) $\wedge$ E
(vi), (iii), 5	(26)	$c = \Phi_F \wedge b = \Phi_F \wedge c \neq b$	(viii), 6, 25 $\wedge$ I
(vi), (iii), 5	(27)	$\exists x(x = \Phi_F \wedge b = \Phi_F \wedge x \neq b)$	26 EI
(i), (ii), (iii), 5	(28)	$\exists x(x = \Phi_F \wedge b = \Phi_F \wedge x \neq b)$	(vi), 19, 27 EE
(i), (ii), (iii), 5	(29)	$\exists x \exists y(x = \Phi_F \wedge y = \Phi_F \wedge x \neq y)$	28 EI
(i), (ii), (iii), 2	(ix)	$\exists x \exists y(x = \Phi_F \wedge y = \Phi_F \wedge x \neq y)$	4, 5, 29 EE

Facing the contradiction, we must reject one of our premises, but (i), (ii) and (iii) seem beyond doubt, so the only premise that we can reject is that F -ness is like a in respect to being- F (line 2); this rejection generalises, so nothing can be like any form in any respect.

²⁰³ Cf. Mignucci, “Plato’s ‘Third Man’ Arguments in the Parmenides,” 172–174.

(i), (ii), (iii)	(30) $\neg \text{like}(\Phi_F, a, F)$	(ix), 2 RAA
(i), (ii), (iii)	(31) $\forall x(\neg \text{like}(\Phi_F, x, F))$	30 UI
(i), (ii), (iii)	(x) $\forall F \forall x(\neg \text{like}(\Phi_F, x, F))$	31 UI

But if this is so, then nothing can partake of any form, so [DP] must be false.

32	(32) $\text{partakes}(a, \Phi_F)$	A
32, (D7)	(33) $\text{imitates}(a, \Phi_F, F)$	32 by (D7)
(i)	(34) $\text{imitates}(a, \Phi_F, F) \rightarrow \text{like}(\Phi_F, a, F)$	8 UE
(D7), (i), 32	(35) $\text{like}(\Phi_F, a, F)$	33, 34 MPP
(D7), (i), (ii), (iii), 32	(36) $\text{like}(\Phi_F, a, F) \wedge \neg \text{like}(\Phi_F, a, F)$	30, 35 $\wedge$ I
(i), (ii), (iii), 32	(xi) $\neg(\text{partakes}(x, \Phi_F) =_{df} \text{imitates}(x, \Phi_F, F))$	(D7), 36 RAA

■

As with the TMA, we can learn much about the LA by discussing why defenders of Plato deem the LA invalid on grounds of the middle period theory of forms. Contrary to the TMA, however, there is widespread agreement as to what is wrong with the LA: (i) is false, “ x imitates F -ness” does *not* imply “ F -ness is like x .”²⁰⁴ Peck argues the case most cogently, if x is $F(H)$ and F -ness is $F(L)$, and x is like F -ness iff x and F -ness have “a property the same,” and being- $F(H)$ and being- $F(L)$ are different pairs of shoes, then how could x and F -ness be alike? We can bring this out clearly by adopting “ λ ” (for “*lambanō*”/“apprehend”) as a variable ranging over “apprehended by reasoning” (L) and “apprehended by the senses” (H) and defining “... is like ... in respect to being-...” in accordance with 139e, as follows:

(D9:) $\text{like}(x_1, \dots, x_n, F) =_{df} \exists \lambda (F(\lambda)(x_1) \wedge \dots \wedge F(\lambda)(x_n))$
 $x_1, \dots, x_n$ are alike in respect to being- F iff there is a mode of
apprehension, λ , so that x_1 is $F(\lambda)$, ..., and x_n is $F(\lambda)$.

(D9) applies to forms and “visible things,” but does not allow for forms and “visible things” to be alike, so that even if x imitates F -ness in respect to being- F , this cannot entail that x is like F -ness in respect to being- F . This becomes obvious when we compare (D9) to (D8’):

(D8’:) $\text{imitates}(x, \Phi_F, F) =_{df} F(L)(\Phi_F) \rightarrow F(H)(x)$
 x imitates F -ness in respect to being- F iff x is $F(H)$ if F -ness is $F(L)$.

²⁰⁴ See, e.g., Cherniss, “The Timaeus and Plato’s Later Dialogues,” 252–257; Peck, “Plato Versus Parmenides,” 177–179; Lee, “The Second ‘Third Man’”; Prior, “‘Parmenides’ 132c–133a and the Development of Plato’s Thought,” sec. 3; Bestor, “Plato’s Semantics and Plato’s ‘Parmenides’,” sec. 8; Graeser, “Plato’s Parmenides,” sec. 6. Bestor notes that this line of defence goes back to Syrianus and Proclus. Again, that Aristotle uses similar arguments against the theory of forms should caution us against dismissing the LA as something that Plato does not take as serious, even though Plato may nevertheless feel that he can address it (cf. note 137 above).

Put another way, F -ness is $F(L)$ but causes x to be $F(H)$. Yet according to (D9) they either would have to be *both* $F(L)$ or *both* $F(H)$ to count as alike.²⁰⁵

Parmenides, however, argues that x is like F -ness in respect to being- F “to the extent that $[x]$ has been made like $[F\text{-ness}]$,” that is, he argues that there is something that being- $F(H)$ and being- $F(L)$ have in common, which we, following Peck, may call “being- $F(0)$.”²⁰⁶ “... is $F(0)$ ” can be introduced in our formal language as follows:

$F(0)(x)$... x is F in vacuo (“ x is $F(0)$ ”).

“... is $F(0)$ ” is ex hypothesi so that anything that is $F(H)$ or $F(L)$ is also $F(0)$. Put formally:

(H1:) $\forall F \forall x (F(H)(x) \rightarrow F(0)(x))$

For any property, F , and any object, x , if x is $F(H)$, then x is $F(0)$.

(H2:) $\forall F \forall x (F(L)(x) \rightarrow F(0)(x))$

For any property, F , and any object, x , if x is $F(L)$, then x is $F(0)$.

Of course, the introduction of “... is $F(0)$ ” as a third mode of being- F requires changes to our model. Unsurprisingly, we need to redefine “... is like ... in respect to being-...”:

(D9’:) $like(x_1, \dots, x_n, F) =_{df} F(0)(x_1) \wedge \dots \wedge F(0)(x_n)$

$x_1, \dots, x_n$ are alike in respect to being- F iff x_1 is $F(0)$, ..., and x_n is $F(0)$.

(D9’) allows for forms and “visible things” to be alike and, together with (SP’), (D5), (D8’), (H1) and (H2) entails (i); to wit: (a:) F -ness is $F(L)$; (b:) so, anything that imitates F -ness in respect to being- F is $F(H)$; (c:) so, by virtue of (H1), anything that imitates F -ness in respect to being- F is also $F(0)$; (d:) by virtue of (H2), F -ness is $F(0)$ as well; (e:) therefore, anything that imitates F -ness is like F -ness in respect to being- F ((e) = (i); see proof 14).

Additionally, we must adapt (OM’) because according to our old definition of “... is like ... in respect to being-...” any set of things that are alike in respect to being- F would have satisfied (OM’), for they would all have been F by virtue of (D9) and different from each other by virtue of (iii); we can preserve this connection by modifying (OM’) as follows:

(OM’’:) $\forall F \forall x_1 \dots \forall x_n ((F(0)(x_1) \wedge \dots \wedge F(0)(x_n) \wedge x_1 \neq x_2 \wedge \dots \wedge x_{n-1} \neq x_n) \rightarrow$

$\exists y (y = \Phi_F \wedge partakes(x_1, y) \wedge \dots \wedge partakes(x_n, y)))$

For any property, F , and any set of objects, $x_1, \dots$, and x_n , if $x_1, \dots$, and x_n are all distinct from each other and $F(0)$, then there is an object, y , so that y is F -ness and $x_1, \dots$, and x_n partake of y .

(D9’), (OM’’) and (iii) entail (ii), to wit: (a:) assume a set of things that are alike in respect to being- F ; (b:) by virtue of (D9’), they are $F(0)$; (c:) by virtue of (iii), they must be differ-

²⁰⁵ We cannot define “ $like(x_1, \dots, x_n, F)$ ” as “ $\exists \lambda F(\lambda)(x_1) \wedge \dots \wedge \exists \lambda F(\lambda)(x_n)$ ” because this is unjustified if we keep “... is $F(H)$ ” and “... is $F(L)$ ” apart. That said, that this feels counter-intuitive is instructive.

²⁰⁶ See “Plato Versus Parmenides,” 165.

ent things; (d:) so, by virtue of (OM’), there is a form of which they partake; (e:) therefore, if there is a set of things that are alike in respect to being- F , then there is a form of which they partake ((e) = (ii); see proof 15).

To summarise, Peck is right that the LA holds if and only if we grant Parmenides that there is something that being- $F(H)$ and being- $F(L)$ have in common, and we should also put on record that (H1), (H2), (D7), (I1), (SP’) and (OM’) generate the regress of the TMA as well.²⁰⁷

Yet even though the distinction “... is $F(H)$ ”/“... is $F(L)$ ” is pivotal to the middle period theory of forms, we should hesitate to conclude that consequently the LA does not apply to that theory. To see why we may once again take a look at (D8’):

$$(D8’:) \text{ imitates}(x, \Phi_F, F) =_{df} F(L)(\Phi_F) \rightarrow F(H)(x) \\ x \text{ imitates } F\text{-ness in respect to being-}F \text{ iff } x \text{ is } F(H) \text{ if } F\text{-ness is } F(L).$$

F -ness, we must recall, allows us to account for something’s being- F by virtue of being the model of being- F , that is, by allowing us to make some kind of comparison. [DP]/(D7) makes good sense of this by defining the relation by virtue of which something is F as “... imitates F -ness in respect to being- F ” (D8’), in turn, clarifies this by defining “... imitates F -ness in respect to being- F ” as the transmission of a property that is “apprehended by reasoning” to a “visible thing” (as a side effect, this definition of “ x imitates y in respect to being- F ” can only be applied if y is a form). What F -ness transmits to x in (D8’), however, is not being- $F(L)$, but bare being- F ; In other words, being- $F(0)$. For example, when the carpenter in the *Republic*, 10.596b, makes a bed after a form then this form appears to transmit its “bedness” to the bed that is made. Of course, bedness is apprehended by reasoning and the bed that the carpenter made by the senses, yet if they did not both have what it takes to be a bed, then there would seem to be no point for the carpenter to “look towards the appropriate form in making the beds” (l.c.), and the same holds for the carpenter in the *Cratylus*, 389a–d, who makes a shuttle. Parmenides, in short, seems justified to assume that F -ness is like F things “to the extent” that things have been made like F -ness, that is, (i); and $F(0)$ just refers to this extent.

Edward Lee counters that we should not take being- $F(H)$ as a state, rather things that are $F(H)$ strive to be $F(L)$, but since the being such-and-such of “visible things” is context-dependent and changes over time, these things, inevitably, fall short of their aspirations. They never get close enough to being $F(L)$ to qualify as alike, so no transmission takes place.²⁰⁸ To illustrate his case, he asks:

Does my back account resemble Rockefeller’s just to the extent that there is a sum of \$ 256.25 in it?—I might choose to say so, perhaps, but the choice is surely arbitrary. If we

²⁰⁷ (H1) is needed to create an initial set of $F(0)$ things, (H2) to do add F -ness to that set after applying (SP’), (D7) and (I1) entail (NI); spelling this out is left as an exercise to the reader.

²⁰⁸ Cf. “The Second ‘Third Man’,” sec. 3.

assume (what I am fairly sure is true) that \$ 256.25 falls short by some enormous margin of Mr. Rockefeller's actual holdings, then it would seem at least as plausible to deny that my account in fact "resembles his" to any appreciable extent. [...] To single out Rockefeller as an object for comparison for saying whose account my account resembles is thus either totally unmotivated (purely arbitrary, anybody else would do) or else wholly parasitic upon my project of striving to be just like *him*.²⁰⁹

Lee and Rockefeller, just as sensibles and forms, belong to different classes, however much Lee strives to be Rockefeller, he will fail; let "awfully rich" be R , then Rockefeller is $R(L)$ and Lee $R(H)$, in the sense that he strives to be $R(L)$, but even though he tries he will never even be *like* Rockefeller. Still, there is a sense in which we can say that Lee imitates Rockefeller. However, if we take being- $R(H)$ as a state, rather than as a process, then this sense gets lost, for given the hopelessness of his endeavour nothing but his striving relates him to Rockefeller; there is nothing Rockefeller-ish about his \$ 256.25. But would we really want to say that Lee, by virtue of his striving alone, imitates Rockefeller? That he is $R(H)$? Hardly. Lee gives another example, which, inadvertently, brings out clearly why not.

Jones can do a first-class imitation of Charlie Chaplin's way of walking. [...] Jones resembles Chaplin because he, Jones, is *trying* to do so; he is *imitating* Chaplin (and he has a knack for this sort of thing, has studied the films and practiced in front of a mirror, etc., etc.: *many* things went into the production of just this resemblance).²¹⁰

Jones does *not* resemble Chaplin because he is "trying" to do so, but because he *is* "imitating" him, that is, because he succeeds. For comparison, suppose that I try to "do an imitation of Charlie Chaplin's way of walking" to entertain my colleagues at work (and entertaining it would be, I have no "knack" for this sort of thing, have not seen, not to speak of "studied," many of his movies, and I never practiced anything in front of a mirror), in the midst of my very original interpretation of Chaplin, Jones happens to come by and, seeing me, asks one of my colleagues "what is this guy doing?" Now, if my colleague answered "oh, he is *imitating* Charlie Chaplin," Jones would laughingly reply, "well, maybe he's *trying*." Jones, of course, will never walk just like Charlie Chaplin either, but he comes close enough for us to say that he does a "first-class imitation." Put differently, if we let "... walks the walk" be C , then Jones qualifies as $C(H)$, but I don't. Lee, in the same vein, just happens *not* to be $R(H)$, but we may imagine that he gets into money, say that he wins \$ 1,000,000 in the lottery, and though \$ 1,000,256.25 will still fall short "by some enormous margin" of Rockefeller's holdings, there would now seem to be good sense in calling him a "little Rockefeller," that is, $R(H)$. That said, Lee is right that Socrates, when he says that the "other things" are "being modelled [*eikasthēnai*]" on forms, understands "being modelled on ..." as a process, but this process, analogously to the Thought Model, is one that brings

²⁰⁹ Ibid., 109 (his emphasis).

²¹⁰ Ibid., 107 (his emphasis, but it could not suit my purposes better).

results. If it does not then the thing that is modelled on F -ness fails at being F . One last example, suppose Plato's carpenter has an apprentice who tries to make a shuttle, but that the result is poor, in fact, it's unrecognisable, just a deformed piece of wood. Now, it is not that our poor piece of wood is not "striving" to be a shuttle, the apprentice tried really hard, yet nobody would call it one, but were Lee right, Plato would seem to have to.²¹¹

What Parmenides shows us by means of the LA is that we undermine the distinction "... is $F(L)$ " / "... is $F(H)$ " if we assume that $F(L)$ and $F(H)$ things can be compared to each other in a way that allows us to spell out what it is that they have in common. If we make this assumption, that is, (i), then we, in effect, reduce these two modes of being $\langle -F \rangle$ to that which is common to them, giving rise to something that resembles the regress in the TMA. In this respect the lessons of the LA and the TMA are in fact similar, save for the fact that the LA demonstrates that we cannot, so to speak, escape the Third Man by fleeing to a different metaphysics. Parmenides, however, also makes it clear when he introduces (i), which is the only premise of the LA he cares to explain, that we cannot avoid (i) if we assume that $F(L)$ and $F(H)$ things can be compared at all, that is, [PM].²¹² Put another way, if we try to compare forms to "the other things," we cannot do otherwise but look at them with the "mind's eye," but then they will, inevitably, appear to us as "visible things."

The Greatest Difficulty (133a–134e).

[Parmenides:] "Then do you see, Socrates," he said, "how great the difficulty is if one marks things off as forms, themselves by themselves?"

[Socrates:] "Quite clearly." (133a)

Socrates has nowhere else to go, so he must admit that he cannot defend his hypothesis, that "visible things" can be $\langle F \rangle$, in a meaningful way, by virtue of partaking of F -ness, which is "separate" from them. Parmenides, however, feels that Socrates has not yet understood just how great this "difficulty" is. Having said that, we should note that Parmenides does *not* say that Socrates' hypothesis stands defeated, which, after his forceful attacks, comes as bit of a surprise.

²¹¹ Allen appears to have something similar in mind. See his "Participation and Predication in Plato's Middle Dialogues," sec. 6. Bestor follows Lee. See "Plato's Semantics and Plato's 'Parmenides'," sec. 8. Irwin, by contrast, points out that while Plato follows Heraclitus in regarding sensibles as changing continuously in time, he does not conceive of this change as rapid. Cf. "Plato's Heracleiteanism." Lee's proposal to understand being- $F(H)$ as a process rather than a state, however, would seem to imply that Plato is committed to rapid change.

²¹² Scolnicov, by contrast, argues that Parmenides "refuses to entertain any sort of ambiguity of *einai*," which "leads to the assimilation of paradigm and copy." Scolnicov, *Plato's Parmenides*, 66 (Ancient Greek transliterated).

[Parmenides:] “I assure you,” he said, “that you do not yet, if I may put it so, have an inkling of how great the difficulty is if you are going to posit one form in each case every time you make a distinction among things.”

[Socrates:] “How so?”, he asked.

[Parmenides:] “There are many other reasons,” Parmenides said, “but the main one is this: suppose someone were to say that if the forms are such as we claim they must be, they cannot even be known. If anyone should raise that objection, you wouldn’t be able to show him that he is wrong, unless the objector happened to be widely experienced and not ungifted, and consented to pay attention while in your effort to show him you dealt with many distant considerations. Otherwise, the person who insists that they are necessarily unknowable would remain unconvinced.” (133a–c)

Apparently, Socrates’ hypothesis *can* be defended; although Parmenides makes clear that it is an uphill battle, which can only be won if the opponent is “widely experienced and not ungifted.” This needs to be kept in mind. However now we need to turn our attention to why defending the forms poses such a “great difficulty.”

[Socrates:] “Why is that, Parmenides?”, Socrates asked.

[Parmenides:] “Because I think that you, Socrates, and anyone else who posits that there is for each thing some being, itself by itself, would agree, to begin with, that none of those beings is in us.”

[Socrates:] “Yes—how could it still be itself by itself?”, replied Socrates. (133c)

In fact, Socrates has already agreed to this (when he assented that forms are “separate” at 130b), but this exchange brings out why forms cannot be “in us”—if they were, they could not be themselves by themselves. To understand why not, we need to contrast them to what is “in us” (or the “things that belong to us,” which is the somewhat clearer phrase Parmenides is going to use to refer to them), the “visible things.” At this point we need to recall that for a “visible thing,” a , to be F is to be F in a context, w , that is, in relation to other things that also belong in that context, if w contains another thing, b , then a is F in w iff it is F in relation to b . Let a be Socrates, b Phaedo, and F “... is large,” then Socrates is large in w because he has largeness in relation to Phaedo, that is, Socrates is large in a qualified way, in contexts other than w he may or may not be large. Plato, following Heraclitus, assumes that it is context-dependent whether Socrates appears to us as large or small because of the way in which we apprehend him, not because things are, per se, large in relation to other things. Put differently, “... is $F(H)$ ” really means “... is $F(H)$ in context ...” or, which is the same, “is ... $F(H)$ in relation to ...,” at least for properties that express relations. That being so, if F -ness is supposed to be “itself by itself,” that is, to be F in an unqualified way, it cannot be $F(H)$. Yet the things that are “in us” are those apprehended by the senses, hence they can only be $F(H)$. This is, at least, what Parmenides appears to imply and Socrates agrees.

[Parmenides:] “Very good,” said Parmenides. “And so all the characters [*ideōn*; lit., ‘class’, ‘kind’, we may, with a bit of simplification, read this as synonymous to ‘forms’] that are what they are in relation to each other have their being in relation to themselves but not in relation to things that belong to us. [...] These things that belong to us, although they have the same names as the forms, are in their turn what they are in relation to themselves but not in relation to the forms.” [...]

[Socrates:] “What do you mean?” Socrates asked.

[Parmenides:] “Take an example,” said Parmenides. “If one of us is somebody’s master or somebody’s slave, he is surely not a slave of master itself—of what a master is—nor is the master a master of slave itself—of what a slave is. On the contrary, being a human being, he is a master or slave of a human being. Mastery itself, on the other hand, is what it is of slavery itself; and, in the same way, slavery itself is slavery of mastery itself. Things in us do not have their power in relation to forms, nor do they have theirs in relation to us; but, I repeat, forms are what they are of themselves and in relation to themselves, and things that belong to us are, in the same way, what they are in relation to themselves.” (133c–134a)

Socrates has agreed that the forms and “the things that belong to us” are $\langle F \rangle$ in different ways, the forms are not “in us,” but things that “belong to us” are; F -ness is $F(L)$, F things are $F(H)$, this is the way in which they are “separate.” Yet Socrates also holds that F things partake of F -ness, which implies that F things and F -ness are somehow related. After the LA we are left without a workable notion of “... partakes of ...,” so Parmenides points out that whatever relation Socrates assumes to hold between F things and F -ness this relation, R , would itself be either $R(L)$ or $R(H)$. But then forms stand in $R(L)$ to other forms and the “things that belong to us” stand in $R(H)$ to each other, but neither can forms stand in $R(L)$ to these things, nor these things in $R(H)$ to forms, nor vice versa, “... stands in $R(L)$ to ...” accepts only forms as arguments, “... stands in $R(H)$ to ...” only sensibles. Let “... is a master of ...” be M , then we see that mastery stands in $M(L)$ to slavery (we should not be confused by this example, forms are models and as far as Plato is concerned this also holds for relations, so mastery is the “most” master-ish master around), whereas human masters stand in $M(H)$ to their slaves, and neither can mastery stand in $M(L)$ or $M(H)$ to human slaves, nor can a human master stand in $M(H)$ or $M(L)$ to slavery.²¹³

[Parmenides:] “So too,” he said, “knowledge itself, what knowledge is, would be knowledge of that truth itself, which is what truth is?”

[Socrates:] “Certainly.”

²¹³ Cf. Sharvy, “Plato’s Causal Logic and the Third Man Argument,” 525; Allen, *Plato’s Parmenides*, 193–197; Scolnicov, *Plato’s Parmenides*, 69–71. Allen, however, takes Parmenides’ talk of different worlds at face value, rather than as indicating different modes of being $\langle -F \rangle$; furthermore, he seems to imply that Parmenides confuses “... in relation to ...” as in “ a is F in relation to F -ness” with “... in relation to ...” as in “ a is F in relation to b ,” which Parmenides, in my opinion, does not. Scolnicov argues that Parmenides does not distinguish different modes of being $\langle -F \rangle$, but different kinds of entities.

[Parmenides:] “Furthermore, each particular knowledge, what it is, would be knowledge of some particular thing, of what that thing is. Isn’t that so?”

[Socrates:] “Yes.”

[Parmenides:] “But wouldn’t knowledge that belongs to us be of the truth that belongs to our world? And wouldn’t it follow that each particular knowledge that belongs to us is in turn knowledge of some particular thing in our world?”

[Socrates:] “Necessarily.”

[Parmenides:] “But, as you agree, we neither have the forms themselves nor can they belong to us.”

[Socrates:] “Yes, you’re quite right.”

[Parmenides:] “And surely the kinds themselves, what each of them is, are known by the form of knowledge itself?”

[Socrates:] “Yes.”

[Parmenides:] “The very thing that we don’t have.”

[Socrates:] “No, we don’t.”

[Parmenides:] “So none of the forms is known by us, because we don’t partake of knowledge itself.”

[Socrates:] “It seems not.”

[Parmenides:] “Then the beautiful itself, what it is, cannot be known by us, nor can the good, nor, indeed, can any of the things we take to be characters themselves.”

[Socrates:] “It looks that way.” (134a–c)

To be sure, Parmenides makes his point in a strange way. Still, he *has* a point. Let “... knows ...” be K , then in light of the above K is either $K(L)$ or $K(H)$, and given that the “things that belong to us” are those we see, it follows that we $K(H)$, which rules out that we $K(L)$, so we cannot know the forms.²¹⁴ However, in the *Republic*, 5.475e–480a,²¹⁵ Plato argues that knowledge can only be of forms and not of “visible things,” to these, as argued earlier, it can only be applied. So we may wonder why Plato implies that we $K(H)$, when he elsewhere denies that there is such a relation as $K(H)$. Moreover, forms are “apprehended by reasoning,” that is, by the *psukhē* (“mind,” “soul”), which he, in the *Phaedo*, 105c–108c, likens to forms, so we seem to $K(L)$, rather than to $K(H)$, to begin with. We seem well advised to take note of this peculiarity, but to read $K(L)$ as some kind of acquaintance, rather than as knowledge in the sense that Plato discusses in the *Meno* and the *Republic*. At any rate, Parmenides’ argument extends; if there is any relation R , so that we stand in $R(H)$ to anything, then we cannot know the forms—and, in fact, precisely those forms that Socrates regards as the paradigmatic cases of his theory (at 130d).

[Parmenides:] “Here’s something even more shocking than that.”

²¹⁴ Cf. Forrester, “Arguments an Able Man Could Refute”; Allen, *Plato’s Parmenides*, 197–198; Scolnicov, *Plato’s Parmenides*, 71–73.

²¹⁵ For a discussion, see Gerson, “The Possibility of Knowledge According to Plato”; Vogt, “Belief and Investigation in Plato’s Republic.”

[Socrates:] “What’s that?”

[Parmenides:] “Surely you would say that if in fact there is knowledge—a kind itself it is much more precise than is knowledge that belongs to us. And the same goes for beauty and all the others.”

[Socrates:] “Yes.”

[Parmenides:] “Well, whatever else partakes of knowledge itself, wouldn’t you say that god more than anyone else has this most precise knowledge?”

[Socrates:] “Necessarily.”

[Parmenides:] “Tell me, will god, having knowledge itself, then be able to know things that belong to our world?”

[Socrates:] “Yes, why not?”

[Parmenides:] “Because we have agreed, Socrates,” Parmenides said, “that those forms do not have their power in relation to things in our world, and things in our world do not have theirs in relation to forms, but that things in each group have their power in relation to themselves.”

[Socrates:] “Yes, we did agree on that.”

[Parmenides:] “Well then, if this most precise mastery and this most precise knowledge belong to the divine, the gods’ mastery could never master us, nor could their knowledge know us or anything that belongs to us. No, just as we do not govern them by our governance and know nothing of the divine by our knowledge, so they in their turn are, for the same reason, neither our masters nor, being gods, do they know human affairs.”

[Socrates:] “If god is to be stripped of knowing,” he said, “our argument may be getting too bizarre.” (134c–e)

Parmenides now turns the argument the other way round. Gods $K(L)$ so they can have no knowledge, which again we should read in a broad sense, of what goes on in our world—which, as Socrates says, would be “bizarre.” Graeser rightly points out that Plato can only mean this passage, that is, 134a–e, as a *reductio ad absurdum*.²¹⁶ But contra Graeser we should not take the Greatest Difficulty to pose no difficulty at all. Parmenides presents Socrates with a dilemma: (1:) if we $K(H)$ then we cannot know forms and, therefore, what it *means* to be beautiful, good, etc., which rates somewhere between hard to stomach and absurd; (2:) but if we $K(L)$ then we cannot even form beliefs about “the things that belong to us,” which is nonsense and obviously so. Unless Socrates can account for how these things partake of forms, however, he seems to have to choose one or the other. Of course, Socrates may still be able to come up with such an account, after all his hypothesis *can* be defended, but what Parmenides has shown in *extenso* is that this is no easy task and mere adoptions of metaphysical assumptions will not do.

²¹⁶ See Graeser, “Plato’s Parmenides,” sec. 7. Plato, in the *Republic*, 2.365a–367e, has Adeimantus arguing that if the gods took no notice of our actions, there would be no point in being good, for this would be a mere liability, and in the *Laws*, 10.900a–901e, the Athenian calls the idea that the gods cannot know about human affairs a “ghastly act of impiety.”

Saving the forms, a final note. Parmenides has already hinted that Socrates' hypothesis is in principle defensible, but he goes even further:

“Yet on the other hand, Socrates,” said Parmenides, “if someone, having an eye on all the difficulties we have just brought up and others of the same sort, won't allow that there are forms for things and won't mark off a form for each one, he won't have anywhere to turn his thought, since he doesn't allow that for each thing there is a character that is always the same. In this way he will destroy the power of dialectic entirely. But I think you are only too well aware of that.” (135b–c)

In other words, Parmenides reaffirms the argument that for knowledge and even thought to be possible there need to be forms. Socrates' hypothesis may be difficult to defend, but if we are to preserve “the power of dialectic” we have no choice but to defend it nevertheless. Therefore, Parmenides offers Socrates to demonstrate an exercise in dialectics, by repeating which Socrates, so Parmenides, will become competent in defending his hypothesis. While this exercise is beyond the scope of this chapter, a brief outline of how Plato attempts to address the aporias of the theory of forms that he brings out in the first part seems apposite. Scolnicov shows that Plato, in the second part, discusses two modes of being, being $\langle F \rangle$ in relation to itself (*pros heauto*), which resembles Parmenidean being, and being $\langle F \rangle$ in relation to others (*pros ta alla*),²¹⁷ which, as Socrates suggests, is a relation to Parmenidean being. For reasons similar to those expounded in the Greatest Difficulty, however, something's being $\langle -F \rangle$ *pros heauto* is inaccessible to us and therefore cannot itself be made the subject of dialectics. Yet something's being $\langle -F \rangle$ *pros ta alla* depends on F -ness' being $\langle -F \rangle$ *pros heauto*; hence Parmenidean being, “although not an object of (discursive) cognition, cannot be done away with.”²¹⁸ This being so, we must, as a working hypothesis, assume that our models reflect forms in order to have something to which we can “turn [our] thought.” Thus the difficulties of the first part of the dialogue can be surmounted; hypothetical models can serve as yardsticks to which things can be compared, but cannot be counted among these things due to their status as hypotheses. Moreover, because our models are hypotheses we can, as long as we keep this in mind, form, assess and defend them by virtue of being competent in applying them. For example, a carpenter who makes shuttles can defend her model of shuttles

²¹⁷ Meinwald recognises the same distinction, but treats it as different modes of predication. Cf. *Plato's Parmenides*; “Good-bye to the Third Man.” Frances has shown, however, that this fails to address the TMA for all cases. See his “Plato's Response to the Third Man Argument in the Paradoxical Exercise of the Parmenides.” Pelletier and Zalta, extending Meinwald, have then shown that Meinwald's distinction can solve the TMA for all cases, if it is understood to apply to being. See their “How to Say Goodbye to the Third Man.”

²¹⁸ Scolnicov, *Plato's Parmenides*, 166.

by virtue of her competency in producing them.²¹⁹ Put simply, we may treat forms *as if* they were things, as long as we are aware of the “as if.”

2.5 Conclusion

In his middle period, Plato advances a model of predication according to which, (1:) beliefs of the sort “*a* is *F*” express that *a* is of the form *F*-ness, where a “form” is simply that which justifies to call distinct things by the same name; (2:) something “is of a form” insofar as it is like that form, in some way; (3:) as a consequence, nothing that is of a form is that form, though this implication remains implicit (cf. sec. 2). Put simply, we may say that (1) asserts that true predications have a *fundamentum in re*, (2) that they are true insofar as they reflect this foundation, and (3) that none of them *is* that foundation. Yet the proem of the *Parmenides* indicates that Plato realises at the end of his middle period that there is some tension between (1), which implies that forms are somehow “in” things, and (3), which asserts that forms are distinct from things that partake of them. At least (1) and (3) are the two premises of his account of predication that he highlights in the proem (cf. sec. 3). Plato then goes on to test different assumptions about the nature of the forms in regard to whether they allow to come up with a formulation of (2) that alleviates this tension. Yet as we have seen each of these attempts fails and, except for the Thought Model, which, however, plays only a minor role, does so because the forms are, in one way or another, treated as if they were things (cf. sec. 4). The emphasis that Plato places on (1), (2), and (3) and the analysis of the TMA and, above all, the LA, which are the more serious arguments brought forward in the first part of the dialogue, strongly suggests that Plato identifies the conjunction of these premises as that which led him to reify forms (see table 4).

		TMA	LA	
			proper	2nd TMA
<i>existence</i>	(1)	(OM)	(i)	(OM'') & (H1)
<i>reflection</i>	(2)	(SP)	(ii)	(SP') & (H2)
<i>non-identity</i>	(3)	(NI)	(iii)	(D7) & (I1)

Table 4: The assumptions that invite to reify

However, (1), (2), and (3) are broader than Plato’s theory of forms, which is but one way to flesh out these assumptions, and we should note that in the *Parmenides* Plato takes care to

²¹⁹Cf. Scolnicov, *Plato’s Parmenides*; “The Two Faces of Platonic Knowledge.” Wieland makes a similar case, though he focuses on the role of know-how and says nothing on the *pros heauto/pros ta alla* distinction. Cf. *Platon und die Formen des Wissens*, § 7. Cf. also Ryle, “Plato’s ‘Parmenides’,” 137–140.

explore other ways as well. Put another way, we should understand that although this is probably not his intention, Plato makes a point that applies more generally, namely, to any account of predication or justification that builds on (1), (2), and (3), or similar premises. Furthermore, since these premises have some intuitive appeal we should appreciate that we too may learn something from the lessons that Parmenides teaches Socrates. The next time that a substantive makes us look, with our mind's eye, for a thing that corresponds to it, we should keep in mind that what we are looking at is not a thing, but a hypothesis.

3 WHY ARE SOFTWARE PATENTS SO ELUSIVE?

3.1 Introduction²²⁰

Judging from the debate on software patents, algorithms seem to be an elusive matter. (1:) James Bessen and Michael Meurer,²²¹ for instance, hold that “software patents have especially severe boundary problems,” because software patent claims employ “functional language,” which is abstract and thus imprecise. What is more, they add that software patent claims do not use “abstract terms” by coincidence, but rather because “many of the standard terms of art [in software engineering] are themselves abstract ideas.”²²² (2:) Accordingly, Sherly Abraham finds that software patents trouble patent offices and courts alike because algorithms (which is what software consists of) may perform different functions in different contexts.²²³ (3:) By contrast, Jan Bergstra and Paul Klint note that if the way in which algorithms are applied is not taken into account, what is left may be too insignificant to qualify for patent protection.²²⁴ Indeed many—Hartmut Pilch even claims “most”²²⁵—software patents seem trivial. More often than not these difficulties are described as a consequence of the nature of algorithms: (1:) algorithms are abstract, thus their boundaries are fuzzy; (2:) algorithms are underdetermined, thus their function is context-dependent; (3:) algorithms express logical truths, thus they tend to be trivial. In essence, we are often told that algorithms are less than ideal candidates for patent protection because they are abstract objects.²²⁶

Andrew Chin, however, points out two problems with this explanation: (1:) formulating patent claims is “an exercise in abstraction” at any rate, so that “it is not immediately clear

²²⁰ This chapter is a revised version of my “Why Are Software Patents so Elusive? A Platonic Approach.”

²²¹ See “What’s Wrong with the Patent System?”

²²² *Patent Failure*, 195. Bessen and Meurer, to avoid misunderstandings, offer a complex explanation for what they call “patent failure,” only when it comes to accounting for the fact that software patents fail worse than other types of patents, they resort to the kind of monocausal explanation criticised above. See *ibid.*, chap. 9.

²²³ See “Software Patents in the United States,” sec. 6. Most of the literature on (1) and (2) focuses on the US, but should apply *mutatis mutandis* to other jurisdictions. Guntersdorfer provides a concise, if somewhat outdated, comparison of software patents in the US and Europe in his “Software Patent Law: United States and Europe Compared.”

²²⁴ See “About ‘Trivial’ Software Patents,” sec. 8.1.

²²⁵ “Why Are Software Patents so Trivial?,” 290.

²²⁶ For a history of software patents see Cohen and Lemley, “Patent Scope and Innovation in the Software Industry,” sec. 1; Klemens, “The Rise of the Information Processing Patent,” sec. 2; Sarnoff, “Patent-Eligible Inventions After *Bilski*,” sec. 1 and 2.

why the abstract nature of software should pose a special problem for the determination of patent scope²²⁷; (2:) computer scientists and engineers seem to be able to communicate precisely about algorithms, regardless of their abstract nature. This is not to say that software patents work, the evidence gathered by Bessen and Meurer establishes beyond doubt that they do not,²²⁸ but we need a more complex explanation as to why algorithms seem to turn fuzzy, context-sensitive, and trivial as soon as they become the subject of a patent law suit. The purpose of this chapter is to propose such an explanation, based on the assumption that the characteristics displayed by abstract objects, including algorithms, in the context of patent litigation depend, among other factors, on the model of abstract objects that patent examiners and judges employ.²²⁹ To be precise, in this chapter “model of abstract objects” refers to a set of—possibly implicit—assumptions about: (1:) the functions of abstract objects, (2:) the way in which they perform these functions, and (3:) their ontological status in connection therewith.

So what model of abstract objects informs patent law? Rudolph Peritz argues that the US patent regime “seems to require a *separation* of inventions from ideas.”²³⁰ Jeffrey Lefstin makes the similar observation that the US Patent Office appears “to have committed itself to a form of metaphysical realism.”²³¹ And Ben Klemens notes that algorithms in particular are often maintained to enjoy some kind of independent existence.²³² Put another way, patents appear to come bundled with Platonism; that is, they come bundled with three tenets of Plato’s middle theory of forms: (P1:) whether a concrete object has a certain property depends, in some way, on an abstract object that can be used as a standard to assess this (e.g., there is an abstract object “redness” to which we compare concrete ones in order to assess whether they are red); (P2:) abstract and concrete objects correspond to each other so that we can assess whether a concrete object exemplifies an abstract one by somehow comparing them (e.g., “redness” is, so to speak, the reddest red, so that we can compare things to redness to find out whether they are red; that is, concrete objects in a way reflect abstract ones); (P3:) no concrete object is, as it were, an undistorted reflection of an abstract one (e.g., no red thing is as red as redness, so redness is something distinct from red things). Following Per-

²²⁷ “On Abstraction and Equivalence in Software Patent Doctrine,” 200.

²²⁸ See their *Patent Failure*, sec. 9.1.1. Klemens argues along the same lines, but with less empirical data. See “The Rise of the Information Processing Patent,” sec. 3. Drahos also makes a somewhat similar case, though based on theoretical considerations. See his “Extinguishing Prometheus?,” “Information Feudalism in the Information Society.” Stepan provides a brief review of the economics of intellectual property in general in his “Ökonomie des Urheberrechts.”

²²⁹ This approach is inspired by Thomas Powers, who argues that the “meandering of case law” regarding copyright is a consequence of judges holding different views about the nature of abstract objects. See his “Metaphysics in the Realm of Software Copyright Law,” 99.

²³⁰ “Freedom to Experiment,” 249 (my emphasis).

²³¹ “The Formal Structure of Patent Law and the Limits of Enablement,” note 210.

²³² “The Rise of the Information Processing Patent,” 6–7. Cf. also his “Software Patents Don’t Compute”; *Math You Can’t Use*.

itz, Lefstin, and Klemens we can conclude that patent examiners and judges alike draw on a model of abstract objects that is congruent with these principles (hereafter referred to as “P-model”).²³³

Taking all of the above into account, the aim of this chapter is to examine whether the fact that algorithms tend to appear as fuzzy, context-sensitive, and trivial in the context of patent litigation can be explained in terms of the theory of forms. This will be done by drawing on Plato’s *Parmenides*, in which Plato not only discusses some weaknesses of this theory, but also how these weaknesses might be addressed and why we are inclined to conceptualise abstract objects along the lines of the weak version of the said theory. There is no scholarly consensus as to how the *Parmenides* should be interpreted. My reading of the first part is expounded in the previous chapter, my interpretation of the dialogue in general is, among others, informed by those of Constance Meinwald,²³⁴ Wolfgang Wieland,²³⁵ and Samuel Scolnicov.²³⁶ Since Plato’s arguments need to be brought to bear on an example, the algorithm “Ron’s Code 4” (RC4) will be outlined in the next section (sec. 2). A simplified version of the Third Man Argument (TMA) at 132a–b,²³⁷ which tests the conjunction of (P1), (P2), and (P3), will then be applied to this algorithm (sec. 3).²³⁸ Following this the reasons Plato identifies for which people tend to make assumptions about abstract objects that correspond to the weak version of the theory of forms (sec. 4), and the modifications that he, according to Meinwald and Wieland, proposes to rectify this theory, will be related to the patent system (sec. 5).²³⁹ To conclude, the implications of these findings for current software patent regimes will be discussed (sec. 6). With reference to James Bessen and Robert Hunt, the term “software patents” is used in this chapter to refer to all patents that encompass “a logic algorithm for processing data that is implemented via stored instructions.”²⁴⁰ This includes patents on computer-implemented inventions, for example, an automated infusion pump that is controlled by an algorithm (European patent no. 0497041).²⁴¹

²³³ For a discussion, see Wreen, “The Ontology of Intellectual Property.”

²³⁴ See Meinwald, *Plato’s Parmenides*; “Good-bye to the Third Man.”

²³⁵ See *Platon und die Formen des Wissens*.

²³⁶ See Scolnicov, *Plato’s Parmenides*.

²³⁷ Unless specified otherwise, references are to the *Parmenides*.

²³⁸ The Likeness Argument at 132d–133a, which also examines (P1), (P2), and (P3) can be read as equivalent to the TMA (cf. sec. 2.4) and will, therefore, not receive separate treatment.

²³⁹ Scolnicov proposes a reading that, with a bit of simplification, can be said to occupy a middle position between Meinwald and Wieland, and while Scolnicov is, probably, closer to Plato’s intentions, the interpretations of Meinwald and Wieland are more readily applied to the questions at hand.

²⁴⁰ “An Empirical Look at Software Patents,” 167.

²⁴¹ Apparently, the European Patent Office struggles at times to draw a clear line between software “as such,” which cannot be patented under the European Patent Convention (see Article 52(2)(c) and (3)) and computer-implemented inventions, which can be; e.g., Adobe Systems holds a patent on a “method of displaying multiple sets of information in the same area of a computer screen” (EP0689133), i.e., on tabs. This is also a good example of a trivial patent.

3.2 RC4

RC4 is a cipher that encrypts a given plaintext by combining it with pseudo-random numbers generated from a given key. It was developed by Ronald Rivest in 1987 for RSA Laboratories.²⁴² What makes RC4 an apt example for the purposes of this chapter is that it can be understood without too much prior knowledge of computer science or mathematics in contrast to more recent ciphers such as RC5 or RC6. What may seem to render RC4 a somewhat odd example, however, is that it has not been patented. However, this is probably only because RC4 was leaked to the general public in 1994, yet algorithms were only established as patentable subject matter in the US in 1998.²⁴³ RSA Laboratories has applied for and been granted patents for RC5 (US patent no. 5,724,428) and RC6 (US patent no. 5,835,600), the successors of RC4.

How does RC4 work? Similarly to many other ciphers, RC4 comprises two components: a key scheduling algorithm (KSA), which initialises a pseudo-random generation algorithm (PRGA). First, the KSA creates an ordered list that ranges over all possible byte values, so that every value occurs once and only once (i.e., it counts from 0 to 255). Then it swaps the elements of that list, with the elements that are to be swapped with each other being determined by the key provided. This list is called the “substitution box.” Using the substitution box the PRGA first swaps two elements of that box in order to ensure that its output remains pseudo-random, even for large amounts of data, and then selects another element of the box as a pseudo-random byte. Different to the KSA, the PRGA uses only the current state of the substitution box to determine which elements are to be swapped. With the PRGA initialised by the KSA, the plaintext is encrypted by xoring²⁴⁴ each of its bytes with a pseudo-random byte generated by the PRGA.²⁴⁵

To illustrate, the following code, written in the programming language *Python*, implements RC4’s KSA (called “__init__” in the example) and PRGA (“prga”):

²⁴² See Mantin, “Analysis of the Stream Cipher RC4,” sec. 1.2.

²⁴³ By the decision in *State Street Bank and Trust v. Signature Financial Group*, 149 F.3d 1368. On the history of software patents, see note 220 above.

²⁴⁴ “Xor” is short for “exclusive or,” i.e., if a and b are bits, then $a \text{ xor } b$ is 1 iff either a or b is 1, and 0 otherwise; if a and b are bytes, “... xor ...” operates on each bit of those bytes (one byte comprises eight bits).

²⁴⁵ For more details, see Thayer and Kaukonen, “Arcfour” (“RC4” is trademarked, hence “Arcfour”).

```

class RC4:
    S = range(256)
    i = 0
    j = 0

    def __init__(self, key):
        j = 0

        for i in range(256):
            j = (j + self.S[i] + key[i % len(key)]) % 256
            self.S[i], self.S[j] = self.S[j], self.S[i]

    def prga(self):
        self.i = (self.i + 1) % 256
        self.j = (self.j + self.S[self.i]) % 256

        self.S[self.i], self.S[self.j] = self.S[self.j], self.S[self.i]

    return self.S[(self.S[self.i] + self.S[self.j]) % 256]

```

Listing 1: RC4 in Python

With this description of RC4 in mind, we may now turn to the later Plato’s analysis of the weaknesses of his middle-period theory of forms and see how this analysis applies to this algorithm.

3.3 Algorithms and the Third Man Argument

The TMA examines the model of abstract objects that is, as argued above, employed by patent examiners and judges. We have seen in the previous chapter (sec. 2.4) that the TMA obtains for more formalised versions of (P1), (P2), and (P3), but for the purposes of this chapter a simplified account will do: (1:) assume that there are two red flowers; (2:) since both of them are red, there must be something that they have in common, namely, redness; (3:) since the redness that they have in common is different from the redness each of them has on its own, say the redness they have in common lies in between their individual rednesses in the colour spectrum, this abstract redness is different from both flowers; (4:) since according to the P-model we can state that those flowers are red by virtue of comparing them with redness, redness must also be red or, at least, possess the features by virtue of which we call things “red”; (5:) but may we then not just as well ask what those two flowers and the abstract object “redness” have got in common, that is, by virtue of what the red flowers and redness are related? How does redness, when looked at with “the mind’s eye” (132a), differ from the two red flowers? To sum up, according to the P-model abstract objects on the one hand function as standards that inform our judgements on whether something is such-and-such, but on the other hand they are understood to be similar to the things the being such-and-such of which they regulate, so one can rightly ask why the abstract ob-

ject F -ness should be any better than any other F thing in performing that function. What the TMA demonstrates is that the P-model in itself cannot answer this question.

To illustrate let us go through the TMA using RC4 rather than red as our example. First, have a look at the following code, written in the programming language *Perl*, which also implements RC4's KSA (called "new" in this example) and PRGA ("prga"):

```

package RC4;

sub new {
    my ($class, $self, $j) = (shift, {S => [0 .. 255]});

    for(my $i=0; $i<256; $i++) {
        $j = ($j + $self->{S}->[$i] + $_[1 % 256]) % 256;
        ($self->{S}->[$i], $self->{S}->[$j]) =
            ($self->{S}->[$j], $self->{S}->[$i]);
    }

    bless($self, ref($class) || $class); return $self;
}

sub prga {
    my $self = shift;

    $self->{i} = ($self->{i} + 1) % 256;
    $self->{j} = ($self->{j} + $self->{S}->[$self->{i}]) % 256;

    ($self->{S}->[$self->{i}], $self->{S}->[$self->{j}]) =
        ($self->{S}->[$self->{j}], $self->{S}->[$self->{i}]);

    return $self->{S}->[( $self->{S}->[$self->{i}] +
        $self->{S}->[$self->{j}]) % 256];
}

```

Listing 2: RC4 in *Perl*

Although the earlier piece of code (listing 1) and this one (listing 2) are different, any person skilled in the art, in this case a programmer who knows *Python* as well as *Perl*, will be able to tell that both of them implement the same algorithm. Put another way, they share the same form. So how can this form be brought out? Usually programmers use pseudocode, that is, a description of the algorithm in natural language that mimics the structure of programming languages, in order to illustrate the logical structure of an algorithm. Using such pseudocode, RC4's KSA and PRGA can be presented as follows:

```

class RC4
  S := { 0, ..., 255 }
  i := 0
  j := 0

  method ksa(key)
    j := 0

    for i := 0 to i = 255 do
      j := (j + self.S[i] + key[i mod length(key)]) mod 256
      swap i with j in self.S

  method prga
    self.i := (self.i + 1) mod 256
    self.j := (self.j + self.S[self.i]) mod 256

    swap self.i with self.j in self.S

    return self.S[(self.S[self.i] + self.S[self.j]) mod 256]

```

Listing 3: RC4 in pseudocode

We may be tempted to say that any code that implements the form described above is an instance of RC4, but then we would have to explain the difference between the earlier examples (listing 1 and 2) and the pseudocode above (listing 3) that renders the latter but not the former able to function as a standard. But this turns out to be difficult. For if somebody asks “what is the common logical structure of the pieces of code depicted in listings 1, 2, and 3?”, then this question would seem no less justified than the same question asked only for listings 1 and 2. That is, listing 3 fails to answer this question in a satisfactory manner, but this is what we would expect from a standard. Moreover, if we tried to answer what it is that listings 1, 2, and 3 have in common all we would end up with is yet another description of RC4, for which yet another question of the same kind could then be posed. We could continue like this indefinitely, without ever arriving at a description that could be used as a standard for what counts as an instance of RC4.

How does this relate to software patent litigation? To answer this question we need to review two interpretations of the TMA. Wieland²⁴⁶ and Graeser²⁴⁷ both hold that the regress just outlined obtains because the P-model reifies forms, which means in this case that they are treated as objects, that is, bearers of properties that exist on their own. Wieland argues that such a treatment implies that forms (1:) tend to be removed from the contexts of their application, and that (2:) knowledge of them is thought of as propositional, that is, as being structured similarly to beliefs, which often can be expressed as a relation between an object and a predicate (more on this in sec. 5).

This allows to account for the fact that algorithms tend to appear as (1) fuzzy, (2) context-sensitive, and (3) at times trivial to patent examiners and judges as a consequence of their reliance on the P-model. (1:) What the TMA shows first and foremost is that descriptions of

²⁴⁶ See *Platon und die Formen des Wissens*, § 7.

²⁴⁷ See “Plato’s Parmenides,” sec. 4.

forms, such as that of RC4, need to be contextualised in order to be able to guide our judgements, that is, they do so to a larger extent than ordinary descriptions used in everyday life. Put simply, they seem to be fuzzy. For the same reason, (2:) attempts to describe a form as paradigmatic instance not only fail to include the form's context of application, so that the resulting abstract objects will be applicable to a wide range of contexts, but also (3:) tend to be unable to capture the inventive step needed to come up with a particular algorithm. Take, for instance, the description of RC4 given by listing 3. To be sure, there is nothing outstanding about any single instruction in that listing, similar instructions can be found in many other algorithms, yet this does not imply that RC4 is trivial. On the contrary, the actual innovation of RC4 is that such a simple algorithm can encrypt data in a secure manner, but this is nothing that can be seen from listing 3.²⁴⁸ Metaphorically speaking, if we are looking for an innovation in such descriptions, then our "mind's eye" is looking in the wrong direction.²⁴⁹

Having said that, some may wonder why patent examiners and judges would rely on such a dysfunctional model of abstract objects in the first place. Plato does not address this explicitly, but some of his arguments provide helpful clues, to which we will turn now.

3.4 Why Patent Examiners and Judges May be Platonists

In spite of having shown that reifying forms is fallacious, Plato insists that the assumptions that lead to that reification perform important functions, so that they are difficult to avoid. To be precise, Plato advances two arguments in the *Parmenides* that may explain why patent examiners and judges tend to rely on the P-model: (1:) We could not engage in any serious discussion, if we did not have some kind of idea of the subject matter at hand, that is, if we did not have a standard that allows us to assess each other's arguments as true or false, but in order to be useful such a standard must not be subject to our whim and be shared by all participants of the discussion—both of which suggest that the abstract objects that play this role enjoy a certain degree of independence from us, at least if we grant that they play their role well (cf. 135a–c). (2:) Without forms, that is, if we did not assume them to, somehow, exist, statements about fictive matters such as "Pegasus has wings" would be meaningless, for there is no such thing as a real horse with wings that "Pegasus" could pick out, yet such statements are clearly meaningful. If they were not, we would not even be able to deny

²⁴⁸ To learn this one would rather have to conduct empirical trials and perform a statistical review of their results, and those results would depend a good deal on the current state of the art in computing and cryptanalysis. See Mantin, "Analysis of the Stream Cipher RC4"; Mantin and Shamir, "A Practical Attack on Broadcast RC4."

²⁴⁹ That is not to say that there are no trivial software patents; thereon, cf. Bergstra and Klint, "About 'Trivial' Software Patents," sec. 7. Yet, that the impression that a significant number of them is trivial might, at least in part, be caused by patent examiners, judges, and others drawing on the P-model of abstract objects.

that Pegasus exists, for in order to assert that nothing in the (material) world is Pegasus, we need to know to what “Pegasus” refers (cf. 160b–164b). Plato finds these two arguments to establish beyond doubt that we need to assume that there *are* forms, regardless of the difficulties that seem to follow from this assumption.

Wieland construes this result to imply that the way in which we use forms differs depending on whether we draw on them to assess an argument or whether we make them the subject of an argument; doing the latter may compel us to think about that form as some kind of object, causing the regress described by the TMA.²⁵⁰ This is illustrated by the following two sentences:

(S1:) These roses are red.

(S2:) Redness is a colour.

Whereas “red” in (S1) functions as predicate, so that we will tend to think of red as a property that some concrete objects happen to possess, “redness” in (S2) functions as subject, to the effect that we seem to treat redness as if it were a proper object. What is more, expressing the content of (S2) without reifying the property “... is red” to an abstract object “redness” is tricky and the result would sound fairly contrived, at least in Indo-European languages. To put this differently, which assumptions about forms (or abstract objects) are functional depends on the role a form plays in our judgements, that is, on whether that form informs a judgement about something else or is itself the subject about which a judgement is made.

We can now see why patent examiners and judges should find the P-model appealing. The forms embodied by patents are the subject and not the standard of their judgements, at least insofar as these judgements concern patents. For instance, how could one apply the doctrine of equivalents without assuming, at least implicitly, that there is some kind of abstract object that patent claims or inventions embody and that functions as a yardstick to which the software accused of infringing on a patent can be compared? What is more, for such a comparison to make sense there must be some kind of correspondence between the standard that is used to assess an object and the object that is assessed, and intellectual property legislation suggests that this correspondence can be thought of as that between a pattern and its exemplifications. Put bluntly, for patent examiners and judges being a Platonist is part of the job description.

Plato, however, makes clear (at 134e–137c) that the TMA and related difficulties of the P-model can be avoided, so maybe patent examiners and judges can remain Platonists without being troubled by the TMA. To assess this we will now review how Plato addresses the difficulties of the P-model.

²⁵⁰ See *Platon und die Formen des Wissens*, 118–124.

3.5 Rectifying Plato’s Model of Abstract Objects

In the light of the TMA and other similar difficulties, Plato (1:) explores an amendment to his theory of forms and (2:) clarifies the functions that forms can perform in different contexts, both of which are interesting avenues for a possible reform of software patents.

(1) Meinwald construes the second part of the *Parmenides* (135a–166c) to introduce a distinction between two modes of predication: predications *pros ta alla* (“in relation to others”) are the common or garden variety of predication (e.g., “this flower is red” or “RC4 was invented by Ronald Rivest”), for Plato they express a relation between an object (e.g., the flower or Ronald Rivest) and a form (e.g., the colour “red” or the form of having invented something and RC4); by contrast, predications *pros heauto* (“in relation to itself”) express relations between natures of forms (e.g., “redness is a colour,” “RC4 is a cipher”), similar to a genus-species tree (see fig. 5).²⁵¹ Meinwald argues that the TMA obtains because the theory of forms put forward by the middle-period Plato fails to distinguish between these two modes of predication. In other words, descriptions of abstract objects along the lines of the P-model are fuzzy because they abstract from concrete objects, instead of focusing on the relation between an abstract object and other abstract objects that occupy a higher position in its genus-species tree.²⁵²

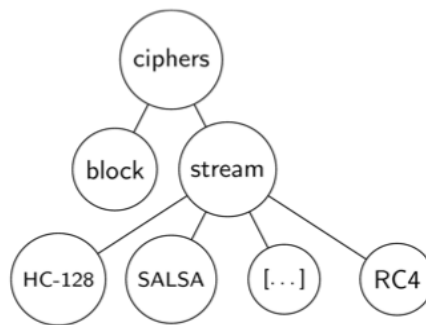


Figure 5: Genus-species tree for RC4

(2) Wieland claims that Plato emphasises throughout all of his writings that knowledge (which for Plato is always the knowledge of forms) has two sides. On the one hand, knowing something about x implies having a belief about x , that is, knowledge is structured similar to propositions (know-that). On the other hand, knowing x implies being capable of mak-

²⁵¹ See her *Plato’s Parmenides*; “Good-bye to the Third Man.”

²⁵² Pelletier and Zalta have developed a formal proof that shows that the TMA can be avoided if (1:) (P1), (P2), and (P3) are reformulated in accordance with the *pros ta alla/pros heauto* distinction and (2:) that distinction is read as one between modes of being, rather than one between modes of predication. Cf. “How to Say Goodbye to the Third Man.”

ing judgements about *x*, that is, knowledge also requires a kind of competence (know-how). Therefore, knowledge cannot be reduced to being aware of the truth of certain propositions, but also requires that one is competent in how these propositions pertain to different contexts. Wieland, therefore, argues that the TMA ensues from employing the principles of the theory of forms in the wrong way. There is no meaningful answer to the question of what it is that two red flowers and the form of redness must have in common in order for the two flowers to count as exemplifying redness, because this confuses the normative and the descriptive function of forms.²⁵³

Neither of these two proposals, however, can be readily applied to software patent litigation. (1) Of course, appreciating the *pros ta alla/pros heauto* distinction allows for more accurate descriptions of abstract objects, but doing so requires some knowledge about the nature of the abstract object described, and that knowledge may simply be unavailable. For example, the relation between a key and the stream of pseudo-random numbers that RC4 generates from that key is part of the nature of RC4; that is, the way in which RC4 operates necessitates this relation, yet the fact that this stream of pseudo-random numbers can easily be distinguished from truly random numbers had not been realised until eight years after RC4 had been leaked to the general public.²⁵⁴ Put simply, algorithms are a complex subject matter, so that understanding their nature will require a fair amount of research, but such research takes time and can begin only after the algorithm has been published—and the patent claim already filed.

(2) Making the “right” use of forms is easier said than done, especially if you are a patent examiner or judge and justifying why some piece of software should or should not count as infringing on a patent claim by virtue of a description of that software counts as “wrong.” Plato would, according to Wieland, find that such a giving of grounds must come to an end, and that people who truly *know* the form under consideration *must* at that point accept good grounds simply by virtue of being competent enough to make good judgements regarding that form. To put this differently, Plato, at least according to Wieland, would argue that patent examiners as well as judges (and for that matter patent lawyers) should refrain from discussing algorithms unless they are competent enough to make good judgements about their nature. This, of course, is quite a high demand to make; after all, most judges and lawyers are not computer scientists or mathematicians. Put bluntly, this is *not* part of their job description.

²⁵³ See his *Platon und die Formen des Wissens*, esp. 118–124.

²⁵⁴ See Mantin and Shamir, “A Practical Attack on Broadcast RC4.”

3.6 Conclusion

To summarise, it has been shown above that algorithms appear as fuzzy, context-sensitive, and trivial if they are described in accordance with the P-model of abstract objects (sec. 3) and that there are good reasons to suppose that patent examiners and judges rely on that very model (sec. 4). Plato's proposals for avoiding the P-model, by contrast, were found to be difficult to apply to patent litigation (sec. 5). To be sure, refining the principles of patent law, for instance, the doctrine of equivalents, in accordance with the *pros ta alla/pros heauto* distinction or setting up specialist courts for software patents may improve upon the status quo, but the way in which the patent system works limits the prospects of those measures. Ultimately, Samuel Beckett's famous advice may be all that is in store for any attempt to reform the software patent regime: "Ever tried. Ever failed. No matter. Try again. Fail again. Fail better."²⁵⁵

²⁵⁵ *Worstward Ho*, 7. With apologies to Beckett.

4 SUMMARY AND OUTLOOK

Plato's *Parmenides* can be read as an analysis of reification, which identifies three assumptions that may mislead us to reify abstract objects: (1:) abstract objects, in some sense, exist; (2:) things possess properties, in a broad sense, by virtue of reflecting abstract objects; (3:) nothing is a perfect reflection (cf. chap. 2). (1), (2), and (3), however, appear to be the assumptions that patent examiners and judges tend to make, which may help to explain why software patents are commonly perceived to be fuzzy, context-sensitive, and trivial (cf. chap. 3). This suggests two directions for further research: (1:) empirical research into which models of abstract objects patent examiners and judges actually rely on; (2:) theoretical and empirical research into how far the findings of this study can be applied to other types of patents and other types of intellectual property, above all copyrights.

(1) That patent examiners and judges rely on a Platonic model of abstract objects appears plausible for two reasons: (a:) notions of intellectual property strongly suggest such a model; (b:) this appears to be to *communis opinio* of patent scholars (see chap. 1 and sec. 3.1 for pointers). (a) and (b), of course, are only weak evidence. Yet to the best of my knowledge there is no empirical research into the models of abstract objects patent examiners and judges employ. Perhaps the most important finding of this study is that the aforementioned deficiencies of software patents can be explained as consequences of assuming a particular model of abstract objects. This suggests that we need, first, a systematic review of court rulings on software patents with respect to the model of abstract objects that appears to be employed by the court and, second, interviews as well as surveys with agents of the patent system concerning their attitudes towards abstract objects. Both of these research projects are interdisciplinary in nature, for while a proper review of court cases or surveys requires legal and proper psychological expertise, the classification of different models of abstract objects and their operationalisation, be it for a review of court cases or surveys, would seem to profit from philosophical expertise.

(2) James Bessen and Michael Meurer note that “chemical patents, especially on pharmaceuticals, are much more valuable and much less likely to be litigated.”²⁵⁶ This indicates that such patents are described using a different model of abstract objects, which constitutes another possible avenue for research. Also, copyrights appear to suffer from a difficulty similar to the fuzziness of patents, namely, that the distinction between ideas and their expressions is difficult to draw,²⁵⁷ which can probably also be explained as a consequence of relying on a Platonic model of abstract objects. Of course, in both cases this theoretical research

²⁵⁶ *Patent Failure*, 14.

²⁵⁷ Cf. Powers, “Metaphysics in the Realm of Software Copyright Law.”

should go along with empirical research into other types of patents and copyrights, as suggested for (1).

There remains much to be done, but a first step towards a better understanding of the deficiencies of intellectual property regimes has been made.

APPENDIX: PROOFS

(D1), (D2), (A3) and (IS), in effect work on the assumption that what is called “contexts” above can be represented in terms of possible worlds. The rationale behind this move is best explained by example, Simmias is taller than Socrates and smaller than Phaedo, so in Platonic terms Simmias is tall in one context, w_1 , the one in which he is compared to Socrates, and small in another context, w_2 , the one in which he is compared to Phaedo, so Simmias is tall in w_1 and small in w_2 . Therefore, we may say that w_1 corresponds to the possible world that contains only Simmias and Socrates and w_2 corresponds to the possible world that contains only Simmias and Phaedo. This is of course an approximation, but it will do. Where model operators are used, proofs hold in K .

1 (D1), (D3) $\vdash$ (SP)

1	(1) $form(a, F)$	A
1	(2) $\forall G(Ga \leftrightarrow entails(F, G))$	1 by (D3)
1	(3) $\forall G(Ga \leftrightarrow \Box \forall x(Fx \rightarrow Gx))$	2 by (D1)
1	(4) $Fa \leftrightarrow \Box \forall x(Fx \rightarrow Fx)$	3 UE
1	(5) $(Fa \rightarrow \Box \forall x(Fx \rightarrow Fx)) \wedge (\Box \forall x(Fx \rightarrow Fx) \rightarrow Fa)$	4
1	(6) $\Box \forall x(Fx \rightarrow Fx) \rightarrow Fa$	5 $\wedge E$
7	(7) $Fb \text{ A}$	
	(8) $Fb \rightarrow Fb$	7 CP
	(9) $\forall x(Fx \rightarrow Fx)$	8 UI
	(10) $\Box \forall x(Fx \rightarrow Fx)$	9 RN
1	(11) Fa	6, 10 MPP
	(12) $form(a, F) \rightarrow Fa$	1, 11 CP
	(13) $\forall x(form(x, F) \rightarrow Fx)$	12 UI
	(14) $\forall F \forall x(form(x, F) \rightarrow Fx)$	13 UI

■

(SP) will be used to shorten the following proofs where possible. Because (SP) holds by definition it will only be cited in the right-hand column, and not in the left-hand one.

2 (A1), (A2) $\vdash$ (T1)

(A1)	(1) $\exists x(form(x, F))$	(A1) UE
2	(2) $form(a, F)$	A
3	(3) $form(b, F)$	A
2	(4) $\forall G(Ga \leftrightarrow entails(F, G))$	2 by (D3)
2	(5) $\forall G(Ga \leftrightarrow \Box \forall x(Fx \rightarrow Gx))$	2 by (D1)
3	(6) $\forall G(Gb \leftrightarrow entails(F, G))$	3 by (D3)
3	(7) $\forall G(Gb \leftrightarrow \Box \forall x(Fx \rightarrow Gx))$	6 by (D1)

8	(8) Ga	A
2	(9) $Ga \leftrightarrow \Box \forall x(Fx \rightarrow Gx)$	4 UE
2	(10) $(Ga \rightarrow \Box \forall x(Fx \rightarrow Gx)) \wedge (\Box \forall x(Fx \rightarrow Gx) \rightarrow Ga)$	9
2	(11) $Ga \rightarrow \Box \forall x(Fx \rightarrow Gx)$	10 $\wedge E$
4, 8	(12) $\Box \forall x(Fx \rightarrow Gx)$	8, 11 MPP
3	(13) $Gb \leftrightarrow \Box \forall x(Fx \rightarrow Gx)$	7 UE
3	(14) $(Gb \rightarrow \Box \forall x(Fx \rightarrow Gx)) \wedge (\Box \forall x(Fx \rightarrow Gx) \rightarrow Gb)$	13
3	(15) $\Box \forall x(Fx \rightarrow Gx) \rightarrow Gb$	14 $\wedge E$
2, 3, 8	(16) Gb	12, 15 MPP
2, 3	(17) $Ga \rightarrow Gb$	8, 16 CP
18	(18) Gb	A
3, 18	(19) $\Box \forall x(Fx \rightarrow Gx)$	13, 18 MPP
2	(20) $\Box \forall x(Fx \rightarrow Gx) \rightarrow Ga$	10 $\wedge E$
2, 3, 18	(21) Ga	19, 20 MPP
2, 3	(22) $Gb \rightarrow Ga$	18, 21 CP
2, 3	(23) $(Ga \rightarrow Gb) \wedge (Gb \rightarrow Ga)$	17, 22 $\wedge I$
2, 3	(24) $Ga \leftrightarrow Gb$	23
2, 3	(25) $\forall F(Fa \leftrightarrow Fb)$	24 UI
(A2)	(26) $\forall F(Fa \leftrightarrow Fb) \leftrightarrow a = b$	(A2) UE
(A2)	(27) $(\forall F(Fa \leftrightarrow Fb) \rightarrow a = b) \wedge (a = b \rightarrow \forall F(Fa \leftrightarrow Fb))$	26
(A2)	(28) $\forall F(Fa \leftrightarrow Fb) \rightarrow a = b$	27 $\wedge E$
(A2), 2, 3	(29) $a = b$	25, 28 MPP
(A2), 2	(30) $form(b, F) \rightarrow a = b$	3, 29 CP
(A2), 2	(31) $\forall x(form(x, F) \rightarrow a = x)$	30 UI
(A2), 2	(32) $form(a, F) \wedge \forall x(form(x, F) \rightarrow a = x)$	31, 2 $\wedge I$
(A2), 2	(33) $\exists x(form(x, F) \wedge \forall x(form(y, F) \rightarrow x = y))$	32 EI
(A2), 2	(34) $\exists!x(form(x, F))$	33
(A1), (A2)	(35) $\exists!x(form(x, F))$	1, 2, 34 EE
(A2), (A2)	(36) $\forall F(\exists!x(form(x, F)))$	35 UI

■

3 (A3) $\vdash$ (T2)

1	(1) $isform(a)$	A
1	(2) $\exists F(form(a, F))$	1 by (D4)
3	(3) $form(a, F)$	A
	(4) $\forall x(form(x, F) \rightarrow Fx)$	(SP) UE
	(5) $form(a, F) \rightarrow Fa$	4 UE
	(6) $\Box(form(a, F) \rightarrow Fa)$	5 RN
	(7) $\Box form(a, F) \rightarrow \Box Fa$	6 K
(A3)	(8) $form(a, F) \rightarrow \Box form(a, F)$	(A3) UE
(A3), 3	(9) $\Box form(a, F)$	3, 8 MPP

(A3), 3	(10) $\Box Fa$	7, 9 MPP
3	(11) $\forall G(Ga \leftrightarrow \text{entails}(F, G))$	3 by (D3)
3	(12) $Ga \leftrightarrow \Box \forall x(Fx \rightarrow Gx)$	11 UE
3	(13) $(Ga \rightarrow \Box \forall x(Fx \rightarrow Gx)) \wedge (\Box \forall x(Fx \rightarrow Gx) \rightarrow Ga)$	12
3	(14) $Ga \rightarrow \Box \forall x(Fx \rightarrow Gx)$	13 $\wedge E$
15	(15) Ga	A
3, 15	(16) $\Box \forall x(Fx \rightarrow Gx)$	15, 14 MPP
3, 15	(17) $\Box(Fa \rightarrow Ga)$	16 UE
3, 15	(18) $\Box Fa \rightarrow \Box Ga$	17 K
(A3), 3, 15	(19) $\Box Ga$	10, 18 MPP
(A3), 3	(20) $Ga \rightarrow \Box Ga$	15, 19 CP
(A3), 3	(21) $\forall F(Fa \rightarrow \Box Fa)$	20 UI
(A3), 1	(22) $\forall F(Fa \rightarrow \Box Fa)$	2, 3, 21 EE
(A3)	(23) $\text{isform}(a) \rightarrow \forall F(Fa \rightarrow \Box Fa)$	1, 22 CP
(A3)	(24) $\forall x(\text{isform}(x) \rightarrow \forall F(Fx \rightarrow \Box Fx))$	23 UI

■

4 (T2) $\vdash$ (P)

1	(1) $a = \Phi_F$	A
2	(2) $\text{contrary}(F, G)$	A
1	(3) $\text{form}(a, F)$	1 by (D5)
	(4) $\text{form}(a, F) \rightarrow Fa$	(SP) UE
1	(5) Fa	3, 4 MPP
1	(6) $\exists F(\text{form}(a, F))$	3 EI
1	(7) $\text{isform}(a)$	6 by (D4)
(T2)	(8) $\text{isform}(a) \rightarrow \forall F(Fa \rightarrow \Box Fa)$	(T2) UE
(T2), 1	(9) $\forall F(Fa \rightarrow \Box Fa)$	7, 8 MPP
(T2), 1	(10) $Fa \rightarrow \Box Fa$	9 UE
(T2), 1	(11) $\Box Fa$	5, 10 MPP
2	(12) $\Box \forall x(Fx \rightarrow \neg Gx)$	2 by (D2)
2	(13) $\Box(Fa \rightarrow \neg Ga)$	12 UE
2	(14) $\Box Fa \rightarrow \Box \neg Ga$	13 K
(T2), 1, 2	(15) $\Box \neg Ga$	11, 14 MPP
1, 2	(16) $a = \Phi_F \wedge \text{contrary}(F, G)$	1, 2 $\wedge I$
(T2)	(17) $(a = \Phi_F \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Ga$	15, 16 CP
(T2)	(18) $\forall x((x = \Phi_F \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Gx)$	17 UI
(T2)	(19) $\forall F \forall G \forall x((x = \Phi_F \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Gx)$	18 UI

■

5 (A2), (P) $\vdash$ (O)

1	(1) $a = \Phi_F$	A
2	(2) $b = \Phi_G$	A

3	(3) $\text{contrary}(F, G)$	A
4	(4) $a = b$	A
(A2)	(5) $\forall F(Fa \leftrightarrow Fb) \leftrightarrow a = b$	(A2) UE
(A2)	(6) $(\forall F(Fa \leftrightarrow Fb) \rightarrow a = b) \wedge (a = b \rightarrow \forall F(Fa \leftrightarrow Fb))$	5
(A2)	(7) $a = b \rightarrow \forall F(Fa \leftrightarrow Fb)$	6 $\wedge$ E
(A2), 4	(8) $\forall F(Fa \leftrightarrow Fb)$	7, 4 MPP
(A2), 4	(9) $Ga \leftrightarrow Gb$	8 UE
(A2), 4	(10) $(Ga \rightarrow Gb) \wedge (Gb \rightarrow Ga)$	9
(A2), 4	(11) $Gb \rightarrow Ga$	10 $\wedge$ E
	(12) $\forall x(\text{form}(x, F) \rightarrow Fx)$	(SP) UE
	(13) $\text{form}(b, G) \rightarrow Gb$	12 UE
2	(14) $\text{form}(b, G)$	2 by (D5)
2	(15) Gb	14, 13 MPP
(A2), 2, 4	(16) Ga	11, 15 MPP
(P)	(17) $\forall x((x = \Phi_F \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Gx)$	(P) UE
(P)	(18) $(a = \Phi_F \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Ga$	17 UE
1, 3	(19) $a = \Phi_F \wedge \text{contrary}(F, G)$	1, 3 $\wedge$ I
(P), 1, 3	(20) $\Box \neg Ga$	18, 19 MPP
(P), 1, 3	(21) $\neg Ga$	20
(A2), (P), 1–4	(22) $Ga \wedge \neg Ga$	16, 21 $\wedge$ I
(A2), (P), 1–3	(23) $a \neq b$	4, 22 RAA
1, 2, 3	(24) $a = \Phi_F \wedge b = \Phi_G \wedge \text{contrary}(F, G)$	1, 2, 3 $\wedge$ I
(A2), (P)	(25) $(a = \Phi_F \wedge b = \Phi_G \wedge \text{contrary}(F, G)) \rightarrow a \neq b$	23, 24 CP
(A2), (P)	(26) $\forall x \forall y((x = \Phi_F \wedge y = \Phi_G \wedge \text{contrary}(F, G)) \rightarrow x \neq y)$	25 UI
(A2), (P)	(27) $\forall F \forall G \forall x \forall y((x = \Phi_F \wedge y = \Phi_G \wedge \text{contrary}(F, G)) \rightarrow x \neq y)$	26 UI

■

6 (T2) $\vdash$ (RP)

1	(1) $\text{isform}(a)$	A
2	(2) Fa	A
3	(3) $\text{contrary}(F, G)$	A
(T2)	(4) $\text{isform}(a) \rightarrow \forall F(Fa \rightarrow \Box Fa)$	(T2) UE
(T2), 1	(5) $\forall F(Fa \rightarrow \Box Fa)$	1, 4 MPP
(T2), 1	(6) $Fa \rightarrow \Box Fa$	5 UE
(T2), 1, 2	(7) $\Box Fa$	2, 6 MPP
3	(8) $\Box \forall x(Fx \rightarrow \neg Gx)$	3 by (D2)
3	(9) $\Box (Fa \rightarrow \neg Ga)$	8 UE
3	(10) $\Box Fa \rightarrow \Box \neg Ga$	9 K
(T2), 1, 2, 3	(11) $\Box \neg Ga$	7, 10 MPP
1, 2, 3	(12) $\text{isform}(a) \wedge Fa \wedge \text{contrary}(F, G)$	1, 2, 3 $\wedge$ I
(T2)	(13) $(\text{isform}(a) \wedge Fa \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Ga$	11, 12 CP
(T2)	(14) $\forall x((\text{isform}(x) \wedge Fx \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Gx)$	13 UI

(T2) (15) $\forall F \forall G \forall x((isform(x) \wedge Fx \wedge contrary(F, G)) \rightarrow \Box \neg Gx)$ 14 UI

7 (IS), (NC) $\vdash$ (T3)

1	(1) Sa	A
2	(2) Fa	A
3	(3) $\exists G(contrary(F, G))$	A
4	(4) $T-causes(a, b, F)$	A
5	(5) $contrary(F, G)$	A
(IS)	(6) $\forall x((Sx \wedge Fx \wedge contrary(F, G)) \rightarrow \Diamond Gx)$	(IS) UE
(IS)	(7) $(Sa \wedge Fa \wedge contrary(F, G)) \rightarrow \Diamond Ga$	6 UE
1, 2, 5	(8) $Sa \wedge Fa \wedge contrary(F, G)$	1, 2, 5 $\wedge$ I
(IS), 1, 2, 5	(9) $\Diamond Ga$	7, 8 MPP
(NC)	(10) $\forall x \forall y((contrary(F, G) \wedge T-causes(x, y, F)) \rightarrow \neg \Diamond Gx)$	(NC) UE
(NC)	(11) $(contrary(F, G) \wedge T-causes(a, b, F)) \rightarrow \neg \Diamond Ga$	10 UE
4, 5	(12) $contrary(F, G) \wedge T-causes(a, b, F)$	4, 5 $\wedge$ I
(NC), 4, 5	(13) $\neg \Diamond Ga$	11, 12 MPP
(IS), (NC), 1, 2, 4, 5	(14) $\Diamond Ga \wedge \neg \Diamond Ga$	9, 13 $\wedge$ I
(IS), (NC), 1, 2, 5	(15) $\neg T-causes(a, b, F)$	4, 14 RAA
(IS), (NC), 1–3	(16) $\neg T-causes(a, b, F)$	3, 5, 15 EE
1–3	(17) $Sa \wedge Fa \wedge \exists G(contrary(F, G))$	1, 2, 3 $\wedge$ I
(IS), (NC)	(18) $(Sa \wedge Fa \wedge \exists G(contrary(F, G))) \rightarrow \neg T-causes(a, b, F)$	16, 17 CP
(IS), (NC)	(19) $\forall x \forall y((Sx \wedge Fx \wedge \exists G(contrary(F, G))) \rightarrow \neg T-causes(x, y, F))$	18 UI
(IS), (NC)	(20) $\forall F \forall x \forall y((Sx \wedge Fx \wedge \exists G(contrary(F, G))) \rightarrow \neg T-causes(x, y, F))$	19 UI

8 (P), (IS) $\vdash$ (S)

1	(1) Sa	A
2	(2) $a = \Phi_F$	A
3	(3) $\exists G(contrary(F, G))$	A
4	(4) $contrary(F, G)$	A
(IS)	(5) $\forall x((Sx \wedge Fx \wedge contrary(F, G)) \rightarrow \Diamond Gx)$	(IS) UE
(IS)	(6) $(Sa \wedge Fa \wedge contrary(F, G)) \rightarrow \Diamond Ga$	5 UE
	(7) $\forall x(form(x, F) \rightarrow Fx)$	(SP) UE
	(8) $form(a, F) \rightarrow Fa$	7 UE
2	(9) $form(a, F)$	2 by (D5)
2	(10) Fa	8, 9 MPP
1, 2, 4	(11) $Sa \wedge Fa \wedge contrary(F, G)$	1, 4, 10 $\wedge$ I
(IS), 1, 2, 4	(12) $\Diamond Ga$	6, 11 MPP
(P)	(13) $\forall x((x = \Phi_F \wedge contrary(F, G)) \rightarrow \Box \neg Gx)$	(P) UE
(P)	(14) $(a = \Phi_F \wedge contrary(F, G)) \rightarrow \Box \neg Ga$	13 UE

2, 4	(15)	$a = \Phi_F \wedge \text{contrary}(F, G)$	2, 4 $\wedge I$
(P), 2, 4	(16)	$\Box \neg Ga$	14, 15 MPP
(P), 2, 4	(17)	$\neg \Diamond Ga$	16
(P), (IS), 1, 2, 4	(18)	$\Diamond Ga \wedge \neg \Diamond Ga$	12, 17 $\wedge I$
(P), (IS), 1, 4	(19)	$a \neq \Phi_F$	2, 18 RAA
(P), (IS), 1, 3	(20)	$a \neq \Phi_F$	3, 4, 19 EE
1, 3	(21)	$Sa \wedge \exists G(\text{contrary}(F, G))$	1, 3 $\wedge I$
(P), (IS)	(22)	$(Sa \wedge \exists G(\text{contrary}(F, G))) \rightarrow x \neq \Phi_F$	20, 21 CP
(P), (IS)	(23)	$\forall x((Sx \wedge \exists G(\text{contrary}(F, G))) \rightarrow x \neq \Phi_F)$	22 UI
(P), (IS)	(24)	$\forall F \forall x((Sx \wedge \exists G(\text{contrary}(F, G))) \rightarrow x \neq \Phi_F)$	23 UI

■

9 (RP), (IS) $\vdash$ (T4)

1	(1)	Sa	A
2	(2)	Fa	A
3	(3)	$\text{isform}(a)$	A
4	(4)	$\exists G(\text{contrary}(F, G))$	A
(RP)	(5)	$\forall x((\text{isform}(x) \wedge Fx \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Gx)$	(RP) UE
(RP)	(6)	$(\text{isform}(a) \wedge Fa \wedge \text{contrary}(F, G)) \rightarrow \Box \neg Ga$	5 UE
7	(7)	$\text{contrary}(F, G)$	A
2, 3, 7	(8)	$\text{isform}(a) \wedge Fa \wedge \text{contrary}(F, G)$	2, 3, 7 $\wedge I$
(RP), 2, 3, 7	(9)	$\Box \neg Ga$	6, 8 MPP
(IS)	(10)	$\forall x((Sx \wedge Fx \wedge \text{contrary}(F, G)) \rightarrow \Diamond Gx)$	(IS) UE
(IS)	(11)	$(Sa \wedge Fa \wedge \text{contrary}(F, G)) \rightarrow \Diamond Gx$	10 UE
1, 2, 7	(12)	$Sa \wedge Fa \wedge \text{contrary}(F, G)$	1, 2, 7 $\wedge I$
(IS), 1, 2, 7	(13)	$\Diamond Gx$	11, 12 MPP
(RP), 2, 3, 7	(14)	$\neg \Diamond Ga$	9
(RP), (IS), 1–3, 7	(15)	$\Diamond Ga \wedge \neg \Diamond Ga$	13, 14 $\wedge I$
(RP), (IS), 1, 2, 7	(16)	$\neg \text{isform}(a)$	3, 15 RAA
(RP), (IS), 1, 2, 4	(17)	$\neg \text{isform}(a)$	4, 7, 16 EE
1, 2, 4	(18)	$Sa \wedge Fa \wedge \exists G(\text{contrary}(F, G))$	1, 2, 4 $\wedge I$
(RP), (IS)	(19)	$(Sa \wedge Fa \wedge \exists G(\text{contrary}(F, G))) \rightarrow \neg \text{isform}(a)$	17, 18 CP
(RP), (IS)	(20)	$\forall x((Sx \wedge Fx \wedge \exists G(\text{contrary}(F, G))) \rightarrow \neg \text{isform}(x))$	19 UI
(RP), (IS)	(21)	$\forall F \forall G \forall x((Sx \wedge Fx \wedge \exists G(\text{contrary}(F, G))) \rightarrow \neg \text{isform}(x))$	20 UI

■

10 (U), (S), (L1) $\vdash$ (T5)

1	(1)	$\text{contrary}(F, G) \wedge \forall x(Sx \rightarrow (Fx \vee Gx))$	A
1	(2)	$\text{contrary}(F, G)$	1 $\wedge E$
(U)	(3)	$\exists x(x = \Phi_F \wedge \forall y(y = \Phi_F \rightarrow x = y))$	(U) UE
4	(4)	$a = \Phi_F \wedge \forall x(x = \Phi_F \rightarrow x = a)$	A

4	(5)	$a = \Phi_F$	4 $\wedge E$
6	(6)	Sa	A
7	(8)	$\forall x((Sx \wedge \exists G(\text{contrary}(F, G))) \rightarrow x \neq \Phi_F)$	(S) UE
(S)	(9)	$(Sa \wedge \exists G(\text{contrary}(F, G))) \rightarrow a \neq \Phi_F$	8 UE
1	(10)	$\exists G(\text{contrary}(F, G))$	2 EI
1, 6	(11)	$Sa \wedge \exists G(\text{contrary}(F, G))$	6, 10 $\wedge I$
(S), 1, 6	(12)	$a \neq \Phi_F$	9, 11 MPP
(S), 1, 4, 6	(13)	$a = \Phi_F \wedge a \neq \Phi_F$	5, 12 $\wedge I$
(S), 1, 4	(14)	$\neg Sa$	6, 13 RAA
(S), 1, 4	(15)	$\neg S\Phi_F$	5, 14 $=E$
(U), (S), 1	(16)	$\neg S\Phi_F$	3, 4, 15 EE
(U), (S), 1	(17)	$\exists F(\neg S\Phi_F)$	16 EI
(U), (S), (L1)	(18)	$\exists F(\neg S\Phi_F)$	(L1), 1, 17 EE

■

11 (T4), (L1) $\vdash$ (RS)

1	(1)	Sa	A
2	(2)	$\text{contrary}(F, G) \wedge \forall x(Sx \rightarrow (Fx \vee Gx))$	A
2	(3)	$\text{contrary}(F, G)$	2 $\wedge E$
2	(4)	$\forall x(Sx \rightarrow (Fx \vee Gx))$	2 $\wedge E$
2	(5)	$Sa \rightarrow Fa \vee Ga$	4 UE
1, 2	(6)	$Fa \vee Ga$	1, 5 MPP
7	(7)	Fa	A
(T3)	(8)	$\forall x((Sx \wedge Fx \wedge \exists G(\text{contrary}(F, G))) \rightarrow \neg \text{isform}(x))$	(T3) UE
(T3)	(9)	$(Sa \wedge Fa \wedge \exists G(\text{contrary}(F, G))) \rightarrow \neg \text{isform}(a)$	8 UE
2	(10)	$\exists G(\text{contrary}(F, G))$	3 EI
1, 2, 7	(11)	$Sa \wedge Fa \wedge \exists G(\text{contrary}(F, G))$	1, 7, 10 $\wedge I$
(T3), 1, 2, 7	(12)	$\neg \text{isform}(a)$	9, 11 MPP
13	(13)	Ga	A
(T3)	(14)	$\forall x((Sx \wedge Fx \wedge \exists H(\text{contrary}(G, H))) \rightarrow \neg \text{isform}(x))$	(T3) UE
(T3)	(15)	$(Sa \wedge Fa \wedge \exists H(\text{contrary}(G, H))) \rightarrow \neg \text{isform}(a)$	14 UE
2	(16)	$\exists H(\text{contrary}(G, H))$	3 EI
1, 2, 13	(17)	$Sa \wedge Ga \wedge \exists H(\text{contrary}(G, H))$	1, 13, 16 $\wedge I$
(T3), 1, 2, 13	(18)	$\neg \text{isform}(a)$	15, 17 MPP
(T3), 1, 2	(19)	$\neg \text{isform}(a)$	6, 7, 12, 13, 18 $\vee E$
(T3), 2	(20)	$Sa \rightarrow \neg \text{isform}(a)$	1, 19 CP
(T3), (L1)	(21)	$Sa \rightarrow \neg \text{isform}(a)$	(L1), 2, 20 EE
(T3), (L1)	(22)	$\forall x(Sx \rightarrow \neg \text{isform}(x))$	21 UI

■

12 $[\text{NI}_V] \perp (\text{SP})$

1	(1) $a = \Phi_F$	A
1	(2) $\text{form}(a, F)$	1 by (D5)
(SP)	(3) $\forall x(\text{form}(x, F) \rightarrow Fx)$	(SP) UE
(SP)	(4) $\text{form}(a, F) \rightarrow Fa$	3 UE
(SP), 1	(5) Fa	2, 4 MPP
$[\text{NI}_V]$	(6) $\forall x(Fx \rightarrow x \neq \Phi_F)$	$[\text{NI}_V]$ UE
$[\text{NI}_V]$	(7) $Fa \rightarrow a \neq \Phi_F$	6 UE
(SP), $[\text{NI}_V]$ 1	(8) $a \neq \Phi_F$	5, 7 MPP
(SP), $[\text{NI}_V]$ 1	(9) $a = \Phi_F \wedge a \neq \Phi_F$	1, 8 $\wedge$ I

■

13 (I1) $\vdash$ (NI)

1	(1) $\text{partakes}(a, b)$	A
2	(2) $a = b$	A
1	(3) $\text{imitates}(a, b)$	1 by (D7)
1, 2	(4) $\text{imitates}(a, a)$	2, 3 $=$ E
(I1)	(5) $\neg \text{imitates}(a, a)$	(I1) UE
(I1), 1, 2	(6) $\text{imitates}(a, a) \wedge \neg \text{imitates}(a, a)$	4, 5 $\wedge$ I
(I1), 1	(7) $a \neq b$	2, 6 RAA
(I1)	(8) $\text{partakes}(a, b) \rightarrow a \neq b$	1, 7 CP
(I1)	(9) $\forall x \forall y(\text{partakes}(x, y) \rightarrow x \neq y)$	8 UI

■

14 (H1), (H2) $\vdash$ (i)

1	(1) $\text{imitates}(a, \Phi_F, F)$	A
1	(2) $F(L)(\Phi_F) \rightarrow F(H)(a)$	1 by (D8')
	(3) $\forall x(\text{form}(x, F) \rightarrow F(L)(x))$	(SP') UE
	(4) $\text{form}(\Phi_F, F) \rightarrow F(L)(\Phi_F)$	3 UE
	(5) $\text{form}(\Phi_F, F)$	by (D5)
	(6) $F(L)(\Phi_F)$	4, 5 MPP
(H2)	(7) $\forall x(F(L)(x) \rightarrow F(0)(x))$	(H2) UE
(H2)	(8) $F(L)(\Phi_F) \rightarrow F(0)(\Phi_F)$	7 UI
(H2)	(9) $F(0)(\Phi_F)$	6, 8 MPP
1	(10) $F(H)(a)$	2, 6 MPP
(H1)	(11) $\forall x(F(H)(x) \rightarrow F(0)(x))$	(H1) UE
(H1)	(12) $F(H)(a) \rightarrow F(0)(a)$	11 UE
(H1), 1	(13) $F(0)(a)$	10, 12 MPP
(H1), (H2), 1	(14) $F(0)(\Phi_F) \wedge F(0)(a)$	13, 9 $\wedge$ I
(H1), (H2), 1	(15) $\text{like}(\Phi_F, a, F)$	14 by (D9')
(H1), (H2)	(16) $\text{imitates}(a, \Phi_F, F) \rightarrow \text{like}(\Phi_F, a, F)$	1, 15 CP

(H1), (H2)	(17)	$\forall x(\text{imitates}(x, \Phi_F, F) \rightarrow \text{like}(\Phi_F, x, F))$	16 UI
(H1), (H2)	(18)	$\forall F \forall x(\text{imitates}(x, \Phi_F, F) \rightarrow \text{like}(\Phi_F, x, F))$	17 UI

15 (OM''), (vii) $\vdash$ (ii)

1	(1)	$\text{like}(a, b, F)$	A
1	(2)	$F(0)(a) \wedge F(0)(b)$	1 by (D9)
3	(3)	$a = b$	A
1, 3	(4)	$\text{like}(a, a, F)$	1, 3 =E
(vii)	(5)	$\forall x(\neg \text{like}(x, x, F))$	(vii) UE
(vii)	(6)	$\neg \text{like}(a, a, F)$	5 UE
(vii), 1, 3	(7)	$\text{like}(a, a, F) \wedge \neg \text{like}(a, a, F)$	4, 6 $\wedge$ I
(vii), 1	(8)	$a \neq b$	3, 7 RAA
(vii), 1	(9)	$F(0)(a) \wedge F(0)(b) \wedge a \neq b$	2, 8 $\wedge$ I
(OM'')	(10)	$\forall x_1 \dots \forall x_n ((F(0)(x_1) \wedge \dots \wedge F(0)(x_n) \wedge x_1 \neq x_2 \wedge \dots \wedge x_{n-1} \neq x_n) \rightarrow \exists y (y = \Phi_F \wedge \text{partakes}(x_1, y) \wedge \dots \wedge \text{partakes}(x_n, y)))$	(OM'') UE
(OM'')	(11)	$(F(0)(a) \wedge F(0)(b) \wedge a \neq b) \rightarrow \exists x (x = \Phi_F \wedge \text{partakes}(a, x) \wedge \text{partakes}(b, x))$	10 UE
(OM''), (vii), 1	(12)	$\exists x (x = \Phi_F \wedge \text{partakes}(a, x) \wedge \text{partakes}(b, x))$	9, 10 MPP
(OM''), (vii)	(13)	$\text{like}(a, b, F) \rightarrow \exists x (x = \Phi_F \wedge \text{partakes}(a, x) \wedge \text{partakes}(b, x))$	1, 12 CP
(OM''), (vii)	(14)	$\forall x_1 \dots \forall x_n (\text{like}(x_1, \dots, x_n, F) \rightarrow \exists y (y = \Phi_F \wedge \text{partakes}(x_1, y) \wedge \dots \wedge \text{partakes}(x_n, y)))$	13 UE
(OM''), (vii)	(15)	$\forall F \forall x_1 \dots \forall x_n (\text{like}(x_1, \dots, x_n, F) \rightarrow \exists y (y = \Phi_F \wedge \text{partakes}(x_1, y) \wedge \dots \wedge \text{partakes}(x_n, y)))$	14 UE

Works Cited

- Abraham, Sherly E. "Software Patents in the United States: A Balanced Approach." *Computer Law & Security Review* 25, no. 6 (November 2009): 554–562.
- Allen, Reginald E. "Participation and Predication in Plato's Middle Dialogues." *The Philosophical Review* 69, no. 2 (April 1, 1960): 147–164.
- . *Plato's Parmenides*. Rev. ed. The Dialogues of Plato 4. New Haven, CT: Yale University Press, 1997.
- Aristotle. *Metaphysics*. Translated by Hugh Tredennick. Aristotle in Twenty-Three Volumes 17 and 18. Cambridge, MA: Harvard University Press, 1989.
- Beckett, Samuel. *Worstward Ho*. London: J. Calder, 1983.
- Bergstra, Jan A., and Paul Klint. "About 'trivial' Software Patents: The IsNot Case." *Science of Computer Programming* 64, no. 3 (February 1, 2007): 264–285.
- Bessen, James, and Robert M. Hunt. "An Empirical Look at Software Patents." *Journal of Economics & Management Strategy* 16, no. 1 (2007): 157–189.
- Bessen, James, and Michael J. Meurer. *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk*. Princeton, NJ: Princeton University Press, 2008.
- . "What's Wrong with the Patent System? Fuzzy Boundaries and the Patent Tax." *First Monday* 12, no. 6 (2007).
<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1867>.
- Bestor, Thomas W. "Plato's Semantics and Plato's 'Parmenides'." *Phronesis* 25 (1980): 38–75.
- Biron, Laura. "Two Challenges to the Idea of Intellectual Property." *Monist* 93, no. 1 (July 2010): 382–394.
- Bluck, R. S. "Forms as Standards." *Phronesis* 2, no. 2 (January 1, 1957): 115–127.
- Brandwood, Leonard. "Stylometry and Chronology." In *The Cambridge Companion to Plato*, edited by Richard Kraut, 90–120. Cambridge: Cambridge University Press, 1992.
- Burnet, John. *Early Greek Philosophy*. 5th ed. Cambridge: Makiaea Press, 2010.
<http://www.makiaea.com/post/4880992623>.
- Cherniss, Harold F. "Parmenides and the Parmenides of Plato." *The American Journal of Philology* 53, no. 2 (January 1, 1932): 122–138.
- . "The Relation of the Timaeus to Plato's Later Dialogues." *The American Journal of Philology* 78, no. 3 (January 1, 1957): 225–266.
- Chin, Andrew. "On Abstraction and Equivalence in Software Patent Doctrine: A Response to Bessen, Meurer and Klemens." *Journal of Intellectual Property Law* 16, no. 2 (2009): 197–240.
- Cohen, Julie E., and Mark A. Lemley. "Patent Scope and Innovation in the Software Industry." *California Law Review* 89, no. 1 (January 2001): 1–57.
- Cohen, S. Marc. "The Logic of the Third Man." *The Philosophical Review* 80, no. 4 (1971): 448–475.

- Curd, Patricia. *The Legacy of Parmenides: Eleatic Monism and Later Presocratic Thought*. Las Vegas, NV: Parmenides, 2004.
- Dancy, Russ M. *Plato's Introduction of Forms*. Cambridge: Cambridge University Press, 2004.
- Demmerling, Christoph. "Language and Reification: Some Remarks on Wittgenstein and Critical Theory." *Wittgenstein Studies* 3, no. 1 (1996). <http://sammelpunkt.philo.at:8080/475/>.
- . *Sprache und Verdinglichung: Wittgenstein, Adorno und das Projekt einer kritischen Theorie*. Frankfurt am Main: Suhrkamp, 1994.
- Diels, Hermann, and Walther Kranz, eds. *Die Fragmente Der Vorsokratiker*. Vol. 1. 3 vols. 9th ed. Berlin: Weidmannsche Verlagsbuchhandlung, 1960.
- Drahos, Peter. *A Philosophy of Intellectual Property*. Applied Legal Philosophy. Aldershot: Ashgate Dartmouth, 1996. <http://www.anu.edu.au/fellows/pdrahos/books/1996philosophyIP.pdf>.
- . "Information Feudalism in the Information Society." *The Information Society* 11 (1995): 209–222.
- . "Intellectual Property Law and Basic Science: Extinguishing Prometheus?" *Law in Context* 10 (1992): 56–79.
- Fine, Gail. "Forms as Causes: Plato and Aristotle." In *Mathematics and Metaphysics in Aristotle*, edited by Andreas Graeser, 69–112. Bern: Haupt, 1987.
- . "Knowledge and True Belief in the Meno." In *Oxford Studies in Ancient Philosophy*, edited by David Sedley, 27:41–81. Oxford: Oxford University Press, 2004.
- . *On Ideas: Aristotle's Criticism of Plato's Theory of Forms*. Oxford: Oxford University Press, 1993.
- . "Plato on Naming." In *Plato on Knowledge and Forms*, 117–131. Oxford: Oxford University Press, 2003.
- . "The One Over Many." *The Philosophical Review* 89, no. 2 (April 1, 1980): 197–240.
- Forrester, James W. "Arguments an Able Man Could Refute: Parmenides 133b–134e." *Phronesis* 19, no. 3 (January 1, 1974): 233–237.
- Frances, Bryan. "Plato's Response to the Third Man Argument in the Paradoxical Exercise of the Parmenides." *Ancient Philosophy* 16 (1996): 47–64.
- Franklin, Lee. "The Structure of Dialectic in the Meno." *Phronesis* 46, no. 4 (August 2001): 413–439.
- Geach, Peter T. "The Third Man Again." *The Philosophical Review* 65, no. 1 (January 1, 1956): 72–82.
- Gerson, Lloyd P. "The Possibility of Knowledge According to Plato." *Plato* 4 (March 2004). <http://gramata.univ-paris1.fr/Plato/article46.html>.
- Graeser, Andreas. "Die sogenannte größte Aporie in Platons Parmenides (133b–134e)." In *Bochumer philosophisches Jahrbuch für Antike und Mittelalter*, edited by Burkhard Mojsisch, Olaf Pluta, and Rudolf Rehn, 193–198. Amsterdam: John Benjamins, 2002.
- . "Plato's Parmenides." In *The Fog Dispelled: Two Studies in Plato's Later Thought*, translated by Ann M. Hentschel, 15–78. Stuttgart: F. Steiner, 2010.
- Guntersdorfer, Michael. "Software Patent Law: United States and Europe Compared." *Duke Law and Technology Review*, no. 6 (2003). <http://www.law.duke.edu/journals/dltr/articles/2003dltr0006.html>.

- Hansen, Michael J. "Plato's Parmenides: Interpretations and Solutions to the Third Man." *Aporia* 20, no. 1 (2010): 65–76.
- Hathaway, R. F. "The Second 'Third Man'." In *Patterns in Plato's Thought*, edited by Julius M. E. Moravcsik, 78–100. Dordrecht: Springer, 1973.
- Helmig, Christoph. "Plato's Argument Against Conceptualism: Parmenides 132b3–c11 Reconsidered." *Elenchos* 28, no. 2 (2007): 303–336.
- Hrachovec, Herbert. "Approaches to Parmenides B 2.3 and B 2.5". Vienna, 2012.
- Hunt, David P. "How (not) to Exempt Platonic Forms from Parmenides' Third Man." *Phronesis* 42, no. 1 (1997): 1–20.
- Iber, Christian. "Platons eigentliche Leistung im Dialog Parmenides." In *Dialektischer Negativismus: Michael Theunissen zum 60. Geburtstag*, edited by Emil Angehrn, Hinrich Fink-Eitel, Christian Iber, and Georg Lohmann, 185–212. Frankfurt am Main: Suhrkamp, 1992.
- Irwin, Terrence H. "Plato's Heracleiteanism." *The Philosophical Quarterly* 27, no. 106 (January 1977): 1–13.
- Kahn, Charles H. "Some Philosophical Uses of 'to Be' in Plato." *Phronesis* 26, no. 2 (1981): 105–134.
- . "The Greek Verb 'to Be' and the Concept of Being." *Foundations of Language* 2, no. 3 (August 1966): 245–265.
- . "The Thesis of Parmenides." *The Review of Metaphysics* 22, no. 4 (June 1, 1969): 700–724.
- Kirk, Geoffrey S., and John. E. Raven. *The Presocratic Philosophers*. 4th ed. Cambridge: Cambridge University Press, 1977.
- Klemens, Ben. *Math You Can't Use*. Washington, DC: Brookings Institution Press, 2006.
- . "Software Patents Don't Compute: No Clear Boundary Between Math and Software Exists." *IEEE Spectrum* 42, no. 7 (July 2005): 56–58.
- . "The Rise of the Information Processing Patent." *Boston University Journal of Science and Technology Law* 14 (2008): 1–38.
- Kraut, Richard. "Introduction to the Study of Plato." In *The Cambridge Companion to Plato*, edited by Richard Kraut, 1–50. Cambridge: Cambridge University Press, 1992.
- Kripke, Saul. *Naming and Necessity*. Cambridge, MA: Harvard University Press, 1980.
- Kroeger, Odin. "Kalkulierte Originalität: Legitimationsmythos und ökonomische Wirklichkeit geistigen Eigentums." In *Geistiges Eigentum und Originalität: Zur Politik der Wissens- und Kulturproduktion*, edited by Odin Kroeger, Günther Friesinger, Paul Lohberger, and Eberhard Ortland, 43–61. Wien: Turia + Kant, 2011.
- . "Why Are Software Patents so Elusive? A Platonic Approach." *Masaryk University Journal of Law and Technology* 5, no. 1 (2011): 57–70.
- Lee, Edward N. "The Second 'Third Man': An Interpretation." In *Patterns in Plato's Thought*, edited by Julius M. E. Moravcsik, 101–122. Dordrecht: Springer, 1973.
- Lefstin, Jeffrey A. "The Formal Structure of Patent Law and the Limits of Enablement." *Berkeley Technology Law Journal* 23 (Fall 2008): 1141–1225.
- Lessig, Lawrence. *Code*. 2nd ed. New York, NY: Basic Books, 2006. <http://codev2.cc/>.
- Liddell, Henry G., and Robert Scott. *A Greek-English Lexicon*. Oxford: Clarendon Press, 1940. <http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0057>.

- Lienemann, Béatrice. *Die Argumente des Dritten Menschen in Platons Dialog „Parmenides“: Rekonstruktion und Kritik aus analytischer Perspektive*. Göttingen: Vandenhoeck & Ruprecht, 2010.
- Malcolm, John. "Vlastos on Pauline Predication." *Phronesis* 30, no. 1 (1985): 79–91.
- Mansfeld, Jaap. "Aristotle, Plato, and Preplatonic Doxography and Chronography." In *Storiografia e Dossografia Nella Filosofia Antica: a Cura Di Giuseppe Cambiano*, edited by Giuseppe Cambiano, 1–59. Torino: Tirrenia, 1986.
- Mantin, Itsik. "Analysis of the Stream Cipher RC4". Master thesis, Weizmann Institute of Science, 2001.
- Mantin, Itsik, and Adi Shamir. "A Practical Attack on Broadcast RC4." *Lecture Notes in Computer Science* 2355 (2002): 87–104.
- Mates, Benson. "Identity and Predication in Plato." *Phronesis* 24, no. 3 (January 1, 1979): 211–229.
- Matthen, Mohan. "Greek Ontology and the 'Is' of Truth." *Phronesis: A Journal for Ancient Philosophy* 28, no. 2 (1983): 113–135.
- Meinwald, Constance C. "Good-bye to the Third Man." In *The Cambridge Companion to Plato*, edited by Richard Kraut, 365–396. Cambridge: Cambridge University Press, 1992.
- . *Plato's Parmenides*. New York, NY: Oxford University Press, 1991.
- Mignucci, Mario. "Plato's 'Third Man' Arguments in the Parmenides." *Archiv Für Geschichte Der Philosophie* 72, no. 2 (January 1990): 143–181.
- Mills, K. W. "Plato's Phaedo 74b7–c6, Part 2." *Phronesis* 3, no. 1 (January 1, 1958): 40–58.
- Mossoff, Adam. "What Is Property? Putting The Pieces Back Together." *Arizona Law Review* 45, no. 2 (2003): 371–443.
- Nehamas, Alexander. "Self-predication and Plato's Theory of Forms." *American Philosophical Quarterly* 16, no. 2 (April 1, 1979): 93–103.
- Notomi, Noburu. "Socratic Dialogue and Platonic Dialectic: How the Soul Knows in the Republic." *Plato* 4 (March 2004). <http://gramata.univ-paris1.fr/Plato/article48.html>.
- Owen, G. E. L. "A Proof in the ΠΕΡΙ ΙΔΕΩΝ." *The Journal of Hellenic Studies* 77 (January 1, 1957): 103–111.
- . "The Place of the Timaeus in Plato's Dialogues." *The Classical Quarterly* 3, no. 1/2. New Series (January 1, 1953): 79–95.
- Palmer, John A. *Plato's Reception of Parmenides*. Oxford: Clarendon Press, 1999.
- Parry, Richard D. "The Uniqueness Proof for Forms in Republic 10." *Journal of the History of Philosophy* 23, no. 2 (1985): 133–150.
- Peck, Arthur L. "Plato Versus Parmenides." *The Philosophical Review* 71, no. 2 (April 1962): 159–184.
- . "Plato's Parmenides: Some Suggestions for Its Interpretation." *The Classical Quarterly* 3, no. 3/4. New Series (July 1, 1953): 126–150.
- Pelletier, Francis J., and Edward N. Zalta. "How to Say Goodbye to the Third Man." *Nous* 34, no. 2 (June 2000): 165–202.
- Peritz, Rudolph J. R. "Freedom to Experiment: Toward a Concept of Inventor Welfare." *Journal of the Patent and Trademark Office Society* 90 (2008): 245–267.
- Peterson, Sandra L. "A Reasonable Self-Predication Premise for the Third Man Argument." *The Philosophical Review* 82, no. 4 (October 1, 1973): 451–470.

- . “Plato’s Parmenides: A Principle of Interpretation and Seven Arguments.” *Journal of the History of Philosophy* 34, no. 2 (1996): 167–192.
- . “The Language Game in Plato’s Parmenides.” *Ancient Philosophy* 20, no. 1 (2000): 19–51.
- Pilch, Hartmut. “Why Are Software Patents so Trivial?” In *Patents, Innovation and Economic Performance*, 289–294. Paris: OECD, 2004.
- Plato. *Complete Works*. Edited by John M. Cooper and Douglas S. Hutchinson. Indianapolis, IN: Hackett, 1997.
- . *Parmenides*. Translated by Mary L. Gill and Paul Ryan. Indianapolis, IN: Hackett, 1996.
- . *Platonis Opera*. Edited by John Burnet. Oxford: Oxford University Press, 1903.
- Powers, Thomas M. “Ideas, Expressions, Universals, and Particulars: Metaphysics in the Realm of Software Copyright Law.” In *Intellectual Property Rights in a Networked World: Theory and Practice*, edited by Richard Spinello and Herman T. Tavani, 99–111. Hershey, PA: Information Science Publishing, 2005.
- Prior, William J. “‘Parmenides’ 132c–133a and the Development of Plato’s Thought.” *Phronesis* 24, no. 3 (January 1, 1979): 230–240.
- Rickless, Samuel C. “How Parmenides Saved the Theory of Forms.” *The Philosophical Review* 107, no. 4 (October 1, 1998): 501–554.
- . *Plato’s Forms in Transition: A Reading of the Parmenides*. Cambridge: Cambridge University Press, 2007.
- Runciman, Walter G. “Plato’s Parmenides.” *Harvard Studies in Classical Philology* 64 (January 1, 1959): 89–120.
- Ryle, Gilbert. “Logical Atomism in Plato’s ‘Theaetetus’.” *Phronesis* 35, no. 1 (January 1, 1990): 21–46.
- . “Plato’s ‘Parmenides’.” *Mind* 48, no. 190. New Series (April 1, 1939): 129–151.
- Sarnoff, Joshua D. “Patent-Eligible Inventions After Bilski: History and Theory.” *Hastings Law Journal* 63, no. 1 (December 2011): 53–126.
- Schmidt, Christian. “Die zwei Paradoxien des geistigen Eigentums.” *Deutsche Zeitschrift für Philosophie* 52, no. 5 (2004): 755–772.
- . *Individualität und Eigentum: Zur Rekonstruktion zweier Grundbegriffe der Moderne*. Campus Forschung. Frankfurt am Main: Campus, 2006.
- Schneider, Jan G. “‘Sagen’ und ‘Zeigen’. Eine Brücke von Wittgenstein zu Platon.” In *Antike und Gegenwart: Festschrift für Matthias Gatzemeier*, edited by Jürgen Villers, 109–126. Würzburg: Königshausen & Neumann, 2003.
- Schofield, Malcolm. “Likeness and Likenesses in the Parmenides.” In *Form and Argument in Late Plato*, edited by Christopher Gill and Mary M. McCabe, 49–77. Oxford: Clarendon Press, 1994.
- Schudoma, Ingeborg. *Platons Parmenides*. Würzburg: Königshausen & Neumann, 2001.
- Schweizer, Paul. “Self-predication and the Third Man.” *Erkenntnis* 40, no. 1 (January 1994): 21–42.
- Scolnicov, Samuel. *Plato’s Parmenides*. Berkeley, CA: University of California Press, 2003.
- . “The Two Faces of Platonic Knowledge.” *Plato* 4 (March 2004). <http://gramata.univ-paris1.fr/Plato/article49.html>.
- Sharvy, Richard. “Plato’s Causal Logic and the Third Man Argument.” *Noûs* 20, no. 4 (December 1, 1986): 507–530.

- Stallman, Richard. "Did You Say 'Intellectual Property'? It's a Seductive Mirage", 2006.
<http://www.gnu.org/philosophy/not-ipr.html>.
- Stepan, Paul. "Ökonomie des Urheberrechts." *Juridikum. Zeitschrift im Rechtsstaat* 17, no. 1 (2007): 35–39.
- Stepanians, Markus. "Die angelsächsische Diskussion: Eigentum zwischen ‚Ding‘ und ‚Bündel‘." In *Was ist Eigentum?*, edited by Andreas Eckl and Bernd Ludwig, 232–245. Becksche Reihe. München: C. H. Beck, 2005.
- Strang, Colin, and D. A. Rees. "Plato and the Third Man." *Proceedings of the Aristotelian Society, Supplementary Volumes* 37 (January 1, 1963): 147–176.
- Thayer, Rodney, and Kalle Kaukonen. "A Stream Cipher Encryption Algorithm 'Arcfour'." *Ietf*, July 14, 1999. <http://tools.ietf.org/id/draft-kaukonen-cipher-arcfour-03.txt>.
- Vlastos, Gregory. "A Note on 'Pauline Predications' in Plato." *Phronesis* 19, no. 2 (1974): 95–101.
- . "Plato's 'Third Man' Argument (Parm. 132a1–b2): Text and Logic." *The Philosophical Quarterly* 19, no. 77 (October 1, 1969): 289–301.
- . "Reasons and Causes in the Phaedo." *The Philosophical Review* 78, no. 3 (July 1, 1969): 291–325.
- . "The Third Man Argument in the Parmenides." *The Philosophical Review* 63, no. 3 (July 1954): 319–349.
- Vogt, Katja M. "Belief and Investigation in Plato's Republic." *Plato* 9 (October 2009).
<http://gramata.univ-paris1.fr/Plato/article86.html>.
- White, Frank C. "Plato's Middle Dialogues and the Independence of Particulars." *The Philosophical Quarterly* 27, no. 108 (July 1, 1977): 193–213.
- White, Nicholas P. "Plato's Metaphysical Epistemology." In *The Cambridge Companion to Plato*, edited by Richard Kraut, 277–310. Cambridge: Cambridge University Press, 1992.
- Wieland, Wolfgang. *Platon und die Formen des Wissens*. 2nd ed. Göttingen: Vandenhoeck & Ruprecht, 1999.
- Wittgenstein, Ludwig. *Philosophical Grammar*. Oxford: Blackwell, 1974.
- . *Philosophical Investigations*. Translated by G. E. M. Anscombe. 2nd ed. Oxford: Blackwell, 1958.
- . *Preliminary Studies for the "Philosophical Investigations". Generally Known as The Blue and Brown Books*. Edited by Rush Rees. Oxford: Blackwell, 1958.
- . *Tractatus Logico-philosophicus*. Translated by C. K. Ogden. New York, NY: Routledge, 1990.
- . *Wittgenstein's Nachlass: The Bergen Electronic Edition*. Charlottesville, VA: InteLex, 2003.
- Wreen, Michael. "The Ontology of Intellectual Property." *Monist* 93, no. 3 (July 2010): 433–449.

Formalities

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Publications

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- . “Kalkulierte Originalität: Legitimationsmythos und ökonomische Wirklichkeit geistigen Eigentums.” In *Geistiges Eigentum und Originalität: Zur Politik der Wissens- und Kulturproduktion*, edited by Odin Kroeger, Günther Friesinger, Paul Lohberger, and Eberhard Ortland, 43–61. Wien: Turia + Kant, 2011.
 - . “Geistige Eigentumsansprüche zwischen individueller Zurechenbarkeit und industrieller Produktion.” *Juridikum* 20, no. 2 (2010): 158–165.
 - . “Zur Kritik des Entzugs als politischer Praxis.” *Sinnhaft. Journal für Kulturstudien* 22 (January 2010): 90–103.
- Kroeger, Odin, Günther Friesinger, Paul Lohberger, and Eberhard Ortland, eds. *Geistiges Eigentum und Originalität: Zur Politik der Wissens- und Kulturproduktion*. Wien: Turia + Kant, 2011.

Talks

- Kroeger, Odin. “Why are Software Patents so Elusive? A Platonic Approach,” presented at *Cyberspace 2010*, Brno, November, 26, 2010.
- . “How Objectively Can Milieus Be Defined? Standpoint Theory and the Identity of Political Subjects,” presented at *Emerging Forms of Sociality*, Frankfurt am Main, October, 2, 2010.
 - . “Originalität, Dinglichkeit und Ausdrucksfreiheit: eine Einführung in die philosophischen Debatten um geistiges Eigentum,” presented at the *Società – Forum für Ethik, Kunst und Recht*, Vienna, May 5, 2009.
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 - . “Geistiges Eigentum,” Lecture series organised at the *IWK*, Vienna, 2007–2009.
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 - . “Digitale Verwertungspraxis: Kontrolle und Aufmerksamkeit,” presented at *Original, Plagiat, Fälschung: Geistiges Eigentum im Wandel der Zeit*, Vienna, November 17, 2007.
 - . “The form of ideas as condition of possibility for Intellectual Property,” Regulatory Institutions Network, *Australian National University*, October 16, 2007.
- Mayer, Ulrike and Odin Kroeger, “Culture of Control,” lecture series organised at the *IWK*, Vienna, 2010–2011.
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ABSTRACT

Software patents are often criticised for being fuzzy, context-sensitive and often granted for trivial inventions. More often than not, these shortcomings are said to be caused by the abstract nature of software with no further analysis offered. Drawing on Plato's *Parmenides* my thesis offers a more nuanced approach. The *Parmenides* encompasses not only paradoxes that obtain when abstractions are treated as objects, but also provides hints that may aid us in conceptualising our knowledge of algorithms. Taking this as a starting point, the first part of this thesis defends the claim that the *Parmenides* can be read as an analysis of reification that applies to Plato's own middle period theory of forms, and the second part applies this analysis to software patents. What the *Parmenides* may teach us is that (1:) software patents may strike us as elusive because courts tend to treat algorithms as objects, and (2:) that the distinctions between ordinary predication and tree predication on the one hand and between know-how and know-that on the other hand may be useful for conceptualising software patents and outlining the limits of their codification. The findings of this thesis indicate that courts are ill-equipped to handle software patents, simply because they operate by transforming evidence into judgements. This mode of operation presumes that the evidence can be described and, above all, categorised in a way that is context-independent and normatively forceful, neither of which, however, can be done for abstract objects that have been reified, or, rather, done by reifying them.

Software-Patenten wird gemeinhin nachgesagt, sie wären unscharf, kontextsensitiv und würden selbst für triviale Erfindungen gewährt. Diese Mängel werden in der Regel auf die Abstraktheit von Software zurückgeführt – ohne tiefergehende Analyse; eine solche Analyse soll die vorliegende Arbeit anbieten, in Rückgriff auf Platons *Parmenides*. Der *Parmenides* umfasst nicht nur Paradoxien die dann auftreten wenn Ideen, im platonischen Sinne, als Einzeldinge aufgefasst werden, sondern enthält auch Hinweise, die uns helfen können, Wissen über Algorithmen besser zu begreifen. Von diesem Ausgangspunkt aus verteidigt der erste Teil der vorliegenden Arbeit die These, dass der *Parmenides* eine Analyse der Verdinglichung der Ideen enthält, die dann im zweiten Teil auf Software-Patente angewendet wird. Was der *Parmenides* uns zeigen kann, ist dass (1:) uns Software-Patente deswegen schlüpfrig erscheinen könnten, weil Gerichte dazu tendieren Algorithmen als Einzeldinge zu behandeln und (2:) dass die Unterscheidungen zwischen gewöhnlicher Prädikation und kategorischer Prädikation einerseits und propositionalem Wissen und Kompetenz andererseits dabei hilfreich sein könnten Software-Patente genauer zu formulieren und die Grenzen ihrer Kodifizierung aufzuzeigen. Die Resultate dieser Arbeit legen nahe, dass Gerichte sich bei der Beurteilung von Software-Patent-Streitfällen in einer prekären Lage befinden, setzt doch ihr üblicher Modus Operandi, die Transformation von Beweismaterial in Urteile, in gewisser Weise voraus, dass sich Beweismaterial kontextunabhängig und normativ belastbar beschreiben und vor allem kategorisieren lässt – weder das eine noch das andere ist jedoch für abstrakte Objekte zu bewerkstelligen, die verdinglicht wurden – oder, genauer gesagt, indem sie verdinglicht werden.