

Ancient Relativity

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Plato, Aristotle, Stoics, and Sceptics

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For Mabel, my absolute

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‘The Greatest Difficulty at Parmenides 133c–134e and Plato’s Relative Terms.’

2013. *Oxford Studies in Ancient Philosophy* 45: 43–62.

‘The Role of Relatives in Plato’s Partition Argument, *Republic* 4,

436b9–439c9.’ 2015. *Oxford Studies in Ancient Philosophy* 48: 37–60.

‘Aristotle’s Two Accounts of Relatives in *Categories* 7.’ 2015. *Phronesis* 60 (4):

436–61.

‘Aristotle’s *Categories* 7 Adopts Plato’s View of Relativity.’ 2018. In *Authors*

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I met Mabel soon after I started working on relativity and we married soon after I began to write the book. Our years together have been the happiest of my life. This book is dedicated to her, with all my love.

Abbreviations

I typically refer to ancient works using unabbreviated English titles. For convenience, I have occasionally used common abbreviations to refer to ancient, and some modern, works. Those I have used are given here.

Aetius = Conjectural reconstruction in Hermann Diels. 1879. *Doxographi Graeci*. Berlin: Weidmann.

Alexander *De Mixt.* = Alexander of Aphrodisias, *De Mixtione*. 1892. Edited by Ivo Bruns. *CAG Supplementum Aristotelicum* 2, 2.

Alexander *In A.Pr.* = Alexander of Aphrodisias, *In Aristotelis analyticorum priorum librum 1 commentarium*. 1883. Edited by Max Wallies. *CAG*, 2,1.

Alexander *In Met.* = Alexander of Aphrodisias, *In Aristotelis metaphysica commentaria*. 1891. Edited by Michael Hayduck. *CAG*, 1.

Alexander *In Top.* = Alexander of Aphrodisias, *In Aristotelis topicorum libros octo commentaria*. 1891. Edited by Max Wallies. *CAG* 2, 2.

Ammonius *in Cat.* = Ammonius, *In Aristotelis categorias commentarius*. 1895. Edited by Adolf Busse. *CAG* 4,4.

Anon. *In Plat. Theaetet.* = *Commentarium in Platonis Theaetetum*. 1995. Edited by Guido Bastianini and David Sedley. *Corpus dei papiri filosofici greci e latini* 3. Florence: Olchki, 227–562.

Arr. Epict. = *Epicteti dissertationes ab Arriano digestae*. 1916. Edited by Heinrich Schenkl. Leipzig: Teubner. Reprinted 1965.

CAG = *Commentaria in Aristotelem Graeca*. 1882–1909. Berlin Verlag Georg Reimer.

Calcidius = *Timaeus a Calcidio translatus commentarioque instructus*. 1962. Edited by Jan Hendrik Waszink. London The Warburg Institute (*Plato Latinus*. Vol. 4).

Cicero, *Tusculans* = *Tusculanae disputationes*. 1905–34. Edited by T.W. Dougan and R.M. Henry. Cambridge: Cambridge University Press.

Dexippus, *In Cat.* = Dexippus, *In Aristotelis categorias commentaria*. 1888. Edited by Adolf Busse. *CAG* 4, 2.

DL = Diogenes Laertius, *Lives of Eminent Philosophers*. 2013. Edited by Tiziano Dorandi. Cambridge: Cambridge University Press.

Galen, *In Hipp. de nat hom.* = Galen, *In Hippocratis De natura hominis commentaria* III. 1914. Edited by J. Mewaldt in *Corpus Medicorum Graecorum*, 5, 9, 1. Leipzig and Berlin: De Gruyter.

Galen *PHP* = Galen *Plac.* = Galen, *De Placitis Hippocratis et Platonis*. 1973–2005. Edited by Philip de Lacy in *Corpus Medicorum Graecorum*, 5, 4, 1. Leipzig and Berlin: De Gruyter.

Gellius = Aulus Gellius *Noctes Atticae*. 1968. Edited by P.K. Marshall. Oxford: Clarendon.

Grammatici Graeci = *Grammatici Graeci. Recogniti et apparatu critico instructi*. 1889–1901. Leipzig: Teubner.

IP = Isnardi Parente = Margherita Isnardi Parente. 1982. *Senocrate–Ermodoro: Frammenti*. Naples: Bibliopolis.

LS = Anthony Long and David Sedley. 1987–9. *The Hellenistic Philosophers*. 2 vols. Cambridge: Cambridge University Press.

LSJ = *Greek–English Lexicon*. 1996. Robert Scott, Henry George Liddell, Roderick McKenzie, Henry Stuart Jones. Oxford: Clarendon.

M = Sextus Empiricus, *Adversus Mathematicos*. 1912–54. Edited by H. Mutschmann and J. Mau. Leipzig: Teubner.

Nemesius = Nemesius, *De natura hominis*. 1802. Edited by Christian Frederick Matthaei. Halle: Gebauer.

OCT = Oxford Classical Texts.

Olympiodorus *in Cat.* = Olympiodorus, *Prolegomena et in categorias*. 1902. Edited by Adolf Busse. CAG 12, 1.

PH = Sextus Empiricus, *Pyrrhoneae Hypotyposes*. 1912–54. Edited by H. Mutschmann and J. Mau. Leipzig: Teubner.

Plutarch *Com. Not.* = Plutarch, *De communibus notitiis*. 1976. Edited by Harold Cherniss in *Plutarch's Moralia* 8, 2. Cambridge, M.A.: Harvard University Press.

Plutarch *de Stoic. Rep.* = Plutarch, *De Stoicorum repugnantiiis*. 1976. Edited by Harold Cherniss in *Plutarch's Moralia* 8, 2. Cambridge, M.A.: Harvard University Press.

Seneca *Ep.* = Seneca, *Ad Lucilium epistulae morales*. 1965. Edited by L.D. Reynolds. Oxford: Clarendon Press.

Simp. *In Cat.* = Simplicius, *In Aristotelis Categorias commentarium*. 1907. Edited by Karl Kalbfleisch CAG 8.

Simp. *In Phys.* = Simplicius, *In Aristotelis physicorum libros quattuor* 1882–1895. Edited by Hermann Diels CAG 8–9.

Stobaeus = *Ioannis Stobaei Anthologium*. 1884–1912. Edited by Curtius Wachsmuth and Otto Hense. Berlin: Weidmannsche Buchhandlung. Reprinted 1974.

SVF = Hans von Arnim. 1903–5. *Stoicorum veterum fragmenta*. Leipzig: Teubner.

Philoponus, *in Cat.* = John Philoponus, *In Aristotelis Categorias commentarium*. 1898. Adolf Busse CAG 13, 1.

Tertullian, *De Anima* = *Quinti Septimi Florentis Tertulliani De Anima*. 1933. Edited by Jan Hendrik Waszink. Leiden: Brill.

1

Introduction

1.1 What is this book about?

Relativity is the phenomenon that things relate to things. Parents relate to offspring; sisters relate to brothers; large things relate to small things. This book explores how ancient philosophers—especially Plato, Aristotle, the Stoics, and Pyrrhonian sceptics—thought about relativity, how they analysed that phenomenon, and the role that their analyses played in their philosophical thought more broadly. In this introduction, I offer some distinctions that will help to clarify the approaches one might take to ‘relativity’. This will allow me to describe in more detail the principal arguments of the book and set those arguments in their scholarly context. Finally, the introduction will outline the structure of the book.

Why should you care what I have to say about ancient philosophers on relativity? Originality is one reason. The topic has not been treated in depth before; I propose a number of new readings of key passages that discuss relativity; and I defend new approaches to interpretive and philosophical problems in the material. Simple novelty isn’t a motivation to take this book seriously, but relativity underlies much ancient philosophy; to better understand the latter, we need to better understand the former. For example, relativity apparently motivated Plato to posit the Forms, but also to criticize them. To understand this you need to understand the explicit or implicit theory of relativity those criticisms involve.

The project is significant for another reason. I’ll show how ancient analyses of relativity changed over time and in response to philosophical pressure. In so far as you’re interested in relativity, you will be interested in the range of philosophical approaches to it that history teaches us. But you will also care about what was felt to put pressure on a certain view of relativity and what options were considered in trying to avoid that pressure. It turns out that Plato, Aristotle, Stoics, and Sceptics theorize relativity in distinctive, but absolutely comprehensible, ways. This offers a chance to see just how differently one could think about relativity.

The scope of this book is wide. It covers around seven centuries of philosophical thought. An equivalent recent period would be from Aquinas to Quine. A few factors make this breadth possible without compromising depth. First, in our period, few sources concern themselves with relativity directly. So the sources that do can be treated at some length. Second, Plato, Aristotle, the Stoics, and Sceptics did not have the same view of relativity but their views are members of a close family. That is a substantive philosophical and historical claim, for which I will argue throughout the book. But the family resemblance means that themes recur and so more ground can be covered. That said, this isn't an encyclopaedia, and I don't discuss every passage that could be relevant to relativity in antiquity. By drilling far apart, but drilling deep, I hope to reveal the philosophical interest of ancient relativity.

I have made some practical decisions to keep the project manageable. In particular, I have limited the book to Plato, Aristotle, Stoics, and Sceptics—particularly Sextus. I have also limited the present book to ancient ideas about relativity as such. Therefore, I do not discuss in detail ancient thought about relative *change* or *relativism*, both of which are important topics for future work.

The remainder of the introduction will articulate ancient relativity much more clearly and, as the book unfolds, each chapter will have its own particular arguments. But there are three broad theses and this book will, overall, demonstrate. First, Plato, Aristotle, Stoics, and Sceptics share a broad commitment to what I call 'constitutive relativity'. Ancient views do differ, but the relativity theories of ancient philosophers are more united than divided and ancient theories have more in common with each other than with modern theories. Second, philosophy affects relativity. Plato, Aristotle, Stoics, and Sceptics adapt the theory to their own philosophical ends, motivated by their own philosophical concerns. Third, relativity affects philosophy. How relativity is viewed affects arguments across philosophical projects. These are claims in philosophical history. I claim that thinking about relativity, in a certain period, shared some features, and that philosophy, rather than other historical factors, drove the change to views about relativity.

1.2 Relatives, relations, and relational properties

What I mean by 'ancient' is clear, but 'relativity' still needs unpacking. First, I distinguish relatives from relations. Take a relational state of affairs: Achilles is faster than Hector. There are two sorts of item here. One sort is items that

relate to something: Achilles and Hector. Although some scholars use the technical term ‘relata’, I call these ‘relatives’: why use a Latin word when an English word will do? Proper names, like ‘Achilles’, can pick out relatives, but so can descriptions, such as ‘the faster man’. ‘The faster man is faster than the slower man’ is true, if stilted. The other sort is items that relate things. I call these ‘relations’. The relation ‘being faster’ relates Achilles to Hector. We pick out relations either with a gerund (e.g., ‘being faster than’) or with a schematic expression, an expression that indicates that there are gaps which can be filled with certain other expressions (e.g., ‘... is faster than...’). In principle, relational expressions can have more than two gaps. For example, ‘... is between ... and ...’ picks out a relation. Ancient philosophers use relations often. But one of the main claims of this book will be that ancient philosophers, when analysing relativity, tend to focus on relatives, even though relations enter into the analysis.¹

There is a standard story about relations, which is found in contemporary philosophy. Priam is the parent of the offspring Hector. So there are two items there: Priam and Hector. There is also the state of affairs Priam is the parent of Hector. Add to this Thetis and Achilles and the state of affairs Thetis is the parent of Achilles. The pairs Priam-Hector and Thetis-Achilles have something in common: the relation picked out by ‘... is the parent of...’ applies to both pairs, when those pairs are taken in a certain order. All of the ordered-pairs that have this feature make up the extension of the ‘... is a parent of...’ relation.² But Priam and Thetis also have something in common: each bears ‘... is a parent of...’ relation. All items that bear the ‘... is a parent of...’ relation to something make up the ‘domain’ of the relation.³ The domain of the relation ‘is a parent of’ includes all the individuals who have a child. The extension, meanwhile, will include the ordered pairs <Thetis, Achilles> and <Priam, Hector> amongst many others.⁴ In short, relations are a property of a certain sort. A relation is true of a pair of individuals. Relations relate things.

¹ Relations, rather than relatives, ground ‘analytic’ treatments of relativity. (Frege 1893) and (Russell 1938, secs. 28–30), take relations as primitives in their formal systems.

² An ordered pair is simply a pair of items where the order matters to the identity of the ordered pair: the ordered pair < x , y > is not identical to the ordered pair < y , x >, except in the special case where $x=y$.

³ For this distinction between extension and domain of a relation see (Denyer 1991, 139); (Carnap 1958, 117–19).

⁴ I focus, for now, on dyadic relations. Ancient thinkers, and commentators on ancient philosophy, tend to focus on such relations in their discussions too, for reasons that I will come on to discuss.

Relatives are those things. Relatives relate to something; relatives are the items in the domain of a relation. For example, Thetis will be a relative, since ‘... is the parent of Achilles’ is true of Thetis; Priam will be a relative since ‘... is a parent of Hector’ is true of Priam. ‘Relative’ and ‘relation’ are inter-defined: a relative is an item in the domain of a relation; a relation is an item that is true of an ordered-pair (or, generally, ordered n -tuple) of relatives.

Relational properties are certain one-place properties that relatives have, because of the relation they bear. For example, Thetis has the relational property being a parent because Thetis is a parent of Achilles. These properties are picked out by monadic predicates, such as ‘... is a parent’. The predicates that correspond to relational properties can be specified. The extension of the relational predicate is co-extensive with the domain of a relation. Thus, the extension of ‘... is a parent’ is co-extensive with the domain of the ‘... is a parent of...’ relation.

1.3 *Theories of relativity*

This three-way distinction between relatives, relational properties, and relations allows us to describe in more detail some approaches to relativity in ancient philosophy. I divide these approaches into three. First, accounts of relativity that do not appeal to relations. Second, theories that claim relativity is best explained in terms of incomplete predicates. Third, approaches which take a relation to constitute the relative.

1.3.1 Relativity without relations

These readings hold that an ancient philosopher tried to account for relativity without appealing to relations. Some scholars have thought that ancient philosophers analyse relativities as some non-relational tie between relational properties. This approach can be further divided. For some scholars, there is a non-relational tie between relational properties, but those properties do not ontologically depend on each other. Hector-Neri Castañeda gives this sort of reading for Plato. Castañeda argues that the truth-maker for ‘Priam is a father of Hector’ involves the individuals Priam and Hector and the ‘Form-chain’ Father-Son. Priam instantiates only the Form Father; Hector instantiates only the Form Son. The Form-chain ‘Father-Son’ ties the two Forms together. But the Form-chain is not a relation and, since Father and Son are Forms, neither

ontologically depends on the other. I discuss Castañeda's approach further in section 3.4.⁵

Anna Marmodoro attributes to Aristotle a relations-free view of relativity. But unlike Castañeda's Plato, Marmodoro's Aristotle accounts for relativity using relational properties that do ontologically depend on each other.⁶ Being a father obtains only when being a son obtains. Thus, Priam is father of Hector is analysed into Priam, Hector, being a parent, and being a son. Being a father and being a son are two monadic, relational properties which ontologically depend on each other, without any polyadic relations obtaining between Priam, Hector, being a son, and being a father.

Marmodoro says that relational, or *πρός τι*, properties are 'monadic properties such that their manifestation or activation depends counterfactually on the activation of their correlatives. Someone is actually a master only if there is a slave of whom he is master; and vice versa for the slave.'⁷ So, being a father and being a son are ontologically interdependent because they are powers that must be activated as a pair. Put as baldly as this, however, being a father and being a son are not ontologically interdependent, since being a father need not be activated when being a son is activated: being a father could be activated by the activation of being a daughter. So, even if being a father and being a son are ontologically interdependent, that interdependence does not consist in mutual activation. But if interdependence does not consist in mutual activation, it is unclear in what relativity consists. An obvious response is that I have cherry-picked a pair of properties that is difficult for Marmodoro's reading. She might respond to that case by saying that being a father and being a son is not the right pair because being a father and being a son are not really relational properties. A better pair might be being a parent and being an offspring are. This pair really must be activated as a pair. But if that is the response it will turn out that being a father is not a relational property, which seems counter-intuitive.

Furthermore, ontological interdependence of relational properties is not sufficient for relativity.⁸ For suppose we have Laomedon, Priam, and Hector: Laomedon is father of Priam and grandfather of Hector; Priam is son of

⁵ In particular the reading of Plato's *Phaedo* in (Castañeda 1978); (Castañeda 1982), followed by (McPherran 1983a) and (McPherran 1986). There was a certain amount of back and forth on this issue between Matthen, criticizing Castañeda, and McPherran, defending him (Matthen 1982); (McPherran 1983a); (Matthen 1984). (Mignucci 1988a) also discusses this view.

⁶ (Marmodoro 2014, 26–9); Cf. (Marmodoro 2018).

⁷ (Marmodoro 2014, 28); (Marmodoro 2018).

⁸ These reasons are adapted from (Denyer 1991, 142–5). Denyer is arguing against a different view, but his objections can be modified to apply to Marmodoro's account.

Laomedon and father of Hector; Hector is son of Priam and grandson of Laomedon. Laomedon being a father depends on the activation of someone's power to be a son; Hector being a son depends on the activation of someone's power to be a father. But what rules out Laomedon being a father in virtue of *Hector* activating his power of being a son? If we respond that nothing rules it out, we can conclude that Laomedon is both father and grandfather of Hector. But this is false.

Alternatively, one might rule out Laomedon being a grandfather in virtue of Hector being a son by saying that being a father and being a grandfather are ontologically dependent on different things. On the one hand, being a grandfather ontologically depends someone being a grandson; while the being a father ontologically depends on someone being a son. Being a father 'points towards' being a son, while being a grandfather 'points towards' being a grandson.⁹ This seems to block the difficulty. Laomedon is a grandfather because being a grandfather 'points towards' being a grandson. Priam is a father because being a father 'points towards' being a son. Hector is a son because being a son 'points towards' being a father. Hector is a grandson because being a grandson 'points towards' being a grandfather. From these it does not follow that Priam is both father and grandfather of Hector.

The problem with this reply is that ontological interdependence ceases to do any work in explaining relativity. All the work seems to be done by the 'pointing towards'. Priam's having a relational property (being a father) that 'points towards' Hector's relational property (being a son) explains 'Priam is a father of Hector'. The fact that being a father and being a son ontologically depend on each other does not seem to do any important explanatory work. Moreover, the 'pointing' seems to be a regular, dyadic relation, precisely the sort of entity this account wants to avoid. Worse, if the pointing is not a dyadic relation, the account may face a regress. For now the relational properties being a father and being a son are themselves relatives that 'point' towards each other. If the 'pointing' is not a relation over and above the interdependent relational properties, then being a father points and being a son is pointed to. But now being a pointer and being pointed to are ontologically interdependent. Without a way to end this regress, the relations-free account does not explain relativity.

Maybe these are not conclusive criticisms of the view that ancient relativity is a matter of ontologically interdependent relational properties. But I will not pursue this view further, except to note that Marmodoro's view does contain an

⁹ (Marmodoro 2014, 29).

important idea. Aristotle's relativity is a matter of ontological interdependence. Unlike Marmodoro. I don't think relational properties ontologically depend on each other; rather I think that the relative and correlative depend on each other, in Aristotle's view.

I surveyed two views that account for relativity without relations. First, a non-relational link between *independent* relational properties explains relativity. Second, a non-relational link between *interdependent* relational properties explains relativity. Two sorts of view remain to mention: relativity as incompleteness, where relativity is explained as a matter of incomplete relational predicates; and constitutive approaches, where relativity is explained because the relation constitutes the relative and correlative. Much existing literature holds that ancient philosophers took the former approach, but I will be advocating that they took the latter. To get clear on the debate, I will flesh out these approaches in a little more detail.

1.3.2 Relativity as incompleteness

For many scholars, ancient relativity is a matter of so-called 'incomplete' predicates.¹⁰ This reading does have ancient pedigree, and several scholars cite the following report in Diogenes Laertius:

(T1) Amongst beings (*τῶν ὄντων*), some are absolute (*καθ' ἑαυτά*), others are said in relation to something (*πρός τι*). Those said absolutely are all those which need (*προσδέχται*) nothing to be added in expressing them (*ἐν τῇ ἐρμηνείᾳ*). Examples of these would be man, horse and the other animals [...] Those said in relation to something (*πρός τι*) are all those the expression of which needs something, for example, greater than something, quicker than something, more beautiful, and other such things. For the greater is greater than something and the quicker is quicker than something (DL 3, 108–9).

This purports to be a record of Aristotle's record of a view from Plato, but the provenance of this view is uncertain to say the least.¹¹ Nevertheless, Diogenes'

¹⁰ (Owen 1957, 108–9) argues for such an incompleteness view in Plato. On Plato see (Hackforth 1955, 155); (Cornford 1939, 78); (Moravcsik 1962, 54n1); (Cross and Woosley 1966, 156–7). For Aristotle see (Ackrill 1963, 98). For the Stoics see (Mignucci 1988b, 188). On Sextus see (Annas and Barnes 1985, 139) and (Barnes 1988b, 21–3). (Brennan and Lee 2014, 248n3) also seem to endorse a view of relativity based on incomplete predicates.

¹¹ For discussion of the history of the Divisions of Aristotle see (Dorandi 2016). Dorandi thinks that the divisions of Aristotle actually do date from the Academy of Plato. (Rossitto 2005) defends the

text articulates an idea that is developed by recent commentators: relativity has something to do with incomplete predicates, predicates that need something extra to be expressed. Comparative adjectives are prime examples of incomplete predicates, for example, ‘larger’, which contrast with positive adjectives, such as ‘large’. When I predicate a comparative adjective, the predicate has two subject places. ‘Larger’ can form grammatical sentences like ‘Ajax is larger than Achilles’. A positive adjective, on the other hand, only has one subject place, so can form a sentence such as ‘Ajax is large’. Not all the incomplete predicates are comparative adjectives. Verbs like ‘loves’ pose a particular problem.¹² ‘Achilles loves’ is not grammatically incomplete, but does have two subject places, since ‘Achilles loves Briseis’ is also grammatical. There are clearly more relational predicates than incomplete predicates and I will discuss some hard cases, cases of elliptical predicates, below.¹³

Diogenes is not the only ancient source for the incompleteness reading. Some cite Aristotle’s *Sophistical Refutations* as evidence that Aristotle holds that relatives are incomplete predicates.¹⁴ In the context of debunking the babbling fallacy, Aristotle remarks that ‘it is clear that one ought not to allow that predications of things said in relation to something signify something when separated off by themselves’ (*Sophistical Refutations* 181b25–34). This suggests that relative predicates, for Aristotle, are semantically incomplete: they don’t mean anything independently of their context.

We can make this notion of an incomplete predicate precise.¹⁵ A dyadic predicate is a predicate of the form ‘ $R\alpha\beta$ ’; i.e. a predicate with two subject places, such as ‘ α is faster than β ’.¹⁶ An incomplete predicate is a predicate which has exactly one of the subject places filled with a name; e.g. ‘ α is faster

view that the divisions date to the Academy, a view that goes back to (Mutschmann 1906). Note that the ‘Divisions of Aristotle’ exist in multiple versions. The codex Marcianus is the only source, except for Diogenes, to record the division of relatives from non-relatives. The Marcianus text differs significantly from Diogenes’ and does not suggest that relativity has anything to do with incompleteness (Dancy 1999). Although Diogenes considers incompleteness to be the hallmark of relativity, his view was extremely rare. And for reasons that will become clear, the view of relativity contained in DL is not the one found in Plato or Aristotle’s texts. So this division, at least in the form we find it, seems unlikely to date to the Academy. Other than this, the earliest defender of the incompleteness view I can find is the Stoic Athenodorus of Tarsus (74BCE–7CE) who wrote a commentary on Aristotle’s *Categories* (cited in Simp. *In Cat.* 187, 28–30).

¹² Such examples are not considered by (Annas and Barnes 1985, 139), but are considered by (Barnes 1988b, 22). For the classic study of a similar phenomenon in Plato’s *Sophist* see (Brown 1986).

¹³ Formal logic has an easier time here than natural language, since in a formal language we can stipulate that there are n -adic predicates, which take n subjects to make a sentence. This thought, I take it, lies behind the incomplete predicates view.

¹⁴ (Owen 1968, 113); (Harari 2011).

¹⁵ Following (Barnes 1988b, 22–3).

¹⁶ I use italic Greek letters as metavariables, indicating where a variable should feature in a schematic statement. Like some authors I also uses punctuation marks such as ‘.’ or ‘()’ (Barnes 1988b, 23).

than Hector'. Generalizing, one of those subject places may be filled with a variable bound to an existential quantifier; e.g. '*a* is faster than someone'. Hence an incomplete predicate is a predicate of the form ' $\exists y(Ray)$ '.

Often, ancient thinking about relativity focuses on things that relate, rather than predicates that have some semantic feature. The incompleteness reading, therefore, needs to specify a class of relative objects. If we define the incomplete predicates in the manner outlined above, then the class of relatives is the class of entities of which an incomplete predicate is true. Put more formally, the relatives are given by the following equivalence:

(INCOMPLETENESS) *a* is a relative iff ' $\exists y(Ray)$ ' is true of *a*.

Achilles counts as a relative in this picture, since '*...is faster than Hector*' is true of '*Achilles*'.¹⁷

This account of relativity faces some problems. The first problem is to adequately characterize 'incomplete predicates'. If anything is a relative, then a parent is. So we would expect '*a* is a parent' to be an incomplete predicate. But '*a* is a parent' is not of the form ' $\exists y(Ray)$ '. For example, '*Thetis* is a parent' is a perfectly good statement in itself: it does not need completing with a bound variable or with a name. Barnes has addressed this objection by saying that either the predicate is elliptical, and the completion can be understood from the context or the incomplete and the complete predicates are synonymous. Although they have different forms, '*Thetis* is a parent' is either elliptical for, or synonymous with, '*Thetis* is a parent of someone'.

Neither of these solutions looks promising. First, incomplete predicates are not elliptical because many are meaningful, regardless of the context: '*Thetis* is a parent' is meaningful, even without context to tell us that *Thetis* is a parent of *Achilles*. Second, incomplete predicates are not synonymous with complete predicates, on pain of a regress: if 'parent' is synonymous with 'parent of someone', then, by substitution 'parent of someone' is synonymous with 'parent of someone of someone'.¹⁸ The defender of incomplete predicates could point out that compliments of relative predicates can be omitted when those compliments do not add any new information. It is no more informative to say '*Thetis* is a parent of someone' than to say '*Thetis* is a parent'. That observation is correct, but from this true observation about informativeness, nothing follows

¹⁷ (Owen 1957, 109); (Barnes 1988b, 22–3). Cf. (Annas and Barnes 1985, 139–40). (Baltzly 1997, 193–4) finds a similar view in Plato and Aristotle. (Barnes 1988b) takes the incompleteness view to be a commonplace in antiquity.

¹⁸ I thank an anonymous reader from OUP for this objection to Barnes.

about incompleteness. Two statements may be equally informative, yet it does not follow that either is 'incomplete'.

But even if the idea that incomplete predicates can be adequately specified, incomplete predicates do not seem to be extensionally adequate. Incompleteness says that the extension of a relative term is co-extensive with the domain of the corresponding relation. But this causes a problem. Suppose we substitute 'man' and 'is a son of' into the incompleteness schema: x is a man iff x is the son of some y , because all and only men are sons of someone. This cannot be right: 'man' is an exemplary non-relative. So the relationship between a relative and its corresponding relation must be stronger than this. If it is not stronger, then we will find that any term co-extensive with a relative term will be relative. Some defenders realize this, and assert that the link must be explained by the meaning of the terms involved: 'son' just means 'is a son of someone'; 'large' just means 'is larger than something'.¹⁹

This modification shows how problematic it is to claim that one-place relative expressions either are equivalent to or even mean the same as two-place relations. That is, how problematic any version of the 'incomplete predicate' reading will be. Take even a very simple case of a statement involving a relative term, such as (1) 'Ajax is large'. On the semantic incompleteness reading (1) must mean the same as (2) 'Ajax is larger than someone'. One problem with this is that these two statements have different truth conditions. (2) could be satisfied by Ajax being larger than, say, the world's smallest person, but clearly (1) could not be satisfied in the same way. If the two statements have different truth conditions they cannot have the same meaning. You might respond that the truth conditions for (1) 'Ajax is large' do not involve Ajax being larger than any given person, but rather than some given, if abstract, person, e.g. an average man. (3) 'Ajax is larger than the average man' seems a reasonable paraphrase for (1) 'Ajax is large'. Maybe semantic incompleteness can be saved in this way.²⁰

Serious difficulties also assail such an approach. Even if we say that (1) 'Ajax is large' means (4) 'Ajax is larger than the average man', there will be situations where (1) and (4) have different truth conditions. For example, suppose there are ten men, seven of whom are 1.5m tall, Ajax, who is 1.65m tall and two who are 2m tall. The mean average man here is 1.62m, the mode is 1.5m, and the median is 1.5m. Ajax is larger than the mean, mode, and median average man in height, but, with two men who are significantly larger than Ajax, it

¹⁹ (Mignucci 1986, 105).

²⁰ (Mignucci 1988a, 286n47) considers this sort of example.

does not seem right to say that (1) 'Ajax is large' is true.²¹ 'Large' does not mean 'larger than average'.

The incompleteness reading attributes to ancient philosophers an analysis of relativity where any item, x , is a relative just in case an 'incomplete predicate' is true of x . It turns out to be hard to give an adequate account an incomplete predicate or an extensionally adequate account of relatives using them. The incompleteness reading has philosophical problems. One theme of the book is that, even if we ignore those problems, the incompleteness reading can't account for ancient relativity. Incompleteness does not capture the scope and the concepts that ancient philosophers deploy when discussing relativity. Orthodox readings of Plato, Aristotle, the Stoics, and Pyrrhonian sceptics hold that these thinkers analyse relativity as using incompleteness. I think this goes wrong in two main ways. First, these thinkers analyse relativity in terms of objects, the relatives. Second, these thinkers tend to take relativity to be a matter of the relative being a certain way, rather than having a certain predicate true of it or having a certain feature. Put simply, I argue that ancient relativity is a matter of relatives being constituted by a relation, rather than merely bearing a relation.

1.3.3 Constitutive relativity

We can get into a bit more detail about the general constitutive view by contrasting it with non-constitutive views. Some item is a non-constitutive relative just when that item simply relates to something:

(LINK) For all x , x is a relative iff x relates to some y .

Non-constitutive approaches account for relativity because a relative simply relates to something. On this sort of approach, relatives are just ordinary objects and are relatives only in virtue of the fact that they happen to be linked by a relation.²² Given link, Thetis is a relative because Thetis is a parent of Achilles. The non-constitutive account of relatives is permissive. Link does not restrict which relation is invoked, so almost everything turns out to be a relative. After all, everything is the same or different relative to something.

²¹ For more on this issue, see: (Wallace 1972); (Wheeler 1972); (Kitcher 1978); (Kennedy 2007).

²² I owe this neat description of these approaches as involving a 'link' to an anonymous reader from OUP. More generally, I'm grateful to this reader for pressing me to clarify my taxonomy of approaches to ancient relativity.

Moreover, under link, the same relative can bear different relations to different things. For example, Achilles can bear the relation ‘...is faster than...’ to Hector and ‘...is the son of...’ to Thetis. Link allows a relative multiple relations.

We have already encountered a non-constitutive approach to ancient relativity: the incompleteness view. On the incompleteness view, x is a relative just in case some incomplete relational predicate is true of x . But all it takes for such a predicate to be true of x is for there to be some relation that links x to some other item y . The relation need not constitute x . Hence, incompleteness approaches are a sort of non-constitutive approach to ancient relativity.

The constitutive view builds a specific relation into what it is to be a given relative entity. This idea is no more mysterious than the idea that H_2O constitutes water, or that being a rational animal constitutes being a man. Water just is H_2O . In an example like that, we have a general sort of thing, water, and we describe its nature, being H_2O . It is clear what it means to say that water just is H_2O . Water and H_2O are co-extensive: if you have water, you have H_2O and vice versa. Water and H_2O also coincide necessarily: if you have water, you *must* have H_2O . Things are no less clear in relational cases. A double just is a number double of some number. Like water and H_2O , if you have a double, you have a number double of something and if you have a double, you *must* have a number double of something. Put explicitly, a constitutive approach says that:

(CONSTITUTION) For all x , x is a relative iff the relation x bears to some y constitutes x .²³

Take a relative like the referent of ‘a brother’. Relating in some way to something does not suffice for being a brother. A brother must be *a brother* of something. Being a brother depends on bearing the ‘...is a brother of...’ relation to something. A named individual brother, Hector, does bear the ‘...is a brother of...’ relation to someone, Paris. But being a brother of Paris is not what it is to be a brother: Agamemnon is a brother, but not a brother of Paris. To avoid such counter-examples, we might specify that we are interested in being a

²³ There is a counter-part to constitutes that covers relations, rather than relatives; namely, a certain notion of ‘internal’ relations. A relation, R , may be said to be ‘internal’ iff Rxy is essential to x and essential to y . This formulation is due to (Marmodoro and Yates 2016), but the ‘essentialist’ reading of internal relations is found in (Bradley 1897, 347), (Ewing 1934, chap. 2), (Bosanquet 1911, 277), (Blanchard 1939, 452), (Rorty 1967, 125), and (Schaffer 2010, 349) from whom I took these citations. See also (Mignucci 1986) and (Mignucci 1988a) which advocate a similar reading of relatives in Aristotle and Plato, and (Reesor 1957, 65) who holds that some Stoics think that the relatively disposed, R , are such that if Rxy holds, and x changes, then y changes.

brother *as such*, rather than some named brother. We will see in subsequent chapters that Plato and Aristotle each follow this sort of strategy.

I'll get a bit more fine-grained here. A relation can constitute a relative *directly*. We saw such cases above. But a relation can constitute a relative *indirectly*, by constituting something that constitutes the relative. This assumes, not unreasonably, that constitution is transitive. Water is constituted by H_2O and H_2O is constituted by a certain structural arrangement of hydrogen and oxygen, so water is constituted by a certain structural arrangement of hydrogen and oxygen. Chapter 10 discusses such an example in the Stoics where a sort is a relative because it is constituted by a power, and that power, in turn, is constituted by a relation. Constitution can be direct or indirect.

Constitutive approaches focus on the things that relate. But things that relate are just a sort of object and, like other objects, can come in two flavours: types and tokens. There are a number of ways to understand this distinction, but a type is general, abstract, and unique, while tokens are individual, concrete, and plural. With relatives there is a single type brother, but many token brothers, two being Paris and Hector. Moreover, types can be generic or specific. For example, colour is a generic type, red is a specific type; animal is a generic type; human is a specific type. Relative types can also be generic or specific. Parent is a generic type of relative; mother is a specific type of relative.

This distinction allows us to classify constitutive approaches. One class of approaches involves generic relatives constituted by a relation. Another involves specific relatives constituted by a relation. We have already seen examples of the former. A double is a generic relative, and is constituted by being double of something. We don't know much about this 'something', whatever a double is double of, but we do know that it will be a half. On the other hand, we might get specific and say that a specific double, two, is constituted by being double of a specific number, one.

Non-constitutive approaches contrast with constitutive approaches in the cases of named individuals. On link, Hector is a relative, since '... is a brother of someone' is true of Hector. However, on constitutes, Hector will not be a relative, since relating to something is not what it is to be Hector. Even if Hector were alone in the universe, Hector would still be Hector.²⁴ The contrast is also apparent in cases like a human. Under link, a human can be a relative, since a human relates to things. On constitution, however, a human cannot be

²⁴ Of course, there is a problem with the nature or essences of individuals. But assume for now that Hector's nature is not, for example, to be the first born son of Priam, or something similar.

a relative, since bearing a relation to something is not part of what it is to be a human. Supposing that a human is a rational animal, a human can be a human even alone in the universe. Furthermore, unlike on link, on constitution, the same relative cannot be encountered in different relations. A brother, as such, is brother of something; a faster thing, as such, is faster than something. No scope here for a brother, as such, being faster than something. To put the point another way: a non-constitutive relative, Achilles, can fall into the domain of more than one relation. But a constitutive relative, e.g. a brother, can fall only into the domain of the ‘... is a brother of...’ relation, since being a brother depends on, and only on, bearing the ‘... is a brother of...’ relation to something.

The constitutive view seems strange. That is because it posits a more fine-grained ontology than we are used to, so it multiplies the entities that there are in the world. Our intuitions, I think, are more with the linking view. If we analyse a relative, picked out by ‘Hector’, we would probably say that there is a concrete item, Hector, who bears several relations to different items: being a brother of Paris, son of Priam, enemy of Achilles. Constitution blocks such an analysis, since each relative relates to precisely one correlative. Constitution must offer a different analysis of a concrete object with multiple relations, such as Hector. The referent of ‘Hector’ ends up being a set of co-located constitutive relatives. Co-located with the referent of ‘Hector’ we have *a brother as such*. Also co-located, there is a further relative, *a son as such*, co-located with the referent of ‘Hector’. And so on: we multiply the number of co-located relatives, one for each relation that the referent of ‘Hector’ bears.

I have focused on relatives and relations. But I should say something about correlatives. Where *a* relates to *b*, *a* is the relative and *b* the correlative. Strictly speaking, a correlative is just a relative. After all, both *a* and *b* are both things that relate. But it is useful to have two separate labels for the items that fill each position. For example, where a brother is a relative, a sibling will be its correlative; where a double is a relative, a half is its correlative.

A related point concerns the correlative. On link, Hector will be brother of Paris; so Paris will be the correlative of Hector in this case. But under constitution a relative, a brother as such, can’t have Paris as a correlative. ‘A brother as such is brother of Paris’ is false, since being a brother is not a matter of relating to Paris, although it is a matter of relating to something. What can we say about this correlative? Something, but not much: ‘a brother as such is brother of a brother’ will be false too, since being a brother is not a matter of relating to a brother, as a brother may also relate to a sister. All we can say about the

correlative of a brother as such is that the correlative is a sibling: ‘a brother as such is a brother of a brothered thing’ is true.

To sum up the difference: a constitutive theory of relativity lines up one relative with one relation and one correlative. On a constitutive view the ontology of relativity is fine-grained. A non-constitutive theory need not line up relatives, relations, and correlatives one-to-one-to-one. One relative could bear diverse relations; one relation could relate diverse relatives; one correlative could relate to diverse relatives.

Be on guard that other accounts of relativity may involve being ‘constitutive relativities’ in some other sense. For example, Mario Mignucci holds that for Aristotle a *relation* constitutes a relational *property*. Being a brother of someone constitutes the property being a brother.²⁵ But this contrasts with the constitutive view I defend. I hold that the relative, that is, the object that relates, is constituted by a relation it bears.

Furthermore, we shouldn’t confuse Marmodoro’s view with the constitutive view I am defending. On Marmodoro’s view, two relational properties ontologically depend on each other. One might be tempted to describe this as the relational properties ‘constituting’ each other in some sense. The property being a parent depends ontologically on the property being an offspring. But Marmodoro’s view says nothing about the status of the relatives, the objects that bear those relational properties. Unlike Mignucci, Marmodoro does not think that any relation constitutes the relational properties; unlike me, she does not think that the relevant relation constitutes the relatives.

Constitutive relativity is the idea that a relation constitutes a relative and a correlative. Since the relative and correlative are objects, they may be tokens, generic types, or specific types. And the relative may be constituted directly or indirectly. Different ancient philosophers emphasize different aspects of this picture, as we will see, but constitution and the various ways to specify it, is the endoskeleton of ancient relativity.

1.4 Some formal features of constitutive relativity

Constitutive relatives share a distinctive set of features. I call these ‘formal features’ because a constitutive relative will have these features in virtue of being

²⁵ Mignucci endorses this as a reading of Plato’s *Symposium* 199d5 (Mignucci 1988a) and Aristotle’s first account of relativity in *Categories* 7 (Mignucci 1986).

constituted by its relation to the correlative. If constitution is the endoskeleton of constitutive relativity, the formal features are the tendons and ligaments anchored to that skeleton. Here I will mention four basic formal features that Plato recognizes, and which Chapters 2–4 will draw on and develop. Ancient thinking about relativity recognized more formal features than this, as will become clear, especially when I move on to discuss Aristotle in Chapters 5–8.²⁶

1.4.1 Exclusivity

Exclusivity is the principle that a relative relates only to its correlative. Put schematically:

(EXCLUSIVITY) For all x and for some y , if x is relative to y , then x relates only to y .

Exclusivity has a close connection the constitutive view of relativity. After all, on a non-constitutive view, exclusivity is just false. If Achilles is faster than Hector, Achilles can still be faster than Odysseus. So how are we to understand the constitutive view so that exclusivity follows from it?

One way to motivate exclusivity on the constitutive view would be to think about what can replace ‘ x ’ and ‘ y ’ in the schema above. These can only be replaced with objects that somehow relate. They can only be replaced with relatives and correlatives. But on the constitutive view, an item like Achilles turns out not to be a relative, strictly speaking. The faster thing would be a relative, as would the slower thing. If these, and such items, are the relative-correlative pairs, then exclusivity follows. The faster thing is faster than the slower thing, because that faster thing just is what bears the ‘... is faster than...’ relation to something and the converse is true for the slower thing. But if the faster thing just is what is faster than the slower thing, there is no further thing, which isn’t identical to the slower thing, than which the faster thing is faster.

You might now point out that, as well as faster things and slower things, there are moderately fast things. So, in some sense, there is a further thing, not identical to the slower thing, than which the faster thing is faster. But in this case the moderately fast thing is a slower thing, because it is slower than

²⁶ Warning: these ‘formal features’ are not comparable to the properties of relations (reflexivity, symmetry, transitivity, and so on) which modern logic recognizes.

the faster thing. Hence, it is already covered by the correlative, a slower thing. Making this move looks like we are considering the correlative, a slower thing, as a generic type, rather than a token. The type, a slower thing, gobbles up the moderately fast thing as well as the slower thing. This may well be right: exclusivity may hold in full generality only when constitutive relatives are understood as generic types. We will see how Plato and Aristotle, in particular, do consider generic types and exclusivity.

1.4.2 Reciprocity

Reciprocity also plays a key role in the view of relativity expounded by Plato and Aristotle:

(RECIPROCITY) For all x and for some y , if x is relative to y then y is relative to x .

Informally put, if a relative is relative to a correlative, then that correlative is relative to the relative. For example, if a larger thing is relative to a smaller thing, then the smaller thing is relative to a larger thing. Reciprocity follows from constitution with some minimal assumptions, assumptions that we get just from the idea of a relation. We know that every relation has a converse. Where a relation maps an object in the domain to an object in the co-domain, the converse maps an object in the co-domain to an object in the domain. Items in the domain of a relation are relatives and items in the co-domain are correlatives:

(CONVERSE) For every relation R , there exists a converse, R^{-1} .

Converse and constitution entail reciprocity. Suppose that there is a relative, a larger thing. By constitution the larger thing just is what it is to bear the ‘...is larger than...’ relation to something. That something is a smaller thing. By converse, the ‘...is larger than...’ relation has a converse, ‘...is smaller than...’, which holds between the smaller thing and the larger thing. But by constitution, the smaller thing just is what bears that relation to something, in this case, the larger thing. If you hold that a relation constitutes a relative and that every relation has a converse that relates a correlative to a relative, then you also hold that the correlative is a relative, and hence, is constituted by the converse relation.

1.4.3 Aliorelativity

Does any relative relate to itself? Plato's Socrates seems unsure, while Aristotle and Sextus simply assume a negative answer.²⁷ I call the principle that no relative relates to itself aliorelativity:

(ALIORELATIVITY) For all x and for some y , if x is relative to y , then x is not identical to y .

Aliorelativity doesn't follow constitution as straightforwardly as exclusivity and reciprocity, which may explain the divergence among the ancients. Some scholars think the ancient commitment to aliorelativity can be explained only as a historical quirk. And it is clear that the constitutive view of relativity does not, all on its own, entail aliorelativity. Constitution is compatible with both aliorelativity and the denial of aliorelativity.

However, if we add certain assumptions to the constitutive view, aliorelativity does follow. An obvious candidate would be to say that no relative bears its constituting relation to itself. A brother is constituted by bearing the '... is a brother of...' relation to something. So no brother is brother of itself. But what could motivate this sort of assumption? One thing to notice is that, while identity is a reflexive relation (everything is identical to itself) constitution is a non-reflexive relation (not everything constitutes itself). In general, a constitution relation holds between an object and one or more properties of that object while an identity relation holds between an object and itself. Since a constitution relation holds between an object and a property, the constitution relation must be non-reflexive. Identity, on the other hand, always holds between an object and itself, so identity is reflexive.

Identity and constitution come apart. But this is still not enough to get to aliorelativity. A lover is constituted by, but is not identical to, bearing the '...lover of...' relation to some beloved. Why can't this beloved be the lover? It is not enough to say that one is the relative and the other the correlative, since precisely what is at stake is whether the relative and correlative can be identical.

²⁷ For Plato see section 2.5; for Aristotle, see section 5.1; for Sextus see section 11.3.3. I call any relatives that do not obey aliorelativity 'reflexive relatives'. Boethus of Sidon may be the only ancient to reject aliorelativity, but even this is arguable. Boethus of Sidon apparently denied that Aristotle should have included 'other' in his definition of 'relative' (Simp. *In Cat.* 163, 15–29), but this does not mean Boethus denied that all relatives relate to other things; his grounds for excluding 'other' from the definition seem to be that 'other' is itself a relative.

One approach would be to say that the constituting relation is a grounding relation. Of course, different philosophers, including ancient philosophers, will understand this idea of grounding in different ways. But a grounding relation is usually taken to be a unitary and unanalysable metaphysical relation between items. Applied to the case of constitutive relatives: a relative is what it is in virtue of its relationship to a correlative. But nothing is what it is in virtue of itself. Thus, a lover is a lover in virtue of its relationship to a beloved. And vice versa. Grounding is clearly an irreflexive relation. Nothing grounds itself. So being a lover cannot be grounded in a relation that the lover bears to himself or herself. The constitutive view of relativity can account for aliorelativity, if the constituting relation is understood to be a grounding relation. Although I'll not be arguing that in ancient accounts of relativity the constituting relation is a grounding relation, it is an attractive hypothesis, which makes sense of the widespread ancient assumption of aliorelativity.

1.4.4 Existential symmetry

Existential symmetry is a certain kind of dependence relation that holds between the relative and correlative. Roughly, the idea is that neither relative nor correlative is existentially prior to the other. More precisely:

(EXISTENTIAL SYMMETRY) For all x and for some y if x is relative to y , then (x exists at just those times when y exists).

This follows straightforwardly from the idea that a relation to the correlative constitutes a relative. If a lover just is whatever loves a beloved, then a lover exists just when their beloved exists. An analogous case of constitution, such as water and H_2O will also exhibit existential symmetry. Water just is H_2O . So any time when water exists, H_2O exists.

Existential symmetry is a sort of simultaneity relationship between a relative and correlative. However, Aristotle, in particular, is aware that there might be priority relationships between relatives and correlatives.²⁸ The constitutive view of relativity leaves room for certain priority relations to hold between relatives. In Aristotle's case, he is keen to allow that some relatives might be prior to their correlative in some sense. He is also concerned that for a certain class of relatives, the relative is prior to the correlative in definition. But priority

²⁸ See sections 5.4, 6.3, and 7.4.

relations such as these are compatible with the constitutive view of relativity. A master is constituted by being master of a slave: a master just is a master of a slave. But a master nonetheless possesses a slave. The knowable just is what is known by knowledge, but the knowable cannot be defined without knowledge. Certain priority relations are consistent with the constitutive view of relativity. But existential priority is not one of them, as the constitutive view entails existential symmetry and existential symmetry is the denial of existential priority.

Conclusion

Here I have made some distinctions to get clearer about the notion of relativity I will be attributing to ancient thinkers. I distinguished objects that relate (that is, relatives), from monadic relational properties and from polyadic relations. I went on to taxonomize the interpretive options for ancient relativity. The first approach tries to account for relativity without relations: either by saying relational properties are linked but ontologically independent; or, by saying relational properties are linked but ontologically interdependent. The second approach, which will be my main foil in this book, is that relativity is a matter of incomplete predicates. Third, I distinguished two ways of understanding relatives: either as non-constitutive, meaning that they simply bear a relation to something; or, as constitutive, meaning that being a relative object just is to relate to something. The most common view in the scholarship, that ancient relativity is normally a matter of incomplete predicates, is a version of the former view. I will advocate that ancient relativity usually involves some version of constitutive relatives.

Now some caveats. Constitution defines a class of views about what it is to be a relative and we will see different versions of the view in ancient texts. This introduction has only given the under-skeleton of the view. The rest of the book shows how constitutive relativity can be fleshed out in different and surprising ways. Sometimes relatives are generic types, which gives rise to a different view to when they are specific types or individual tokens. Sometimes the relation directly constitutes the relative, sometimes indirectly. Sometimes cognitive considerations are built in, sometimes not. But the basic thought, that relativity is a matter of relatives and relating constitutes a relative, is constant across a range of periods, schools, and philosophical debates. The mainstream of ancient thinking takes a constitutive approach to relativity.

Ancient philosophers tend to analyse relativity using constitutive approaches. But that does not mean that we only find constitutive relatives in ancient philosophy. Ancient philosophers, like anyone else, make statements like ‘Achilles killed Hector’ and so think and talk using relativities. My only claim is that the best explanation for some philosophical moves that ancient philosophers is a commitment, tacit or explicit, to a constitutive idea of relativity.

A further caveat is this. Although this is history of philosophy, I will not be making historical claims of the form: ‘*x* held such-and-such a theory because *y* held such-and-such a theory’. I don’t make claims about the causes of one thinker holding a certain belief, or whether, say, Plato influenced Aristotle. Such claims are notoriously hard to prove. I’ll be content if I can convince you that Plato, Aristotle, Stoics, and Sceptics each hold a version of the constitutive view of relativity and show you why the view might be worked out differently for each. At best, that shows that Aristotle *may have* held a view because Plato did, but not that Aristotle *in fact* held a view because Plato did.

Finally, to avoid doubt, I am not proposing that relativity is best understood as constitutive relativity. I don’t hold a constitutive view of relativity and I don’t think you should either. I have introduced constitutive relativity as an interpretive tool that will help us to make sense of many moves ancient philosophers make when relativity crops up in philosophical reflections. It does not follow from this that I think the view is true, plausible, or even defensible in itself.

So that maps the terrain to cover. The rest of the book follows a particular route through that terrain. Chapter 2 begins to argue that Plato has a constitutive view of relativity, with an inference to the best explanation: key formal features of constitutive relativity are exclusivity, reciprocity, aliorelativity, and existential symmetry; Plato’s texts rely on such formal features; so, Plato at least tacitly endorses constitutive relativity. Chapter 3 begins to apply these results to look at constitutive relativity in the context of the separation of Forms and participants in the *Parmenides*’ critique of the Forms. Chapter 4 continues to examine how constitutive relativity works, this time in the context of Plato’s tripartite psychology. Chapter 5 shows that, although Aristotle is not the earliest thinker to have deep things to say about relativity, he gives a clear statement of constitutive relativity, and works out some of the language and formal features that constitutive relatives have. Chapter 6 shows why Aristotle introduces a nuance into his constitutive view of relativity, although he does not abandon the view. Chapter 7 continues to look at Aristotle’s view of

relativity, this time his account in the *Metaphysics*. Chapter 8, again, concerns relativity and the Forms, but this time looks at relativity and independence, driven by Aristotle's critique of the Forms, as recorded by Alexander of Aphrodisias. Chapters 9 and 10 argue for the presence of constitutive views of relativity in the Stoics. Chapter 11 looks at Sextus' brand of Pyrrhonian scepticism, again showing that he assumes a version of the constitutive view of relativity.

Constitutive relativity in Plato

Introduction

Scholars used to hold that Plato totally misunderstood relativity.¹ Recent scholars have been more optimistic, but the consensus has weighed towards non-constitutive views.² In this chapter, I will argue that key passages in Plato, which discuss relativity, assume a constitutive view. The formal features—exclusivity, reciprocity, aliorelativity, and existential symmetry—are identified in those passages. These principles are not confined to one dialogue, philosophical topic, or speaker. But they all follow from constitutive relativity. So we can see some of the role constitutive relativity plays.

I argue that Plato assumes a constitutive view of relativity by showing that the formal features of constitutive relativity are present across his writing. Section 2.1 discusses *Symposium* 199d–e and *Sophist* 255c. Section 2.2 argues for exclusivity in the *Symposium* 200a–201c and *Theaetetus* 204b–205a. Section 2.3 argues for reciprocity in *Statesman* 283d–e. Section 2.4 argues for existential symmetry in *Theaetetus* 156a–157c. Section 2.5 analyses aliorelativity in *Charmides* 167c–169a.

¹ (Russell 1946, 143); (Russell 1946, 164); (Hackforth 1955, 155); (Cornford 1939, 78); (Moravcsik 1962, 54n1); (Cross and Woosley 1966, 156–7).

² (Kirwan 1974) argues that Plato develops the incompleteness view across several dialogues. (Annas 1974, 267n33) holds incompleteness is part of the Academic idea of relativity, but that Plato's relativity focuses on aliorelativity. (Scaltsas 2013) and (Scaltsas 2016) argue that plural participation in a Form grounds relativity.

Scholars who have detected an incompleteness view in specific passages include the following. For the *Symposium* 199d (Allen 1966); (Mignucci 1988a, 280–6); (Scheibe 1967, 32). For *Parmenides* 133c–d (Mignucci 1988a, 286–92). For *Republic* IV 438b–d (Owen 1957, 107n27); (Kirwan 1974, 119–21); (Jordan 1983, 35–41); (Scheibe 1967, 32). For *Charmides* 167e–168d (Owen 1957, 107n27); (Jordan 1983, 27–30); (Scheibe 1967, 31n4). For *Theaetetus* 156–60 (Owen 1957, 107n27); (Scheibe 1967, 32); (Jordan 1983, 31). For *Sophist* 255c–d (Owen 1957, 107n27); (Scheibe 1967, 33); (Dancy 1999); (Duncombe 2012). For *Phaedo* 102b–d (Mignucci 1988a, 267–80) has defended an incompleteness reading, while (Castañeda 1972); (Castañeda 1978); (Castañeda 1982); (Scaltsas 2013) argue in different ways that Plato here accounts for relativity without relations. Cf. (Matthen 1982); (McPherran 1983a); (Matthen 1984). For the *Statesman* 283d (Scheibe 1967, 31n4).

2.1 *Generic relatives and ‘just what it is’*

Sometimes Plato qualifies a thing as ‘just what it is.’ The ‘just what it is’ qualification focuses on an item as such. In arguments that turn on relativity, the ‘just what it is’ qualification focuses on a relative as such. This excludes from consideration any putative correlative *except* the constituting correlative. The fact Plato feels entitled to exclude all correlatives, except the constituting correlative, suggests that he assumes generic, constitutive relativity. In section 2.1, I will look at two passages where Plato uses the qualification to great effect.

2.1.1 *Symposium* 199d1–199e8

The *Symposium* recounts an intellectual drinking party. At least, the party starts intellectually. Each guest presents a speech about love. In his speech, the tragic poet Agathon argued that one should praise the god, Love, for his own features (195a2–3) and that Love is the beautiful (195a6–7; 197c2–3). Socrates agrees with this approach, but questions whether Love is beautiful. So Socrates undertakes to examine Agathon using the elenchus:

(T1) Is Love such as to be a love of something or of nothing? I’m not asking if he is <born> of some mother or father, (for the question whether Love is love of mother or of father would really be ridiculous), but it’s as if I’m asking about a father – whether a father is father of something or not (*ἀρα ὁ πατήρ ἐστι πατήρ τινος ἢ οὐ*). You’d tell me, of course, if you wanted to give me a good answer, that it’s of a son or a daughter (*υἱός γε ἢ θυγατρός*) that a father is the father. Wouldn’t you?

‘Certainly’, said Agathon.

‘Then the same goes for the mother?’ He agreed to that also.

‘Well, then,’ said Socrates, ‘answer a little more fully, and you will understand better what I want. If I should ask, “what about this: a brother just in so far as he *is* a brother (*ἀδελφός, αὐτὸ τοῦθ’ ὅπερ ἔστιν*),” is he brother of something or not?’ He said that he was.

‘And he’s of a brother or a sister, isn’t he?’ He agreed.

‘Now try to tell me about love,’ he said. ‘Is Love the love of nothing or of something?’

'Of something, surely!'

(*Symposium* 199d1–199e8. Translation Nehamas and Woodruff, my brackets).³

In this passage, Socrates focuses on analysing love as a relative, rather than as a relation. Socrates gives analogous examples: the father (relative to son or daughter); a mother (relative to son or daughter); a brother (relative to brother or sister). Clearly, these are items that stand in relations, not items that do the relating. Constitutive relativity characteristically focuses on the relatives, rather than the relations.

Furthermore, Socrates asks about the nature of the relatives, rather than their origin. Socrates clarifies that he is not asking whether love is of a parent. Rather, Socrates wants to know something about the nature of the love: what love's correlative is. Like all relatives on the constitutive account, love relates to a correlative. All relatives are of their correlatives; so, all relatives are of something.⁴ The Greek genitive, which translators render using 'of', could pick out either the origin or the correlative. So Socrates needs to clarify that he is after the correlative of love.⁵

Furthermore, Socrates takes the relatives as generic types. This is characteristic of the generic constitutive reading. In (T1) Socrates explains that a father is a relative precisely because a father is father of something. A father isn't just of any old thing: a father is father of a son or daughter. But we could still wonder what 'a father' picks out. Does 'a father' pick out a token father, e.g. Priam? After all, it is true that Priam is father of a son or daughter. Does 'a father' pick out some sort of father, such as a noble father? A noble father is also father of a son or daughter.

Socrates rejects both options. When he shifts to the example of a brother, Socrates gets Agathon to agree that a brother, 'just in so far as he is a brother, is brother of something' (*Symposium* 199e2–4).⁶ Socrates rules out thinking

³ Throughout this section, the Nehamas and Woodruff translate the personal pronoun 'he' and capitalize 'Love' as if the god Love were the subject. Burnet also capitalizes, as if *ἔρως* were a proper noun (Burnet 1901, 2: *ad loc.*). This is inconsistent with my suggestion that Socrates moves the discussion to focus on love in general or in the abstract at 199c1–d7. But, since *ἔρως* is a masculine noun in Greek, whether the proper noun 'Love' or the abstract noun 'love' is invoked cannot be determined by the Greek alone. It may be that Socrates deliberately retains the ambiguity, so as to be more persuasive to Agathon, and the rest of the company, who are not so interested in the abstract notions that are in play, including the formal features of love as a relative.

⁴ This adumbrates Aristotle's definition of relativity at *Categories* 7 6a35. See section 5.1. See also (Allen 1966); (Dover 1980, 133); (Meinwald 2016, 87).

⁵ For a clear discussion of this point see (Sandford 2010, 101).

⁶ ἀδελφός, αὐτὸ τοῦθ' ὅπερ ἔστιν, ἔστι τινὸς ἀδελφός. Dover suggests rendering this as brother 'qua brother' is brother of something (Dover 1980, 134). If 'qua' picks out the object as such, Dover's gloss

of some token brother, e.g. Hector, and rules in thinking of a brother as a generic type. Some token brothers may not have a brother, but rather a sister. But the generic type brother, is brother of a brother or sister. Similarly, Socrates rules out thinking of some specific sort of brother, say an older brother, because an older brother, as such, is not brother of a just a brother or sister. An older brother is brother of a *younger* brother or sister. For Socrates, a relative is the most generic type of a relative.

Socrates uses the expression ‘just what it is’ (*ὅπερ ἔστιν*) to warn Agathon against taking ‘a brother’ as some token brother, e.g. Hector, with various properties. Rather ‘a brother’ picks out brother in general, a brother as such. If we know that *x* is a brother as such, we know that *x* is a brother. But because we know that *x* is a brother, we also know that *x* has a brother or sister. We know that the brother as such has a correlative. However, since *all* we know about *x* is that *x* is a brother, we don’t know who *x* is. So we don’t know whether *x* has a male or female sibling. We know that *x* has an exclusive and exhaustive correlative. There is only one correlative, a sibling as such, and no other possible correlative. We have this information, and only this, information about the correlative of *x*, because all we know about *x* is that *x* is a brother. The qualifier ‘just what it is’ (*ὅπερ ἔστιν*) is the mechanism by which Socrates ensures that Agathon considers only the proper correlative.

2.1.2 *Sophist* 255c9

A later dialogue also connects constitutive relatives with the ‘just what it is’ qualification. At *Sophist* 255c14 the Eleatic Visitor contrasts relativity with independence, as part of an argument that the great kinds being and other are not identical.⁷ The Visitor deploys the ‘just what it is’ qualification in much the same way as Socrates in the *Symposium* 199d1–e8.

is right. For uses of *ὅπερ ἔστιν* to pick out an object as such, see *Symposium* 199e3; *Charmides* 167b11; *Parmenides* 139c1; *Philebus* 54a8–9. Cf. (Shorey 1935, 393). In Aristotle, the language of ‘just what it is’ (*ὅπερ ἔστιν*) recurs in the context of relativity, where the expression specifies that a relative is constitutive. In Plato ‘*τοῦθ’ ὅπερ ἔστιν*’ occurs without a ‘*λέγεται*’, unlike in Aristotle’s *Categories* 7. However, Aristotle does use the expression without a ‘*λέγεται*’ at *De Anima* 430a23. See section 5.1.

⁷ This contrast is often compared to divisions of ‘absolute’ and ‘relative’ found elsewhere in ancient philosophy. For Xenocrates see Simp. *In Cat.* 66, 22; for Boethus of Sidon, Simp. *In Cat.* 159,9–22; for Hermodorus, Simp. *In Cat.* 247, 30ff = Hermodorus, Fr. 7 Isnardi Parente. For comment see (Annas, 1974: 267); (Dancy, 1999: 45ff); (Dillon, 2003: 151). *Philebus* 51c–d and *Theaetetus* 157a8–b1 are sometimes cited as further sources for a so-called Platonic category scheme.

The Visitor aims to show that 'being' and 'other' are different 'very great genera'. First, the Visitor distinguishes 'independent' from 'relative'. Then, he argues that, although being participates in both independent and relative, other participates only in the latter. So being and other do not share at least one feature. So, the two are not identical:

(T2) ELEATIC VISITOR: So then, must one say that other is a fifth? Or ought one to think of that and being as two names for one kind?

THEAETETUS: Perhaps.

EV: Well I think you agree that amongst beings some are spoken of themselves in themselves (*αὐτὰ καθ' αὐτά*) while some are always spoken of in relation to each other (*πρὸς ἄλληλα*).⁸

T: Certainly.

EV: But other is always [spoken of] in relation to something other, right?

T: Yes.

EV: It wouldn't be, if being and other were not totally different: if, instead, other participated in both forms, just as being does, then some of the things that are other would be other without being in relation to another. In fact, though, we find that whatever is other turns out by necessity to be just what it is (*ὅπερ ἐστίν*) of, or than, another.

T: It is exactly as you say.

(*SOPHIST 255C9–D10*).

Scholars fight over this passage, especially the distinction between 'independent' (*αὐτὰ καθ' αὐτά*) and 'relative' (*πρὸς ἄλληλα*).⁹ But here I simply want to ask why the Visitor thinks being can be either independent or relative, while other can be only relative. I argue that the answer supports my view that Plato uses the 'just what it is' qualification to specify generic relativity.

At 255d4–7, the Visitor explains what other has but being lacks. Other just what it is (*ὅπερ ἐστίν*) (i.e. other) is of another, while being, even being just what it is, is not of another. The Visitor puts his point using a counterfactual

⁸ Here I deviate from the OCT and follow a well-attested alternative manuscript reading. For a defence of this reading see my (Duncombe 2012). Thanks to Paolo Crivelli, I recently found out that Lewis Campbell prints *πρὸς ἄλληλα* in his 1867 edition of the *Sophist* (Campbell 1867), although in Campbell's pagination, the relevant text is at 255d2.

⁹ Some hold that the distinction divides kinds: (Heinaman 1983, 14); (De Vries 1988, 385); (Dancy 1999, 45–9); and (Malcolm 2006, 277). (Owen 1957, 107n27) took this view, but later rejected it. The kinds approach is opposed by: (Frede 1967, 1–99) and (Frede 1992, 397–424); (Owen 1970, 223–67); (Bostock 1984, 89–119); (Brown 1986, 49–70); (Crivelli 2012, 149), all of whom take a semantic approach and hold that the *αὐτὰ καθ' αὐτά* and *πρὸς ἄλληλα* distinction is between two senses or uses of the verb *εἶναι*. I myself have developed a view in (Duncombe 2012).

conditional. If other were like being, i.e. if other were both independent and relative, then there would be others that were other than another thing *and* others that are others absolutely. But there is no such thing as this latter sort. So the other does not fall under both independent and relative.

But beings do fall into both kinds. Achilles is a being, even independently of everything else. But Achilles is also relative, for example, to Thetis. Achilles, an offspring, is relative to Thetis, a parent. So beings are both independent and relative. But, the Visitor points out, other lacks this feature. Why does an other not fall into both kinds, while a being does? After all, Achilles, is both a being and an other: Achilles is other than the Hector, so Achilles is other, at least, relative to something. In so far as Achilles is an other, an other is both independent and relative. But that would collapse the distinction the Visitor is trying to draw.

The Visitor blocks such counter-examples by stipulating that other, just what it is, is relative to another. As the Visitor points out, taken as others, others relate only to others. The force of the ‘just what it is’ at 255d7 makes the point. Achilles might be independent or relative to other things but, when taken strictly as other, Achilles can only be other than something else. Other, just as other, can never be both an absolute and a relative, since generic constitutive relatives, like other just what it is, are constituted by bearing a relation, in this case, the ‘...is other than...’ relation, to some equally generalized correlative. So there is no question of other as such also falling into the class of independent things.

Socrates and the Visitor each use the ‘just what it is’ qualification to pick out the most generic type of a relative. A generic relative, a brother as such, is relative only to its generic correlative, a sibling. This move is available only if we assume that there is nothing more to a brother as such than being a brother of a sibling. That is, only if generic, constitutive relativity is in play.

2.2 *Exclusivity in Plato*

2.2.1 *Symposium 200a2–201c7*

I return to the examination of Agathon to develop the argument that Plato assumes the constitutive view. Agathon agreed that love is a relative, since love is love of something (199e5–200a1).¹⁰ Socrates proceeds to argue, mischievously, that love is not beautiful (*Symposium* 200a2–201c7):

¹⁰ See section 2.1.1.

1. Love is desire for its object (200a2–3) [Premise]
2. Beauty is the object of love (201a4–5. Cf. 197b3–5) [Premise]
3. Love is desire for beauty (201a4) [From 1, 2]
4. For all x and for some y , if x desires y , x does not possess y (200a5–b1. Cf. 186b5–7) [Premise]
5. Love does not possess beauty (201b4) [From 3, 4]
6. For all x , x is F iff x possesses F -ness [Suppressed Premise]
7. So, love does not possess beauty [From 5, 6]
8. So, love is not beautiful (201b9–c7) [From 6, 7]

The argument can be construed as valid. But Socrates needs love to relate only to its correlative. If love does not relate exclusively to its correlative, then the argument would be vulnerable to the following counter-example. Suppose that we argue that love is not *feminine* (an object to which love is sometimes directed and sometimes not) by a parallel argument:

1. Love is desire for its object [Premise]
2. Femininity is the object of love [Premise]
3. Love is desire for femininity [From 1, 2]
4. For all x and for all y , if x desires y , x does not possess y [Premise]
5. Love does not possess femininity [From 3, 4]
6. For all x , x is F iff x possesses F -ness [Suppressed premise]
7. So, love does not possess femininity [From 5, 6]
8. So, love is not feminine [From 6, 7]

The problem is that love does not only have femininity as its object, but sometimes the non-feminine. Applying the same reasoning again, love cannot be non-feminine either. But love must be either feminine or non-feminine. So if we allow that an object of love has exceptions, we can generate a contradiction with Socrates' argument.¹¹ Thus, Socrates' argument works only if the object of love is exclusive. If the object of love is exclusive, then the argument is valid, but invalid otherwise. Since love is a relative, this is good evidence that Plato's view of relativity includes exclusivity. Socrates' refutation needs exclusivity.

¹¹ Tamer Nawar has pointed out to me that one way to explain the problem here would be an ambiguity in (3), which is a generic statement. Generic statements can introduce ambiguities because it is not clear how quantifiers work in these cases. 'Dogs have four legs' is true, but 'all dogs have four legs' is false. The problem here is that (3) is ambiguous because generic. My suggestion, that for Plato relatives relate exclusively, gives Plato the tools to specify how to understand the premise.

Now we can see how two features of constitutive relativity cooperate. The use of the ‘just what it is’ qualification when Socrates talks about relatives ensures exclusivity between the relative and the correlative. When we understand a brother to be ‘just what it is’, we ignore all the other features that the brother has, except that the relative is a brother. A brother, so understood, is the brother of a sibling, but not of a sister or a brother. There is no fact of the matter whether a brother as such has a brother or a sister, although a brother as such does have a sibling. The ‘just what it is’ qualification ensures exclusivity.

2.2.2 *Theaetetus* 204b1–205b1

The third part of the *Theaetetus* also pairs the ‘just what it is’ qualification with exclusivity. Socrates and Theaetetus are discussing whether knowledge is true belief with an account (202c), where an account is an enumeration of the parts of a composite (203a5–10). This entails that knowing the parts is necessary for knowing the composite (203a–b). Socrates attacks this suggestion. He points to an unacceptable consequence. Someone might know the syllable ‘SO’, but cannot know ‘S’ and ‘O’. ‘SO’ can be known when analysed into ‘S’ and ‘O’, but each of ‘S’ and ‘O’ cannot be further analysed, so cannot be known.

One could block Socrates’ attack if there were more to knowing the whole syllable than knowing each part. This would be true if the whole syllable ‘SO’ were more than a simple sum of ‘S’ and ‘O’ (203e1–5). To support his attack, Socrates wants Theaetetus to accept that the whole ($\tau\acute{o}$ ὅλον) is identical to the sum ($\pi\acute{\alpha}\nu$). Socrates’ argument for the ‘sum = whole’ thesis runs this way:

- (T3) s: Well now, is there any difference between all the things and the sum?
 For instance, when we say ‘one, two, three, four, five, six’; or ‘twice three’ or ‘three times two’, ‘four and two’, ‘three and two and one’; are we speaking of the same thing in all these cases or different things? T: The same thing.
 s: That is, six? T: Precisely. [...]
 s: And the number of an army is the same as the army? And so always with things of this sort; their total number is the sum that each of them is. T: Yes.
 s: But is the number of each anything other than its parts? T: No.
 s: Now, things that have parts consist of parts? T: That seems true.
 s: And it is that all the parts are the sum, seeing that the total number is to be the sum. T: That is so.

- s: Then the whole does not consist of parts. For if it did, it would be all the parts and so it would be a sum. T: It looks as if it doesn't.
- s: But can a part, as such, be a part of anything but the whole (*Μέρος δ' ἔσθ' ὅτου ἄλλου ἐστὶν ὅπερ ἐστὶν ἢ τοῦ ὅλου*)? T: Yes, of the sum.¹²
- s: You are putting up a good fight, Theaetetus. (*Theaetetus* 204a11–205a1. Translation Levett revised by Burnyeat).

Reconstructed, Socrates' argument for the whole = sum thesis looks like this:

- | | | |
|----|---------------------------------------|-------------------------------------|
| 1. | All the things = the sum | [Premise] |
| 2. | The number of things = all the things | [Premise] |
| 3. | The number of things = all the parts | [Premise] |
| 4. | All the parts = the sum | [1, 2, 3, transitivity of identity] |
| 5. | All the parts = the whole | [Lemma] |
| 6. | Therefore, the whole = the sum | [4, 5, transitivity of identity] |

Socrates never gets the chance to derive (6), since Theaetetus demurs at lemma (5). Socrates' argument would be valid, but seems to include several false premises: the assumed identity between structured and unstructured wholes drives premises 1–3.¹³ But whatever the flaws of his argument, Socrates deploys the notion of constitutive relatives, especially 'just as it is' and exclusivity, in his argument for the lemma (5).

Socrates tries to derive (5) by applying the principle of exclusivity to parts and wholes. (5) would not hold if (i) a part relates to something other than the whole. So Socrates tries to rule out this possibility. Since (i) is equivalent to denying an exclusive relationship between a part and a whole, Socrates invites Theaetetus to agree that exclusivity holds between a part and a whole. When part and whole are plugged into the exclusivity schema, we arrive at this principle:

(PART-WHOLE EXCLUSIVITY) If a part relates to a whole, then a part relates only to a whole.

Stated baldly, part-whole exclusivity is false. A part could relate to something other than a whole: Theaetetus himself gives a counter-example. However, Socrates does not put part-whole exclusivity baldly. Socrates formulates his

¹² Cf. (Barnes 1988a, 231).

¹³ (Harte 2002, 43–4).

claim as ‘part is just what it is (ἐστὶν ὅπερ ἐστὶν) of the whole.’¹⁴ If we understand the constitutive view of relativity to be involved here, and understand the ‘just is what it is’ qualification as above, part-whole exclusivity is true. When we ignore all the features of a part *except* its parthood, then a part can only relate to a whole. Being a part just is to be part of a whole. Some given part may also be an element in a sum, but the ‘just is what it is’ qualification rules out considering a part that way: a part can only be considered as a part.

When Socrates asks Theaetetus whether a part, just what it is, relates exclusively to a whole, Socrates gets an unexpected answer: a part can be part of the sum. Theaetetus’ answer is unexpected because it is wrong. A part, just what it is, is part of a whole *only*. Put another way, if all we know about an item is that it is a part, then we know that it is part of a whole. But that is all we know. We do not know whether this whole is a structured whole, such as an organism, or an unstructured whole, such as a sum. That is the force of the ‘just what it is’ (ὅπερ ἐστὶν) qualification, which Theaetetus ignores. So Theaetetus’ response is mistaken: Socrates has asked Theaetetus to consider a part, just what it is, not to consider the part as part of a sum. When we consider the matter the way Socrates mandates, exclusivity holds.

In this section, I gave further evidence of Plato’s commitment to a constitutive view of relativity. Several passages assume precisely one correlative for a given relative. If Plato had a non-constitutive understanding of relativity, especially one involving incomplete predicates, there would be no straightforward explanation of why Plato relies on exclusivity. Exclusivity only follows from the constitutive view, so the presence of exclusivity is best explained by a tacit commitment to the constitutive view of relativity. We have seen too that the ‘just what it is’ qualification cooperates with exclusivity. Finally, these ideas occur across topics (moral psychology, metaphysics, and mereology) and dialogues (the *Symposium*, *Sophist*, and *Theaetetus*), suggesting that Plato widely assumes the constitutive view of relativity.

2.3 Reciprocity in the Statesman

A natural way to express reciprocity would be to say that (two) relatives *relate to each other*.¹⁵ Plato uses the language of ‘relative to each other’ on a number

¹⁴ Incidentally, this expression is formed from the relative pronoun with an intensifying particle. In this example, the relative is neuter because it agrees with the neuter μέρος. In other examples, the relative pronoun might agree with nouns of other genders.

¹⁵ In Greek this would be by using πρός with the reciprocal pronoun, ἀλλήλα. Plato often uses the expression πρός ἀλλήλα to describe a relation that things that are the same have to each other, especially things that are of the same kind (e.g. *Theaetetus* 195c8–d1; *Sophist* 228c4, 253a2 and 253b9;

of occasions to describe the relative-correlative relationship. Chapter 3 will focus on one important case of reciprocity, in Plato's *Parmenides*, but for now, I will give an example where one of Plato's characters articulates the principle that pairs of correlatives relate to each other: *Statesman* 283d11–e2. The Visitor proposed to investigate excess and deficiency, including how largeness and smallness associate with each other (*πρὸς ἄλληλα* 283d7). The stranger then delineates this relationship:

- (T4) ELEATIC VISITOR: Does it not seem to you that by its nature the larger has to be said to be larger than nothing other than the smaller, and the smaller in its turn smaller than the larger, and nothing else?
 ys: It does. (*Statesman* 283d11–e3. Translation Rowe, modified).

The Visitor discusses relatives, the items that relate (the larger and the smaller), not the relations that relate them (being larger and being smaller). Relatives are said to have a nature such as to relate to each other. The Visitor makes two points. First, a relative, such as larger, relates exclusively to its correlative, the smaller. This makes sense on the constitutive view: the larger is relative to the smaller and only the smaller. The Visitor expands on this first point: the smaller is relative to the larger, too. Young Socrates accepts this without concern, as an obvious principle governing relatives.

Second, larger and smaller reciprocate. Not only do the larger and the smaller relate exclusively to each other, but if the larger relates to the smaller, the smaller relates back to the larger. That is, the larger and the smaller satisfy reciprocity. The Visitor will go on to offer a more nuanced picture of relativity, which may call exclusivity into doubt (284a1–3), (see section 4.4), but even there, the Visitor's commitment to reciprocity stands.

(T4) gives one further point in favour of the constitutive reading. The Visitor slides from the large and the small reciprocating (283d7–8) to the larger and the smaller reciprocating (283d11–12). This looks like a mistake: the large differs from the larger. But on a constitutive view, we can understand this sort of slide. We might think that the large is constituted by its relationship to the small: to be large just is to be larger than the small. The larger is similar. To be

Parmenides 136b1 and 158d2), even when the specific ideas of correlative are not at stake. In cases where relativity is in play, *πρὸς ἄλληλα* would be the non-technical vocabulary to use to say that a relative relates to its correlative. Plato uses *πρὸς ἄλληλα* to describe the relation of: equals to equals (*Parmenides* 149e3–7); master to slave (*Parmenides* 133d–134a); knowledge to truth (*Parmenides* 133d–134a); parts in the soul to each other (*Republic* 443d3); Things measurable (*Laws* 820c4); things immeasurable (*Laws* 820c4). Arguably, *Sophist* 255c15, where, on an alternative manuscript reading, the Visitor uses 'in relation to each other' to pick out all relatives. For a defence of that manuscript reading, see my (Duncombe 2012). Aristotle uses *πρὸς ἄλληλα* to refer to correlative pairs at *Rhetoric* 1392b3.

larger just is to be larger than the smaller. But in either case, bearing the ‘...is larger than...’ relation to a correlative constitutes the relative. On the constitutive reading, ‘the larger’ and ‘the large’ may simply refer to the same item. Since the constitutive view can explain why the Visitor slips between the two notions, this is a reason to hold that the constitutive reading is in the background.

2.4 *Existential symmetry in the Theaetetus*

In the introduction, I showed that constitutive relativity entails existential symmetry and we find this connection in the first part of the *Theaetetus*. Theaetetus defines knowledge as perception (151d7–e3). To be knowledge, perception needs to be infallible. Protagorean relativism ensures perceptual infallibility and is underwritten by the twin-offspring theory, a quasi-Heraclitean ontology. I argue that the theory embeds existential symmetry for at least one relative-correlative pair: perception and percept.¹⁶ The theory also hints that other relatives are covered by the theory: pleasures, pains, desires, and fears (*Theaetetus* 156b3–6).

Socrates does not present the twin-offspring theory as a view he, or indeed Heraclitus or Protagoras, holds. In fact, the theory originates with some ‘more clever people’ (κομψότεροι), and Socrates says he will reveal their mystery rites (μυστηρία) (156a2–3).¹⁷ The theory posits that everything is motion:

(T5) Motion has two forms, each indefinite in number, but one has the power to act, the other to be acted upon (*Theaetetus* 156a5–7).

Perceptions and percepts emerge from the relationships between these two sorts of powers:

(T6) From the intercourse and rubbing of these two in relation to each other there come to be offspring, unlimited in number, but in pairs: the perceived thing and the perception, always emerging together and generated with the perceived thing (*Theaetetus* 156a7–b1. My translation following Levett revised by Burnyeat).

¹⁶ For perception and percept as relatives, along with numerous examples of perceptions and percepts as relatives, see especially *Charmides* 168c–d. In Aristotle, we see the same commitment: perception is given as a relative at *Categories* 6b36; *Metaphysics* 1020b32; *Topics* 114a20. Perceptible at *Categories* 7b15–8a12; *Metaphysics* 1020b32; *Topics* 114a20; sight and colour are given as a correlative pair at *Metaphysics* 1021b1–2.

¹⁷ See (Tsouna 1998, 124–37) for arguments against the older view that these ‘more clever people’ are Cyrenaics. (Sedley 2004, 41) also rejects this identification, while (Zilioli 2014, 50) endorses it.

The powers relate 'to each other', while the relative, a perception and its correlative the perceived thing relate in the following way:

(GENERATION SYMMETRY) For all x and for some y , if x is relative to y , then at any time x comes to be, y comes to be.

Generation symmetry is necessary but not sufficient for existential symmetry, since generation symmetry leaves open the possibility that, although the relative and correlative come to be at the same times, they cease to exist at different times, so may not exist at all the same times. Generation symmetry comes up again at 156e3–5.

Perception and perceived thing connected through co-generation, but also they are necessarily connected through co-generation:

(T7) So an eye, and something else commensurate with it, approach and generate the whiteness and also the perception co-generated the whiteness, neither of which would have come about had either of the former pair come into relation with something else (*Theaetetus* 156d3–156e2. My translation following Levett revised by Burnyeat).

Here the perception, of whiteness, and the perceived thing, the whiteness, are co-generated because the eye and the commensurate thing relate. This seems like a standard version of generation symmetry. But this text also gives us the modal claim that co-generation would not have happened had the eye, or the commensurate thing, come to relate to something else. Not only are the perception and perceived thing generated at the same time, from the same interaction, but also the perception and the perceived thing *must* come about at the same time:

(NECESSARY GENERATION SYMMETRY) Necessarily, for all x and for some y , if x is relative to y , then at any time when x comes to be, y comes to be.

Necessary generation symmetry supports my claim that the constitutive reading of relatives operates here because constitutive relativity entails necessary generation symmetry. On the constitutive view, since a relative is constituted by bearing its corresponding relation to a correlative, whenever there is the relative there must be the relationship and the correlative. For example, if

there is a brother, then there must also be a sibling. This view may seem strange, but it follows from the constitutive view and it is the claim found in the twin-offspring theory.

So the twin-offspring theory involves necessary generation symmetry. This gives reason to think the constitutive view of relativity is in play. But necessary generation symmetry is not sufficient for existential symmetry. I'll now suggest that the twin-offspring theory is committed to full existential symmetry; that is, the relative and correlative exist at all the same times:

(T8) For neither is what acts a thing before it comes together with what is acted upon, nor is what is acted upon a thing before it comes together with what acts (*Theaetetus* 157a4–7).

Here Socrates describes active and passive powers which interact to generate the perception and the perceived thing. Clearly, the powers exist at all the same times: an active power exists when acting on the passive power; and a passive power exists when being acted on by the active power. But if the interaction of the powers necessarily generates the perception and the percept, and the perception and percept exist only during that interaction, then the perception and percept exist at all and only the same times. So, existential symmetry for the relatives—perception and perceived thing—follows from the commitments of the twin-offspring theory.

Although neither Plato nor his Socrates endorse the twin-offspring theory, the theory involves constitutive view of relativity. So the twin-offspring theory provides good evidence that the constitutive view of relativity is present in Plato.

2.5 *Constitution and aliorelativity in the Charmides*

In the *Charmides*, Socrates calmly questions Critias, about temperance. I focus on two neglected puzzles about the passage.¹⁸ First, Socrates' refutation appears not to target Critias' definition of temperance. Second, even if on target, it is unclear how Socrates' refutation works.

Clutching at the Deiphic injunction to 'know yourself' (165a1–2), Critias defines temperance (*σωφροσύνη*) as 'self-knowledge' (165b4). Socrates presses

¹⁸ I regret that I can only point to more full discussions: (Kahn 1996, 195–203); (McCabe 2007); (Politis 2008); (McCabe 2011).

him on this (165c–166b). Both agree that temperance is a sort of knowledge. Like any sort of knowledge, temperance must be of something (*τινός*) (165c), just as medicine is knowledge of health, and house building is knowledge of building houses (165d–e). These objects need not be products, like health, houses, or cloaks (166e–166a). Calculation, for example, relates to the odd and even, but does not produce them (166a).¹⁹ But, like any relative, knowledge has a correlative. Socrates assumes that the correlative must be distinct from the knowledge, but Critias complains this begs the question (165e). Critias wants to say that temperance differs from the other knowledges precisely because its object need not be distinct from knowledge (166c–d).

So if temperance is a knowledge and knowledges are relative to some correlative object, what is temperance relative to? Since Critias defined temperance as self-knowledge, one might think that temperance should be knowledge of oneself.²⁰ This subject-directed knowledge is what one might get from psychoanalysis or meditation. But Critias is not on the path to enlightenment. Critias thinks of self-knowledge as, roughly, knowledge of knowledge.²¹ One might hope to get this knowledge-directed knowledge through talking to an epistemologist, rather than a psychoanalyst. Socrates adds that knowledge-directed knowledge is also knowledge of the absence of knowledge (167a1–b1). Subject-directed knowledge might involve knowledge-directed knowledge. To get subject-directed self-knowledge I might work out what I know and don't know. Socratic examination, too, might involve Socrates having knowledge-directed knowledge (as Socrates hints at 167a1–b1). But Socrates comes to focus his fire on whether knowledge of knowledge is possible.

Let's get down to the first puzzle. Critias' defines temperance thus:

(T8) I mean, said he, that it (sc. temperance) is the only knowledge both of other knowledges and of itself.

Therefore, said I, it would also be knowledge of absence of knowledge, if indeed it is of knowledge?

Of course, said he. (*Charmides* 166e5–9).

¹⁹ Cf. *Gorgias* 451a2–c1, where both calculation and arithmetic have the odd and even as their object. Seemingly, in the *Gorgias*, two sciences can have the same object.

²⁰ I take this helpful distinction from (McCabe 2011, 165).

²¹ This is sometimes called 'reflexive knowledge' (McCabe 2007, 2); (Politis 2008). The move from subject-directed knowledge to knowledge-directed knowledge is discussed by (Wellman 1964); (Dyson 1974); (Kahn 1996, 194).

In other words:

(C) Temperance is (i) *the only sort of knowledge* that is (ii) of itself and (iii) of other knowledges and (iv) absence of knowledge.

Socrates formulates this in his own words later:

(T9) [...] if it is as you were saying just now, (temperance) is a single sort of knowledge, which is not of anything other than itself and also of other knowledges and this same knowledge is of the absence of knowledge?

Absolutely. (*Charmides* 167b11–c2).

In other words:

(S) Temperance is (i) *a knowledge* that is *only* (ii) of itself and (iii) of other knowledges and (iv) absence of knowledge.

Socrates' formulation is not equivalent to Critias'. On (C), temperance is unique but not exclusive. Only one knowledge relates to itself, other knowledges and the absence of knowledge. That knowledge is temperance. But, as far as (C) shows, temperance is not exclusive: temperance might be knowledge of itself, other knowledges, and absence of knowledge *but also* some other things, say, modesty.

On (S) temperance is exclusive, but not unique. Temperance is a knowledge that relates exclusively to itself, other knowledges, and the absence of knowledge. Temperance relates to these objects and no others. But (S) allows that some other knowledge could relate to these objects. Some other knowledge, say, epistemology, could relate to itself, other knowledges, and the absence of knowledge. So, on (S) temperance is exclusive, but not unique. This, of course, is what you'd expect if Socrates assumes the constitutive view of relatives. Maybe Socrates just assumes that any relative relates only to its correlative. But, regardless, (C) and (S) are not equivalent. Socrates' refutation targets (S) not (C). So, Socrates attacks the wrong target.

What explains the slide from (C) to (S)? Well, Critias is careless. Critias slaloms around senses for ordinary words (163b1–d1) getting censured by Socrates (163d1–e1). And Critias isn't too careful with definitions of temperance (164e1–165a1). Maybe Critias simply misses that (S) and (C) differ. Maybe dramatic irony plays here too. Critias lacks the knowledge-directed knowledge required to know that Socrates has tampered with Critias' definition

of knowledge! But Plato's artistry and Critias' carelessness can't quite explain Socrates' exchange. After all, Socrates perpetrates the prestidigitation. Critias doesn't notice, but Socrates still cheats.

Another explanation: Socrates' refutation targets (S) and (C), so, dialectically, the slide is irrelevant. Although (C) assumes temperance is uniquely knowledge of itself, knowledge, and absence of knowledge while (S) that temperance is exclusively of itself, knowledge, and absence of knowledge, both (S) and (C) assume that temperance is knowledge of knowledge. Socrates' refutation (167b–169c) looks to deny that any relative relates to itself. If no relative relates to itself and knowledge is a relative, then knowledge does not relate to itself. So there is no knowledge of knowledge. So temperance cannot be knowledge of knowledge. So both definitions must be rejected.

To assess this explanation, we need a detailed reconstruction of Socrates' refutation. Does it really work in the manner just sketched? This leads to my second puzzle. How precisely does Socrates' refutation of Critias proceed?

Socrates' discussion falls into two parts. First, at 167c–168a, Socrates draws an analogy between knowledge and other psychological states to argue that temperance cannot be a sort of knowledge that relates to itself. Second, at 168b–169a, Socrates argues that some, and maybe all, relatives are alio-relatives because for some relatives, absurdity results from assuming that the relative relates to itself. I will discuss each argument in turn.

2.5.1 The argument from analogy (*Charmides* 167c1–168b1)

Socrates rearticulates Critias' definition of temperance, as we saw above, with (S) (167c1–3). He then claims that such an account fails for some analogous psychological states:

(T10) In cases like this: think whether it seems to you that there is a sort of vision which is not vision of the things that the other visions are of, but it is vision of itself and the other visions and also non-visions, and although it is a vision, it sees no colour, only itself and other visions. Do you think that there is such a thing?

By Zeus, not I! (*Charmides* 167c9–d3. Translation Sprague.)

In the analogous case, vision cannot relate to itself and other visions because, if vision were related to itself, then vision would have a colour. Socrates' point is that intentional mental states have an exclusive object, in this case colour.

In terms Socrates deploys later (168d2), vision is a power to see colour. Vision is not obviously the power to see visions. Indeed, as a matter of fact, vision is not coloured. So vision cannot relate to itself and other visions.²² Socrates sketches the same point about more cases of intentional mental states and their objects: hearing and sound (167d3); perception and perceived thing (167d7–9); desire and pleasure (167e1–2); wish and a good (167e4–5); love and a beautiful thing (167e7–9); fear and the dreadful (167e10–168a1); opinion and object of opinion (168a2–3).²³ In each case, Critias agrees that the intentional mental state cannot relate to itself, or other states of the same sort, because the state has a special object to which it exclusively relates. Given the other cases, a sort of knowledge that is knowledge of itself and other knowledges would be strange indeed (168a5–b1).

How might Critias respond to the argument from analogy? I think he could make two sorts of move, one dialectical and one philosophical. The dialectical response is that Socrates targets (S) not (C). The argument from analogy is an on target attack against (S). By analogy, no intentional mental state can relate to itself, because every such state relates exclusively to its special object. So knowledge cannot relate to itself because knowledge is an intentional mental state and so relates exclusively to its special object, described here as ‘learning’ (*μάθημα*). But with (C), Critias defines temperance as uniquely, but not exclusively, of its object. So Socrates’ attack is off target.

Critias’ could also push back philosophically on the argument from analogy. Socrates implies that intentional mental states relate only to their special object. But this seems false. Vision relates to colour, but also to shape. So, vision relates to kinds other than colour. The argument from analogy was that intentional mental states relate only to their single correlative object. But one intentional mental state could have more than one kind of object. Vision could relate to colour and shape. Moreover, some intentional mental states relate to themselves. I might desire pleasure, but I might also have desires for desires and lack of desires. I might desire pleasure and desire not to desire

²² We can also see why Socrates does not continue with the point about vision seeing non-visions, which would be needed for the strict analogy with temperance. There is nothing to rule out non-visions from being coloured. In fact, some non-visions will be coloured.

²³ Hearing of sound (*ἀκοήν φωνῆς*); other perceptions of the corresponding percepts (*ὧν δὲ αἱ ἄλλαι αἰθήσεις αἰσθάνονται, μηδενὸς αἰσθανομένη*); desire for pleasure (*ἐπιθυμία ἡδονῆς*); wish for good (*βούλησις βούλεται ἀγαθόν*); love of beauty (*ἔρως καλοῦ*); fear of terrible things (*φόβον δεινῶν*); belief of the (here unspecified) regular objects of belief (*...δόξαν, ὧν δὲ αἱ ἄλλαι δοξάζουσιν μηδὲν δοξάζουσιν*). We are then given ‘knowledge’ (*ἐπιστήμη*) again, with ‘branch of learning’ (*μαθήματος*) specified as the object. These psychological states look to all be intentional mental states. Classic studies of whether all mental states are intentional include: (Brentano 1874, 88–9); (Anscombe 1957); (Searle 1982); (Block 1995); (Block 1996); (Crane 1998). For intentionality in ancient philosophy: (Caston 1998).

pleasure. If that is right, why can a certain knowledge, temperance, not relate *both* to learning *and* to itself?

Socrates does not say so, but both responses are blocked if intentional mental states are constitutive relatives. Critias' definition (C) does include the claim that temperance relates to something, namely itself and other knowledges. But, according to the constitutive view, relating just is relating exclusively. So Critias' definition is that temperance is a sort of knowledge that relates exclusively to itself and other knowledges. If Socrates reads Critias' definition that way, and, from his re-formulation Socrates apparently does, Socrates' attack is at least on target. Socrates aims to show that no intentional mental state relates to itself, because each relates exclusively to its proper object.

On the philosophical point, the constitutive view of relatives entails not only that intentional mental states, such as vision, relate exclusively to their correlative objects but also that the relation to the correlative object constitutes those states. Vision just is vision of colour. Hearing is hearing of sound. If one wants to distinguish vision and hearing one can just mention the correlative to which each relates: the former to colour, the latter to sound. This is precisely what a commitment to constitutive relativity would lead Socrates to posit.

Moreover, on the constitutive view, the type to which it relates constitutes each type of relative. So, vision of colour is constituted by relating to colour; vision of shape is constituted by relating to shape. So vision of colour and vision of shape are non-identical relatives. When we ignore what is specific about the vision in question, vision will relate only to its constitutive object. So why can't knowledge relate both to itself and to knowledge and absence of knowledge? Well, if relatives are constituted by their correlatives, there is not one knowledge that relates to itself, knowledge, and absence of knowledge; there are three different relatives here: one for each correlative. Hence, on the constitutive view, temperance cannot be as defined in (S) since it has more than one correlative and so temperance turns out not to be a single unified thing.

This raises a difficulty for constitutive relativity. If vision-of-colour is constituted by its relation to colour, while vision-of-shape is constituted by its relation to shape, what is the relation between vision-of-colour and vision-of-shape? If knowledge of knowledge of learning differs from knowledge of knowledge, what is the relationship between the knowledges? This issue crops up again in *Republic IV* (see section 4.2), where I'll discuss it in more detail. For now Socrates' argument from analogy seems like it would be off target, unless we assume a constitutive view of relatives.

2.5.2 The argument from aliorelativity (*Charmides* 168b1–169c1)

Back with Critias and Socrates, the argument from analogy has proved inconclusive. Critias could still insist that temperance, uniquely amongst intentional states, is knowledge of knowledge, knowledge of itself and other knowledges, and the absence of knowledge. But this definition would sink if knowledge is a relative and no relative relates to itself. Socrates proceeds to argue for that.

First, Socrates establishes that temperance is a knowledge of something and since it is of something, it is a relative (168b2–3). Socrates shows that at least some relatives are aliorelatives (168d4–c2).²⁴ Socrates introduces a way to understand relatives, in terms of powers directed to natures (*οὐσίαι*), and puts his point generally: some relatives, those to do with quantities, are certainly aliorelatives. Others, the intentional mental states, are likely aliorelatives (168e1–169a1). Because knowledge is in the latter class, Socrates recommends further investigation to establish whether knowledge of knowledge is possible (169a1–c2).

The deductive phase of Socrates' refutation begins with the claim that knowledge is a relative:

(T11) Come then, is knowledge itself (*αὐτῆ ἢ ἐπιστήμῃ*)²⁵ knowledge of something, and does it have a certain power (*δύναμιν*) so as to be of something? Doesn't it? (*Charmides* 168b2–3)

First of all, Socrates says that knowledge is of something and so it is a relative. Moreover, this knowledge is a power to be of something. He immediately draws the analogy with the larger. The larger also has a power (168b5) to be of something, and we are told that the object is the smaller (168b5–8).²⁶ We have already been told that learning is the object of knowledge (168a7).

²⁴ Scholars often think that this argument has something to do with irreflexive relations, but disagree as to what. See (Scheibe 1967, 35); (Jordan 1983, 30); (Kahn 1996, 195). An irreflexive relation: a relation, R , such that for all x , not (Rxx). (McCabe 2007, 5) thinks the argument is more concerned with asymmetric relations. An asymmetric relation: a relation, R , such that for all x and y , if Rxy , then not Ryx . Every asymmetric relation is irreflexive, but the reverse does not obtain.

²⁵ Accepting (Shorey 1907, 340). Shorey, reading *αὐτῆ* rather than *αὐτῆ*, correctly says that the diacritical marks should indicate that knowledge *simpliciter*, rather than the previously mentioned branches of knowledge, is under discussion. (McCabe 2007, 4) also accepts Shorey's reading.

²⁶ At *Phaedo* 102d1, Socrates calls this power 'overtopping' (*ὑπερέχειν*).

Socrates goes on to say that a power applies to a nature (*οὐσία*) (168d2).²⁷ This power-to-nature analysis of relatives is not restricted to the psychological relatives. *Charmides* 168c9–d5 begins with the quantitative relatives, more and less, heavier and lighter, younger and older, and ends with psychological ones, like sound and hearing. The power-to-nature account applies to all relatives.²⁸

Socrates analyses relatives as having a power to be of a nature. But what precisely is the force of this striking analysis? Plato describes relatives as having powers. Knowledge and being a master are described as powers (*Parmenides* 133e6; 134d5), specifically, powers to act on correlatives. We also saw that *Theaetetus* 156a5–7 introduces motions that have powers to account for correlatives like perception and percept. This chimes with *Charmides* 168e9–10 where, again, relative powers like hearing and vision are classed, along with the power to heat, as motions. But in each case the power is a power to act on something other than the power. Relative powers do not act on themselves. But why not?

According to the *Charmides*, the relative powers don't act on themselves because powers act on a nature (*οὐσία*). In the early dialogues, an *ousia* is a single item, in contrast to a plurality of items. That *οὐσία* gives the nature of something in contrast to contingent features of that thing. For example, in *Meno* 72b1, Socrates tells Meno is he asking for the *οὐσία* of bees, not the many kinds of bees. At *Hippias Major* 301b8, Hippias denies that there is some single *οὐσία* that pluralities share, and Socrates comes back and asserts that the single *οὐσία* of a plurality explains what the plurality has in common (302c5). At *Protagoras* 349b4, Socrates asks whether wisdom, temperance, courage, justice, and piety each have a unique *οὐσία*, or whether they share a single *οὐσία*. Finally, in *Euthyphro* 11a6–b1 Socrates clarifies that he wants the *οὐσία* of the pious, not a feature (*παθός*) of the pious.

This brief survey suggests that in the *Charmides*, Socrates' point is that a relative has a power to be of a single, unified object, an *οὐσία*. Since the correlative is unified, there is no other possible correlative. So the relative has the power to act on, but only on, that correlative nature. Thus the relative larger relates only to the correlative object, the smaller. The relative vision relates only to the correlative object, colour. Furthermore, the power does not share

²⁷ Here I translate *οὐσία* as 'nature'. No translation is ideal. 'Being' is too general, 'substance' too Aristotelian. Politis suggests 'essence', but that is theoretically loaded (Politis 2008, 18). For more on this see (Dancy 2004, 146n7).

²⁸ (Kahn 1996, 196) claims that this is the beginning of a technical terminology for a theory of relations, which 'specialists might be studying in the Academy'. Maybe. As I note, we do see relatives analysed as 'powers' elsewhere in Plato.

the nature in question. If colour has a single, unified nature, that nature will be to be coloured. But the power to act on colour is not itself coloured. So vision will not act on itself. Therefore, vision is not relative to itself and aliorelativity makes sense in these cases.

There is another consequence of the power-to-nature account. If powers relate only to natures, powers don't relate to powers. Thus, the power vision must be vision only of some nature; vision cannot be vision of a power, including itself. We might make sense of this in the following way. A power manifests in certain conditions. The power of vision manifests just when there is something visible. If a power can act on itself, it might threaten to bootstrap itself into manifesting. If vision is visible, it will just manifest all the time, but have no content. So a power must be power to act on some independent nature. Otherwise we simply have groundless powers all over the place. Aristotle raises this worry in the *Metaphysics* 4.5, 1010b34–5. Aristotle argues that perception of itself risks being a groundless perception of nothing. Aliorelativity would, then, follow for any relative, if a relative is a power to relate to a nature.

The power-to-nature analysis is consistent with the constitutive account of relatives. A relationship to the correlative just is what the relative is. At this point, Socrates describes that relationship as a power: a relative has a power in relation to some nature. The nature is the special object of the relative, whatever that happens to be. The nature is unified, so the power relates only to that nature. This is consistent with exclusivity. But a power cannot ground itself; it must be grounded in the corresponding nature. The constitutive approach is consistent with this too, since being a relative is constituted by its relation to its correlative. The relative is grounded in its relation to the correlative.²⁹

After introducing the power-to-nature analysis, Socrates argues that at least some relatives, the qualitative relatives, are aliorelative. He does this, again, by appealing to the exemplary relative, larger:

(T12) Then (i) if we should discover some ($\tau\iota$) larger ($\mu\epsilon\iota\zeta\omicron\nu$), which is larger than the larger things and than itself ($\delta\ \tau\acute{\omega}\nu\ \mu\acute{\epsilon}\nu\ \mu\epsilon\iota\zeta\omicron\nu\ \acute{\epsilon}\sigma\tau\iota\nu\ \mu\epsilon\iota\zeta\omicron\nu\ \kappa\alpha\iota\ \acute{\epsilon}\alpha\nu\tau\omicron\delta$), and (ii) larger than none of the things than which the other larger things are larger, this would happen to it, (iii) if indeed it were larger than itself, (iv) it would also be smaller than itself ($\acute{\epsilon}\iota\pi\epsilon\rho\ \acute{\epsilon}\alpha\nu\tau\omicron\delta\ \mu\epsilon\iota\zeta\omicron\nu\ \acute{\epsilon}\iota\eta\ ,\ \kappa\alpha\iota\ \acute{\epsilon}\lambda\alpha\tau\tau\omicron\nu\ \acute{\epsilon}\alpha\nu\tau\omicron\delta\ \acute{\epsilon}\iota\nu\alpha\iota$) (*Charmides* 168b10–c3. Translation Sprague, modified).³⁰

²⁹ Cf. section 1.3.3; section 9.4; and section 10.1 for further discussion of indirect, constitutive approaches.

³⁰ Following Sprague in (Cooper and Hutchinson 1997, 655). But also see (McCabe 2007, 4n9).

We could reconstruct the argument as a *reductio*:

1. There exists a larger, *a* that is larger than the larger things and larger than itself [Supposition]
2. Any larger thing is larger than some smaller thing [Premise]
3. *a* is larger than itself [&-elim on 1]
4. *a* is smaller than itself [From 2, 3]
5. *a* is larger and smaller than itself [From 4, 5]
6. Nothing is larger and smaller than itself [Premise]
7. \perp [From 5, 6]
8. So it is not the case that there exists a larger, *a*, that is larger than the larger things and larger than itself [Discharge *reductio*]

The argument shows that the quantitative relative, larger, cannot apply its power, overtopping, to itself, on pain of also being smaller than itself. This way of taking the argument is common.³¹ Although valid, the reconstructed argument faces an interpretive problem, raised by McCabe.³² On the common reading, clause (ii) of (T9), plays no role in the argument. But (ii) should play a role in the argument. The force of the *eiper* ($\epsilon\acute{\iota}\pi\epsilon\rho$, an emphatic subordinating conjunction, roughly ‘if indeed’) in 168c1 brings us back to the conditional in (i), thereby making what intervenes relevant, rather than irrelevant, to the considerations presented in (iii) and (iv).

Can we make (ii) relevant? The simplest solution is this. (i) says that we have a larger, *a*. Given the constitutive view of relativity, and the power-to-nature analysis, one would expect a larger to be exclusively larger than its proper object, the smaller. That is, we would expect premise (2) to say not only that any larger is larger than the smaller but also that any larger is larger *only* than the smaller.

(ii) cautions that we cannot make this assumption about the larger *a*, since this larger is not larger than the smaller. Rather *a* is a special larger: *a* is larger than itself and other largers. If we took *a* to be larger than the smaller, there could be no *reductio*. For, on the constitutive view, what it takes for *a* to be larger is for *a* to be larger than the smaller and only the smaller. But, for the *reductio*

³¹ (Jordan 1983, 29); (Benson 2003); for a different take see (Dancy 2004, 103–4). (Politis 2008, 18) has a view similar to me.

³² (McCabe 2007, 4n9) McCabe points out that (ii) must be involved in the argument, but we differ as to precisely the role it has. In her view, (ii) is brought in such a way that the conclusion, that a larger thing is smaller than itself, is over-determined. That is, the conclusion follows both from reflexivity and ‘transitivity’.

to work, *a* has to be larger, not than the smaller, but than itself. We can confirm that this is the correct way to take (ii), because it gives a neat parallel with the cases of intentional relatives. Vision that is vision of itself and other visions is not vision of the expected correlative of vision, namely, colour.³³ But precisely the fact that Socrates has to make this clear implies that constitutive relativity is in play.

A further reason to think that constitutive relativity is in play is precisely that Socrates draws both inferences (4) and (5). (4) alone would suffice for an impossibility: after all, nothing is larger than itself. So why does Socrates infer both that *a* is larger than itself and smaller than itself? Exclusivity would make the conjunction of (4) and (5) absurd. If we assume that a relative is relative only to its correlative, then a relative cannot bear its constituting relation to more than one thing. But (4) says that *a* is larger than itself and (5) that it is smaller than itself. That is, *a* bears two constituting relations to itself. Which is blocked on the constitutive view.

My final reason to hold that the constitutive view plays in this passage is 168c5–7. Socrates gives a parallel argument concerning doubles, but adds an extra clause: ‘I don’t suppose that there is a double of anything other than a half’ (168c5–7). This seems obviously wrong. There is a double of one, namely, two; there is a double of two, namely, four, and so on. But on the constitutive view, Socrates would take double to be double as such. The double as such relates to its constituting correlative, the half. In other words, we ask: what does it take to be a double? The only general answer is that a double is double of half and only half. But Socrates needs to state this point explicitly, since Socrates imagines, *per impossibile*, a case where some double is double itself and other doubles.

Therefore, these quantitative relatives are aliorelatives. None relate to themselves because to do so would violate exclusivity. The larger is relative only to the smaller, not to the larger. If, *per impossibile*, the larger were relative to itself, it would be both a larger and a smaller. And this is obviously impossible. When it comes to the intentional relatives, however, Socrates is less certain that they are all aliorelative. Socrates is less certain about whether the intentional relatives can apply their power to themselves, expressing those doubts at 168e2–7. For one thing, some things can see themselves.³⁴

More specifically, although nothing is larger and smaller than itself and nothing is double and half of itself, it is less clear that no vision is coloured.

³³ For this suggestion, I thank an anonymous referee from the press.

³⁴ *Alcibiades* 133c1–d1.

Indeed, on at least one theory Plato countenances, arguably, what it takes to see a colour is for the vision to be coloured.³⁵ So we can sympathize with Socrates' ambivalence. At least some relatives, the intentional relatives, do not seem to be aliorelative. Without the generalization that all relatives are aliorelative, Socrates does not have a secure refutation of Critias' definition (C). Socrates acknowledges this, when he says that a 'great man' is needed to give an account of aliorelativity in every detail. Socrates pronounces that he is not himself competent to carry out this task (169a1–b1), and Critias certainly isn't up to it (169c1–d1). Since the interlocutors lack a clear account of the scope of aliorelativity, there is not general refutation of (C).

But what about that specific target: is knowledge aliorelative? Socrates breaks off the discussion before making his argument explicit. But it would look like this:

1. There exists a knowledge, *a* that is knowledge of knowledge and knowledge of itself [Supposition]
2. any knowledge is knowledge of some knowable [Premise]
3. *a* is knowledge of itself [&-elim on 1]
4. *a* is knowable [From 2, 3]
5. *a* is knowledge and *a* is knowable [From 4, 5]
6. Nothing is a knowledge and knowable [Premise]
7. \perp [From 5, 6]
8. So it is not the case that there exists a knowledge, *a* that is knowledge of knowledge and knowledge of itself [Discharge *reductio*]

If successful, this argument would show that temperance is not knowledge of itself and of knowledge because nothing is knowledge of knowledge. But is this refutation successful? Premise 6 seems false. Biology, for example, is a knowledge, in virtue of being a sort of natural science, but biology is also a knowable, in virtue of being the object of the knowledge that biologists have.

Why is this sort of example ruled out? The biology example shows that a sort of knowledge might be at once a knowledge and a knowable thing. On the power-to-nature analysis of relatives, the relative relates to a nature. But we saw this nature must be a unified object. The *Meno* 72b1 rejects sorts of bees as candidates for a nature of bees. So, plausibly, Socrates of the *Charmides* should reject that sorts of knowledge are candidates for a nature of knowledge. If that is right, counter-examples like the biology case are ruled out. Since

³⁵ *Theaetetus* 153d5–154a5; 156c5–157a1.

biology is not a knowable nature, but at best a sort of knowable, biology cannot be an object of knowledge.

Again, all this chimes with the constitutive account of relativity. Knowledge, taken generically, is only of the knowable. But a specific sort of knowledge may be of specific sorts of knowable. The constitutive view can make sense of Socrates' ambivalence since, taken generically, no relative relates to itself, but on a specific reading some relatives may. The power-to-nature view of relatives articulates, using metaphysical language, assumptions that are already implicit in the constitutive view of relativity.

Conclusion

This chapter opened my case that constitutive relativity is present in Plato. In the introduction, I discussed some of the key formal features of constitutive relativity: exclusivity, reciprocity, aliorelativity, and existential symmetry. I've argued that Plato relies on these at various points throughout his corpus. The fact that constitutive relativity is not restricted to one topic, speaker, or period suggests Plato assumes constitutive relativity. I also identified some key vocabulary that Plato deploys to specify generic relatives, such as the 'just what it is' qualification.

So this chapter gives a *prima facie* case for Plato having a constitutive analysis of relativity. Chapters 3 and 4 will show that Plato has a strong commitment to constitutive relativity, because his characters rely on the view in some crucial arguments concerning the Forms and moral psychology. But these chapters are not an unqualified defence of Plato. I will press the philosophical issue of how coherent the constitutive view of relativity is, especially when combined with some other plausible assumptions. This will lead us to investigate how the basic constitutive view might be modified and the directions later philosophers might take.

3

Relativity and separation in the theory of Forms

Introduction

At *Parmenides* 133c–134e, Parmenides presents what he calls the ‘Greatest Difficulty’ with Socrates’ inchoate theory of Forms. Although many scholars have recognized that Parmenides’ objection relies on relativity, they have not been able to offer a satisfactory account of the Greatest Difficulty. In this chapter, I show that once we see that Plato’s constitutive understanding of relativity is in play, we can understand the objection. This adds further, indirect evidence that Plato assumes a constitutive view of relativity. But on top of this, showing that this assumption can help us make good sense of this puzzling passage will prove the interpretive value of my project.¹

Section 3.1 introduces the texts of the Greatest Difficulty. Sections 3.2–3.4 discuss the main existing approaches to the argument in the literature. Scholars generally think that the Greatest Difficulty does not pose a threat to the theory of Forms, either because it is not formally valid, or, if it is formally valid, because it begs the question against the Platonist. I argue that the Greatest Difficulty poses a genuine challenge to the theory of Forms. Furthermore, the existing approaches assume that Plato holds an incompleteness view of relativity. I argue that, in fact, the Greatest Difficulty assumes a constitutive view of relativity.

In Section 3.5, I will show how it is possible to properly understand the Greatest Difficulty, with the constitutive view of relativity assumed in the background. If the constitutive view of relatives is assumed, it turns out that the Forms are otiose when saying why a relative is the relative that it is. For Plato each relative, such as a master, relates to a correlative. That relationship constitutes the relative. A master just is the object that relates to the

¹ This chapter is based on my previous work ‘The Greatest Difficulty at *Parmenides* 133c–134e and Plato’s Relative Terms’. 2013. *Oxford Studies in Ancient Philosophy* 45: 43–62. Published by Oxford University Press.

correlative of a master. So when we come to say in virtue of what a relative is what it is, we need to mention only its correlative and not a Form. A master is a master in virtue of his relationship to a slave, not to the Form Master (or indeed to the Form Slave). Because of a peculiarity in Plato's view of relatives, not only is a relative constituted by its relationship to its correlative, but also a relative relates exclusively to its correlative. Thus, a master can only be master of things in this realm. With appropriate changes, the same considerations isolate the Form Master as master only of the Form Slave. So the Greatest Difficulty rules out the relation of relatives to correlatives in another realm. The difficulty is serious because it entails that we cannot know the Forms, and that the gods cannot know our affairs or be our masters.

3.1 *The Greatest Difficulty at Parmenides 133c–134e*

At *Parmenides* 129a, Socrates, depicted as a young philosopher, proposes that there are Forms. The older Parmenides presses Socrates to account for the relationship between Forms and participants. Two candidates for the relationship, sharing and resembling, are examined at 131a–e and 132d–133b respectively. Both accounts of the relationship fail. Then, at 133c–134e, Parmenides presents Socrates' theory of Forms with the Greatest Difficulty. The difficulty focuses on the separation of Forms and participants. Parmenides invokes two pairs of correlatives: the master-slave pair (133d7–134a1) and the knowledge-truth pair (134a3–b1). He concludes, so I will argue, that we cannot be masters of the Form Slave, that we cannot know the Form Truth, and that the gods cannot master us or know our affairs.

Three claims constitute the logical nerve of the argument. First, Parmenides reiterates that Forms are separate from our world:

(T1) Because, Socrates, I think that you, and anyone else who posits that there is some essence of each thing itself by itself (*ὅστις αὐτὴν τινα καθ' αὐτὴν ἐκάστου οὐσίαν τίθεται εἶναι*), would agree, first, that none of them is among us (*ἐν ἡμῶν*)

(*Parmenides* 133c3–5. My translation following Gill and Ryan).²

² There is no agreement on which of several possible principles of separation is relied upon in the argument. To see the diversity of approach, compare (Cornford 1939, 99); (Cherniss 1944, i:284); (Runciman 1962, 159); (Prior 1985, 75–6); (McCabe 1994, 91); (Gill and Ryan 1996, 46); (Allen 1998, 193); (Peterson 1981).

After Socrates has agreed to this, Parmenides introduces a premise concerning relativity and the Forms:

(T2) Therefore, all the Ideas which are what they are in relation to each other (*ὅσαι τῶν ἰδεῶν πρὸς ἀλλήλας εἰσὶν αἱ εἰσιν*) have their essence (*οὐσίαν*) in relation to themselves (*πρὸς αὐτάς*), not in relation to the things among us, by partaking in which we are called after each of them, whether one posits these as likenesses or in some other way

(*Parmenides* 133c8–d2. My translation following Gill and Ryan).

Again Socrates agrees, and Parmenides articulates an apparently parallel principle, governing relativity and the things in our realm:

(T3) But these things among us (*τὰ δὲ παρ' ἡμῶν ταῦτα*) which have the same names as each of those, are, again, themselves in relation to themselves but not in relation to the Forms (*πρὸς αὐτά ἐστιν ἀλλ' οὐ πρὸς τὰ εἶδη*), and all the things which are named in this way are of themselves and not of those things

(*Parmenides* 133c8–d5. My translation following Gill and Ryan).

At this point, Socrates asks for clarification: what does Parmenides mean? To complete his argument, Parmenides offers two correlative pairs as examples: master-slave (*Parmenides* 133d7–134a2) and knowledge-truth (*Parmenides* 134a2–134d1). Scholars dispute how these examples function in the argument, a dispute which I discuss further below. But Parmenides takes the upshot of these examples, together with the principles of separation and relativity, to be very uncomfortable for Socrates, as a budding Platonist (*Parmenides* 134d9–e6). Especially uncomfortable is the result that the divine will not be able to know human affairs (*Parmenides* 134e3–4).

It is widely agreed that these are the broad moves, but scholars dispute precisely how the argument is supposed to work. Indeed, scholars dispute what the principal conclusion is supposed to be, let alone whether the Greatest Difficulty validly derives its conclusion. One answer I discount is that the Greatest Difficulty aims to show that the Forms are unknowable by an argument from analogy. It fails because the Greatest Difficulty actually has four significant consequences, not just one. Another answer is that the Greatest Difficulty aims to show that there is radical separation of Forms from participants: the unknowability of the Forms would follow as a corollary of radical separation. I reject this 'radical separation' reading. If the Greatest Difficulty assumes radical separation, the Greatest Difficulty would become an

unexplained *petitio principii*, since the Platonist is not committed to ‘radical separation’. Other approaches attempt to weaken the separation principle so that it does not beg the question, but still derives the conclusion. None of the versions of this approach offered in the literature succeed. In the following sections, I will discuss these readings in more detail, to clarify what would be needed for a successful reading.

3.2 *Argument from analogy?*

Many concur with Cornford’s remark that the Greatest Difficulty is ‘almost grossly fallacious.’³ They usually follow Forrester’s construal of the argument as an argument from analogy:⁴

1. The Form Master is a master, the Form Slave is a slave
2. Either the Form Master is master of (a) particular slaves or (b) participants in the Form Master or (c) the Form Slave
3. Suppose (a) [Supposition for *reductio*]
4. Particular slaves are slaves only of particular masters [Premise]
5. So, the Form Master is not master of particular slaves [Corollary of 4]
6. \perp [Contradiction 3, 5]
7. So not (a) [Discharge supposition]
8. Suppose (b) [Supposition for *reductio*]
9. Participants in the Form Master are masters and not slaves [Premise]
10. The Form Master is not master of participants in the Form Master [From 9]
11. \perp [Contradiction 8, 10]
12. So not (b) [Discharge supposition]
13. Only the Form Master is master of the Form Slave. [Constructive dilemma 2, 7, 12]
14. Just as the Form Master relates to the Form Slave, so the Form Knowledge relates to the Form Truth⁵ [Premise]
15. Humans cannot master the Form Slavery [From 13]
16. Humans cannot know the Form Truth [From 14, 15]
17. The Form Truth stands in for any Form [Assumption]
18. Therefore, humans cannot know the Forms [From 16, 17]

³ (Cornford 1939, 98). See also (Forrester 1974, 233–7); (Lewis 1979, 105–27); (Mueller 1983, 3–7).

⁴ (Forrester 1974, 234).

⁵ Truth is the Form which Parmenides specifies as the correlative of the Form Knowledge. (Forrester 1974, 235) glosses this as the Form Object-of-Knowledge.

You might have a number of worries about the argument understood this way, but scholars who understand the argument as an argument from analogy focus on one particular problem. For this argument from analogy to hold, the master-slave case needs to be relevantly similar to the knowledge-truth case to show that, just as a human master is not master of the Form Slave, so human knowledge does not know the Form Truth. But, according to those who follow this reading, the analogy between the master-slave case and the knowledge-truth case breaks down.⁶ It is clear a priori that a master must be master of a slave, who has certain characteristics that the Form Slave cannot have, e.g. being mortal. A human master must be master of something mortal. But the categorical properties of the Forms include being non-mortal. So the categorical properties of the Form Slave prevent it from being mastered by a human master.⁷ However, the term 'knowledge' does not have such restrictions: there is no reason that knowledge cannot hold between a human and a Form, since being knowable is a categorical property of the Forms. The argument invalidly moves from a case where the categorical properties prevent a cross-realm relation to a case where the categorical properties do not do so. Therefore, the Greatest Difficulty is invalid.

This cannot be the correct way to read the argument, since, as I will now argue, there are four philosophical conclusions, each derived in the same way, not one conclusion concerning masters and slaves providing the model for the conclusion concerning knowledge. Overwhelmingly, scholars have thought that the main conclusion is an epistemic difficulty: that the Forms cannot be known (133b4–6, 134b11–c2).⁸ Some have also emphasized that there is a second epistemic conclusion, which may be problematic for a Platonist; namely, that the divine, or the gods, would not be able to know human matters (134e5–6).⁹ Parmenides calls this conclusion 'astonishing' (*θαυμαστός*) (134e7). But these epistemic conclusions do not exhaust the problems generated by the Greatest Difficulty and a Platonist would find the theological conclusion, that the divine cannot be our master, equally problematic. We will read the argument differently if we recognize that it has four consequences: (i) that the divine cannot master the human; (ii) that the human cannot master the divine; (iii) that the divine cannot know the human; (iv) that the human cannot know the divine.¹⁰ If the argument were an

⁶ (Forrester 1974, 236–7); (Lewis 1979, 112).

⁷ Categorical properties of Forms are those which a Form has simply in virtue of being a Form, rather than being the Form it happens to be. See (Owen 1968).

⁸ (Forrester 1974, 233); (Peterson 1981, 1); (Rickless 2007, 90).

⁹ (Lewis 1979, 120–3); (McPherran 1999, 55–71); (Rickless 2007, 90–3).

¹⁰ Plato would surely hold that (ii) is an obvious truth and so, although the Greatest Difficulty entails (ii), we should perhaps avoid calling it a conclusion: Plato would see no need to argue for (ii).

argument from analogy, then only the epistemic conclusions would be philosophically interesting. But it cannot be an argument from analogy if both sorts of conclusion are important.

While it is agreed on all sides that conclusion (iv) would be unacceptable to Plato, (i) would also pose a problem for him. At *Phaedo* 62d2–3 a conception of the divine is found such that we are its possessions (κτήματα) and it is our manager (τὸ θεόν τε εἶναι τὸν ἐπιμελούμενον ἡμῶν). Platonic piety, it seems, would be outraged by the conclusion (i). Since the conclusions (i), (iii), and (iv) are all philosophically threatening, the master-slave example is not introduced simply on the way to the damaging conclusions (iii) and (iv).¹¹

Textual evidence from the *Parmenides* supports this reading. 134d9–e6 summarizes the overall conclusions of the Greatest Difficulty. The sentence begins with οὐκοῦν, Plato's usual term for drawing a conclusion, and proceeds to give the conditional 'if this most accurate mastery and this most accurate knowledge are in the divine realm, then their mastery could not master us, nor their knowledge know us nor anything else among us' (134d9–e1). Nothing grammatical indicates that an analogy is being drawn between the example of mastery and the example of knowledge: in fact, the conjunction 'and' (καί) at 134d10 is most naturally taken as balancing the two examples, not subordinating one to the other.

Plato does move on to draw an analogy, using the term 'similarly' (ὁμοίως) at 134e1. But the analogy drawn is not between the examples of mastery and knowledge, but rather between the divine and the human:

(T4) Just as we do not command them (sc. the gods) with our leadership, nor know the divine with our knowledge, so they, in turn, according to the argument, are not masters of us, nor do they know human affairs, because they are gods (*Parmenides* 134e2–6. My translation following Gill and Ryan).

The language Plato uses suggests that the analogy holds between the abilities of the human and the divine, not between the examples of mastery and knowledge. Therefore, the conclusions (i), (iii), and (iv) each seem philosophically important and ought to be read as deriving from isomorphic reasoning.¹² The Greatest Difficulty is not an argument from analogy, so is

¹¹ I owe to David Sedley the parallel with *Phaedo* 62d. Although it seems obvious, no literature I am aware of says that (i) would be problematic for the Platonist.

¹² If conclusions (i), (iii), and (iv) are philosophically important, Plato is not picking his examples of relatives at random or deriving them from another source. This is significant because if Plato's examples are deliberate, Aristotle's use of 'master' and 'slave' as examples of relatives in *Categories* 7

not invalid, at least for the reasons given. This leaves us to pursue readings where scholars read the Greatest Difficulty as a valid argument.

3.3 *Radical separation?*

Scholars who think that the argument is valid typically think that T1 amounts to the claim that ‘separation is radical’.¹³

(RADICAL) For all x , x is a Form and x relates to some y iff y is a Form.¹⁴

This radical separation of Forms from participants is the strongest possible reading of the separation premise. The premise proves the conclusion that we cannot know the Forms, as long as we hold that ‘...knows...’ picks out a relation. Such a proof is as follows: (i) the knowledge we have is not a Form, (ii) the knowledge we have knows (or is knowledge of) something, y . By radical, (iii) y must be a non-Form. Therefore, (iv) anything that we know must be a non-Form.

The Greatest Difficulty would be valid, provided we accept that there is an object to which knowledge relates. But this relational reading relies on an extensional understanding of relativity. The knowledge that we have is knowledge of something: ‘...has knowledge of something’ must be an incomplete predicate.¹⁵

The radical separation reading exacts too great a price for a valid construal of the argument. A Platonist would not accept a premise that denies all relations between Forms and participants.¹⁶ If the Greatest Difficulty relies on such a strong premise, then it begs the question. One may wish to retain

indicates that he was influenced directly by this passage in his thinking about relatives. If, contrary to fact, Plato had picked the example of ‘master’ and ‘slave’ without a philosophical point, it might have suggested that Plato and Aristotle were both following an existing (perhaps shared) tradition.

¹³ (Allen 1998, 193). A similar line on separation, if not validity, is taken by (Cornford 1939, 99); (Runciman 1962, 159); (McCabe 1994, 91); (Prior 1985, 75–6); and (Gill and Ryan 1996, 46).

¹⁴ This is a biconditional, which is not explicitly formulated in the text. A closer reflection of what is taken as the source for these remarks, T1 and T2, would be two conditionals: (RADICAL 1) For all x , if x is a Form and x relates to some y then y is a Form; (RADICAL 2) For all x , if x is among us and x relates to some y then y is among us. Assuming that every item is either a Form, or among us, the biconditional (RADICAL) follows from the conjunction of (RADICAL 1) and (RADICAL 2).

¹⁵ (Baltzly 1997, 193n38) cites this *Parmenides* passage as evidence for his non-constitutive reading of relativity in Plato. (McPherran 1983b) has a non-constitutive reading of relativity in this passage (that is, being a relative just means bearing a relation to something), but McPherran rejects the radical separation reading.

¹⁶ A point pressed by (Prior 1985, 75).

radical separation and explain why Parmenides says that an off-target attack is the *greatest* difficulty with the theory of Forms. Perhaps one could appeal to the several passages in the first part of the *Parmenides* where Socrates may accept premises which a more mature theorist would not (for example, at 130b; 130e–131e, especially 131b; 132a).

Even if we found some way to satisfy ourselves that the Greatest Difficulty deliberately begs the question, we ought to reject the radical separation reading on the basis of the text alone. The sentence at 133d1–2 mentions three relations which may hold between Forms and participants; namely, ‘... participates in...’, ‘... is like...’ and ‘... is named after...’¹⁷ If, as is implied by that sentence, some relations can obtain across the realms, then separation is not radical. In short, the radical separation reading validates the Greatest Difficulty, but also makes it an off-target attack that does not respect the specific details of the argument in the text.

3.4 Weaker separation?

Some scholars have tried to understand the separation principle in a weaker way. These readers hope to avoid the obvious problems of a radical separation reading by allowing some relations to obtain between Forms and participants, including, crucially, participation, while preventing relations like ‘... is a master of...’ holding from a participant towards a Form.¹⁸ I think this is the right strategy; indeed, I follow this sort of strategy below. But I think that the way this strategy has been handled so far in the literature goes awry, precisely because it does not account for Plato’s constitutive view of relativity.

There are two approaches like this in the literature, which differ slightly, but are not independent of each other: (Lewis 1979, 106–10) and (McPherran 1983b, 157). The thought, in both cases, is this: radical separation barred all relations between Forms and ‘participants’, including participation. However, T2 and T3 do not block participation. T2 says that there is a class of Forms that ‘are what they are’ in relation to each other and this relationship cannot hold between Forms and participants. This sense of separation is christened ‘proper separation’. T3 says there is a principle that corresponds to this but governs participants. This principle is christened ‘factual separation’. It is hard to know exactly what Lewis has in mind as he gives several, non-equivalent

¹⁷ εἴτε ὁμοιώματα εἴτε ὄπη δὴ τις αὐτὰ τίθεται, ὧν ἡμεῖς μετέχοντες εἶναι ἕκαστα ἐπονομαζόμεθα. *Parmenides* 133d1–2.

¹⁸ The leading advocates of such a move include (Lewis 1979) and (McPherran 1983b).

statements of these principles.¹⁹ But I think we give a fair construal of this approach like so:

(PROPER) For all x and for some y ((if x is a relative Form and y is the correlative of x), then y is a Form).

For example, if mastery is a relative Form and slavery is the converse of mastery, then slavery is a Form. The complimentary principle, governing participants, is known as ‘factual separation’:

(FACTUAL) For all x and for some y ((if x is a relative participant and y is correlative of x), then y is a participant).

For example, if a participant master is master of a slave, then that slave is also a participant. Lewis understands relational Forms to be relations, while relative participants to be items in the domain of a relation. Similarly, a correlative Form is simply the converse of the relational Form, while the correlative participant is an item in the co-domain of the relation in question. These two principles, Lewis thinks, are intended to block the confusion of a relation’s converse with a relation’s co-domain. What this cashes out to, in Lewis’ view, is a warning not to confuse the co-domain of a relation with the converse of the relation. The relation of slavery is the converse of the relation of mastery; a slave is in the co-domain of mastery. Don’t confuse a slave with slavery. These separation principles, understood in Lewis’ way, are much weaker than radical separation. The principles do not block participation. They merely block what is in any case logically impossible: the converse of a relation being the co-domain of a relation.

Lewis’ reading depends on a non-constitutive reading of relativity. Not only does Parmenides analyse relatives in terms of relations, but also he gives some strikingly post-Fregean advice about how to understand relations. Anachronism isn’t a fatal objection, but it should lead us to press on how Plato himself might have understood proper and factual separation. Without a more robust understanding of Plato’s analysis of relativity, it is hard to see that Lewis’s reading will work as a reading of Plato. More problematic for Lewis, once again connected to a non-constitutive understanding of relativity,

¹⁹ Compare when Lewis says that Parmenides uses ‘mastery’ and ‘slavery’ to make a point about the logical relation of the two concepts concerned; namely, that ‘one concept is the converse of the other’ (Lewis 1979, 108) with when he says that ‘if certain forms have their being with respect to each other, then by simple separation they have their being with respect to no sensible’ (Lewis 1979, 109).

is that participation is a relation and a participant is a relative, which relates to a Form. This allows us to instantiate the principles he gives with ‘a participant’ and ‘a Form’. Suppose we instantiate factual with ‘a participant’ for ‘x’ and ‘a Form’ for ‘y’. Nothing in Lewis account rules out doing this, but we arrive at:

If (a participant is a relative participant and a Form is correlative to a participant) then (a Form is a participant).

It seems that the antecedent of this conditional is true, so a Form will end up being a participant. That violates the rule that Lewis commits himself to, whereby no Form is a participant (Lewis 1979, 106).²⁰ Lewis could try to stop us instantiating these principles with ‘a participant’ and ‘a Form’, but it is hard to see how to do this without resorting to ad hoc stipulation.

These worries with Lewis’ reading of separation stem from the fact that he does not give us a clear story about Plato’s view of relativity or what it might be for an item to be a relative. So a natural move would be to plug this gap with such an account. Mark McPherran has attempted this, relying on a reading of relational statements in Plato’s *Phaedo* proposed by Castañeda. Castañeda bases his discussion on *Phaedo* 102c–d, and styles this ‘Plato’s *Phaedo* theory of relations’. It aims to tell us the structure of the truth-maker for ‘Simmiias is taller than Socrates’.

Castañeda asserts that there are three sorts of entities presented in the *Phaedo*: Forms, ordinary particulars, and forms in ordinary particulars.²¹ The theory then makes four claims about Forms and particulars: (1) ordinary particulars have the properties they have by participation in Forms; (2) all Forms are monadic, which is to say that each Form is instantiated by exactly one particular in each fact it is involved in; (3) there are two sorts of facts—single-pronged facts and multiple-pronged facts. Single-pronged facts are each made up of exactly one Form and exactly one participant. Multiple-pronged facts are each made up of two or more Forms, each instantiated by exactly one participant, but such that each Form-participant pair is not alone a fact. (4) Forms that enter into multiple-pronged facts cannot ever enter into single-pronged facts—they can only make Form-chains. For example, the statement ‘Simmiias is taller than Socrates’ is true because Simmiias participates in

²⁰ (McPherran 1983b, 157) gives a modified version of factual separation, drawing on the reading of the *Phaedo* given in (Castañeda 1978). This reading suffers from the same failing as Lewis’; namely, it collapses when the principle is instantiated with ‘a participant’ while also suffering from the drawbacks of Castañeda’s reading discussed in section 1.3.1.

²¹ I retain an initial capital letter for transcendent Forms.

Tallness and Socrates participates in Shortness. By (4) the Forms Tallness and Shortness make a chain Tallness-Shortness. There is a derivative connection between Simmias and Socrates: Simmias participates in a Form that is enchained to a Form in which Socrates participates. Castañeda suggests that we represent this state of affairs as Tallness (Simmias)-Shortness (Socrates).

McPherran stresses that this ‘theory of relations’ includes ‘Forms in us’, which he terms ‘relational immanent characters’. That is what he takes to be mentioned by Parmenides at, for example, *Parmenides* 133e4–134a1. The thought is this: alongside Simmias, Socrates, Tallness, and Shortness there is also Tallness-in-Simmias and Shortness-in-Socrates (McPherran 1983b, 156). Since immanent characters account for the features that particulars have, relational immanent characters account for the relational features that a participant has. The Tallness-in-Simmias, for example, accounts for the fact that Simmias is taller than Socrates. Put schematically, McPherran can represent participants with: ‘*x*’, ‘*y*’, etc.; immanent characters with ‘*F*-in-*x*’, ‘*G*-in-*y*’, etc.; and Forms as ‘*F*’ and ‘*G*’ etc. With all this in hand, McPherran can try to formulate a principle of separation that is strong enough to isolate the Form Master and the Form Slave from masters and slaves, but weak enough to allow the participation relation to hold between Forms and participants. One way to formulate a relevant separation principle would be this:

(IMMANENT SEPARATION 1) *x* bears *F*-in-*x* towards *G*-in-*y* and cannot bear *F*-in-*x* towards any other entity;

(IMMANENT SEPARATION 2) *y* bears *G*-in-*y* towards *F*-in-*x* and cannot bear *G*-in-*y* towards any other entity.

This is one part of a relevant separation principle, governing participants. As such, it is a gloss of T3. These principles do draw a categorical distinction between Forms and participants and block certain relations between the two. But McPherran’s way of understanding separation faces serious difficulties.

Although immanent separation 1 and immanent separation 2 rule out some types of relation, the rules are not fine-grained enough. Immanent separation 1 and immanent separation 2 allow *F*-in-*x* to relate to *G*-in-*y*, but have no way to specify what can replace ‘*F*’ and ‘*G*’ in that scheme. This leads to absurd results. Castañeda and McPherran may intend that Tallness-in-Simmias only connects with Shortness-in-Socrates, and Fatherhood-in-Sophoniscus with Sonhood-in-Socrates, but their theory does not rule out deviant relationships, such as the Tallness-in-Simmias connecting to Sonhood-in-Socrates. So there could be a truth-maker for ‘Simmias is taller than Socrates’ consisting of

Tallness-in-Simmias and Sonhood-in-Socrates. But Socrates being a son is irrelevant to Simmias being taller than Socrates. Castañeda and McPherran's account over-generates truth-makers for relational statements, because it does not specify what correlations are possible in a sufficiently fine-grained way.

Castañeda and McPherran might respond to this by saying that their account does build in a fine-grained connection.²² The key passage of Castañeda says:

To sum up, the fact unobtrusively expressed by the sentence 'Simmias is taller than Socrates' must be understood as involving: (1) the two Forms tallness and shortness, (2) participation in each Form by one person only, (3) a connection between the two Forms that requires that they be participated in simultaneously, and (4) a derivative connection between the two participating persons that reflects the connection between the two Forms

(Castañeda 1972, 417).

Does (3) posit a fine-grained connection between Forms? (3) points out that Tallness and Shortness are connected in such a way that Tallness is participated in if and only if Shortness is participated in. This would be true if Tallness and Shortness constituted each other and reciprocated with each other. Maybe Castañeda and McPherran's account employs constitution, albeit under another name.

I think I should say two things here. First, if Castañeda and McPherran really do intend their account to involve constitutive relativity, I embrace that. We might differ in details, but we find ourselves allies. However, second, I doubt that (3) specifies a constitutive connection between Forms. If two Forms, Tallness and Shortness, are enchainment, then that enchainment requires that something participates in Tallness if and only if something participates in Shortness. The enchainment restricts participation in Tallness and Shortness. If one is participated in, so is the other. But this leaves open whether the enchainment of Tallness and Shortness constitutes each. Of course, any relationship between two Forms will be a necessary relationship, but not all necessary relationships are constitutive ones.

Finally, as stated (3) still allows deviant Form chains, provided participation is simultaneous. (3) could be satisfied if all and only tall people are fathers and all and only short people are sons. In that case, the chains

²² For this objection, I am indebted to an anonymous reader from OUP.

Tallness-Fatherhood and Shortness-Sonhood would be participated in at all the same times. So the truth-maker for ‘Socrates is a son’ would irrelevantly include the Form chain Shortness-Sonhood. But, of course, shortness should not be part of the truth-maker for ‘Socrates is a son.’

These approaches to weakening the separation premise all run into difficulties because they understand relativity in Plato in a non-constitutive way. Lewis’ account over-generates participants: in particular, some Forms turn out to be participants. But this problem arises because Lewis has no principled way to restrict the domain of his separation principle: any relative-correlative pair can be plugged into his separation principle. McPherran’s approach also suffers from over-generation, but in that case, truth-makers are over-generated, because there is no principled way, on McPherran’s account, to block deviant relationships between immanent characters. These problems arise because these scholars have assumed a non-constitutive analysis of relativity. On this analysis, a relative can, in principle, bear any relation to another item. This means that these approaches cannot restrict the domain of the separation premise in a non-arbitrary way. The constitutive understanding of relativity would offer, at least, some means to restrict the scope of separation in a non-arbitrary way.

In short, the three existing approaches have serious drawbacks. If we read the Greatest Difficulty as an argument from analogy, it turns out to be invalid. If we read the separation premise as radical, then the Greatest Difficulty begs the question against the Platonist. If we weaken the separation premise in ways that have been suggested, then we find that the separation premise is not fine-grained enough to give a plausible reading of the Greatest Difficulty.

3.5 Constitutive relatives and the Greatest Difficulty

What, then, are the criteria for a successful reading of the Greatest Difficulty? The failure of the argument-from-analogy reading shows that we ought to understand the argument as a valid derivation of all four consequences, not just the epistemic consequences. My discussion of the radical separation reading showed that separation must be strong enough to motivate the conclusion that the Form Master can relate only to the Form Slave, not to some participant slave, and vice versa. The same applies, *mutatis mutandis*, for Knowledge and Truth. But the premise must also not be so strong as to rule out a priori all relations between Forms and participants, as this would beg the question against the Platonist. Furthermore, weakening radical

separation should be done in a way that is sufficiently fine-grained to rule out over-generation, either of participants or of truth-makers.

A proper understanding of T2, and the notion of relatives contained within it, allows us to meet these requirements. I take the Greatest Difficulty as a *reductio* of a separation assumption that T1 and T2 express: such a separation assumption leads to consequences, three of which are unacceptable, when combined with various assumptions about relatives. T1 asserts that (a) each thing has an essence that is ‘itself by itself’ and (b) none of those essences are among us. T2 applies this thinking to a class of Forms: those that ‘are what they are in relation to each other’. It asserts that (c) members of this class have their essence in relation to themselves and not in relation to things among us. Parmenides then repeats, in T3, the complementary point for the things among us. In detail, I claim that texts T1–T3 reflect the following principles, and that the Greatest Difficulty targets them for *reductio*:

(RECIPROCAL_F) For all x , for some y , (if (x is a Form and x has y as its reciprocating correlative) then y is a Form).

As suggested by T3, there is an equivalent principle governing participants:

(RECIPROCAL_P) For all x , for some y , (if (x is among us and x has y as a reciprocating correlative) then y is among us).²³

When understood this way, reciprocity does not bar all relations between Forms and participants: specifically, reciprocal_F and reciprocal_P do not rule out the participation relation. The only thing that reciprocal_F and reciprocal_P block is a reciprocating correlation between Forms and participants. But, taken with certain assumptions about relatives, reciprocal_F and reciprocal_P yield the four consequences, three of which are unacceptable to the Platonist: one concerning theology and two concerning epistemology. Roughly this is because Plato’s conception of relatives entails that a given relative is that relative in virtue of its correlative. It is only in virtue of the relationship a master has to a correlative slave that a master is a master. By reciprocal_F and reciprocal_P, the relative–correlative relationship cannot hold across realms, which, as we will see, leads to the four conclusions.

For my reading to succeed, I must first establish that reciprocal_F and reciprocal_P best reflect the text of T1–T3. A close reading of T2 helps to do this. T2 tells us what characteristics those Forms that are to be isolated from

²³ This emends my earlier formulation of the point in (Duncombe 2013, 51).

participants should have. These characteristics are precisely the ones required for reciprocal_F and reciprocal_P. T2 specifies a restricted class of Forms and asserts things about those Forms. The class picked out is ‘all the Ideas which are what they are in relation to each other’ (ὅσαι τῶν ἰδεῶν πρὸς ἀλλήλας εἰσὶν αἷ εἰσιν). Contrary to the radical separation reading, which takes this as a delineation of all the Forms, my reading recognizes that only some Forms can be picked out this way: Forms for relatives. This is what the ‘all the things which’ (ὅσαι) indicates.²⁴ But what are the characteristics of the Forms for relatives that are thus identified?

The first thing that is clear is that relatives are not singletons. If something were the only item in the universe, that item could not be a slave. It is necessary but not sufficient for being a slave that there are other items in the universe. An item is not a slave if there is another item that exists, but that item is merely a human, for example. A special relationship to another item is necessary. To be a slave is to bear a special relationship to a master. If a master exists, then there must be a slave and vice versa. This does not hold with other terms, such as ‘man’: if a man exists, there need not be a slave, or anything else. One might think that relatives come in pairs. This fits with the examples cited in the Greatest Difficulty: Master-Slave and Knowledge-Truth. We have already seen that the first term in this pair is usually called a relative, the other its correlative (see section 1.3.3).

Not only do relatives and their correlatives come in pairs, but also the pair is of a special sort. This is a further indication that reciprocal_F and reciprocal_P are the correct reading of T2. Parmenides tells us, at 133c8, that the terms in the pair are in relation to each other (πρὸς ἀλλήλας). I have called such pairs ‘reciprocals’. Just as a master is master of a slave, so a slave is slave of a master.²⁵ We have already seen that Plato consistently represents a relative as having a reciprocating correlative (section 2.3). In each case, Socrates gives the relative as relative to its reciprocating partner: just as the relative relates to its correlative, so the correlative relates to the relative. The *Republic* 438b4–c9 gives greater and smaller, more and fewer, double and half, faster and slower, and heavier and lighter as relative-correlative pairs.

Nor is this way of presenting relatives and correlatives confined to the *Republic*: greater and smaller are given in this way in the *Charmides* (168b5–8)

²⁴ (Lewis 1979, 107) also holds that a restricted class of Forms are picked out here.

²⁵ Note the difference between ‘symmetric’ relations and reciprocals. Symmetric relations are a sort of relation, while reciprocity is a feature of relatives and their proper correlatives. It is easy to see the difference when we look at cases such as ‘larger’. ‘Larger’ is not symmetric because if x is larger than y , it is not the case that y is larger than x . But ‘the larger thing’ does have a reciprocal, i.e. ‘the smaller thing’.

and *Categories* 7 (6a36–b10). Double and half are so given in the *Charmides* (168c4–5) and *Categories* 7 (7a15–17). Heavier and lighter feature thus in the *Charmides* (168c9–10). Desire is a relative in *Symposium* (200a5) as well as the *Charmides* (167e1–2). Finally, knowledge is mentioned as a relative with a correlative in *Charmides* (168b2–3), *Categories* 7 (6a36–b10; 6b28–35; 7b15ff) and *Parmenides* (134a–b), although in each case, ‘knowledge’ has a different reciprocating correlative. So each relative has a reciprocating correlative. This is reflected by reciprocal_F and reciprocal_p, showing them to be a good reading of T2 and T3. And, crucially, reciprocity is a formal feature of the constitutive view of relativity we detected in Plato more broadly (section 2.3).

Together reciprocal_F and reciprocal_p give a good reading of the premise targeted for *reductio* by the Greatest Difficulty. But to prove my reading of the Greatest Difficulty, I need to show that relatives, for Plato, do not just have a reciprocating correlative, but also that the reciprocating correlative is in a suitable sense the *object* of the relative. Plato asserts this in the case of knowledge at *Republic* 438c9. The knowledge relation takes an item in the domain, a knower, and links it to an item in the co-domain of the relation, a knowable thing. Each item in the co-domain is an object of knowledge: each is something known. The special object is what can be applied to the whole co-domain of a given relative: where the relative is ‘knowledge’ the object is all the known things. Plato changes the expression he uses for ‘object of knowledge’, but the notion is stable enough: not only is the known the correlative of knowledge, but it is also its object. The same applies, *mutatis mutandis*, to other relative-correlative pairs.

In the *Parmenides*, Socrates’ interrogator has more to say about the Forms that come in reciprocating relative and correlative pairs. As well as coming in such a pair, they ‘are what they are’ (εἰσὶν αἷ εἰσιν) in relation to each other. For some scholars this indicates that Forms of relatives feature other Forms in their definition.²⁶ However, I have shown that the expression εἰσὶν αἷ εἰσιν means something specific in the context of relatives. εἰσὶν αἷ εἰσιν serves as the feminine plural form of a neuter singular expression often found in Plato’s and Aristotle’s discussions of relatives: ‘just what it is’ (ὄπερ ἔστω) (see section 2.1). The expression occurs at *Parmenides* 133c8 in the feminine plural, rather than the usual neuter singular, because it agrees with the feminine plural ‘of the ideas’ (τῶν ἰδέων) in the same line. We have already seen that Plato uses this expression to indicate that a relative reciprocates with its correlative when

²⁶ See (Peterson 1981) and (Rickless 2007, 85–93).

the relative is properly qualified and that the relation to the correlative does indeed constitute that relative.

We saw in section 2.1 that, for Plato, a relative is always relative to some correlative. I have also argued that the relationship between relative and correlative is exclusive. That is, the relative is *only* relative to the reciprocating correlative. This may not be obvious; it seems that a larger thing is not only larger than a smaller thing, but also larger than a middle-sized thing. The ‘just what it is’ (ὅπερ ἔσται) qualification explains this too. Plato is concerned with the proper correlative of the larger. Whatever the larger is larger than will be smaller than the larger. In other words, if we properly specify the larger as larger, we see that it is relative only to the smaller. The necessary and sufficient condition on being larger is being larger than the smaller. Any relationships in addition to the relationship to the smaller, such as to a middle-sized thing, are redundant when explaining why the larger is larger. The *Parmenides*’ use of ‘just what they are’ (αἷ εἶσιν) could be understood to make the same point: a master, as such, is master of a slave and a slave, as such, is slave of a master. When properly specified, master and slave are reciprocal correlatives, which means that a master is always and only of a slave and the relative–correlative relationship constitutes being a master.

It should be clear now that the constitutive view of relativity that I argued to be present in Plato is at play in the Greatest Difficulty. In short, a relative is constituted by its relationship to its proper correlative and not by any relation to anything else. This broader view highlights two elements of Plato’s account of relatives. First, when properly specified, a relative will relate to a correlative: a master will relate to a slave. The relationship between a relative and correlative is exclusive and exhaustive. Second, when the relative has an intentional object the correlative will be the object of the relative. In the example from *Republic IV*, the relative, knowledge, is relative to the object of knowledge, the knowable (see also Chapter 4).

Understanding T2 with the help of a richer grasp of relativity in Plato allows us to properly understand the principles that I labelled above as reciprocal_F and reciprocal_P. reciprocal_F asserts that for any pair of reciprocal correlatives, if one is a Form, both are Forms and reciprocal_P asserts that for any pair of reciprocal correlatives, if one is a participant, both are participants. If this is the correct way to construe the principles of separation as they appear in the Greatest Difficulty, the argument of the Greatest Difficulty works as I describe in the following paragraphs.

First, T1 makes the general point that the Forms are separate, in some sense, from participants. This claim has been in play from as far back as 128e5

when Socrates posited Forms.²⁷ Second, T2 picks out a restricted class of the Forms, namely the Forms of relatives. Each of such items has a reciprocal correlative; relatives and their correlatives come in pairs. Third, as I have argued above, T2 is best characterized as asserting that separation amounts to reciprocal_F and reciprocal_p, i.e. that both items in a relative-correlative pair are isolated together in either the Form realm or in our realm.

With these three premises in place, Parmenides can derive the four consequences when he turns to his example relative-correlative pairs: first, a master and a slave; second, knowledge and a truth. Parmenides says:

(T5) If one of us is somebody's master or somebody's slave, surely he is 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, because he is a human being he is it [sc. a master or a slave] of a human being; Mastery itself is what it is of Slavery itself (*αὐτῆ δὲ δεσποτεία αὐτῆς δουλείας ἐστὶν ὃ ἐστί*), and similarly Slavery itself [is what it is] of Mastery itself

(*Parmenides* 133d7–e4. My translation following Gill and Ryan).

Parmenides tells Socrates that a human master can only be master of a human slave, and the equivalent is true for the corresponding Forms. As one would expect on the constitutive view of relativity, it is irrelevant to being a master that a master bears any other relationships. Any other relationships can be 'stripped away' to use Aristotle's metaphor. It is necessary and sufficient for being a master that a master bears the appropriate relationship to a slave.

But, according to Plato's conception of relatives, the correlative is not just that in virtue of which something is a master—the correlative is also the object of the relation. And by reciprocal_F and reciprocal_p any correlation holds only between items in the same realm. So the correlative object of any relative cannot be in a different realm to the relative. From here, the four consequences follow directly: a divine master cannot be master of a human slave; the Form Slave cannot be the object of human mastery. The same is true for knowledge: for a state of mind to be knowledge, it is necessary and sufficient that it bear a relationship to the correlative of knowledge. But, because the correlative of a relative and the object of an intentional relative are identical for Plato, by reciprocal_F and reciprocal_p, knowledge in the Form realm can

²⁷ A Form, unlike a participant, is not subject to opposites; for example, being alike and not alike, or one and many.

only be knowledge of things in that realm; similarly, we cannot know the Form Truth.²⁸

The above construal of the argument shows that separation, construed as the conjunction of reciprocal_F and reciprocal_p, along with Plato's usual notion of relatives, jeopardize three key Platonic propositions. This invites us to read Parmenides' attack as a *reductio ad absurdum* of reciprocal_F, reciprocal_p, and those assumptions about relatives, which Parmenides is sure the young Socrates will accept. Formally, we can reconstruct the argument in the following way:

1. No Form is a participant [Separation Premise]
2. For all x , for some y , (if (x is a Form and x has y as its reciprocating correlative) then y is a Form) [reciprocal_F]
3. For all x , for some y , (if (x is among us and x has y as a reciprocating correlative) then y is among us) [reciprocal_p]
4. Suppose a Form master correlates to a participant Slave [Supposition]
5. The master is a Form [From 4]
6. The slave is a participant [From 4]
7. If a master is a Form and a master has a slave as its reciprocating correlative then that slave is a Form [Instantiate 2 with 4]
8. The slave is a Form [Modus ponens on 4, 5, 7]
9. The slave is a Form and a participant [&-introduction on 6, 8]
10. [Contradiction 1, 9]
11. So a Form master does not correlate with a participant slave [Discharge supposition]

This reconstruction derives only one of the conclusions: that a Form master does not correlate with a participant slave. But the other conclusions—that we cannot know the Forms and that the divine cannot know us—could all be derived in the same manner, with the pertinent changes.

Does my reading avoid the problems that I identified with the three existing accounts of the Greatest Difficulty? On my reading, the argument is valid, unlike on the argument from analogy reading. Furthermore, on my reading, the Greatest Difficulty does not beg the question, unlike on the radical separation reading. On my reading, Parmenides is not committed to the view

²⁸ This way of understanding the argument owes a great deal to conversations with James Warren, although he may remain unconvinced.

that no relations are possible across realms, but rather he shows why relative and correlative pairs cannot relate across the realms. In particular, the participation relationship can hold across realms. If Plato thinks of relatives in the Greatest Difficulty as he usually does, then there cannot be cross-realm correlations. If there cannot be cross-realm correlations, the four consequences listed above follow. At least three of these consequences threaten fundamental Platonic tenets: that the Forms are knowable, that the divine can master us, and that the divine can know our affairs.

Finally, what about the usual problem with ‘weak’ separation; namely, that weak separation tends to over-generate, by allowing too many correlations between participants and Forms? On the constitutive reading of relatives in the Greatest Difficulty, there is no question of over-generation, since there is no question of a relative relating to anything other than its proper correlative. On the constitutive reading, a relation to a correlative constitutes a relative. There is nothing more to being a master than bearing the ‘is a master of’ relation to a slave. There is nothing more to being a slave than bearing the ‘is a slave of’ relation to a master. There is no room, on this account, for ‘deviant’ relationships, like the Tallness-in-Simmias relating to the Sonhood-in-Socrates, which led to over-generation on McPherran’s account. On the constitutive reading, a taller thing relates to a smaller thing only, because a taller thing is constituted by that relationship to the smaller thing.

Here is one objection to my reading of the Greatest Difficulty. On the face of it, ‘knowledge’ is not related to ‘truth’ as ‘master’ is related to ‘slave’. Although it is impossible to know without knowing truths, it is perfectly possible for there to be a truth that is not known. Put another way, to be a reciprocal pair, these should be ‘knowledge’ (ἡ ἐπιστήμη) and the ‘knowable’ (τὸ ἐπιστητόν), which are the terms Aristotle uses (*Categories* 6b34). I suggest that the counter-example which ‘knowledge’ and ‘truth’ present to the claim that all relatives are reciprocal is merely apparent. ‘Truth’ should be understood here as ‘object of knowledge’ or ‘the knowable’. At *Theaetetus* 201d2–3, Theaetetus recalls the term ‘ἐπιστητός’ (knowable) as a surprising coinage by an anonymous third party. This suggests that Plato is uncomfortable with the expression. It is likely that when he wrote the *Republic* and the *Parmenides*, dialogues perhaps slightly earlier than the *Theaetetus*, he was shy of using the neologism. At *Republic* 438c3, Plato prefers to refer to the reciprocal partner of ‘knowledge’ as ‘learning’ (τὰ μαθήματα), and the use of ‘truth’ (and ‘beings’ at 134a8–b1) in the *Parmenides*, I suggest, is another example of Plato still feeling his way with the terminology.

Furthermore, the Greatest Difficulty argument does not require a more specific partner for 'knowledge', so Plato does not use one. The argument aims to show that the Forms are unknowable to us. In so far as that is the aim of the argument, it focuses only on the term 'knowledge' and can leave its reciprocal partner less well specified: Parmenides needs only the claim that our knowledge cannot have an object that is in the realm of the Forms, and it does not matter whether the reciprocal partner of knowledge is 'truth', 'beings', or 'knowables'. Plato recognizes in this argument that 'knowledge' is a relative, and has a reciprocal partner, but, because nothing turns on what the partner is, he uses unspecific terminology.

Finally, if we read the argument as I suggest, we can see that separation, reciprocal_p, and reciprocal_p are an inconstant set. So there is still a question over which claim or claims Socrates might reject: would he reject separation? Would he reject reciprocal_F or reciprocal_p? Since the argument is a *reductio* it seems that Plato should reject some of the premises that are shown to be inconsistent, but it is unclear how he could do that. Precisely how a Platonist advocate of Forms might resolve the Greatest Difficulty is beyond the scope of this book.²⁹ But it seems that Plato retains the *Parmenides* conception of relatives in the probably later *Sophist* at 255c14. Plato also elsewhere articulates problems that relativity causes for the Forms (notoriously at *Sophist* 248a–249d, where Forms turn out to be changeable because they undergo relational change). This may suggest that Platonists feel that relativity puts pressure on the theory of Forms, but may not be sure how to resolve that pressure.³⁰

Conclusion

In this chapter I have argued, contrary to the view of most scholars, the Greatest Difficulty is a serious threat to the theory of Forms. Parmenides' argument is not invalid, as those who take the Greatest Difficulty to be an argument from analogy would insist. Nor is the argument question-begging, as the 'radical separation' reading would have it. Nor does the Greatest Difficulty end up over-generating, unlike existing approaches which weaken separation. Once we understand that the constitutive view of relativity, that a relative is constituted only by its relationship to its correlative and that a

²⁹ For some suggestions on this, see (McPherran 1986); (Meinwald 1991).

³⁰ And of course, it was not only Platonists who understood this pressure: see Chapter 8.

relative has that correlative as its exclusive object, the Greatest Difficulty can be seen as a valid *reductio*.

This chapter makes several contributions to the project of this book. First, it gives powerful indirect evidence that the constitutive view of relativity is in play in Plato. Without assuming that constitutive relativity is in play, we would lack an account of the Greatest Difficulty. Second, this shows the wider value of my project. Focusing on the notion of relativity at play in the Greatest Difficulty argument has allowed us to make progress on an otherwise puzzling text. More generally, this chapter shows that there is a tension between relativity of Forms and their separation from the non-Form realm. We have seen that Plato's thinking about relativity has a profound effect on his thinking about the Forms, especially the tension between Forms, relativity, and separation. This chapter has also touched on the issues of relatives for mental states. These mental states have an intentional object, which is also an exclusive object, since, as relatives, the mental states relate only to their correlative. This issue will play a significant role in the following chapter.

4

Relativity and partition in *Republic*

Introduction

One of Socrates' central contentions in Plato's *Republic* is that the soul has parts:¹ the rational part, concerned with truth and goodness; the spirited part, concerned with anger, self-respect, and shame; and the appetitive part, concerned with food, drink, and sex.² Before arguing that the soul has exactly three parts, Socrates argues that it has more than one part. I call this the Partition Argument. Commentators often hold that the Partition Argument either over-generates or under-generates parts. On the one hand, if the argument does not involve a genuine conflict, necessary for generating parts, then the argument under-generates. On the other hand, if the key move of the argument can be reiterated indefinitely, the argument over-generates. The Partition Argument contains one of Plato's most important discussions of relatives at 438a7–d9.

In this chapter, I show that once we see how Plato's wider constitutive view of relatives is involved, the Partition Argument avoids the two problems. This provides indirect evidence for the constitutive view in Plato, while proving that my reading of relativity addresses interpretive hotspots in ancient philosophy. Finally, this treatment of the Partition Argument raises a problem. It turns out that Plato's view of relativity may be inconsistent. I discuss this problem at the end of this chapter and we will see that this issue adumbrates some moves Aristotle finds he needs to make concerning relatives.

¹ Socrates calls the elements in the soul 'εἶδη' at *Republic* 435c5, *Republic* 435e1, *Republic* 439e1, 'γένη' at *Republic* 441c6, *Republic* 443d3, and 'μέρη' at *Republic* 442b10 and *Republic* 442c4. These are cited by (Brown 2012, 53). Socrates' usual way to refer to a particular division is with a neuter noun, which could suggest a 'part' in Greek. There is some debate as to whether they are 'parts' in a literal sense or rather 'aspects'. I will not address this question here, since it is not central to the argument of the chapter, but on this see (Cross and Woolzley 1966, 116), (Shields 2010, 147–70), and (Shields 2001).

² This chapter is based on my previous work 'The Role of Relatives in Plato's Partition Argument, *Republic* 4, 436b9–439c9'. 2015. *Oxford Studies in Ancient Philosophy* 48: 37–60. Published by Oxford University Press.

I defend the following three claims. First: both the over-generation and under-generation problems arise if desire and rejection can relate to different objects. If desire and rejection each relate exclusively to the same object, then the Partition Argument avoids both problems. Second: Plato thinks that desires, such as thirst, and rejections, such as dipsophobia, both relate to the same object and only that object.³ He thinks this because desires and rejections are relatives. On the constitutive view, each relative relates exclusively to its correlative. In the case of relatives that are intentional mental states, the state correlates with its intentional object.⁴ Third: desire and rejection are opposite relatives. In general, opposite relatives need not relate to the same object. However, when Plato discusses how to qualify relatives in *Republic IV*, we discover that in the special case where (a) opposite relatives have sorts and (b) those sorts arise because the relatives are qualified in the same way, then the opposite relatives relate exclusively to the same object. Thirst and dipsophobia exemplify this special case. So thirst and dipsophobia are opposites that relate to the same object. So, Plato's argument does not face the two problems often levelled at it.

Section 4.1 outlines the Partition Argument and the two problems. Section 4.2 shows that, for Plato, a relative relates exclusively to its correlative. Section 4.3 shows why Plato's Partition Argument avoids the traditional problems. Section 4.4 articulates an inconsistency, which hovers over Plato's account of relativity and suggests how Plato might address it.

4.1 The Partition Argument, under-generation, and over-generation

The Partition Argument has the following structure:

(PRINCIPLE OF OPPOSITES) For all x , if x is a single item, then x cannot act or be acted upon in opposite ways at the same time, in the same respect and in relation to the same object (436b9–c2). [Premise]⁵

³ I use 'rejection' to capture the opposite of 'desire'. 'Dipsophobia' names the sort of rejection that corresponds to the sort of desire called 'thirst'.

⁴ I use this expression as a convenient label for whatever an intentional mental state is directed towards, with two caveats. First, in modern discussions of intentionality, the intentional object is often a single individual, as in 'Caesar loves Cleopatra', where Cleopatra is the intentional object. But in Plato's case, as will become clear, this object can also be general, as in 'Tantalus desires a drink'. Second, to avoid begging any questions, how an object is thought of is not automatically part of the intentional object. 'Tantalus desires a drink' does not in itself imply that Tantalus thinks of the drink in any particular way.

⁵ This differs from our principle of non-contradiction: first Plato phrases the principle such that an item cannot have opposite *properties*, while the PNC (roughly) denies that a *proposition* and its

Desire and rejection are opposite ways of acting or being affected (437b1–c9). [Premise]
 Thirst is the desire for drink (437e7–438a5; cf. 437d1–e6). [Premise]
 (PRINCIPLE OF QUALIFICATION) If an item that is ‘of something’ is qualified, then it is of a qualified something and if an item that is ‘of something’ is unqualified, then it is of an unqualified something (438a7–b2). [Premise]⁶
 Thirst unqualified is the desire for drink unqualified. [From 3, 4]
 Someone, *a*, is thirsty and at the same time rejects drink (439c3–5). [Premise]
a desires drink unqualified and *a* rejects drink unqualified. [From 5, 6]
a acts in opposite ways with respect to drink unqualified. [From 2, 7]
a is not a single item (439b3–6; cf. 439c6–8). [From 1, 8]⁷

Assuming that the soul is the locus of desire and rejection, the argument uses a simple mechanism to show that the soul has parts: the principle of opposites. For any *x*, the following conditions are individually necessary and jointly sufficient for *x* to have more than one part. Opposites hold of *x*: (a) at the same time; (b) in the same respect; and (c) in relation to the same object. The argument under-generates parts if one of the conditions, (a)–(c), is not met, while if all conditions (a)–(c) are repeatedly met, the argument over-generates parts. I will discuss each of these possibilities below.

Let me stipulate that when an agent desires something, *x*, as good, three conditions are met: (i) the agent desires *x*; (ii) the agent represents *x* as good; and (iii) the agent desires *x* because she represents *x* as good. Plato’s pre-*Republic* dialogues seem to articulate the ‘Socratic’ view that whenever an agent desires something, the agent desires it in a qualified way, namely as good.⁸ But scholars disagree over Plato’s moral psychology in the *Republic*. Traditionalists think the dialogue rejects Socratic psychology, in favour of the view that some desires are good-indifferent. An agent has a ‘good-indifferent’

negation can be true together. The second difference is that Plato’s principle, at a minimum, concerns contraries, whereas the PNC concerns contradictories: if *F* is contrary to *G*, then *F* and *G* are exclusive, but need not be exhaustive. But if *F* is the contradictory of *G*, then *F* and *G* are exclusive and exhaustive. See (Brown 2012, 53–74).

⁶ (Lorenz 2006, 28–31) discusses this premise in detail. In section 4.4, I give a slightly more rigorous statement of this principle and show how it is crucial for the argument.

⁷ For other reconstructions, see (Irwin 1995, 204); (Lorenz 2006, 25); (Stalley 2007, 69).

⁸ *Protagoras* 354c4. For the more general claim that what we desire we believe to be good, see: *Meno* 77b6–78b2, *Gorgias* 468b1–e5, and *Protagoras* 358b6–d4. The *Protagoras* also gives the famous formulation of the ‘Socratic Paradox’ (*Protagoras* 358c6–e2). Although finding a satisfying terminology is difficult, I use ‘Socratic’ to refer to the moral psychology of the traditionally conceived pre-*Republic* dialogues. This does not imply that the historical Socrates held this view. I use ‘Platonic’ to refer to the moral psychology of the *Republic* even though the character called ‘Socrates’ evinces it. We cannot be sure that Plato, in the *Republic* or elsewhere, holds the ‘Platonic’ view in *propria persona*.

desire for x if (i) is satisfied while (ii) and (iii) are not.⁹ Such desires may help explain *akrasia*. If an agent desires x irrespective of whether the agent thinks x is good or bad, the agent may act to acquire x , even against what she takes to be her interests. Against this, revisionists defend the view that Plato still held in the *Republic* that there are no good-indifferent desires.¹⁰

The debate just sketched centres on this passage from *Republic* IV:

(T1) Thus, [Glaucón] said, each desire itself is only of that which it is of by nature, but the things (sc. desires) of a certain sort are due to that which has been added. So don't let someone, I said, disturb us when we are not paying attention, saying that no one desires drink, but good drink, and not food, but good food. For, someone might say, all people desire good things, so, if thirst is a desire, then it would be for good drink, or of good whatever it is, and similarly with the other desires

(*Republic* 437e7–438a5. My translation, following Shorey).

Premises (3) and (4) summarize the results of this passage. Socrates denies that thirst is a desire for good drink. Rather, thirst, like each desire, is for its natural object. In the case of thirst, drink is the natural object. So thirst, it appears, is good-indifferent.¹¹ Traditionalists build their case that the *Republic* rejects the Socratic view of desire on this passage. Although revisionists have independent evidence for their view (such as *Republic* 505d–506a; cf. 442c–d, 571c–572b, 580d–581a), they also try to reclaim T1.¹²

One revisionist strategy for taming T1 distinguishes two readings of 'thirst is the desire for drink'. Carone writes 'it is perfectly consistent to claim that thirst *qua* thirst is for drink while every time we wish to drink we desire drink as good'.¹³ That is, divide a conceptual reading from a psychological reading of 'thirst is the desire for drink'. Conceptually, thirst is, by definition, desire for drink, so 'thirst is the desire for drink' is true by meaning alone.¹⁴

⁹ (Shields 2010, 147–70) coins the expression 'good-indifferent'. As well as Parry, we might give as 'traditionalists' the following scholars: (Reeve 1988, 134–5); (Vlastos 1988); (Taylor 1991, 203); (Penner 1992, 129); (Smith and Brickhouse 1994, 90–6); and (Irwin 1995, 209). These are cited in (Carone 2001, 107–8). I would also include (Penner 1971, 106–7); (White 1979, 124–50); (Hoffman 2003); and (Lorenz 2006, 28).

¹⁰ Revisionists include: (Lesses 1987, 147–61); (Ferrari 1990, 115–40); (Carone 2001); (Weiss 2006, chap. 6); (Moss 2006, 525–7); and (Moss 2008). Possibly also (Price 1995, 45–50). The 'revisionist' reading actually has some supporters who antedate the 'traditionalist' reading: (Shorey 1935, ad loc.) and (Adam 1902, ad loc.).

¹¹ Socrates repeats this, using similar language, at *Republic* 439a4–b1.

¹² For example, Moss calls the evidence provided by T1 'at very best inconclusive' (Moss 2006, 526).

¹³ (Carone 2001, 120); Cf. (Hoffman 2003, 172); (Moss 2008, 62).

¹⁴ (Carone 2001, 120). This, I take it, is supposed to be a real, rather than nominal, definition.

The psychological reading, on the other hand, could say that whenever some individual thirsts, they desire a drink. As a matter of contingent fact, thirsty individuals always desire a drink as good. But this is an empirical discovery about human psychology. There is no conflict, revisionists say, between the conceptual definition of thirst as the desire for drink and the contingent fact that every time some agent desires a drink, she desires it as a good. The strategy is then to say that (a) thirst, as defined above, is for drink and (b) in any given case of a thirsty person, Tantalus, say, that person desires drink as a good. But (a) is consistent with (b), while (b) is characteristic of Socratic moral psychology. Thus, T1 is consistent with Socratic moral psychology.¹⁵

T1 is an important step in the Partition Argument. This revisionist reading of T1 threatens the Partition Argument with under-generation. The principle of opposites asserts that conflict within the agent, under certain conditions, requires a division in the soul. Socrates pinpoints the conflict between being thirsty and rejecting some available drink. But once the revisionist distinguishes definitional and psychological readings of ‘thirst is the desire for drink’, that situation may not meet the conditions for generating a part. ‘Thirst is desire for drink’, read as a definition, is consistent with the psychological truth that Tantalus rejects this drink. So there may not be a genuine conflict when Tantalus thirsts but rejects some actual drink: by definition Tantalus’ thirst is thirst for drink, but Tantalus may still reject some particular drink in front of him. Such conflict is necessary to posit parts in the soul. So the Partition Argument under-generates.¹⁶

The under-generation problem parallels an over-generation problem.¹⁷ Suppose that Tantalus’ soul does have at least two parts, including an appetitive part. Suppose further that the appetitive part of Tantalus’ soul desires to drink. It desires to drink a hot drink because of the presence of coldness.¹⁸ But it also rejects sweetness. So it desires a hot, non-sweet drink. If a hot, sweet drink is available, it seems that the appetitive part both desires and rejects the drink in question. Therefore, according to the principle of opposites, the appetitive part must have two, non-identical parts, one desiring and the other rejecting the drink in question. We could reiterate these moves

¹⁵ In fact, Carone herself argues for something stronger: that in the *Republic*, Socrates explicitly endorses the earlier Socratic position. See (Carone 2001, 118–20).

¹⁶ (Jordan 1983, 36–41) and (Robinson 1971, 42) raise the under-generation objection independently of revisionist considerations, although the problem is still based on the ambiguity of the claim ‘thirst is the desire for drink’.

¹⁷ See (Penner 1971, 108–11); (Annas 1981, 137); (Cross and Woolzley 1966, 116–17).

¹⁸ At *Republic* 437d–e Socrates evinces his view that the addition of warmth to the desire for drink will produce the desire for cold drink.

again and again, to show that, given Plato's principles, the soul has indefinitely many parts.

Some press the over-generation problem independently of wider interpretive concerns.¹⁹ But more often commentators use it to motivate the claim that Plato cannot think that just any kind of conflict results in a partition.²⁰ Some wish to argue that only a specific sort of conflict generates a part in the soul.²¹ For example, some claim that only a conflict between a first-order desire and a second-order rejection to that desire generates a part, e.g. desiring to eat meat, say, but being disgusted by that desire.²² Others argue that the conflict needs to involve a conception of the good in an appropriate way. For example, conflict over what is good or best for the agent.²³ Denying that just any sort of conflict generates a part is the first step towards making the case that the Partition Argument requires a special sort of conflict.

I have outlined two problems with the Partition Argument.²⁴ It may under-generate parts; on the other hand, it may over-generate parts. But both problems emanate from the same fact: desires and rejections, thirst and dipsophobia, need not relate to the same object. We saw that the under-generation problem arises because a necessary condition is not met when applied to the soul. The revisionist reading suggests that thirst may relate to drink, while the corresponding rejection, dipsophobia, may relate, for example, to drink viewed by the agent as a harm. But here, a necessary condition on partition is not met, because the opposites, thirst and dipsophobia, do not relate to the same object, drink: they relate respectively to drink and drink viewed as a harm. If, however, thirst and dipsophobia related exclusively to drink, the under-generation problem would not arise.

Over-generation also arises because thirst and dipsophobia may not relate to one and the same object. In addition to relating to drink, each state may

¹⁹ E.g. (Penner 1971, 108–11) and (Annas 1981, 137). ²⁰ (Cooper 1984, 6).

²¹ (Irwin 1995, 205–6); (Price 1995, 45–8). This sort of approach is opposed by (Bobonich 2002, 249–54); (Lorenz 2006, 41–52).

²² (Irwin 1979, 327); (Cooper 1984, 123); (Price 1995, 45–8) in (Irwin 1995, 208–12), Irwin takes a slightly different line from his earlier self.

²³ (Irwin 1995, 215); Cf. (Bobonich 2002, 249). I will not argue against any reading that claims that some specific sort of conflict, e.g. first-order vs. second-order or some conflict involving the good, is needed for a partition. But I take it that the case for such a reading is undermined, once we see that there is a satisfactory reading of conflict as between a first-order desire and a first-order rejection.

²⁴ These are not the only difficulties with the Partition Argument. Some have pointed out that it is hard to see how the partitioned soul is in any sense a unity (e.g. (Brown 2012); (Lorenz 2006, 38–40); (Bobonich 2002, 254–7)). There are also questions over whether the argument is compatible with the exact parts Socrates wants, i.e. reason, appetite, and spirit (see (Cooper 1984, 4)). Note that, even if (Whiting 2012, 176) is correct that Plato holds in the *Republic* that different individuals can have different numbers of parts in their souls, the over- and under-generation problems still loom. The problems with the argument apply as long as this is the argument that at least one soul has at least two parts.

relate to sorts of drink, such as hot drink or sweet drink. If a part of the soul desires and rejects a hot, sweet drink, the sufficient conditions for generating a partition within the desiring part are met. If the sufficient conditions on generating a part can be repeatedly met, the Partition Argument over-generates. But if drink and dipsophobia related only to drink, rather than also to sorts of drink, reiteration would be impossible. So the Partition Argument would not over-generate.

The under- and over-generation problems arise because desires and rejections need not relate only to their correlative objects. If desires and rejections were relatives, they would each relate to their proper object because of exclusivity. So the problems would not arise. But are desires and rejections relatives? I will argue in the next section that in *Republic* IV, the mental states in question are indeed relatives, with the attendant formal features.

4.2 *Desire and Rejection as relatives in Republic*

The evidence suggests that Plato thinks of desire as a relative in the Partition Argument. There is no doubt that relatives are under discussion in 438a7–b2.²⁵ Plato's Socrates designates the class as 'a kind such as to be of something' (ὅσα γ' ἐστὶ τοιαῦτα οἷα εἶναι του) (438a7–b1). This language anticipates Aristotle's definition of relatives as 'all the things which are said to be just what they are of something' (ὅσα αὐτὰ ἅπερ ἐστὶν ἑτέρων εἶναι λέγεται) (*Categories* 7, 6a35). But the language also recalls Plato's articulation of relatives at *Symposium* 199c4–5.²⁶ Moreover, the examples of relative-correlative pairs at *Republic* 438b4–d9 track examples of relatives given elsewhere, by Plato and Aristotle.²⁷

Furthermore, in T1 Socrates raised the topic of desire and claimed that desire is only for its natural object. In the exchange that follows, Socrates wards off Glaucon's worry that desire may only be for the good, rather than the natural object of desire:

(T2) 'Let no one protest,' I said, 'that we have not thought this through, with the objection that nobody wants a drink unless it is wholesome; nobody wants food that isn't nourishing. Because, they claim, everyone wants good

²⁵ (Shorey1935, *ad loc*) and (Carone 2001, 118) make this point.

²⁶ See sections 2.1 and 2.2.

²⁷ For a list of these passages, see section 3.5.

things. If therefore thirst is a desire, it would be a desire for a wholesome drink or whatever else is desired, and the same goes for the rest.’

‘Well, perhaps the man who says this has a point,’ he [Glaucón] said.
(*Republic* 438a1–6. Translation Emlýn-Jones and Preddy).

Socrates addresses Glaucón’s worry by appealing to the formal features of relatives at 438a8–b2, in particular the principle that qualified relatives relate to properly qualified correlatives, the details of which I discuss below. But, no matter how Socrates’ reply works in detail, appealing to the formal features of relatives to answer a worry about desire would make sense only if Socrates considered desire a relative.

As well as this circumstantial evidence, we have direct evidence from the Partition Argument that different species of desire are each a kind of relative. At 439a1–2, Socrates says that thirst—one species of desire—falls into the class of relatives that he has characterized between 438a7 and 438d7.

But is the opposite of desire, rejection, also a relative, with all the relevant characteristics? Plato does not say so in so many words, but the context posits a strict parallelism between opposites such as assent and dissent (437b1–4). Desires are in the former class, and rejection is explicitly put in the latter class (437c7–9). Since desires are relatives, it is reasonable to hold that their opposites are as well.²⁸ Moreover, a necessary condition given for partition is that opposites must relate to the same object (436b9–c2); desire and rejection is the pair of opposites in question, so must relate to the same object. But to relate to any object, both desire and rejection must be relatives. As relatives, desires and rejections, in particular, relate exclusively to their correlatives.

4.2.1 (Some) opposites relate to the same object

So far I have recalled that relatives for Plato relate exclusively to their correlatives, argued that this feature is in play in the relevant passage of *Republic* IV, and that Plato considers desires and rejections to be relatives. However, to see that Plato’s Partition Argument does not face the over- and under-generation problems, I must show that he would hold that members of a particular pair of opposite relatives, thirst and dipsophobia, each relate exclusively to one and the same object; namely, drink.

²⁸ Aristotle points out that relatives have opposites (*Categories* 7, 6b15–18).

Opposite relatives sometimes relate to the same object, but sometimes do not. Take knowledge, a common example of a relative.²⁹ Knowledge relates to the knowable (τὸ ἐπιστητόν).³⁰ The opposite of knowledge is ignorance (*Categories* 6b15–18). Ignorance also relates to the knowable: one sense of ‘ignorance’ is ‘not knowing something which one could know’. So in this case both opposite relatives relate to the same object, the knowable. But not all pairs of opposite relatives are like this. Larger and smaller do not have one and the same correlative. The correlative of the larger is the smaller, while the correlative of the smaller is the larger, but the larger and the smaller cannot be the same, since they are opposites. I need to show that Plato thinks that the specific opposite relatives in question, thirst and dipsophobia, relate only to one and the same object. Plato’s discussion of qualified relatives helps me to show this.

Plato’s Socrates explains the principle of qualification for relatives, at 438a7–b2. Since the Partition Argument deals with sorts of relatives, including the much-larger and the going-to-be-larger, Socrates says something about how such qualified relatives behave. Socrates introduces the principle of qualification thus:

(T3) But surely of all the things which are of such a kind as to be of something (ὅσα γ' ἐστὶ τοιαῦτα οἷα εἶναί του), those that are qualified are of something qualified, so it seems to me, while those that are unqualified are only of things unqualified (*Republic* 438a7–b2).

In my reconstruction of the Partition Argument (section 4.1), I glossed T2 as two conditionals. I can now formulate the conditionals more precisely, using x' to indicate a sort of x :

(QUALIFIED) If (x and y are a relative-correlative pair) then (x' is a qualified relative iff y' is appropriately qualified).³¹

²⁹ Given by Aristotle, *Categories* 6b34 and Plato (*Parmenides* 134a3–b1, *Theaetetus* 201d2–3, *Republic* 438c6–9 and 438e5).

³⁰ τὸ ἐπιστητόν is Aristotle’s stable terminology. Plato does not coin τὸ ἐπιστητόν as the object of knowledge. The expression Plato uses to refer to the proper correlative of ‘knowledge’ varies between dialogues. At *Parmenides* 134a9, the partner is ἀλήθεια; at *Charmides* 168b–c the partner for knowledge is τὰ μαθήματα, as in *Republic* IV. In Aristotle, the partner is ἐπιστητόν (*Categories* 7, 6b34). For further discussion, see section 3.5 and Chapter 5.

³¹ Although most of his examples concern qualifying the correlative, Socrates maintains that when the *relative* is qualified in a certain way, so is the correlative. When discussing thirst as a relative at 437d7–e6 Socrates makes the point that qualifying by addition can also sometimes qualify the correlative. Qualifying thirst with heat leads someone to thirst for cool drink: qualifying thirst with much leads to the desire for much drink.

(UNQUALIFIED) If (x and y are a relative-correlative pair) then (x is an unqualified relative iff y is unqualified).

Together qualified and unqualified amount to the principle of qualification. Socrates illustrates the principle with the example of knowledge and its sorts:

(T4) ‘But what about knowledges (*περὶ τὰς ἐπιστήμας*)? Isn’t it the same way? Knowledge itself is knowledge of learning itself (or whatever one ought to posit knowledge is of). I mean this sort of thing: did not knowledge of making houses come about when it was divided from other knowledges so as to be called house-building?’

‘Absolutely.’

‘Was this not because it is of a certain kind, which is some different kind from the others?’

‘Yes.’

‘Therefore, when it came to be of a certain sort, it became itself a certain sort <of knowledge>? And the same is true of the other crafts and knowledges.’

‘That’s right.’ (*Republic* 438c6–d8).

I focus on the mechanism for qualifying the relative, in this case knowledge. Knowledge itself is the unqualified relative; learning itself is the corresponding unqualified correlative.³² Here the expression ‘itself’ contrasts the relative with its sorts, which are qualified somehow or another. The expression could be rendered ‘knowledge unqualified’. One sort of knowledge is the (qualified) relative house-building. According to T4, this ‘qualification’ came about because knowledge came to relate to a sort of learning, making houses. The sort of knowledge, house-building, resulted from this relationship. This is precisely what QUALIFIED leads us to expect. Knowledge and learning correlate: when the latter is qualified, as house-making, the former is appropriately qualified, as house-building.³³

³² Plato uses two expressions for the object of knowledge in *Republic* 438c, which I take to be equivalent: the first is ‘learning’ at *Republic* 438c7, and the second is ‘whatever we ought to say knowledge is of’ (*ἐπιστήμη μὲν αὐτῆ μαθήματος αὐτοῦ ἐπιστήμη ἐστὶν ἢ ὅτου δὴ δεῖ θεῖναι τὴν ἐπιστήμην*) at *Republic* 438c7–8. Plato uses ‘knowledge itself’ to contrast with some given sort of knowledge. Compare this use with the use we find above where I mentioned that Plato uses the expressions ‘itself’ (*αὐτό*) or ‘the very thing that it is’ (*αὐτὸ τοῦθ’ ὅπερ ἐστίν*) to pick out a relative in such a way as to make its correlative exclusive.

³³ For an importantly different view of how relatives are qualified, see *Categories* 11a20–33, discussed in section 5.5.

This is how Socrates identifies sorts of relatives. For his argument, Socrates also needs to establish that the sorts of relatives relate only to their correlatives. This is straightforward. Take a relative and correlative pair, x and y . Let x' be a sort of x . By qualified, x' is itself relative. x' relates to a sort of the correlative, y ; namely, y' . But by exclusivity, if x' relates to y' then x' relates only to y' . For example, knowledge relates to learning. Knowledge of making houses is itself relative, because it relates to learning about house-building. But, by exclusivity, knowledge of making-houses relates only to house-building. So sorts of relatives relate only to the relevant sorts of correlative.

We can specify a relative as qualified or as unqualified. The same applies to the corresponding correlatives. We have just seen how qualified knowledge, house-making, relates to qualified learning, house-building. In one respect, house-making is a sort of knowledge, but in another respect, house-making is also a relative in its own right. We could call this unqualified house-making. We can infer by unqualified that unqualified house-making is relative to unqualified house-building. Indeed, we may wish to contrast unqualified house-making with some sort of house-making. The sort of house-making that deals with walls is walling and the corresponding sort of house-building is building walls. Walling relates only to building walls; exclusivity applies to correlative pairs, even if they are sorts of some other correlative pair. This point will become crucial below. A key move in diffusing the over- and under-generation problems comes when we see that Socrates takes thirst, which is a sort of desire, as unqualified thirst. When so taken, thirst, unqualified, will relate only to unqualified drink (*Republic* 439a1–7).

So far I have argued that sorts of relatives relate only to sorts of correlatives. But to solve the over- and under-generation problems, I need to show that sorts of *opposite* relatives relate exclusively to one and the same correlative. Opposite relatives can have the same correlative object. To put the argument in its general form: x and its opposite, $un-x$, are both relatives. According to qualified, both can be divided into sorts by specifying an item they relate to, y . Sorts of opposites are themselves opposites, so x' and $un-x'$ are opposites. The sorts x' and $un-x'$ each have the same correlative, y . x' and $un-x'$ relate exclusively to y but y can be, and in this case is, one and the same correlative for both x' and $un-x'$. In this case, x' and $un-x'$ are opposite relatives but relate to the same thing, y .

The text of the Partition Argument supports this treatment of opposite relatives. At 439b3–c8, Socrates discusses opposing drives relevant to the Partition Argument. At 439b8–c1, he offers an analogy with archery. The archer both pushes and pulls the bow, at the same time. For Socrates' remarks

to make sense, both the push and the pull must be relative to the same object, the bow. But this can only be secured with the considerations given above. Pushing is opposite to pulling. Call the sort of pushing relative to a bow ‘bow-pushing’.³⁴ Bow-pushing opposes the sort of pulling that relates to the bow, known as ‘drawing’. Both bow-pushing and drawing are relatives and so relate only to their object. But in both cases, that object is the bow. So there is direct evidence to show that opposite relatives sometimes relate exclusively to the same object in the Partition Argument.

We are now in a position to understand how Socrates applies these general considerations of exclusivity and qualification to desire and thirst and, by extension, rejection and dipsophobia. Just after his discussion of the principle of qualification, Socrates continues:

(T5) (i) To return to thirst, then, do you not place it amongst those things that are such as to be of something and say that it is what it is (*τοῦτο ὅπερ ἐστίν*) of something? I presume it is thirst...?³⁵ Yes I do, [it is thirst] for drink. (ii) Therefore, thirst of a certain sort is for drink of a certain sort. (iii) But thirst itself is neither of much nor of little nor of good nor of bad, nor, in a word, of any particular sort, but (iv) thirst itself by nature is only of drink itself (*Republic* 439a1–7).

In this passage, the principles of exclusivity and qualification work in tandem to make Socrates’ argument. In (i) Socrates uses the expression ‘just what it is’ (*τοῦτο ὅπερ ἐστίν*) to suggest that a relative *as such* relates only to its object. He applies this general thought to the relative thirst. When specified properly, thirst relates only to drink. We might say that thirst as such relates exclusively to drink as such. Next, Socrates invokes the principle of qualification, in (ii) and (iii). (ii) says that qualified thirst relates to qualified drink while (iii) says

³⁴ The action referred to is obvious to anyone who has seen archery but hard to describe succinctly. When an archer takes aim, she *pushes* the bow towards her target with one hand and *pulls* the bow-string towards herself with the other. Both pushing and pulling are done with respect to the bow, not the target. While there is a common term in English for this pulling, namely, ‘drawing’, there is no common term for the corresponding pushing, so I simply coin ‘bow-pushing’.

³⁵ The text here may be corrupt. (Slings 2003, ad loc) prints: ‘Τὸ δὲ δὴ δίψος, ἦν δ’ ἐγώ, οὐ τούτων θήσεις τῶν ἴτινός εἶναι τοῦτο ὅπερ ἐστίν; ἔστι δὲ δὴπου δίψος’ (439a1–2), to which Glaucon responds ‘Ἐγώ γε, ἦ δ’ ὅς· πώματος γε’. There are two problems with the text as it stands: the first sentence is ungrammatical, and the second sentence is incomplete. My suggestion is that we understand Glaucon’s response as having two parts: the *ἔγωγε* as responding affirmatively to Socrates’ first sentence and the *πώματος* as Glaucon completing the second sentence in the run of the conversation. This seems to reflect a natural enough conversational rhythm, even if not strictly grammatical. That said, two textual difficulties in as many lines suggests broader corruption of the text, and so nothing I say hangs on any specific construal of the syntax here.

that unqualified thirst relates only to unqualified drink. This rules out that unqualified thirst relates to drink of a certain sort, for example, good drink. Socrates concludes, at (iv), that thirst as such relates only to drink as such, not to thirst qualified somehow. The move to this conclusion relies on both principles. Qualified correlatives are not properly specified correlatives for the purposes of the principle of exclusivity. So thirst as such relates only to drink as such, not drink qualified in some way.

At first, this may seem a little strange. Is thirst not already a sort of desire? If so, how can thirst, a sort of desire, be thirst as such? We saw above that sorts of relatives can be viewed simply as relatives *tout court*. Thirst as such is both a sort of desire and relates only to drink. In fact, Socrates applies the ‘just what it is’ (τοῦτο ὅπερ ἐστίν) expression to thirst to emphasize that, even though it is a sort of desire, we can still view thirst as such. When we do so, we will see that the principle of exclusivity applies to thirst and that thirst is relative only to drink. This is precisely what the constitutive view of relatives would lead us to expect.

This section showed that desire and rejection are relatives. Opposite relatives can relate to the same object. We saw that this applies also in the case of thirst. With these resources, we can now see that the Partition Argument, as Plato understood it, neither over-generates nor under-generates parts.

4.3 Solving the problems

I will first outline my construal of the argument, then show how the argument faces neither problem. I pointed out in section 4.1 that the principle of opposites specifies three individually necessary and jointly sufficient conditions on any x having parts: x bears opposite relations to (a) the same thing, (b) at the same time, and (c) in the same respect. The Partition Argument assumes that the locus of drives is the soul, and applies these conditions to the soul of an individual. Let’s call our thirsty dipsophobic ‘Tantalus,’ after the troubled tyrant tortured in Tartarus. Assume Tantalus thirsts for drink and is dipsophobic for drink, at the same time.

When construed my way, Tantalus’ soul meets condition (a), since, when specified as thirst, Tantalus’ thirst relates to drink. Drink is the object of thirst because thirst is a sort of desire, identified as desire for drink. We saw in section 4.2 that sorts of relatives, including desires, are identified by the correlative to which they exclusively relate. In the case of intentional mental states like desires, those correlatives are the intentional object. For similar

reasons, Tantalus' dipsophobia relates to drink. So Tantalus' soul has opposite relations to the same object. Condition (b) is met by stipulation: we assumed that Tantalus thirsts and is dipsophobic at the same time. Since the soul is the locus of thirst and dipsophobia, Tantalus' soul does both. For (c) to hold of Tantalus' soul, it must thirst for and reject drink in the same respect. Section 4.3 showed that sorts of relatives, such as thirst and dipsophobia, when specified as such, relate to their object specified as such. Tantalus' thirst is for drink as such and Tantalus' dipsophobia is for drink as such. In both cases, Tantalus' attitude is towards drink as such. Hence, there is no room for Tantalus, or his soul, to thirst for drink in one respect and reject it in another. All the individually necessary and jointly sufficient conditions on there being more than one part in Tantalus' soul are met.

Construed this way, the argument does not face the over- and under-generation problems. To save the Partition Argument from under-generation, Socrates would have to ensure that the same object, under the same aspect, is both desired and rejected, at the same time. Desire and rejection are opposite relatives. We saw that opposite relatives are divided into sorts according to their object. Desire for drink is thirst; rejection of drink is dipsophobia. In virtue of being sorts of opposites, thirst and dipsophobia are opposites. But exclusivity ensures that thirst and dipsophobia each relate only to drink. The object of thirst as such and dipsophobia as such is drink as such. So it cannot be that drink is desired and rejected under different aspects or at different times. But thirst and dipsophobia are opposite attitudes towards the same object. So there is guaranteed to be a genuine violation of the principle of opposites, which is sufficient to generate a part in the soul.

My reading also avoids over-generation. If any conflict in the soul generated a part, then conflict within a part may suffice for a partition within that part. But on the constitutive view, it is easy to see that Plato's Socrates is not committed to anything that would lead to unrestrained over-generation of parts. Thirst as such relates to drink as such. Dipsophobia as such relates to drink as such. An agent cannot have thirst and dipsophobia without psychic conflict. But an agent can thirst and reject a warm drink without conflict. Thirst is relative to drink as such, while the rejection is for warm drink. But *drink as such* and *warm drink* are not the same object, so there is not a conflict sufficient to generate a part.

It should also be clear that an incompleteness view of relatives cannot be in play in the Partition Argument. If an incompleteness account were in play, the argument would be a fallacy. Incompleteness does not entail that a relative relates exclusively to its correlative. So if thirst were understood as

an incomplete predicate, then there is no reason to hold that thirst and dipsophobia both relate to drink. Hence there is no obvious way to avoid the under-generation problem. Furthermore, there is no obvious way to avoid over-generation, on the incompleteness view. Again, it seems that, if thirst can relate to drink, on the one hand, and warm drink, on the other, there could be conflict within one part of the soul, which could lead to unrestrained generation of parts.

4.4 *An inconsistency?*

Thus, we can construe the Partition Argument in a way that makes it plausibly a valid argument. Doing so invoked one familiar formal feature of relativity in Plato, exclusivity, and one principle specific to the Partition Argument, the principle of qualification. However, this results in the following difficulty.³⁶ I have defended above the view that, for Plato every relative relates to its correlative and vice versa (sections 2.3; 3.5). Just as knowledge relates to the knowable, so the knowable relates to knowledge. The worry is that exclusivity, reciprocity, and the principle of qualification are inconsistent. According to the principle of qualification, relatives can be opposite and relate to the same object. Thus, knowledge and ignorance both relate to the knowable. By reciprocity, the knowable relates to knowledge and the knowable relates to ignorance. But, by exclusivity, the knowable can relate to at most one of these. So reciprocity, exclusivity, and the principle of qualification form an inconsistent set, but dropping any one of them would result in a consistent theory of relativity.

One could point out that, on my construal, the Partition Argument does not rely on reciprocity; so, at least this argument embodies a consistent view of relativity. Reciprocity is not directly involved in the reasoning of the Partition Argument. That is, the argument could be valid without a commitment to reciprocity. However, we did see that the best way to understand the argument is that Socrates takes mental states to be relatives, and therefore, to be governed by the formal features of relatives. Thus, as far as the Partition Argument is concerned, rejecting reciprocity would be a possible, but unattractive, strategy for avoiding contradiction. On the other hand, the principle that governs the qualification of relatives only occurs in the Partition Argument, which might tempt us to say that Plato would avoid the inconsistency simply by dropping the principle of qualification.

³⁶ David Sedley first impressed this difficulty on me.

There may be good reasons to reject the principle of qualification as problematic on its own. First, the principle is under-defined, since there is no rule to tell us how to qualify the correlative, given a qualified relative. Suppose ‘thirst’ and ‘drink’ replace x and y . According to Socrates’ own account, when hot is added to thirst, it becomes thirst for cold drink. That is, when thirst is qualified with heat, the correlative drink is qualified with cold. Here it seems that the qualifications are opposites. Yet in the other example of qualified thirst and drink that is given, much drink correlates with much thirst. Here the qualifiers are not opposites, rather they are identical. Socrates offers no principled way to distinguish between these two types of cases. It is clear that the respective qualifications should be appropriate but unclear how to determine whether they are.

Second, the principle of qualification does not seem true in general. That is to say, there are counter-examples to the principle of qualification. Replace ‘ x ’ and ‘ y ’ in the principle of qualification with ‘slave’ and ‘master’, a standard pair of correlatives in Plato and Aristotle. Suppose that the slave has a certain quality, say, being good. The slave is therefore a good slave. But it does not follow that the master is good. The master could perfectly well be bad or indifferent, or not qualified at all. So it seems that even the vague condition, that the correlative be appropriately qualified, is not always met.

Aristotle would almost certainly drop the principle of qualification to resolve this inconsistency, as he is not committed to sorts of relatives themselves being relatives. *Categories* 11a20–33 makes the point that although knowledge is a relative, sorts of knowledge, such as literacy, may be qualities in a subject. Plato nowhere considers this move, perhaps because he lacks the distinction Aristotle develops in the *Categories* between relatives and qualities. Aristotle holds that some sorts of relatives can be qualities, because Aristotle distinguishes between relatives and qualities. But Plato does not make this distinction and so has no reason to drop the principle of qualification. Without giving a reason to drop the principle of qualification, we should resist attributing that approach to Plato.

This inconsistency is closer to the surface in the *Statesman*, and, in fact, is much more straightforward there, since relatives are not invoked in a complicated argument about cognitive psychology. In the *Statesman*, the Visitor comes close to articulating the incoherence and offers an alternative idea about relatives, which would avoid the contradiction:

- (T6) (ELEATIC VISITOR) Does it not seem to you that by its nature the larger ($\tau\acute{o}$ μείζον) has to be said to be larger than nothing other than the smaller

(τοῦ ἐλάττωτος), and the smaller (τοῦ λαττωτον) in its turn less than the larger, and nothing else?

(YOUNG SOCRATES) It does.

(EV) What about this: shan't we also say that there really is such a thing as what exceeds what is in due measure (τὸ τῆν τοῦ μετρίου φύσιν ὑπερβάλλον), and everything of that sort, in what we say or indeed in what we do? Isn't it just in that respect that those of us who are bad and those who are good most differ?

(YS) It seems so.

(EV) In that case we must lay it down that the large and the small exist and are objects of judgement in these twin ways. It is not as we said just before, that we must suppose them to exist only in relation to each other, but rather, as we have now said, that we should speak of their existing in one way in relation to each other (πρὸς ἄλληλα) and in another in relation to what is in due measure (πρὸς τὸ μέτριον). Do we want to know why?

(YS) Of course.

(EV) If someone will admit the existence of the larger and everything of the sort in relation to nothing other than the smaller, it will never be in relation to what is in due measure—you agree?

(YS) That's so. (*Statesman* 283e1–284a2. Translation Rowe, modified).

Here the Visitor introduces a pair of relatives, larger and smaller (also given in the positive form, 'large' and 'small' at 283e8). These are certainly reciprocal, and the Visitor uses the familiar language of πρὸς ἄλληλα to describe the relationship that larger and smaller has to each other (*Statesman* 283e11). He is also clear that larger and smaller are, at least on one reading, exclusive: *Statesman* 283d11–e1 points out that larger relates only to smaller and vice versa.

But in T6, needing to analyse exceeding and falling short of due measure, the Visitor contrasts this familiar conception of relativity with a novel one: larger and smaller each relate to due measure. This gives two different relative pairs: first, larger and due measure; second, smaller and due measure. Without dropping one of exclusivity and reciprocity, this second conception of relativity will lead to an incoherence similar to that which we saw above. Larger relates to due measure; smaller relates to due measure. By reciprocity, due measure relates to greater and due measure relates to smaller. But by exclusivity, due measure relates to at most one of these. The Visitor, it seems, is aware of this incoherence, as he says at 284a1–3 that if someone accepts exclusivity for larger and smaller, then that person will not accept the second account of relatives.

Does this mean that Plato himself would reject exclusivity and retain reciprocity?³⁷ Not necessarily. As we saw above, the Partition Argument does not rely on reciprocity, so leaving open the possibility that reciprocity is targeted for rejection there. Moreover, in the *Statesman*, although two conceptions of relatives, one exclusive and one non-exclusive, are put side by side, it is not clear that either is endorsed as the unconditionally correct conception of relatives. The Visitor worries that exclusive relativity undermines the foundations of certain arts (*Statesman* 284a3–b1). The Visitor isn't motivated to introduce non-exclusive relativity because the exclusive relativity is incoherent, but rather because it cannot conceptually underpin statecraft. We cannot tell, on the basis of this evidence, whether Plato's own view is that the exclusive relativity should be rejected in favour of non-exclusive relativity.

I tentatively suggest that thinking about the core ideas of constitutive relativity might help us to see how Plato may approach this problem. One central idea is that a relative is constituted by its relationship to its correlative. In cases like 'a larger thing', considered above, the expression 'a larger thing' may simply turn out to be ambiguous. On the one hand 'a larger thing' picks out a larger thing that relates to a smaller thing. On the other the expression 'a larger thing' picks out a larger thing that relates to due measure. So the expression 'the larger thing' is ambiguous: it could refer to the thing larger than due measure or to the thing larger than the smaller thing.

This move is clearly available on the constitutive view of relatives and is precisely what is suggested by the Visitor's treatment of exclusivity in T6. Moreover, it seems that Aristotle makes this sort of 'equivocation' move (*Sophistical Refutations* 181b25–182a6; Cf. *Metaphysics* 5.15, 1021a26–b2; section 5.6). This would allow us to retain all three principles (exclusivity, reciprocity, and qualification). In the above example, 'knowable' would simply turn out to be ambiguous. It could refer to the knowable (relative to knowledge) or to the knowable (relative to ignorance). But these two objects will be different, given that on constitutive a relative is constituted by its relationship to its correlative. This would allow Plato to avoid the inconsistency between exclusivity, reciprocity, and the principle of qualification. It allows Plato to distinguish what is referred to by 'knowable' when knowable is known by knowledge and 'knowable' when what is knowable is known by ignorance. Since these two 'knowables' refer to different things, there is no contradiction.

³⁷ I noted in section 2.5 that *Gorgias* 451a2–c1 has both calculation and arithmetic having the odd and even as their object.

Conclusion

This chapter has focused on a key argument of Plato's *Republic*, one which centrally involves relativity. I argued that two long-standing interpretive worries with Socrates' argument, over-generation and under-generation, can be adequately addressed once we understand that Plato's usual, constitutive, view of relativity plays a role in the argument. In particular, the constitutive view of relativity explains that a relative relates exclusively to its correlative and how certain relatives come to be opposite through the principle of qualification. These moves allowed us to see that the Partition Argument employs the constitutive view of relativity. This gives us further, indirect, evidence the constitutive view of relativity is in play in Plato.

As well as these interpretive advances, this chapter also raised a more philosophical difficulty with the account of relativity developed by Plato. It seemed that exclusivity, reciprocity, and the principle of qualification formed an inconsistent set. Since the principle of qualification has not been discussed before, this inconsistency remained hidden. However, by looking at a brief discussion of relativity elsewhere in Plato's corpus, and reflecting on the core ideas of constitutive relativity, we were able to preserve all three principles. It turns out that certain expressions for picking out relatives may be ambiguous, but it is not the case that one relative can have more than one correlative. There is nothing more to being a relative than bearing the constituting relation to the correlative.

5

Relativity in *Categories 7*, *Topics*, and *Sophistical Refutations*

Introduction

Aristotle discusses relatives in the *Categories*, *Topics*, and *Sophistical Refutations*. He adapts Plato's ideas into an Aristotelian framework. In the *Categories*, Aristotle defines relatives (6a36–b10) then discusses four hallmarks of the class of relatives: contrariety (6b15–18); scalability (6b19–27); reciprocity (6b28–7b14); and simultaneity (7b15–8a12).¹ This chapter shows how constitutive relativity is involved in the hallmarks. It then discusses speciation and definition of relatives.

5.1 Aristotle defines relatives in *Categories 7*

Aristotle's *Categories* explains predications. *Categories 7* explains predications involving relative terms. Aristotle defines relatives and explains the definition with examples (6a36–b14), then devotes the bulk of the chapter to four hallmarks of relatives (6b14–8a12): some relatives have a contrary (6b15–18); some relatives come in degrees (6b19–27); all relatives reciprocate with their correlatives (6b28–7b14); and some relatives are simultaneous with their correlative (7b15–8a12).

Here is Aristotle's first definition:²

(T1) We call relatives (*πρός τι*) all such things (*τοιαῦτα*) as are said to be just what they are (*ἀντὰ ἑαυτῶν*) of other things (*ἑτέρων*) or in some other

¹ I take this elegant idea of 'hallmarks' from (Hood 2004, chap. 2).

² Although not a definition by genus and differentia (specified at *Topics* 103b15), Aristotle calls what we find in T1 a 'definition' at *Categories 7*, 8a29 and 8a33. If categories are the highest genera of being, defining them by genus and differentia is impossible (Simp. *In Cat.* 159, 10; (Hood 2004, 23)). But Aristotle can still 'define' the class he is after.

way in relation to something else.³ For example, the larger is called just what it is than something else (it is called larger than something) (*οἶον τὸ μείζον τοῦθ' ὅπερ ἐστὶν ἐτέρου λέγεται, τινὸς γὰρ μείζον λέγεται*); and the double is called what it is of something else (*τὸ διπλάσιον ἐτέρου λέγεται τοῦθ' ὅπερ ἐστίν*) (it is called double of something).

(*Categories* 7, 6a36–b2. My translation following Ackrill).

In summary, we can formulate the definition given in T1 this way:

(RELATIVITY₁) x is a relative =_{def} x is said to be what it is in relation to some y , and x is different to y .

T1 apparently refers to how relatives are described, rather than how they are.⁴ Some scholars understand Aristotle to pick out the relative entities using relational predicates. All and only relatives have relative predicates true of them.⁵ If ‘...is larger than someone’ is predicated of Ajax, Ajax is a relative. Under one description, Ajax is a relative. But what sort of predicate, if true of Ajax, makes Ajax a relative? The usual answer is an incomplete predicate, such as ‘...is larger than...’⁶ The second gap, indicated by ‘...’, is ‘completed’ by a compliment in the appropriate grammatical case, usually a genitive or dative.

This reading seems to over-generate relatives. ‘...is larger than someone’ is true of Ajax, so Ajax turns out to be a relative. But Ajax is a substance, not a relative. However, Aristotle specifies that a relative is said to be *just what it is* in relation to something. A larger thing is a candidate relative since the larger thing is said to be just what it is (i.e. larger) than something. The relatives are the things which can bear their own attribute to something else. Thus, Ajax is not even a candidate relative, since Ajax is not *Ajax* of something.

In fact, the main problem is that the incompleteness reading under-generates. Aristotle considers many things which do not have incomplete predicates true of them to be relatives. For example, a master is a relative (*Categories* 7, 6b29), but a master does not have an ‘incomplete’ predicate true of it: ‘... is a

³ Aristotle has a good reason to add this second clause; namely, that not all correlatives are expressed in the genitive. As we see in what follows (e.g. *Categories* 6b19–27) some are expressed in the dative and some in the accusative.

⁴ (Morales 1994, 261); (Sedley 2002, 333). ⁵ (Ackrill 1963, 98); (Morales 1994, 256).

⁶ (Ackrill 1963, 99); (Morales 1994, 261). (Hood 2004, 112–13) and (Harari 2011, 535) have a more sophisticated linguistic reading, noticing many of Aristotle’s examples are not syntactically ‘incomplete’ predicates. They suggest that ‘relatives’ picked out in T1 are relational words which depend linguistically on correlative words, in that we cannot determine the meaning of a relative word without the correlative. For example, we cannot define ‘double’ without mentioning ‘half’ (*Topics* 142a28–31; *Sophistical Refutations* 181b25–28).

master' is complete. A wing is a relative (*Categories* 7, 6b38), but '... is a wing' is complete. Some reply that such predicates are semantically, but not syntactically incomplete: 'master' means 'master of a slave'; 'wing means wing of a bird'.⁷ But this still excludes state, condition, position, virtue, and vice (*Categories* 6b3; *Categories* 6b15). After all, the meaning of 'health is a state' is perfectly complete. For Aristotle, the relatives are not those picked out by incomplete predicates.

Another approach wrongly takes T1 to concern *relational properties*, rather than *relatives*, things that bear relational properties.⁸ The language of T1 focuses on relatives, rather than relations: on the larger thing (τὸ μείζον) rather than being larger; on the double (τὸ διπλάσιον), rather than being double. Moreover, relative entities do not *happen* to relate to something, but relatives, in so far as they are relatives, relate to something. This is indicated by the use of τοῦθ' ὅπερ ἐστίν.⁹ The larger, as such, is called larger than something. Suppose Ajax is larger than Achilles. Aristotle's point is not that Ajax is called larger than Achilles (although this is no doubt true). Aristotle's point is that the larger thing, in so far as it is a larger thing, is called larger than something. Ajax, as a larger thing, is called larger than something. But, Ajax, as a larger thing, is not called larger than Achilles. Rather as a larger thing, is called larger than a proper correlative (the smaller).¹⁰

As with Plato, τοῦθ' ὅπερ ἐστίν suggests that a relation constitutes the relative. The relation just is what it is to be that relative. Qualifications like 'is just what it is' mark out that constituting relation. T1 uses ἅπερ ἐστίν and ὅπερ ἐστίν: singular and plural forms of the same expression. The former means 'the very things which are' and the latter means 'that very thing which it is'. In T1, Aristotle uses one expression to qualify 'relatives' and the other to qualify 'larger'. In the *Categories*, Aristotle only uses τοῦθ' ὅπερ ἐστίν, or equivalents, to tell us to understand relatives as such (6a38, 6a39; 6b4).¹¹

Further evidence that ὅπερ ἐστίν picks out a constitutive relative is found when Aristotle says, at *Categories* 7, 6b4 that relatives relate to 'other things'

⁷ (Hood 2004, 112–13); (Harari 2011, 521) suggest such a move. ⁸ (Mignucci 1986, 101–3).

⁹ Cf. section 1.1.1 (*Symposium* 199d1–199e8); section 1.1.2 (*Sophist* 255c9) for this expression in Plato. I elsewhere argue that Aristotle adopts Plato's conception of relativity (Duncombe 2018).

¹⁰ Part of this paragraph is from my previous work 'Aristotle's *Categories* 7 Adopts Plato's View of Relativity', in *Authors and Authorities in Ancient Philosophy* by J. Warren, R. Wardy, and J. Bryan. Cambridge: Cambridge University Press, 2018, 125.

¹¹ ὅπερ ἐστίν occurs only once outside *Categories* 7, at *Categories* 3b36. There, Aristotle says that substances 'τοῦθ' ὅπερ ἐστίν' do not admit of a more or less. I take it that the point is that a primary substance, a particular human, is more substance than a secondary substance (the species human) but that neither is more or less just what it is (i.e. human). I thank an anonymous reader from the press for this point.

(ἐτέρων) when specified as just what they are, but not when specified as ‘something else’ (οὐκ ἄλλο τι). Aristotle gives the example of knowledge. Knowledge, when specified as what it is (i.e. knowledge), is of something else, the knowable. Knowledge, specified as something else, say, a mental state, is not of something else. The τοῦθ’ ὅπερ ἐστίν qualification focuses on taking the relative as the relative it is. The qualification focuses on what constitutes a relative.¹²

In the *Categories* the ‘said of’ relation often indicates essential predication (e.g., *Categories* 3, 1b10–15; *Categories* 5, 2a34–b6; 2b37–3a6). Roughly, we can say that essential predication obeys the following schema: if *F* is said of *x* then *x* must be *F*. If we understand ‘said of’ that way, then T1 asserts that a relative must be what it is in relation to something. That entails that a relative is constituted by its relation to a correlative.

So far, T1 concurs with Plato.¹³ But where Plato’s Socrates wondered whether all relatives are aliorelative (*Charmides* 169a1–5; Cf. section 2.5.2), Aristotle takes a stand on the issue of aliorelativity. Aristotle defines relatives as aliorelatives: no relative relates to itself because relatives are all such things as to be what they are of other things (ἐτέρων). This is puzzling because Aristotle gives similar as an example of a relative: ‘the similar is said to be similar to something’ (τὸ ὅμοιον τινὲ ὅμοιον λέγεται).¹⁴ The relative, similar, is said to be just what it is relative to a correlative. Granted, Aristotle himself does not specify the correlative of ‘similar’. But we know from Aristotle’s discussion of reciprocity that a relative reciprocates with its correlative (*Categories* 6b28–7b14). Given what Aristotle says there, the correlative of similar should be the similar. If the relative and correlative are similar, not all relatives relate to something *else*. *Categories* 6b22 gives unequal as a relative, which presents the same problem. In the face of such obvious reflexive relatives, why does Aristotle assert that all relatives are aliorelative?

Reflecting a bit on constitutive relativity helps to explain Aristotle’s certainty about aliorelativity. If a relation to a correlative constitutes a relative, then we can see why Aristotle would be keen to reject reflexive relatives. Such self-relatives would be self-constituting. But self-constituting relatives might turn out to be ‘free-floating’ relatives. In the framework of the *Categories*,

¹² See sections 1.1.1; 1.1.2; 1.2.1; 1.2.2.

¹³ As noticed in antiquity (Simp. *In Cat.* 159, 10–15).

¹⁴ Aristotle gives ‘similar’ as a relative at *Categories* 6b9; 6b19; 6b21; *Metaphysics* 1021a10; *Physics* 8.247a1. Cf. *Metaphysics* 1021a9–1021a13 where Aristotle gives the equal, the similar, and the same as ‘numerical’ relatives. In *Categories* 7 we don’t find equal or same as relatives. However, we do find unequal (*Categories* 6b22), and equal is given as an example of a relative by Aristotle in *Metaphysics* 1021a9; 1021b7. Cf. *Parmenides* 149e3–7.

such self-relatives may violate the primacy of primary substances. Primary substances are neither said-of nor present-in other things, but:

(T2) All the other things are either said of the primary substances as subjects or in them as subjects (*Categories* 2a34. Translation Ackrill).¹⁵

When Aristotle spells out the ‘said of’ and ‘present in’ predications (*Categories* 1a20–b9), a specific relative, grammatical knowledge, is in a subject, but not said of a subject (*Categories* 1a26). Grammatical knowledge is in a soul, but is not said of any further sort of knowledge, so respects the primacy of primary substances (*Categories* 1a26). Knowledge is in a soul and said of grammatical knowledge. But since grammatical knowledge isn’t said of any further sort, knowledge also respects the primacy of primary substance (*Categories* 1b1). Although being knowledge of something constitutes knowledge, knowledge depends on primary substance either because it is grammatical knowledge (and so is present in a primary substance) or because it is said of grammatical knowledge (and so is said of something present in a primary substance).

Reflexive relatives threaten the primacy of primary substance. A relative is said to be just what it is of its correlative. A reflexive relative is said to be just what it is of *itself*. But nothing guarantees that such items are either present in a primary substance or said of something which is present in a primary substance. Knowledge said of grammar is (aliorelative) grammatical knowledge; knowledge of grammar is in a subject. But knowledge said of *knowledge* is (reflexive) knowledge of knowledge. Since knowledge is not a primary substance, knowledge of knowledge is not a primary substance. Neither is knowledge of knowledge present in primary substance, because it is not present in anything. Knowledge of knowledge is only said of something, namely itself. So, knowledge of knowledge is neither said of nor present in a primary substance. So knowledge of knowledge violates the primacy of primary substance.

Does this help us explain other reflexive relatives, such as, the similar? The similar is said to be what it is in relation to the similar. But this threatens to allow the similar to float free from primary substance, for in that case, similar is said of something (i.e. the similar) which is not itself present in or said of a primary substance. The similar is said of the similar, not of a primary substance. The similar is not present in primary substance, because the similar, as such, is not present in anything. The similar is said of

¹⁵ Precisely how to understand the primacy of primary substance is tricky. For a good discussion see (Corkum 2013).

something only in virtue of some quality (*Categories* 11a15–19). The sea might be called similar to wine in virtue of being wine-dark; but the sea cannot be called similar in virtue of being similar *simpliciter*. Since qualities depend on primary substances in the usual way (*Categories* 8, 8b26–9a9; 10a11–15), and the similar depends on qualities, the similar does not violate the primacy of primary substance.

A similar line of thought applies to unequal, given as a relative at *Categories* 6b21. Understood as a relative, an unequal is said to be just what it is relative to an unequal. That could be understood as an unequal floating free from primary substance. But Aristotle says in his discussion of quantity that being called equal and unequal is most distinctive of quantity (*Categories* 6a28). Two bodies are equal if they have the same size and unequal otherwise. So the unequal is said of body, not just a corresponding unequal. Hence, since body is either said of or present in primary substance, unequal would not violate the primacy of primary substance.

Plato's Socrates is suspicious of relatives that depend on their correlative. But, lacking commitment to the primacy of primary substance, Plato's Socrates is unsure what to make of his suspicion. Aristotle takes a stand on aliorelativity because of the wider commitments of the *Categories*, in particular, the primacy of primary substance. Aliorelatives might violate the primacy of primary substance because a relative is said to be just what it is of the correlative. If the relative is identical to the correlative, the relative looks like it might depend on itself, rather than a primary substance.

The examples that follow Aristotle's opening declaration raise a different puzzle:

(T3) Also, it is the case that these sorts of things are among the relatives, for example, possession (ἐξίς), condition (διάθεσις), perception (αἴσθησις), knowledge (ἐπιστήμη), position (θέσις). For each of these is said to be just what it is of something other and not something different: for possession is said to be possession of something and knowledge knowledge of something, position position of something and the rest likewise.

(*Categories* 7, 6b2–6. My translation following Ackrill).

Commentators ask what the correlative of possession is.¹⁶ One answer is that a possession is possession of the object that has the possession, the possessor.

¹⁶ (Ackrill 1963, 99); (Harari 2011, 521–2). The word I translate as 'possession' (ἐξίς) is often translated as 'state'. ἐξίς in Greek has an agent noun and a verbal adjective, but 'state' has neither in English. Possession, however, has the agent noun (possessor), and verbal adjective (possessable).

For example, Achilles, who has some possession, is the correlative of that possession. Another answer is that the correlative of a possession is a determination of possession. Possession could be possession of health, wealth, or wisdom. So a determinate possession is the correlative of possession.¹⁷

Both readings seem too permissive. If the possession is a possession because it is a possession of some object, almost any attribute will turn out to be a relative because any attribute is an attribute of some object. For example, being human is possessed by Achilles, so a human will turn out to be a relative. On the other hand, if the possession is a relative because a possession correlates with a determination of possession, then any determinable attribute will turn out to be a relative. Colour is determinable as red, blue, or green. So colour will turn out to be a relative.

The ancient commentary tradition suggests one solution.¹⁸ The correlative of a possession ($\epsilon\tilde{\xi}\iota\varsigma$) is that *which is possessed*: the health, wealth, or wisdom. One reason to favour this reading is that it respects the constitutive view of reactivity. If we are asking what it is to be a possession, the answer is that a possession is just possession of what is possessed. Another reason to favour this reading is that Aristotle groups possession with knowledge and perception. Knowledge is knowledge of the knowable and perception is perception of the perceptible (*Categories* 6b34–37). Likewise, possession is possession of what is possessed.

A problem with this reading is that elsewhere Aristotle warns us not to read ‘possession is possession of what is possessed’ as if it meant that the possession possesses what is possessed.¹⁹ Aristotle worries that a regress will result although it is not clear how. I reconstruct the regress like this. Achilles possesses a cloak; so the cloak is a possession. But the cloak is possessed by Achilles. So the cloak is *also* what is possessed. In general, (1) if anything is possessed, then it is both a possession and what is possessed. Now, take some possession, *a*. By (1) *a* possesses what is possessed, *b*. *b* is possessed so *b* is a possession, *c*. By (1) the possession, *c*, possesses a possession, *d*. *d* is possessed, so *d* is a possession. And so on.

Recognizing that a possession does not *possess* what is possessed blocks this regress. In accordance with the constitutive reading of relatives, the possession *is constituted by* relating to what is possessed, but doesn’t *possess* what is possessed. Spelling out the correlative in a detail will specify the possession. For example, Aristotle points out that what is possessed might be an internal

¹⁷ (Ackrill 1963, 99) surveys these options. (Harari 2011) develops the second approach.

¹⁸ Simp. *In Cat.* 163, 30–164, 2. ¹⁹ *Metaphysics* 1022b4–10. Cf. Simp. *In Cat.* 164, 20–1.

arrangement of parts, especially in the cases of possessing a virtue.²⁰ So virtue is a possession (ἐξίς) because a virtuous item possesses a certain arrangement of parts. Elsewhere in the *Categories*, Aristotle points out that branches of knowledge, such as grammar, and virtues, such as justice, are possessions in this sense (*Categories* 8b26–9a9). Again, we can specify the possession by specifying what is possessed, because what is possessed constitutes the possession, but does not possess the possession.

Before moving on to the hallmarks of relatives, I turn to the last few sentences of Aristotle's opening remarks:

(T4) So relatives are all the things which are said to be just what they are of something else or otherwise somehow in relation to something else. For example, a mountain is said to be large relative to something else (for the mountain is said to be large relative to something) and what is similar is said to be similar to something [...]. (*Categories* 7, 6b6–b10)

Aristotle apparently gives a mountain as an example of a relative. But on the constitutive view I have been pressing, a mountain isn't strictly a relative. Relatives are things that are constituted by a relationship to some correlative. But a relation does not constitute a mountain, even a large mountain. The flat-footed but, I think, correct, response is that the mountain, *qua* large thing, is large relative to something. This would be consistent with the constitutive view of relatives. A large thing just is what it is in relation to a something; a mountain, in so far as it is a large thing, is larger than something. So the mountain *as such* is not large relative to something, but the mountain *as a large thing* is relative to something.

Mignucci challenged this flat-footed response, because it relies on the *qua* operator. But according to Mignucci: “*a qua F is G*” simply means that *a is G* because it is *F*. i.e. that “*a is G*” can be inferred from “*a is F*”.²¹ So, ‘the mountain, *qua* large is a relative’ simply means that the mountain is a relative because it is large. This, in turn, means that ‘the mountain is a relative’ can be inferred from ‘the mountain is large’. But, if Mignucci is right, this lands us back in the problem: the mountain, not the mountain *qua* large, is a relative.

Mignucci is wrong on both counts. First, ‘*a qua F is G*’ does not simply mean that *a is G* because *a is F*. ‘Odysseus, as *qua* leader, is cunning’ does not mean that ‘Odysseus is a leader because he is cunning’—he could be a leader for any other reason. Second, ‘*a is G*’ does not follow from ‘*a qua F is G*’ and

²⁰ *Physics* 246b3–10; 246b20–247a5; *Metaphysics* 1022b12–13.

²¹ (Mignucci 1986, 102).

'*a* is *F*'. Odysseus, *qua* a leader, is deceitful; and Odysseus is a leader. But these do not entail that Odysseus is deceitful. I will discuss the relationship of relatives to substances further in Chapter 6. But for now, the response stands, even if it stands on flat feet.

5.2 *Contrariety and scalability in Categories 7*

After his opening remarks, Aristotle gives the first hallmark of relatives:

(T5) There is also contrariety in relatives, for example, virtue is contrary to vice, while each of them is relative, and knowledge is contrary to ignorance. But contrariety does not obtain for all relatives: for there is no contrary to double or triple or anything of that sort (*Categories 7*, 6b15–18).

(CONTRARIETY) Some relatives have a contrary and some relatives do not have a contrary.

This hallmark roughly distinguishes relatives from substances and quantities. No substance or quantity has a contrary.²² So if the item has a contrary, it cannot be a substance or a quantity, but could be a relative.

(T5) raises a few interesting issues. First, an observation: there is more articulation within contrary relatives than Aristotle mentions here.²³ For example, some relatives correlate with their contraries, while some relatives do not. The larger is contrary to the smaller, but the larger is just what it is of the smaller. So the larger and the smaller are *both* contrary *and* correlative to each other. On the other hand, knowledge is contrary to ignorance *but not* correlative to it. Knowledge is just what it is of the knowable, so the correlative of knowledge is the knowable, not ignorance.

The second sort of contrary relativity re-raises an issue we saw in section 4.4. Knowledge and ignorance are contraries. Knowledge is what it is of the knowable. But, plausibly, ignorance is what it is of the knowable. By reciprocity, the knowable is what it is in relation to knowledge and the knowable is what it is in relation to ignorance. So ignorance has two correlatives. But by exclusivity, ignorance has exactly one correlative. So far, we don't know if Aristotle has a way out of the inconsistent set of assumptions about relativity he inherits from Plato.

²² *Categories* 3b24–32; 5b11–29.

²³ But see *Categories* 11b24–37.

The second issue T5 raises is why virtue and vice are relatives.²⁴ Virtue lacks an obvious correlative. Virtue cannot be correlative to the virtuous person (say), since this would over-generate relatives because any virtuous thing would be a relative. Maybe virtue is relative due to its genus. Virtue is a possession (ἔξις).²⁵ Since possession is relative, virtue is relative.²⁶ This tack implies that virtue is not a relative for the usual reason—namely, being constituted by a relation to a correlative—but rather that virtue is a relative only because its genus is a relative. But, can something be a proper relative because its genus is a relative? In *Categories* 8, Aristotle denies that all species of relatives are relatives.²⁷ Aristotle has not yet settled the issue of how sorting intersects with relativity, but in the *Categories* he leans towards a hard line view that an item is not relative simply because its genus is.

My approach would try to preserve Aristotle's idea, articulated in T1, that a relative is just what it is in relation to its correlative. That is, a relative is constituted by the relation it has to a correlative. If virtue is a relative, then virtue is what it is in relation to something. But what is that 'something'? In the *Nicomachean Ethics*, Aristotle's famous answer is that virtue is an intermediate (μεσότης) between extremes.²⁸ Indeed, the essence of virtue is an intermediate, even though virtue is top of the scale of goodness.²⁹ To illustrate this, think of the particular virtue, courage. Courage is intermediate between the excess (fearlessness) and the deficiency (cowardliness).³⁰ In general, virtue is just what it is, an intermediate, in relation to something, a pair of extremes. Virtue, then, is a relative because it is just what it is in relation to two extremes in some domain.

After contrariety, Aristotle points out the next hallmark of relatives. Some relatives seem to be scalable:

(T6) It seems that the relatives admit more and the less. For more and less similar is said, and more and less unequal, and each of them is relative: for the similar is said to be similar to something and the unequal to the unequal. But not all admit the more and less, for double isn't said to be more and less double, nor anything else of that kind. (*Categories* 7, 6b19–27)

(SCALABILITY) Some relatives admit more and less; some relatives do not admit more and less.

²⁴ Ancient and modern commentators raise this: Simp. *In Cat.* 175, 20–30; (Ackrill 1963, 100).

²⁵ Aristotle, *Nicomachean Ethics* 2.5, 1106a11–13; 1106a15.

²⁶ I find this suggestion at Simp. *In Cat.* 175, 25–30; 177, 15–21.

²⁷ *Categories* 8, 11a20–36.

²⁸ *Nicomachean Ethics* 2.6, 110b27–35. Simplicius raises this idea. Simp. *In Cat.* 177, 22–8.

²⁹ *Nicomachean Ethics* 2.6, 1107a6–8.

³⁰ *Nicomachean Ethics* 2.6, 1107b1–4.

Aristotle gives a brief argument that some relatives admit the more and the less:

1. The similar is said to be similar to something [Premise]
2. x is a relative = def x is said to be what it is in relation to some y and x is different to y [Relativity₁]
3. The similar is a relative [1, 2]
4. More and less similar is said [Premise]
5. The similar admits more and less [From 4]
6. So, a relative admits more and less [From 3, 5]

It is unclear how to understand (4) and how (5) follows from (4). One might say that a , b , and c are all similar, but a is more similar to b and less similar to c . One way to do this is to say that similar thing, a , can be said to be more or less similar because a shares more features with b similar than c . Thus, Castor is similar to Pollux and Castor is similar to Jason, say, because all three are Argonauts. But Castor is more similar to Pollux and less similar to Jason because Castor and Pollux share more features with each other than with Jason.³¹

Another approach would be that Castor and Pollux are more similar to each other than Castor to Jason because Castor and Pollux share a single feature to a greater degree than Castor and Jason.³² Castor and Pollux are more similar because they are better hunters than Jason. The single-feature-to-a-greater-degree approach retains the analogy with Aristotle's other example, the unequal. The pairs {5,6} and {5,8} are both unequal pairs, but {5,8} is more unequal than {5,6}. But this seems to be because 5 and 6 are closer on a single numerical scale. 5 and 6 have a single feature, proximity on the numerical scale line, to a greater degree than 5 and 8.

Ideas like these may underlie the Aristotle's point about scalability, but cannot exhaust it. After all, a relative is an object that relates to something. Aristotle's point about scalability needs to be understood in that framework. Thus, Aristotle's point is not precisely that Castor and Pollux are more similar to each other than to Jason. Rather, the point is that just as a similar thing is a relative, so a more similar thing and a less similar thing are relatives. So premise (4) means that there is a more similar thing. A more similar thing is said to be more similar to something. So, a more similar thing is a relative. Since a more

³¹ See (Hood 2004, 30).

³² This is suggested by Simplicius (Simp. *In Cat.* 176, 20–5 Kalbfleish). Simplicius puts the point as saying that things are more similar because they share in one form to a greater extent, but you could 'deplatonize' his point, as I have.

similar thing admits the qualification ‘more’, a relative admits the qualification ‘more’. The same argument, with appropriate changes, applies to the less. This also explains why (5) follows from (4). To say that the similar admits the more and the less is to say that a similar thing can be qualified by ‘more’ or ‘less’.

This approach is consistent with constitutive relativity, and, indeed recalls Plato’s discussion of qualified relatives in *Republic* IV (438a7–b2).³³ There, a qualified relative relates to an appropriately qualified correlative. Here, Aristotle gives a version of that point. The more similar is more similar to something. The qualified relative, the more similar, is just what it is in relation to an appropriately qualified correlative. In this case the appropriately qualified correlative is more similar. The more similar is just what it is in relation to the more similar. The relation the more similar bears to its correlative constitutes the more similar.

5.3 *Reciprocity and exclusivity in Categories 7*

Contrariety and scalability only apply to some relatives. But reciprocity picks out all relatives. Aristotle says:

(T7) All the relatives are spoken of in relation to reciprocals (*ἀντιστρέφοντα*), for example, the slave is said to be slave of a master and master is said to be master of a slave; and the double double of half and the half half of double; and the larger larger than the smaller and the smaller smaller than the larger (*Categories* 7, 6b28–36. My translation, following Ackrill).

Aristotle claims that each relative has a reciprocal relationship to its correlative. To take his example, the relative slave correlates to master. Aristotle insists that the correlative for each relative also relates to the relative. So the slave is called slave of a master and the master is called master of a slave (*Categories* 7b6–7). Aristotle gives further reciprocal pairs: knowledge and knowable (6b34–35); and perception and perceptible (6b35–6). If a relative relates to a correlative then that correlative relates to the relative:

(RECIPROCITY) If any x is said to be what it is relative to some y , then y is said to be what it is relative to x .³⁴

³³ See section 4.2.1.

³⁴ To avoid begging any questions, x and y can range over both relatives taken as the most general types, a type or a token. ‘ x ’ could be substituted for ‘slave (in general)’ or the name of a particular

Some understand reciprocity as a statement of the fact that every relation has a converse. Indeed, Ackrill takes it as obvious that 'Aristotle is in fact discussing converse relations.'³⁵ Each dyadic relation, R , has a converse, R^{-1} . Metaphorically, the converse of a relation 'flips' the relation, so that the domain of the relation becomes the set of things that are related, rather than the set of things that relate. For example, the relation '...is larger than...' has a converse, '...is smaller than...'. This makes sense if you hold that *Categories 7* is concerned with relational predicates, which correspond to relations.³⁶ However, Aristotle does not formulate reciprocity in terms of relations. Rather, the grammatical subject of Aristotle's claim is 'all the relatives'; that is, things that relate. Aristotle is not explicitly discussing converse relations, but rather making the point that just as a relative relates to its correlative, so that correlative relates to its relative.

Aristotle worries that reciprocity faces some counter-examples:

(T8) But sometimes they will not seem to reciprocate if that in relation to which something is spoken of is not properly presented, and the presentation fails. For example, the wing presented as of a bird, then wing of a bird does not reciprocate. For wing is not properly presented as the wing of a bird. For it is not as a bird, but as a winged thing, that the wing is said to be of it, in this way. For wings belong to many things that are not birds. So that if it is properly presented, it also reciprocates. For example, the wing is wing of a winged thing and a winged thing is winged by a wing (*Categories 7*, 6b36–a4).

Commentators have puzzled over how Aristotle solves this worry, but it's not clear what the worry is. Aristotle derives the conclusion that the wing and the bird, when presented as such, violate reciprocity, but when presented properly, obey reciprocity. He offers this argument:

1. Suppose wing is said to be wing of a bird. [Supposition]
2. If any x is said to be what it is relative to some y then y is said to be what it is relative to x . [Reciprocity]
3. If a wing is wing of a bird, then bird is bird of a wing. [From 1, 2]
4. But bird is not bird of a wing. [Lemma]

slave, such as 'Aesop'. Here Aristotle formulates the point using his distinctive terminology. For other formulations see sections 1.4.2 and 2.3.

³⁵ (Ackrill 1963, 100).

³⁶ (Mignucci 1986);(Hood 2004, 30–1).

5. So, a wing is not wing of a bird. [From 3, 4]
 6. So, wing is not said to be wing of a bird. [Discharge *reductio*]

Premise 4 derives from other considerations, but how? Aristotle's worry is not that 'bird is bird of a wing' is a grammatically awkward construction. More plausibly a bird is not bird of a wing because a bird is not a relative *at all*. According to T1 and relativity₁ a relative must be just what is relative to something. But a bird is not just what it is relative to anything. Aristotle, however, does not seem to lean on this observation. Instead, Aristotle offers the idea that 'Wings belong to many things that are not birds.' This presents Aristotle's worry as being about co-extension.³⁷ The wing is wing of a bird, but also of a bat. Wing is the relative and bird is the correlative; there are more winged things than there are birds; so, the relative and correlative are not co-extensive. So, the wing is not wing of a bird. Premise 4 holds.

This explanation is puzzling: why Aristotle should care about relatives and correlatives being co-extensive? If you have a non-constitutive reading, what it takes to be a relative is simply bear a relation to something. On this view, a wing simply bears the '... is a wing of...' relation to something. But there is no reason to think, on this view, that relatives and correlatives will co-extend. So if Aristotle had such a view, he would not be troubled by the thought that wing relates to both birds and also bats.

We can remove this puzzlement, if we recognize that Aristotle assumes that a relative and correlative match up one-to-one.³⁸ Aristotle tells us this in T8, when he asserts that 'wing is properly presented as wing of a winged thing'. This is certainly incompatible with (6), assuming that 'properly presented' entails 'is said to be what it is'. If that is all there is to the argument, Aristotle argues in a very small circle: wing is not said to be wing of a bird, because wing is said to be wing of a winged thing. More charitably, Aristotle's point is that a wing cannot be a wing of a bird, because things other than birds have wings. Wing and bird do not reciprocate because they do not correspond one-to-one.

In T8, Aristotle points out that it is not *as* a bird that the bird relates to a wing, but *as* a winged thing. There is more to being a bird than having wings. But there is no more to being a winged thing than having wings. A bird is not constituted by having wings; a winged thing is constituted by having wings. The constitutive view of relativity is playing a role. The constitutive view assumes that relatives and correlatives match up one-to-one precisely because

³⁷ Simp. *In Cat.* 183, 25–30.

³⁸ As does (Sedley 2002, 330n8).

a relative is constituted by a relation to its correlative. This is why a wing is wing of a winged thing and not wing of a bird. The wing matches the winged thing one-to-one, just as knowledge matches the knowable one-to-one and the double matches the half one-to-one.

During further discussion of reciprocity, Aristotle implicitly appeals to exclusivity, another formal feature of constitutive relativity. In T8, Aristotle asserts that, when properly presented, all relatives relate to reciprocal correlatives. In some cases, to properly present a relative, you might have to invent descriptions (*Categories* 7, 7a5–a21). The point is straightforward. If rudder is presented as a rudder of a boat, reciprocity fails. A rudder might be rudder of a boat, but a boat is not boat of a rudder. Rudders and boats don't match one-to-one. Some boats are powered by sails, while others are punted with poles.³⁹ We can coin a description to properly present the correlative of the rudder, namely, 'the ruddered thing.' In that case, the rudder is rudder of a ruddered thing. Presented that way, the rudder reciprocates with its correlative, the ruddered thing.

Since relatives only reciprocate when the correlative is properly presented, we need some way to determine the proper presentation of the correlative. Aristotle sketches a means, but implicitly appeals to exclusivity:

(T9) Furthermore if that in relation to which a thing is spoken of is properly presented, then, when all the other coincidental things (*συμβεβηκότα*) are stripped away (*περιαιρουμένων*) and only that in relation to which it is properly presented remains, it is always spoken of in relation to that. For example, if the slave is said in relation to a master, when absolutely all the things which are coincidental to the master—such as being a biped, being capable of knowledge, being a human—are stripped away and being a master alone remains, the slave is always spoken of in relation to it. For the slave is said to be slave of a master. (*Categories* 7a31–b1. Translation Ackrill, modified)

T9 gives a test for proper presentation and an example which passes. The slave relates to a master. But how do we know that the master is master of the slave? Aristotle uses the metaphor of 'stripping away' the 'coincidental' features of a relative to determine the correlative. The cash value of this metaphor must involve the constitutive view of relativity. Aristotle considers two cases. T9 gives a slave as the correlative of the relative, a master; T10 gives slave as correlative to a man. In the first case, when we ignore coincidental features,

³⁹ Simp. *In Cat.* 185, 10–20 has numerous charming examples. Aristotle's linguistic point caused consternation amongst the ancient commentators, but I won't follow up the worries here.

such as ‘being a biped, being capable of knowledge, being a man’, we see that a slave is relative to a master, not, for example, a biped. This move implicitly invokes the constitutive view of relatives. On a non-constitutive view, a slave is slave of a biped: the description under which we encounter the correlative does not matter. All that matters is whether the relative relates to the correlative. Only on the constitutive view does the description make a difference. In this case, a slave, as a slave, must relate to a master, as a master.

As well as the constitutive view of relativity, ‘stripping away’ appeals to exclusivity. Although ‘coincidental’ may refer to non-substantial attributes (*Topics* 102b4–6; *Metaphysics* 1002a14, 1031a19; *Posterior Analytics* 74b5–12), ‘coincidental’ cannot refer to such attributes here. The coincidental features are precisely those that are stripped away. In T9, we strip away being a human. But being a human is a substantial feature. So, T9 calls a substantial feature ‘coincidental’. Moreover, master is a relative, but is not stripped away. Relatives are non-substantial features of a thing; since we strip away all the ‘coincidental’ things, a master is not a coincidental thing.⁴⁰ So, ‘coincidental’ here does not mean ‘non-substantial’. But if we cannot determine what to strip away by appeal to the non-substantial, how do we know what to strip away?

Any answer must appeal to exclusivity. You might put the point this way: the slave is slave of a master as such, not slave of a master *as* a biped, as a human, or as a knower. Being a biped, human, or knower are coincidental features, when determining the proper correlative of a slave. But those features are coincidental because the slave is slave of *the master*, rather than of a biped, of a human, or of a knower. That is, because the slave is slave only relative to the master. Which just appeals to exclusivity.

Aristotle confirms this when he reiterates the stripping away test, but provides an example which fails the proper presentation test:

(T10) On the other hand, if that in relation to which a thing is spoken of is not properly presented, then, when all the other things are stripped away and only that in relation to which it was presented remains, it will not be said in relation to that. For let the slave be given as of a human and the wing as of a bird and let being a master of it have been stripped off the human. The slave will no longer be spoken of in relation to a master; for when there is no master, there is no slave. Similarly, let being winged be stripped off bird.

⁴⁰ Aristotle elsewhere uses ‘coincidental’ in ways orthogonal to the substantial/non-substantial contrast. Maybe most similar to T9 is *Physics* II.3, 195a32–35, where Aristotle discusses coincidental causation. For a helpful recent discussion, see (Huismann 2016).

For now wing will not be among the relatives; for when there is no wing, there will be no wing of something

(*Categories* 7, 7b1–b9. Translation Ackrill, modified).

In T10 Aristotle gives an example of an improperly presented correlation: the relative slave and the correlative human. Being human is a coincidental thing stripped off when we properly present the exclusive correlative of slave. The properly presented correlative of a slave is a master, not a human. Exclusivity ensures that the correlative of slave is a master, so, there is only one way to properly present that correlative: as a master.

Things get worse. If a human is given as the correlative of slave, not only is the correlative improperly presented, but also the slave turns out not to be a relative *at all*. Aristotle's reason is clear: if there is no correlative, there is no relative either. This is because the relative ontologically depends on its proper correlative, a point Aristotle is about to elaborate.⁴¹ If the 'relative' does not relate to a proper correlative, then the 'relative' is a relative in name only. The example of the wing confirms this. Wing correlates with the winged. A bird is winged. Now, suppose bird is presented as the correlative of the wing. In that case, being winged will be stripped away as coincidental. But since the wing ontologically depends on the winged, the wing ceases to be. At least, the wing ceases to be a relative.

In these passages, Aristotle relies on a pair of tightly connected ideas: each relative relates to one correlative (exclusivity); that correlative relates back to the relative when properly presented (reciprocity). Presentation is a matter of ignoring the coincidental features of the correlative. We know which features are coincidental because the unique correlative ontologically depends on the relative. This tight set of ideas makes sense if Aristotle assumes that a relation to a correlative constitutes a relative. On that assumption, each relative has a unique correlative, to which it not only relates, but also on which it depends, at least, when properly presented.

5.4 *Simultaneity and priority in Categories 7*

Aristotle's next hallmark is this:

(NATURAL SIMULTANEITY) Most relatives are simultaneous in nature with their correlative.⁴²

⁴¹ See section 5.4.

⁴² See (Hood 2004, 33–6).

That is, in most cases, an ontological dependence relation holds between a relative and its correlative. I call this ontological dependence relation ‘natural simultaneity’. Recent discussion of ontological dependence in Aristotle’s *Categories* focuses on the dependence of secondary substances and non-substances on primary substances.⁴³ But here Aristotle distinguishes the ontological dependence that correlatives have on each other from the ontological dependence that non-substances have on substances.⁴⁴ Indeed, relatives depend on correlatives in a manner different to that in which non-primary substances depend on primary substances, since no relative is a substance.⁴⁵

Aristotle discusses two ontological dependence relations that hold between correlatives: natural simultaneity and an unnamed priority relation. I’ll treat each in turn:⁴⁶

(T11) Relatives seem to be simultaneous in nature (*ἄμα τῆ φύσει*); and in most cases this is true. For a double and a half are simultaneous and when there is a half there is a double and when there is a slave there is a master; and similarly with others. Also, one carries the other to destruction; for if there is not a double there is not a half, and if there is not a half, there is not a double. So too with other such cases.

(*Categories* 7b15–22. Translation Ackrill, modified).

T11 gives three reasons to think that correlatives are naturally simultaneous: (1) the double and the half, a paradigm correlative pair, are naturally simultaneous. (2) When a relative exists, its correlative exists. For example, when the double exists, the half exists. (3) When a relative ceases to be, its correlative ceases to be and when a correlative ceases to be, its relative ceases to be. For example, when the double ceases to be, the half ceases to be and when the half ceases to be, the double ceases to be.

T11 does not assert that neither of a correlative pair is prior to the other. That could be satisfied too easily: if there was simply no connection between correlatives, then neither would be prior to the other. T11 is clear that there is a close connection between correlatives, namely, natural simultaneity. One way to take natural simultaneity would be simply as saying that correlatives

⁴³ (Fine 1984); (Gill 1984); (Morrison 1985); (Fine 1985); (Spellman 1995); (Corkum 2008).

⁴⁴ (Hood 2004, 34). ⁴⁵ See Chapter 6.

⁴⁶ Special thanks here are due to Ana Laura Edelhoff, who shared with me her unpublished work on simultaneity in *Categories* 7. I’m also grateful to an anonymous reader from OUP for pressing me to fundamentally rethink my interpretation of this passage. Cf. *Categories* 13, 14b27–32, where Aristotle distinguishes two senses of ‘simultaneous’.

exist at all the same times. But I think this would also be a mistake. Aristotle means something different by ‘simultaneous in nature’. In *Categories* 13 (14b24–33), Aristotle distinguishes temporal simultaneity from natural simultaneity. I’ll say more about this shortly.

Another way to understand natural simultaneity would be that correlatives necessarily exist at all the same times.⁴⁷ A double necessarily exists at all the same times as a half; a master necessarily exists at all the same times as a slave. (1)–(3), which do seem to speak in terms of necessary existence at the same time, encourage this reading. But it is not at all obvious that correlatives do necessarily exist at all the same times. A parent and an offspring are correlatives, but, alas, an offspring can die before their parent. Moreover, as we will see, ‘simultaneous in nature’ has a technical meaning elsewhere in Aristotle, and does not mean necessary existence at the same time.

I suggest that a relative and correlative are naturally simultaneous in the sense that if you admit one into your ontology, then you must admit the other too.⁴⁸ If you admit that there is a double, then you must admit that there is a half too; if you admit that there is a master, then you must admit that there is a slave too. (1), (2), and (3) are evidence that correlatives are such that if you admit one of the pair, you must admit the other, but (1)–(3) do not constitute natural simultaneity. (1) simply looks like a statement of my reading that if you admit that double is something, you must admit that half is something. (2) says that a relative exists when the correlative exists, which is good reason to think that if you must admit the relative is something, you must admit that the correlative is something too. Likewise with (3): if the correlatives cease to be at the same time, that is reason to think that if the relative is something, so is the correlative.

What Aristotle says about natural simultaneity later in the *Categories* supports my suggestion. After contrasting temporal simultaneity with natural simultaneity, Aristotle describes natural simultaneity in more detail:

(T12) But the simultaneous in nature (*φύσει δὲ ἄμα*) are those things, which reciprocate with respect to implication of being, provided that neither is the cause of being to the other. For example, double and half. These

⁴⁷ (Hood 2004, 34) takes this line.

⁴⁸ This reading resembles (Corkum 2008, 77), although Corkum is concerned to put the point in terms of ontological independence, rather than ontological co-dependence, and is primarily concerned with the independence of substances from non-substances, rather than the dependence of correlatives on each other.

reciprocate (for when double is, a half is and when half is, double is, but neither is the cause of being to the other)

(*Categories* 14, 14b27–34. My translation, after Ackrill).

Aristotle gives two conditions on natural simultaneity. x and y are naturally simultaneous if: (SIN_1) x is if and only if y is; (SIN_2) x is not a cause of y and y is not a cause of x . For example, there is such a thing as double if and only if there is such a thing as half but double does not cause the half. So double and half meet both conditions and are naturally simultaneous. On the other hand, the sun and sunlight are not naturally simultaneous.⁴⁹ While it is true that the sun is if and only if sunlight is, the sun causes sunlight, so the sun and sunlight are not naturally simultaneous.

Aristotle gives examples of further naturally simultaneous items. Co-ordinate species of the same genus, such as winged animals and footed animals, are naturally simultaneous (*Categories* 13, 14b34; b37–9; 15a3–4). Opposites, such as good and evil, are naturally simultaneous (*Topics* 5, 131a15–24; 142a24). Odd and even are both co-ordinate species of a genus and also opposites, and odd and even are naturally simultaneous (*Topics* 6, 142b8–10). With all these cases, if you admit the former into your ontology, you must admit the latter. If you admit even numbers, you must admit odd numbers too; if you admit good, you must admit evil too.

You might think that natural simultaneity is just a matter of one thing featuring in the definition of the other. In the case of non-relatives, natural simultaneity comes apart from definitional simultaneity. Odd and even are naturally simultaneous, because if you admit odd numbers, you must admit even numbers. But you can spell out what it is to be an odd number without mentioning even. But in the case of correlatives, a relative is defined in terms of its correlative, with which it is naturally simultaneous (*Topics* 142a25–30). Double and half are naturally simultaneous because if you admit halves you must admit doubles. But you cannot spell out the essence of half without mentioning the double. Natural simultaneity, at least in some cases, comes apart from definitional simultaneity, even if, in the case of some relatives, the two fall together.

Correlatives are naturally simultaneous, in the sense that if you admit one into your ontology, you must admit the other. This is consistent with the

⁴⁹ Simp. *In Cat.* 190, 10–15 suggests this example, but Simplicius has a rather different interpretation of natural simultaneity.

constitutive view of relativity. If the relative is what it is in relation to the correlative, then to admit that the relative is a thing, one must admit that the correlative is a thing too. But what about the correlative pairs which are apparently not simultaneous?

(T13) But it does not seem true that all of the relatives are simultaneous by nature: (i) for the knowable could seem to be prior to knowledge; since we hold that knowledges for the most part, are of pre-existing things. For one can find few, if any, cases where knowledge came to be at the same time as the knowable. (ii) Moreover, destruction of the knowable carries simultaneously knowledge to destruction, but knowledge does not simultaneously carry the knowable to destruction. For if there is not a knowable there is not knowledge—there will no longer be anything for knowledge to be of—but if there is not knowledge there is nothing to prevent there being a knowable. Take, for example, the squaring of the circle, supposing it to be knowable; knowledge of it does not yet exist but the knowable itself exists. Again, if animal is destroyed there is no knowledge, but there may be many knowables.

(*Categories 7*, 7b22–35. Translation Ackrill, modified).

Here Aristotle gives two arguments that some correlatives are prior to their relatives. (i) generally, branches of knowledge are of things that exist before being known; those things are knowable; so, some knowable things exist before being known. Aristotle uses the plural, which I translate literally as ‘knowledges’ meaning ‘branches of knowledge’. The point of (i), then, is that branches of knowledge relate to existing things that exist before the branch of knowledge. Biology, for example, is knowledge of animals; but animals exist before biology.

This makes sense as an argument against natural simultaneity of correlatives on my construal. In the case of branches of knowledge, the object of knowledge can be, without the corresponding branch of knowledge being. An ontologist could admit the existence of animals, without admitting the existence of biology. Aristotle hedges his argument with language of ‘seeming’ and ‘could be’, which hints at an available reply. And I think that Aristotle could reply in the following way. Animals are knowable things and prior to the branch of knowledge that studies them. But biology and animals are not a proper correlative pair. Knowledge and the knowable are a proper pair and to admit that there is knowledge one must admit that there is a knowable thing, even though we need not admit any given knowable, such as animals, when we admit knowledge.

(ii) gives a second argument. Whenever the knowable is destroyed, knowledge of it is destroyed; it is not the case that whenever knowledge is destroyed,

the knowable is destroyed; this is because there could be a knowable thing without a there being knowledge of it. The squaring of the circle is such a knowable thing.⁵⁰ Supposing that the squaring of the circle is provable, then the squaring of the circle is knowable. If so, some knowable thing exists now. But *knowledge* of squaring the circle does not yet exist. So the knowable exists at a time when knowledge of it does not.

Argument (ii), at best, shows that some knowable thing is prior in time to knowledge of it: knowledge and some knowable thing are not temporally simultaneous. This does not entail that knowledge and the knowable are not *naturally* simultaneous. Some knowable things existing before being known, is compatible with the conditional if there is knowledge then there is a knowable thing. If we admit knowledge into our ontological picture, we must also admit the knowable. That is independent of whether some particular theorem is knowable, but as yet unknown.

Aristotle tells us that the case of perception is similar to knowledge (*Categories* 7b35–8a12). The perceptible seems prior to perception because destruction of the perceptible destroys perception, but destruction of perception does not destroy the perceptible. Every body is a perceptible. Every perception depends on a perceiver. Every perceiver depends on a body. So, if all perceptible things are destroyed, perception is destroyed. However, the reverse does not obtain. If perception is destroyed, the perceptible may continue. Suppose all bodies were destroyed. In that case, all perceivers would be destroyed. So all perceptions would be destroyed. Some perceptible things would not be destroyed: the hot, the sweet, and the bitter would still exist.

Aristotle's point, then, seems primarily to be that at some time a perceptible thing exists but some corresponding perception may not exist. That is, some perceptible is possibly existentially prior to any perception. But this priority relation is compatible with perception and perceptible being naturally simultaneous. For perception is naturally simultaneous with the perceptible just means that if there is some perception then there is some perceptible thing and vice versa. This is compatible with some given perceptible thing, sweetness, say, existing at some time prior to that perception being perceived.

⁵⁰ Aristotle knows of several attempts to square the circle: Hippocrates of Chios attempt by means of lunes (*Prior Analytics* 69a20–4, 30–4); a 'sophistical' proof of the squaring of the circle attributed to Bryson (and maybe Antiphon) (*Posterior Analytics* 75b37–76a3; and *Sophistical Refutations* 171b12–18; 171b34–172a7). Explaining the mathematics of ancient attempts to square the circle is beyond my scope, and, frankly, my abilities, but see (Heath 1949, 17–19; 47–50). For an attempt to reconstruct the attempts Aristotle mentions, see (Wasserstein 1959). Unless Aristotle learned of these attempts after writing the *Categories*, he considers each of these attempts unsuccessful (*Categories* 7, 7b31–2). As far as I can tell, Aristotle's philosophical point does not turn on any particulars of the attempts to square the circle.

I have argued that correlative pairs are naturally simultaneous means that one cannot admit that there is just one of a correlative pair: if there is a master, there must be a slave; if there is knowledge there must be a knowable thing. This sense of natural simultaneity is compatible with various kinds of priority relations that hold between a relative and correlative. For example, some knowable item, a theorem, might exist before anyone comes to know that theorem. Some perceptible thing, sweetness, might exist after all perceivers, and hence perceptions, cease to exist.

5.5 *Sorting in the Topics and Categories*

As well as the hallmarks mentioned in *Categories* 7, Aristotle mentions some important features of relatives in other places. First, relatives can be sorted: relatives have genera and species. He says:

(T14) We should not be disturbed lest someone says that though we proposed to discuss quality we are counting in many relatives, since states and conditions are relatives. For in pretty well all such cases the genera are spoken of in relation to something, but none of the particular cases is. For knowledge, being a genus, is said to be just what it is of something else (*αὐτὸ ὅπερ ἐστὶν ἐτέρου λέγεται*) (for it is said to be knowledge of something), while none of the particular cases is said to be just what it is of something else (*τῶν δὲ καθ' ἕκαστα οὐδὲν αὐτὸ ὅπερ ἐστὶν ἐτέρου λέγεται*). For example, literacy is not said to be literacy of something, nor musicianship said to be musicianship of something, but, if at all, these things are said to be relatives according to their genus. For example, literacy is said to be knowledge of something, not literacy of something, and musicianship knowledge of something, not musicianship of something, so that it is with the particular cases that we are said to be qualified, for it is these that we possess (it is because we have some particular knowledge that we are said to be knowledgeable). Hence these—the particular cases in virtue of which we are on occasion qualified—would indeed be qualities and these are not relatives

(*Categories* 8, 11a20–36. Translation Ackrill, modified).

Some genera are relatives, but some species of those genera are not relatives. Species of relatives fall into the other non-substance categories; they may be qualities, for example. These species are not both relatives and qualities. These species do not meet the conditions of being a relativity₁ relative (given in T1.

See section 5.1). Knowledge is just what it is of something; namely, its proper correlative, the knowable. But a species of knowledge, literacy, is not a relative since literacy is not said to be just what it is of something. Literacy is not constituted by a proper correlative:

(SPECIATION) Some species of relatives are not relatives.⁵¹

In a parallel discussion in the *Topics*, Aristotle reveals that the genus of a relative is a relative, but reinforces the idea that at least some species of relatives are relatives:

(T7) If the species is a relative, examine whether the genus is also relative. For if the species is among the relatives, so is the genus, as in the case of double and multiple: for each is among the relatives. But if the genus is among the relatives, it is not necessary that the species also is. For knowledge is among the relatives, but literacy is not. (Nor might the earlier statement seem true, for virtue just is what is fine and just what is good and virtue is a relative, but the good and the fine are not among the relatives, but the qualities) (*Topics* 124b15–22).

As well as reiterating that some species of relatives are not relatives, Aristotle here gives a principle about moving from species to genus; namely, that the genus of a relative may be a relative. For example, double is a relative and double is a species of multiple, so multiple is a relative. However, Aristotle immediately goes on to point out that some genera of some relatives are not relatives. Good is the genus of virtue; virtue is a relative, while good is not:

(GENERALIZATION) Some genera of relatives are relatives and some genera of relatives are not relatives.

Neither moving from genus to species nor moving from species to genus preserves relativity. Plato's Socrates gets into trouble because he does not recognize that sorts of relatives need not be relatives (See section 4.4). For now, I want to suggest that the principles of speciation and generalization support the reading I have been pressing for Aristotle.

First, these principles suggest that generic relativity is in play, at least in some parts of Aristotle. Naturally discussions of genera and species suggest

⁵¹ Of course, some species of relatives may turn out to be relatives: *Metaphysics* 5.15, 1021b3–5 gives the example that medicine is a species of knowledge and medicine is a relative.

that relatives are conceived as general types, not individual tokens. Types relate as genus and species; tokens do not. Furthermore, these principles make clear that a type of relative has a type of correlative, while a species relative need not have a species correlative.⁵² Aristotle sometimes treats relatives as general sorts. So relatives are generic.

Second, these principles indicate that constitutive relativity is in play. Speciation makes sense on the constitutive account of relativity. On that account a (type) relative, x , is constituted by its relation to a (type) correlative, y . But a species of x need not be constituted by its relation to a correlative, either the generic correlative, y , or anything else. For example, knowledge is constituted by its relation to the knowable. But a sort of knowledge, literacy, need not be constituted by its relation to the knowable or to some other correlative, say, letters. Literacy is not constituted by its relation to the knowable, since literacy is not literacy of the knowable. Literacy is not constituted by its relation to letters, since many things, which have nothing to do with literacy, are related to letters: calligraphy, for example. So literacy isn't just a relation to letters. If Aristotle has a constitutive view of relativity, speciation makes sense.

5.6 *Babbling in Sophistical Refutations*

Aristotle warns us that, given constitutive relativity, one might run into problems defining a relative, especially in dialectical contexts. On a constitutive view, you have two criteria for a good definition of a relative. You need to say what the relative relates to (i.e. what the correlative is) and that correlative must be exclusive.

You might think that the easiest way to meet these two criteria is to mention the correlative using a periphrastic expression of the form 'whatever the relative is relative to'. For example, you might be tempted to define 'knowledge' as 'knowledge is whatever knowledge is of' (Cf. *Metaphysics* 5.15, 1021a26–b2). Plato's Socrates appears to pursue the periphrastic expression approach on a few occasions in *Republic* 438d–e. But this, Aristotle points out, would be a mistake, since it begins a regress of definitions: the *definiendum*, 'knowledge', appears in the *definiens*, 'whatever knowledge is of'. This is a further reason Aristotle specifies coining new terms to properly present the correlative in *Categories* 7 (see section 5.3).

⁵² This point will become important for understanding the Relatives Argument of the *On Ideas* (see Chapter 8).

We can see the point during Aristotle's discussion of the babbling fallacy in the *Sophistical Refutations*. At 173a32–173b1, Aristotle describes how to induce the fallacy. If the opponent agrees that it makes no difference whether we use a term or its definition in a statement, then we can substitute the latter for the former in a way that can be iterated indefinitely. For example, 'double' is defined as 'double of half'. Substituting the 'double of half' for 'double' in the *definiens*, we arrive at 'double of half of half'. As in the above case, this move can be reiterated indefinitely.

Aristotle's solution to the fallacy (*Sophistical Refutations* 181b25–182a6) makes two points about definitions of relatives. First point: it is a mistake to think that 'double' is a significant expression outside of the context of 'double of half' (181b29). Aristotle qualifies this, saying that if 'double' does signify outside the context of 'double of half', 'double' means something different. This makes sense on the constitutive view. After all, the relative, double, just is what it is in relation to its correlative. If the correlative of double is half, double is one thing; if the correlative of double is something other than half, or if double has no correlative, double is a relative in name only, or a different relative all together. On either account, the following is true:

(D) double is double of something.

But what is double double of? This depends on how we cash out the correlative 'something'. On the one hand, if we specify the 'something' as 'half', we give:

(D') Double is double of half.

(D') certainly gives a very general account of double. There will be no counterexamples to (D'), because wherever you find a double, it will certainly be double its half. However, there are other ways to cash out the 'something' in (D). For example, we could cash it out as 'one'. This would result in:

(D'') Double is double of one.

Clearly in (D'') 'double' does not have the same meaning as in (D'). If (D'') is an identity statement, then 'double' in (D'') must pick out 'two'. On the other hand, in (D'), again, assuming it is an identity statement, we have given a general definition of what it is to be double; namely, to be double of half. It might seem strange that 'double' picks out something different in different contexts: a generic double in (D') and two in (D''). But it's a familiar fact that the same

word can mean different things in different contexts. In this case, Aristotle simply regiments those contexts.

The second point develops the first. Relative terms change their meaning in different contexts. A specific sort (ἐν τῷ ἐῖδει) of relative does not signify the same thing as the general case (τὸ κοινόν). For example, ‘knowledge’ in the phrase ‘medical knowledge’ does not mean the same as knowledge as such, because knowledge as such ‘was always knowledge of something’ (*Sophistical Refutations* 181b36). ‘Knowledge’ means two different things in two different contexts. ‘Knowledge’ means two different things because different correlatives appear in different definitions. ‘Knowledge of the knowable’ signifies knowledge in general. ‘Knowledge of medicine’ signifies a specific sort of knowledge. But in the two contexts, ‘knowledge’ is not synonymous. On the constitutive view, this makes sense. The genus, knowledge as such, just is knowledge of the knowable, but the species, medical knowledge, is not knowledge, since it is constituted by a different relation.

Conclusion

This chapter outlined some of Aristotle’s commitments concerning relativity. Throughout, I aimed for exposition and puzzle solving rather than a diatribe in favour of the constitutive reading of relativity that I attribute to Aristotle. That said, this chapter has revealed many reasons to favour a constitutive reading of relativity in Aristotle. Section 5.1 suggested that Aristotle’s opening declaration concerning relatives in *Categories* 7 makes best sense if understood as involving constitutive relativity, rather than incompleteness or relational predicates. Moreover, Aristotle adopts ideas from Plato, but transplants them to the framework of the *Categories*. Aristotle inherits worries about aliorelativity from Plato, but takes a firm line on aliorelativity because of the framework of the *Categories*. We also saw, during the discussion of contrariety and scalability, how Aristotle took these ideas over from Plato’s discussions (section 5.2).

Reciprocity and exclusivity, again, formal features of constitutive relativity, are discussed explicitly in Aristotle’s treatment. He may have inherited them from Plato, but he adopts them as his own, particularly with the idea that relatives may be properly given or not. Aristotle’s hallmark of relativity, reciprocity, is shared with Plato, and reciprocity also relies on exclusivity. This is further reason to think the writ of the constitutive view runs to the *Categories*.

I interpreted Aristotle's natural simultaneity, an ontological dependence relation that obtains between correlatives, weakly—it amounts to the claim that if there is a relative, then there must be its correlative. Natural simultaneity does not imply that correlatives do or must exist at all the same times. Aristotle's discussions of speciation and generalization of relatives clarify an issue that Plato did not—moving from genus to species does not preserve relativity. The genus of a relative need not be itself a relative; the species of a relative need not be a relative. Again, we saw that this made sense on the constitutive view of relativity. Finally, Aristotle's discussion of the babbling fallacy in the *Sophistical Refutations* warns us against Plato's practice of using a simple periphrastic expression to delineate a correlative. That may lead to an infinite regress.

6

Aristotle on the distinction between substances and relatives

Introduction

Categories 7 begins with a definition of relatives (6a36–7), which I labelled ‘relativity₁’.¹ Towards the end of *Categories* 7, Aristotle worries that relativity₁ might over-generate relatives and allow some substances to be relatives (8a13–28). To rule out this possibility, Aristotle introduces a second account, relativity₂ (8a31–2), which addresses over-generation. The chapter ends with Aristotle suggesting that the so-called principle of cognitive symmetry will test whether a relative falls under relativity₂ or not (8a35–b21), and cautions that the investigation may not be complete (8b21–24).²

Recent commentators have held that Aristotle addresses over-generation by restricting the scope of relatives.³ That is, Aristotle rejects relativity₁ in favour of relativity₂, and relativity₂ covers fewer items than relativity₁, in particular, the problematic items which could be both substances and relatives. However, this reading faces some serious difficulties. I propose that relativity₁ and relativity₂ are two different ways of understanding each relative term. Here I formulate the point at the linguistic level. Relativity₁ governs relatives expressed in schematic terms, while relativity₂ governs relatives expressed in specific terms.

Section 6.1 sets out the distinction between schematic and specific relative terms in more detail. Section 6.2 outlines the extensional adequacy worry in more detail and some difficulties existing approaches encounter. Section 6.3 explains and justifies the distinction between schematic and specific readings of relatives. Section 6.4 runs through my argument that relativity₁ relatives are schematic while relativity₂ relatives are specific. Section 6.5 shows how this

¹ This chapter is based on my previous work ‘Aristotle’s Two Accounts of Relatives in *Categories* 7’ 2015. *Phronesis* 60, 4: 436–61. Published by Brill.

² (Sedley 2002, 327) coins the expression ‘principle of cognitive symmetry’.

³ (Ackrill 1963, 102); (Mignucci 1986, 107–8); (Morales 1994, 266); (Bodéüs 2001, 129); (Sedley 2002, 334); (Hood 2004, 38); (Rini 2010); (Harari 2011, 535).

distinction solves Aristotle's extensional adequacy worry and how my reading avoids the difficulties of the existing readings.

6.1 Schematic and specific relative terms

A term is taken schematically when we are indifferent to the type and token identities of items covered by that term. A term is taken specifically when the identity makes a difference. For example, there are two ways to understand the expression 'a human'. On the one hand, 'a human' may refer to a generic human. In this case, the schematic case, 'a human has two legs' is true. On the other hand, it may refer to some particular human, or group of humans. Now 'a human has two legs' may or may not be true: it depends on which human, or group of humans, the subject of the sentence picks out.

Aristotle distinguishes individual objects from general objects (*Categories* 1a20–1b9; 1b15; *On Interpretation* 17a38–b3; *Prior Analytics* 1, 43a25–43) (Ackrill 1963, 74); (Frede 1987a, 50); (Owen 1965). Thus, Aristotle could articulate the distinction between the referent of 'a human', understood as an individual object, and the kind, human, which is a general object. As in the above example, 'a human' could pick out some individual human or the universal human (cf. *Categories* 1b15).⁴ I disambiguate using the terms 'schematic' and 'specific'. In a schematic use of 'a human', for example, we take 'a human' to refer to a general object. A specific use of 'a human' would pick out an individual, although we may not know which individual human it refers to.

Schematic and specific uses of 'a human' distinguish between individual objects and general objects within the category of substance. But, crucially for me, Aristotle also distinguishes between individuals and general objects in non-substance categories (*Categories* 2, 1a20–b9).⁵ We find individual objects in the non-substance categories at *Categories* 1a21–24. Aristotle mentions a class of items that are *in* a subject, but *not said of* any subject and gives

⁴ Singular expressions in Greek, like in English, exhibit this ambiguity: *ὁ ἄνθρωπος* and *ἄνθρωπος* could indicate either some individual human, or humans in general (Smyth 1984, 1122–6). When Greek uses its indefinite pronoun, as in *τις ἄνθρωπος*, the expression picks out some individual, or some sort of, human. Aristotle, in particular, is sensitive to this ambiguity, and feels the need to introduce clarifications (*Categories* 1b15). In English, both definite and indefinite singular expressions are ambiguous. 'The human' and 'a human' could each refer to an individual human or to the kind human. The plural 'humans' is ambiguous between a schematic expression (e.g. 'humans have two legs') and a plural (e.g. 'Achilles is quicker than many humans').

⁵ There is widespread agreement on this point. (Ackrill 1963, 74–5); (Owen 1965, 98); (Frede 1987a, 54–5). Maybe only (Anscombe 1961, 7–10) denies that Aristotle allows non-substantial individuals.

the example of individual literacy (*ἡ τὴν γραμματικὴν Categories* 1a25–6). Individual literacy is an individual object but it is an object in a non-substance category: literacy is either a relative or a quality (cf. *Categories* 11a20–36). Second, Aristotle identifies general objects in the non-substance categories. Knowledge (*ἡ ἐπιστήμη Categories* 1a29–b1). But knowledge is in the non-substance category of relatives (*Categories* 6b25–6).

I have three reasons to think relativity₁ governs relatives taken schematically, while relativity₂ governs relatives taken specifically. First, if relativity₁ relatives are relatives read schematically, we can explain why Aristotle says that relativity₁ relatives reciprocate. Second, relativity₂ relatives, but not relativity₁ relatives, are supposed to obey the principle of cognitive symmetry (8b3–19). My reading explains how cognitive symmetry differentiates relativity₁ relatives from relativity₂ relatives. Finally, I show how disambiguation allows Aristotle to avoid the extensional adequacy worry.

6.2 Extensional inadequacy

At the opening of *Categories* 7, Aristotle formulates relativity₁ (6a36–b6):⁶

(RELATIVITY₁) *x* is a relative =_{def} *x* is said to be what it is in relation to some *y* and *x* is different to *y*.

At this stage of Aristotle's discussion, general objects are central to Aristotle's analysis of relativity. Relativity₁ asks what it is to be a general relative. To be a relative is to bear a certain relation to something else. In the case of general objects, such as the referent of 'a larger thing', being that object is simply a matter of bearing the 'is larger than' relation to something or other.

Relativity₁ tells us that being said to be what it is in relation to something else is necessary, and, crucially, sufficient for being a relative.⁷ Sufficiency raises a worry about whether relativity₁ over-generates relatives (*Categories* 7, 8a13–28). Relativity₁ seems to allow that some relatives may be secondary substances. Here is my reconstruction of Aristotle's argument:

⁶ For my full exposition of this text, see section 5.1.

⁷ Although (Caujolle–Zaslavsky 1980, 188) denies this. She holds that relativity₁ gives only a necessary condition of being a relative, but her position is untenable. Relativity₁ is said by Aristotle to be a definition, so, at a minimum, Aristotle must intend relativity₁ to give necessary and sufficient conditions for being a relative.

1. Parts of secondary substances are substances [Premise]⁸
2. Hand is said to be hand of a body [Premise]
3. A hand of a body is part of a body [Premise]
4. Body is a secondary substance [Premise]
5. Hand is part of a secondary substance [From 2, 3, 4]
6. Hand is a substance [From 1, 5]
7. x is a relative =_{def} x is said to be what it is in relation to some y and x is different to y [relativity₁]
8. Hand is a relative [From 2, 7]
9. Hand is a relative and a substance [From 6, 8]

A contradiction follows from (9) when we assume that nothing is a substance and a relative, but even (9) alone would be rejected by Aristotle (*Categories* 8a28–30). It is hard to know why Aristotle finds it absurd to think that a substance can be a relative. You might think that Ajax, a primary substance, could be larger than something, and hence also a relative. So why does Aristotle think that it is obviously absurd for something to be a substance and a relative? Early Academic thinkers commonly held that nothing could be both a relative and a substance.⁹ But this does not really answer the question of why Aristotle would find it absurd.

My suggestion is that, at least in the *Categories*, a substance is the ultimate subject of predication.¹⁰ But, if the constitutive understanding of relativity is involved, relatives cannot be the ultimate subjects of predication since having a certain predicate, a relation, constitutes a relative. Since a father, even an individual father, is constituted by bearing the ‘is a father of’ relation to some offspring, the father cannot be more basic than the predicate that is true of it. So if Aristotle has the constitutive view of relativity, we can explain why he thinks that no substance can be a relative. More generally, substances are supposed to be those things that are independent. But, again on the constitutive view, relatives are not independent: a relative is constituted by its relationship to something. So a relative is necessarily not independent. Considerations of ‘independence’ may not be the driving thought about substance in the

⁸ Aristotle commits himself to this premise at *Categories* 3a29–33. Cf. *Prior Analytics* 1.32, 47a27–28.

⁹ See: Xenocrates, Simp. *In Cat.* 63, 22 (=Fr 12 H/95 7 Isnardi Parente). Citation from (Dillon 2003, 151); Hermodorus, Simp. *In Phys.* 9.248, 2–18. (=Hermodorus Fr 7 Isnardi Parente). For discussion of this fragment see (Cherniss 1944, i: 286–7); (Krämer 1959, 284–7); (Isnardi Parente 1982, 439–44); (Dillon 2003, 203–4) who cites these authorities.

¹⁰ (Frede 1987a, 51–3).

Categories, but certainly comes into play strongly in the *Metaphysics* (e.g. 1029a28). But in either case, a relative cannot be a substance.

Aristotle clearly assumes that no item is both a substance and a relative. So my reconstruction should not prove controversial.¹¹ Aristotle worries that some secondary substances, such as a hand, might conform to relativity₁ and so be relatives. Aristotle here considers ‘body’ and ‘hand’ as secondary substances. Earlier in the *Categories*, at 2b29–30, Aristotle indicated that species and genera of primary substances should be considered secondary substances. Thus, a primary substance, say, Achilles, has a superordinate secondary substance, human. If hand turns out to be a secondary substance, then this could lead to some substances being relatives, which is unacceptable. For the most part, commentators have thought that Aristotle responds by rejecting relativity₁ and replacing it with relativity₂, an account of relatives that apparently has a narrower extension (*Categories* 7, 8a31–2 Translation Ackrill, modified):

(T1) Relatives are those things for which being is the same as being somehow relative to something (τὸ εἶναι ταῦτόν ἐστι τῷ πρὸς τί πῶς ἕχθαι).

Or, to regiment Aristotle’s point:

(RELATIVITY₂) x is a relative =_{def} being x is the same as being relative to some y .

Most commentators suppose that relativity₂ is a definition of relatives and covers fewer items than relativity₁, especially parts of secondary substances, such as hands and heads.¹² One way to account for the difference in extension stresses that relativity₁ refers to how relatives are described, while relativity₂ mentions their ‘being.’ It may be that Aristotle intends a ‘semantic descent’ from how things can be described to how things are. Aristotle’s point, on this view, is that more items can be described as relatives than are, in fact, relatives. Which would be why relativity₂ includes fewer items than relativity₁.¹³

¹¹ It simply makes explicit each inferential step in the line of thought attributed to Aristotle in (Morales 1994, 259); (Bodéüs 2001, 128); (Sedley 2002, 326).

¹² (Mignucci 1986, 107–8); (Morales 1994, 266); (Bodéüs 2001, 129); (Sedley 2002, 334); (Hood 2004, 38); (Harari 2011, 535).

¹³ Ammonius (*in Cat.* 77.27–78.17) and (Morales 1994, 260) explain the difference in extension this way. Many ancient and modern commentators, named in (Sedley 2002, 332n12), stress semantic descent: Simplicius, *in Cat.* 198.17ff; Philoponus, *in Cat.* 108.31–109.31; Olympiodorus, *in Cat.* 100.4–20; (Ackrill 1963, 101); (Oehler 1984, 248); (Zanatta 1989, 592); (Erlar 1992, 580). Semantic descent was not the only approach considered in antiquity. Boethus of Sidon, (cited in Simp. *in Cat.* 188, 3–6) distinguished an aspectual difference: head, as a part, is a substance, but head, as a head, is a

On the semantic descent reading Aristotle differentiates relativity₁ from relativity₂ using the shift from how things are described to how things in fact are. As such, the semantic descent reading has not found much sympathy amongst modern commentators. The reading attributes an explicit awareness of the move from how things are described to how they are, so, the reading is untenable unless Aristotle distinguishes linguistic and non-linguistic sorts of subject, predicate, and predication. But it is widely thought that he does not, at least not in the *Categories*.¹⁴

Other commentators take a scope-narrowing reading, but deny that the use/mention distinction plays a role in it. They propose a range of ways to distinguish relativity₁ and relativity₂ but in each case relativity₂ is strictly narrower than relativity₁.¹⁵ But according to any version of the scope-narrowing reading, some relatives, such as parts of secondary substances, fall within a wider class, delineated by relativity₁, but fall outside the class of strict, relativity₂, relatives. Aristotle apparently says, at 8a33–5, that relativity₂ is strictly narrower than relativity₁. The scope-narrowing reading is attractive because it provides Aristotle with an excellent response to his over-generation worry. The strict definition of relatives at *Cat.* 8a31–2 excludes the problematic items. In particular, the definition excludes parts of secondary substances. So, although some substances might end up being relatives, loosely speaking, no substance will be a relative, strictly speaking.

However, any version of the scope-narrowing reading faces a problem. Aristotle does not cleave to relativity₂ in his corpus. Rather, he moves back and forth between relativity₁ and relativity₂.¹⁶ Aristotle even wavers in the *Categories*. At *Categories* 8, 11a20–23, Aristotle worries that the category of quality might contain some relatives, such as states and conditions. He gives an argument (11a23–36) in which, although some genera, like knowledge, may be relatives, their species, such as grammatical knowledge, are

relative. Plotinus (*Enneads* 6.3.28, 5–8) makes a similar move. Aristotle might have inspired this antique approach. At *Metaphysics* 5.15, 1021b8–11, Aristotle makes the point that a man may be coincidentally a relative, for example, if double is a feature of a man. So some things which are not otherwise relatives could be relative when considered under one aspect, but not another.

¹⁴ See (Frede 1981); (Malcolm 1981, 667); (Sedley 2002, 333); (Barnes 2007, 115–21).

¹⁵ (Mignucci 1986, 107–8); (Bodéüs 2001, 129–30); (Sedley 2002, 332–3). Possibly also (Harari 2011, 535) who, despite attempting to preserve the unity of the category of relatives, states that relativity₂ has a narrower scope than relativity₁. This view also had ancient adherents, especially those who think relativity₁ is Platonic in some important sense: see Simplicius, in *Cat.* 159.9–22.

¹⁶ In *Nicomachean Ethics* 1.12, 1101b13; *Physics* 7.3, 246b8; *Topics* 6.4, 142a26–31 and 6.8, 146a36, Aristotle uses the characteristic relativity₂ expression *πρὸς τί πως ἔχειν* to describe relatives, but in *Metaphysics* 5.15, Aristotle's other official discussion of relatives, they are called simply *πρὸς τι*.

properly speaking not relatives.¹⁷ Aristotle intends to defuse the worry about cross-categorical items. But if the scope-narrowing reading of *Categories* 7 is correct, Aristotle could preserve the integrity of the categories of quality and relative simply by saying that state, condition, and knowledge are relatives according to the loose definition (relativity₁) but not according to the later, strict definition (relativity₂). State, condition, and knowledge would, strictly speaking, just be qualities.

Aristotle certainly has such a move available to him. Knowledge is said to be knowledge of something, so knowledge is relativity₁ relative (*Categories* 11a24–5; cf. *Categories* 6b5). However, knowledge, as a genus, may fail the cognitive symmetry test, which distinguishes relativity₁ and relativity₂ relatives (*Categories* 8a35–b21). I will discuss the details of this test below, but for now it suffices to say that Aristotle holds that only relativity₂ relatives are such that if one knows definitely the relative, one knows definitely to what it is relative. Any other relative falls under relativity₁. If we apply this test to generic knowledge, we see that it is possible to know what knowledge is (say, justified true belief) without knowing definitely what knowledge correlates to; that is, the knowable (*Categories* 6b35–6).¹⁸ Thus, generic knowledge fails the cognitive symmetry test. So, knowledge could be a relative loosely speaking, but not strictly speaking. According to the scope-narrowing reading, Aristotle made exactly this sort of move just a few lines earlier at *Categories* 8b19–21. If Aristotle had rejected relativity₁ in favour of relativity₂, he could simply invoke relativity₂ to exclude problematic states and conditions, such as knowledge, from the relatives. But he does not.

This ambivalence is not confined to the *Categories*. When Aristotle writes *Topics* 6.8, he appears to hold that relativity₂ should co-extend with relativity₁. At this point in the *Topics*, Aristotle is discussing how to test whether a relative has been correctly defined. He explains that ‘for each of the relatives (πρός τι), being is the same as being somehow relative to something (πρός τί πως ἔχειν)’ (*Topics* 146b3–4). This statement first picks out all relatives, using πρὸς τι, the characteristic designation of relativity₁ relatives. But then Aristotle asserts that being a relativity₁ relative is the same as being somehow relative to something. This latter expression designates relativity₂ relatives (T2). So Aristotle

¹⁷ Scholars often acknowledge that this passage is difficult to make sense of (e.g. Ackrill 1963, 108–9), but none press it as an objection to the extensional reading. I discuss Aristotle’s ideas about speciation of relatives in section 5.5 and Chapter 8.

¹⁸ Knowledge as a species of belief was at least entertained in Aristotle’s philosophical milieu. See *Meno* 98a2–3; *Theaetetus* 187b–201d (although Plato rejects defining knowledge as true belief with the jury example at 201a–c; see (Nawar 2013) for discussion).

asserts that being a relativity₁ relative is the same as being a relativity₂ relative. This entails that relativity₁ and relativity₂ co-extend, so relativity₂ is not narrower than relativity₁.¹⁹

In light of all this, we should perhaps revisit Aristotle's apparent assertion that relativity₂ is narrower than relativity₁ (*Categories* 8a33–5). When we do, we discover that Aristotle does not unambiguously say either (a) that there are two definitions or (b) the earlier account has a wider extension than the later. After outlining the extensional adequacy objection, Aristotle says:

(T2) If this [relativity₁] is not adequate, but relatives are those things for which being is the same as being somehow relative to something (τὸ εἶναι τὰυτόν ἐστι τῶ πρός τί πως ἕχθαι), perhaps something might be said in reply. The earlier definition (ὁ δὲ πρότερος ὀρισμὸς) does apply to all relatives, yet this is not the same as being relative, namely, things being said to be just what they are of other things.

(*Categories* 8a32–5. Translation, Ackrill, modified).

This passage is almost always read as referring to two definitions, a first and a second.²⁰ But Aristotle does not say that the first definition covers more items than the second. He says that the earlier definition covers all relatives and that it is not what being relative is. But this does not imply that relativity₁ has a scope strictly wider than relativity₂, merely that the scope of relativity₁ is at least as wide as relativity₂. This, of course, leaves open the possibility that relativity₁ and relativity₂ have the same scope; that is, the definitions co-extend.²¹

The scope-narrowing reading faces the problem of how to explain why Aristotle switches between relativity₂ and relativity₁ and why he says things that entail that relativity₁ and relativity₂ co-extend. Aristotle's text does not entail that relativity₂ is strictly narrower than relativity₁.

¹⁹ (Sedley 2002, 345n34) cites this as evidence that *Topics* 6.8 antedates *Categories* 7. But without any other evidence that *Topics* 6.8 is early, this seems ad hoc. In fact, it is just as likely that Aristotle does not intend an extensional difference between his two accounts.

²⁰ (Mignucci 1986, 101–7); (Morales 1994, 250); (Bodéüs 2001, 129); (Harari 2011, 535). (Ackrill 1963, 101) avoids committing himself by calling the what we find at *Categories* 8a33–5 a 'criterion'.

²¹ (Mignucci 1986, 107) misses this and asserts that relativity₂ is strictly narrower than relativity₁. Ackrill is more cautious, committing himself only to the claim that 'whatever satisfies the second criterion also satisfies the first', but makes nothing of this correct observation (Ackrill 1963, 101). Cf. *Topics* 1.5, 101b37–102a31, where Aristotle distinguishes 'definition' from 'unique property'. These two have the same extension—they pick out all and only items that fall under a term—but definition picks out the essence, while 'unique property' does not.

6.3 *Schematic and specific readings of relatives terms*

In section 6.1, I pointed out that Aristotle should recognize individual relatives and generic relatives. In this section, I offer a way to understand this difference. I distinguish two ways to understand a subject expression for a relative: schematically and specifically. When we understand a relative schematically, we are indifferent to type and token identities of the individuals that fall under it; when understood specifically, these identities matter. Read schematically, a relative term refers to a generic relative object; read specifically, a relative term refers to an individual relative object.

To see this ambiguity, consider the following statement:

(F) The father is father of something

(F) conforms to relativity₁, so ‘the father’ is a relative. But (F) is ambiguous. Suppose the ‘something’ in (F) is replaced out with ‘a son’, to give:

(F_s) The father is father of a son

Is (F_s) true? If we understand ‘the father’ specifically—that is, as picking out some individual father—then whether (F_s) is true will depend on who the father is. If ‘the father’ in (F_s) picks out Laocoön, then (F_s) is true, since he has sons, while if ‘the father’ refers to Augustus, whose daughter Julia was an only child, (F_s) is false. We might say that on a specific reading of ‘the father’, the truth-value of (F_s) depends on who the father in question is. That is, the truth-value depends on the identity of the father. The truth-value could also depend on the type-identity of the father. The father-type ‘father of sons’ will make (F_s) true, but the father-type ‘father of daughters’ will make (F_s) false.

Contrast this with a reading of ‘the father’ that is indifferent to the identity of any father. If we understand ‘the father’ in this schematic way, then (F_s) is just false. ‘The father’, understood schematically, relates neither to sons nor to daughters, but to ‘fathered things’, or ‘offspring’ in general. If we are indifferent to the father’s identity, we can know that the father has offspring but not whether he has sons or daughters. We might say that we only describe fathers as fathers and get no further information about them. If we assert that, in general, the father is father of sons, there will be many counter-examples to that claim. The same is true, with the required changes, for daughters. To make a true, schematic claim about fathers, we need to specify an exclusive correlative. In this case, the exclusive correlative is ‘offspring’.

The schematic/specific disambiguation of (F_s) differs from two other ways to disambiguate (F_s) . My disambiguation differs from scope disambiguation. Scope ambiguity is a syntactic ambiguity, while the ambiguity I identify is a semantic ambiguity in how we read ‘the father’. That is why scope ambiguity does not match my ambiguity. If you read (F_s) with the existential quantifier having wide scope, then (F_s) means ‘there is a father such that he is father of a son’, which is, of course, just true and does not depend on the identity of the father in question. With a narrow scope, (F_s) means ‘every father is father of some son’, which is false.

My disambiguation also differs from Aristotle’s ‘indefinite statements’ (*Prior Analytics* 25a4–5; 26a30–6; 26a39; cf. *On Interpretation* 17b9).²² Indefinite statements, such as ‘pleasure is good’, express neither a universal nor particular quantifier so exhibit quantifier ambiguity. Although (F_s) lacks a quantifier, the quantifier ambiguity differs from the ambiguity I identify. On the specific/schematic disambiguation, (F_s) is ambiguous because its subject term, ‘the father’, is ambiguous not because the whole statement lacks a quantifier. Second, Aristotle, officially, treats indefinite statements, like ‘pleasure is good’, as equivalent to particular statements, like ‘some pleasure is good’ (*Prior Analytics* 26a36; 26a39). But in the case of (F_s) , ‘the father is father of a son’ is not equivalent to ‘some father is father of a son’ since the latter could be false while the former true. Thus, the schematic/specific ambiguity differs from both scope and quantifier ambiguities.

Aristotle recognizes analogous phenomena in other contexts. At *Physics* 2.3, 195a33–b6 (cf. *Metaphysics* 5.2, 1013b34–1014a6), Aristotle points out that a cause can be described in different ways. Aristotle invokes the example of the cause of a sculpture. We can specify the cause as a sculptor, Polyclitus, a man, or, indeed, an animal. One way of specifying the cause, a sculptor, is privileged because we are trying to explain how a sculpture came about. Likewise, we can specify the father as a father, Augustus, a man, or an animal, but one of these descriptions is privileged when we are trying to say what the exclusive correlative is. At *Categories* 7a31–b9 Aristotle himself applies this thinking to relatives. A master of a slave can be specified in various ways: ideally as a master, but also as a man or as a biped animal. A relative is only relative to its proper correlative. But what counts as a proper correlative depends on how the relative is specified. Aristotle appeals to the telling

²² There has been some recent debate over whether the ‘universals used non-universally’ in *On Interpretation* 17b9 give propositions that have a suppressed quantifier. (Ackrill 1963, 129) argues that they are quantifier ambiguous while (Jones 2010) denies this.

metaphor of ‘stripping away’ (*περραιρουμένων*, *Categories* 7a32) all the other features of the relative. The metaphor suggests indifference to the token and type identity of the items covered by, say, ‘the father’. When we are indifferent to which father it is, we will always be able to say that the father is father of offspring.

Both schematic and specific ways to understand a relative are part of the constitutive approach to relatives. Recall that on the constitutive approach, a relative object is constituted by its relation to a correlative. Thus, a father is constituted by bearing the ‘...is a father of...’ relation to something. But Aristotle adds a layer of nuance, given the machinery of the *Categories*. ‘A father’ can be understood in two ways: schematically, referring to a generic father; or specifically, referring to an individual father. But in each case, the ‘...is a father of...’ relation constitutes the relative. In the schematic case, bearing the ‘...is a father of...’ relation to a generic correlative, an offspring, constitutes a general object, a father. In the specific case, an individual father is constituted by bearing the ‘...is a father of...’ relation to an individual offspring. Neither of these collapse into the non-constitutive analysis of relativity. While in each of the schematic and specific cases there is a relation true of the individual or general object, that relation is not *merely* true of the object: the relation constitutes that individual or general object.

6.4 Relativity₁ gives schematic relatives and relativity₂ gives specific relatives

In this section, I argue that relativity₁ governs relatives taken schematically while relativity₂ governs relatives taken specifically. My argument has two parts. First, if relativity₁ indicates that relatives are read schematically, then how Aristotle characterizes relativity₁ relatives is explicable. Second, if relativity₂ relatives are relatives read specifically, then how cognitive symmetry follows from relativity₂ and how cognitive symmetry distinguishes relativity₁ relatives from relativity₂ relatives is explicable. I deny that relativity₂ has a narrower scope than relativity₁. On my reading the two accounts have the same scope but simply offer two different ways to understand each relative. Since this reading is the best available explanation of all these features, we should endorse it.

If relativity₁ relatives are relatives read schematically, we can explain Aristotle’s careful argumentative moves about reciprocity. That is, there is a principle of reciprocity such that if a relative relates to a correlative, then that correlative relates to the relative. Put more carefully:

(RECIPROCITY) For all x and for some y , if x is relative to y , then y is relative to x .²³

Reciprocity, as formulated, does not specify the nature of the relation x and y . In fact, any pair of individuals (this hand and that body) or types (hand and body) would satisfy reciprocity, provided some relation or other obtains between them.²⁴ Aristotle does not intend reciprocity to be so permissive. In fact, he only wants reciprocity to be satisfied by relatives that relate exclusively to each other. But to ensure that two relatives relate exclusively to each other, Aristotle must be taking them schematically, as we will now see.

Aristotle endorses the idea that a relative relates only to its exclusive correlative (7a7–b14):

(EXCLUSIVITY) For all x and for some y , if x is relative to y , then x is relative only to y .²⁵

To make exclusivity true, we need to understand the relatives, x and y , schematically. If we understand x specifically, then exclusivity is false. For example, take the pair a master and a slave. By exclusivity, if a master is relative to a slave, then a master is relative only to a slave. But, in a specific case, a slave might also be a brother, and a slave is also always a human. In that case, the master would also be relative to human. This would violate exclusivity, as master should relate only to slave. Only by understanding master schematically, that is, with indifference to the particular master in question, does master relate only to slave. When master and slave are understood schematically, they obey exclusivity. When we are indifferent to all the properties x has, except that x is a master, then x can only relate to a slave. Exclusivity follows directly from taking a relative schematically. Since only schematic relatives satisfy exclusivity, only schematic relatives satisfy reciprocity.

A further reason to think that reciprocity applies only to schematic relatives is this. Aristotle says at *Categories* 6b36–7a5 that sometimes a relative will not appear to reciprocate because the correlative has not been properly given. He says, suppose that we take the relative, a wing. This is a relative because a wing is always a wing of something. But what is the correlative of a wing? A bird is the plausible candidate. This would give: (1) ‘a wing is relative to a bird’.

²³ For my detailed exposition of this passage in *Categories* 7, see section 5.3. Compare section 3.3.

²⁴ Reciprocity could be captured if we understood x and y to pick out individuals, using the idea of a relation and its converse. For example, (Ackrill 1963, 100) takes it as obvious that reciprocals are converse relations, but it should be clear that this is not the right way to understand reciprocity.

²⁵ See sections 1.4.1; 5.3; and 3.2.

(1) tells us that wing relates to bird, but (1), together with reciprocity, should entail: (2) ‘a bird is relative to a wing’. This is because if a bird is relative to a wing, then, by reciprocity, a wing is relative to a bird. However, (2) causes problems because ‘many things that are not birds have wings’ (*Categories* 7a2–3). That is, a wing does not relate exclusively to a bird so (2) violates exclusivity. So, on Aristotle’s view, a wing is not relative to a bird since it leads to the false, and unacceptable, consequence that a bird relates exclusively to a wing. This *reductio* that Aristotle sketches is only valid if we read ‘bird’ and ‘wing’ schematically.

Aristotle’s manoeuvring around reciprocity and exclusivity shows that here he understands relatives schematically. Hence, Aristotle assumes that relatives are schematic when he discusses a principal hallmark of relatives. Since the hallmarks follow relativity₁, this is good evidence that relativity₁ relatives are supposed to be relatives read in a schematic way. Note that both Aristotle’s specific and schematic readings are compatible with his commitment to constitutive relativity. Read schematically, a relative term picks out a generic type of relative item. Read specifically, a relative term picks out a specific token relative item.

Next, I argue that relativity₂ indicates that we should read relative terms specifically. If we understand relativity₂ this way, we can explain the strange features of Aristotle’s discussion that follows it. In particular, Aristotle gives an epistemic criterion, known as the principle of cognitive symmetry, at 8a35–b13. Relativity₂ relatives pass the cognitive symmetry test (*Categories* 8a35–b15) while relativity₁ relatives fail it (*Categories* 8b15–19). Aristotle’s reasons for these claims are hard to understand, but if the difference between relativity₁ and relativity₂ is the difference between constitutive relatives read schematically and specifically, we can explain them.

Look closely at the principle of cognitive symmetry (*Categories* 8a35):

(T3) It is clear from this [sc. relativity₂] that if someone knows any relative definitely he will also know definitely that in relation to which it is spoken of (ἐάν τις εἰδῆ τι ὀρισμένως τῶν πρὸς τι, κακείνῳ πρὸς ὃ λέγεται ὀρισμένως εἴσεται).

The following conditional captures Aristotle’s principle:

(COGNITIVE SYMMETRY) For all x , if x is relative to some y , then (if a knows definitely x then a knows definitely y).

This principle of cognitive symmetry mentions not *knowing*, but *knowing definitely*. Aristotle comments on knowing definitely at *Categories* 8b3–15. He illustrates the idea with the relative ‘more beautiful’. If I know definitely of a specific object, say Aphrodite, that she is more beautiful, then I must know definitely a specific thing *than which* she is more beautiful.²⁶ Without this, I merely know that Aphrodite is more beautiful than some less beautiful thing. Given that each relative has a suitably qualified relative and that if a relative exists, its correlative exists, merely knowing that there is a more beautiful thing entails that I know there is a less beautiful thing. So I know that less beautiful thing, but I could not tell which less beautiful thing is in question. So I do not know *definitely*.

This is exactly the difference between reading the relative, more beautiful, schematically and specifically. Read schematically, I may have definite knowledge of the relative more beautiful, for example, by knowing what it takes to be beautiful. However, when read schematically, I cannot have definite knowledge of whether Aphrodite is more beautiful since all I know is that she is more beautiful than something or other. But read specifically, I can know definitely that Aphrodite is more beautiful since I know that there is something less beautiful than her. Knowing definitely depends on the specific identities of the things that are less beautiful.

So why do relativity₂ relatives pass the cognitive symmetry test according to Aristotle? He explains:

(T4) For if someone knows of a certain this that it is a relative and being for relatives is the same as being somehow related to something, he knows that also to which this is somehow related. For if he does not know in the least that to which this is somehow relative, neither will he know whether it is somehow related to something (*Categories* 8b1–5. Translation Ackrill).

That is to say, for any given relativity₂ relative, knowing that it is a relative entails knowing that to which it is relative. At 8b3–7, Aristotle exemplifies his argument with double. Suppose that (i) double is a relativity₂ relative and (ii) I know definitely that a given double, say 4, is double. It follows, according to Aristotle, that (iii) I know definitely of what 4 is double. Hence, Aristotle concludes, (iv) double passes the cognitive symmetry test.

²⁶ Aristotle drops the ‘definitely’ qualification at *Categories* 8b8 when he first mentions ‘more beautiful’, but it returns at *Categories* 8b9, so I doubt he intends a difference.

Aristotle's explanation here has proved difficult to understand.²⁷ Why does (iii) follow from (ii)? It seems that I can know, of some number, that it is double, without knowing what it is double of. The case is especially clear for large even numbers. Suppose double is a relativity₂ relative. Take a large number like 36,096. I know that 36,096 is double since it is an even number. Presumably, I also know *definitely* that 36,096 is double. Knowing that all even numbers are double meets the highest epistemic standards, so, presumably, meets the standards for knowing definitely. However, without calculating the value, I have no inkling what number it is double of. Simply knowing definitely that 36,096 is double, does not suffice to know of what it is double. So double fails the cognitive symmetry test and turns out not to be a relativity₂ relative, contrary to what we supposed.

But if we understand relativity₂ as indicating that we read relatives specifically, we can make sense of Aristotle's move from (ii) to (iii). First, Aristotle's use of 'this' in T5 suggests that he has a specific reading of the relative in mind. If one reads a relative specifically, one picks out a certain 'this', an individual relative. Second, assuming a specific reading of double, what would Aristotle say to the counter-example, i.e. the fact that a double like 36,096 shows that (iii) does not follow from (ii)? The obvious move would be to admit that although one can know 36,096 is double without knowing what of it is double, one cannot know *definitely* that 36,096 is double without knowing of what it is double.²⁸ How does this distinction work?

We saw above that definite knowledge of the correlative implies that one reads the correlative specifically. Since 36,096 is even, I know that 36,096 is double. In virtue of this, I know that 36,096 is double of a half. But this is to take 'half' schematically. We do not take into account the identity of the items that fall under 'half'. The result is that I have *some* cognitive access to the correlative of 36,096. I know that whatever number it is, it must be a half. But I do not know what number it is. I do not know the correlative definitely. On my reading knowing definitely involves knowing *which* item is in question. In the case of types, this will involve knowledge that distinguishes that type from others. In the case of token, this will involve knowledge that distinguishes that individual from others. If this is correct, Aristotle's point depends on taking double and half specifically. When we read them that way, double obeys cognitive symmetry, and we can make sense of the explanation that

²⁷ For a range of worries, see (Ackrill 1963, 103); (Morales 1994, 263); (Mignucci 1986, 109); (Bodéüs 2001, 131–2).

²⁸ (Ackrill 1963, 102) mentions, but does not endorse, this move.

Aristotle gives for why double does obey cognitive symmetry. It follows that relativity₂ relatives are those that are supposed to obey cognitive symmetry. When read specifically, relatives do obey cognitive symmetry and for the reason Aristotle gives. This is all strong evidence that relativity₂ relatives are relatives taken specifically.

My second reason to think that relativity₂ relatives are relatives taken specifically is Aristotle's explanation of why a relative like hand, a relativity₁ relative, does not obey cognitive symmetry. Again, this explanation has proved difficult to understand. So difficult, in fact, that many scholars think the transmitted text is corrupt. Here is a translation of the text in question (*Categories* 8b15–21) as it stands in (Minio-Paluello 1949), the latest OCT:

(T5) (i) But regarding head and hand and each of this sort of thing which are substances, it is possible to know definitely what it is itself, (ii) but not necessary (to know definitely) in relation to what it is spoken of. (iii) For it is not possible to know definitely to what this head or hand belongs; (iv) so that these things would not be among the relatives. (v) If they are not among the relatives, it might be true to say that no substance is among the relatives
(*Categories* 8b15–21. Translation, Ackrill, modified).

Here, Aristotle explains why relatives like hand do not obey cognitive symmetry and so are not relativity₂ relatives. To fail the cognitive symmetry test, hand should satisfy the antecedent of cognitive symmetry but not the consequent. That is, the following would be true: (a) I know definitely hand; and (b) I do not know definitely the correlative of hand. (iii) should entail (b), but (iii) just seems obviously false. If I definitely know a hand, then, of course it is not *necessary* that I know whose hand it is. But Aristotle apparently thinks it is not *possible* for me to know definitely whose hand it is, which seems absurdly strong.²⁹

²⁹ A popular strategy to evade this crux is to amend the text to include ἀναγκαῖον between οὐκ and ἔστιν in (iii). (iii) would then mean (iii)': 'for it is not *necessary* to know definitely to what this head (αὐτῆ ἢ κεφαλῆ) or hand belongs.' (Ackrill 1963, 23) and (Mignucci 1986, 121) both take this option. Various earlier translators have read (iii) as (iii)' without emending (Apostle 1980, 3:15); (Pelletier and others 1983, 158:42); (Oehler 1984, 21); (Zanatta 1989, 343) cited in (Sedley 2002, 328n5). Sedley points to three problems with this strategy. First, αὐτῆ, the demonstrative pronoun 'this', is not Aristotle's usual locution for picking out an individual. Second, 'head' in (iii) is supposed to be a secondary substance; at *Categories* 8a24–8 parts of secondary substances were picked out as problematic, but on Ackrill's emendation, Aristotle has forgotten that this is his worry and is saying that we need to know definitely the *primary* substance to which it is related. Third, the correlative of a relativity₁ relative, as Aristotle stresses, should not be any arbitrary individual or indeed any arbitrary secondary substance. Rather it should be the proper correlative. In this case, it should be 'the handed'.

My reading can explain Aristotle's meaning here, without altering the transmitted text. (i) and (ii), everyone agrees, amount to Aristotle pointing out that head and other such relatives fail the cognitive symmetry test. (i) says that head satisfies the antecedent of cognitive symmetry, while (ii) denies that it satisfies the consequent. (iii) then explains why head does not satisfy the consequent. The problem is to understand precisely what Aristotle's explanation is.

I read the passage this way. (i) says that it is possible to know definitely head. Since the extensional adequacy challenge involved secondary substances, Aristotle cannot mean head as a primary substance, otherwise the explanation would be off target. So head must pick out a secondary substance. But since the head is known definitely, it must be a specific sort of head. Suppose that I know head definitely and head is taken specifically. Aristotle must, then, mean that I can know the general features that a head has, such as, a head is the part of the body functionally adapted for ingesting food and protecting the core of the central nervous system.³⁰ This is strongly suggested by Aristotle's remark that one can 'know definitely what it [sc. head] is itself (*αὐτὸ μὲν ὅπερ ἐστίν*)'. That is, one can know definitely the head without knowing definitely the correlative, the headed. Indeed, knowing definitely head does not entail knowing definitely the correlative of head.³¹

(ii) and (iii) explain why definitely knowing the correlative does not follow. Knowing head, taken specifically, does entail that I know head is head of the headed. But, as we saw above in the case of more beautiful, this does not amount to definite knowledge of the correlative. The correlative, the headed, does not tell us anything about specific things that have heads (except that they have heads). That is, 'the headed' is schematic. The only information that we get from the correlative, 'the headed', is that items that fall under it have heads. When read schematically, the headed does not give us information about the identities of those individuals, so Aristotle is completely correct to say that it is not possible that we know definitely what the correlative of head is, if knowing definitely implies knowing a specific correlative.³²

³⁰ Other commentators also take this to be Aristotle's meaning here: (Mignucci 1986, 120); (Morales 1994, 264); (Sedley 2002, 331); (Harari 2011, 532).

³¹ Although knowing definitely the relative does not entail knowing definitely the correlative, knowing definitely the relative does not rule out all cognitive access to the correlative. We could always concoct a definition of the correlative of the form 'thing correlative to such-and-such a relative', but Aristotle would not count this as definite knowledge of the correlative.

³² This explanation does not tell us what to do with the problematic 'this' (*αὕτη*) in (iii). The demonstrative pronoun is difficult since it suggests that primary substances are suddenly at stake in

On my reading, Aristotle's reasoning is compressed but coherent. Relativity₁ relatives fail the cognitive symmetry test because a relative, like head, read schematically can satisfy the antecedent of cognitive symmetry but cannot satisfy the consequent. Schematic relatives don't have enough information to licence definite conclusions about their correlatives. This also explains Aristotle's puzzling remark that it is not possible to know the correlative. When the relatives are read schematically, it is not possible to know the correlative of head, even though I know the relative.

Finally, if mine is the correct reading, then Aristotle's peculiar expression, 'being is the same as being somehow relative to something' (τὸ εἶναι ταῦτόν ἐστι τῶ πρός τί πως ἔχειν) at *Categories* 8a32 should be consistent with a specific use of relatives. Take again the simple example of a father. If we exemplify Aristotle's account with a relative, father, we get the statement, 'being a father is the same as being somehow relative to something'. At first this seems a false generalization. Suppose we replace 'somehow relative' and 'something' with 'larger' and 'Ajax'. Clearly being a father is not the same as being larger than Ajax.

However, once we understand that Aristotle intends 'being is the same as being somehow relative to something' to express a specific understanding of the relative, this makes sense. On a specific understanding of a father, the 'somehow relative' and 'something' are not placeholders for any relationship and any object. Rather they are placeholders only for the specific relationship and the specific correlative. This is precisely what we would expect if we were trying to give a version of the constitutive view but for a specific individual. The placeholder cannot simply be replaced with anything you like: it must be replaced with the constituting relation and the relevant correlative. In the case of 'father' this would be 'father of' and 'their offspring'. Being a father is the same as being a father in relation to some specific offspring—that father's offspring. This is both true and what we would expect if relativity₂ were intended to indicate that a relative be understood specifically.

(iii), while (i) concerns secondary substances. Sedley suggests reading αὐτή as 'itself' (Sedley 2002, 330). This makes the text much more comprehensible, as 'the head itself' could easily be a way for Aristotle to refer to the secondary substance 'head'. In my view, the received manuscript text is construable, if we take the demonstrative pronoun anaphorically. In this case, 'this head' (αὐτή ἡ κεφαλή) in (iii) simply refers back to 'the head' in (i). This solves the problem since whatever 'head' means in (i) 'this head' means in (iii). Of course, we need not conserve the manuscript text. Aristotle wrote without diacritics, so we are at liberty to follow Sedley and alter the breathings and accents we find in the manuscripts. In any case, both Sedley's and the anaphoric solution are compatible with my argument.

6.5 *Addressing the over-generation worry and Aristotle's attitude to relatives*

Relativity₁ and relativity₂ distinguish schematic and specific ways to understand each relative. Could Aristotle think that this difference solves the extensional adequacy worry he raised at 8a20–27?

Recall that the extensional adequacy worry constituted an argument for the unacceptable conclusion that a hand is both a relative and a substance. I suggest that Aristotle would avoid the conclusion by articulating an ambiguity in premise 2 of the argument reconstructed in section 6.2; namely, 'hand is said to be hand of a body'. This ambiguity is between a schematic and a specific reading of this premise. On one reading, the premise is true, but the argument is invalid; on the other reading the premise is false, so the argument is unsound.

On a specific reading of the relatives hand and body, this premise is true, but the argument invalid. Taken specifically, 'hand is said to be hand of a body' means that some specific hand is said to be the hand of something. This is no doubt true: my hand is said to be hand of my body, for example. However, according to *Categories* 8a18–21 this entails that my hand is not a relative. My specific hand is not a relative: 'the specific hand is not said to be a specific hand of something but rather hand of something' (*Categories* 8a18–19). In so far as my hand is understood specifically, my hand is not of something and hence is not a relative.³³ Thus, specific items are not relatives and neither are their parts (*Categories* 8a18–22). But for the argument to be valid, premise 2 cannot rule out that my hand is a relative. Hence, on a specific reading of premise 2, the extensional adequacy argument is invalid.

Indeed, even if we take premise 2 as picking out a specific sort of hand, say, human hand, rather than a specific individual hand, the extensional adequacy argument is invalid for parallel reasons. A specific sort of hand is not a relative. A human hand is hand of a human. But 'a human' is not the proper correlative of any relative. What is true is that a specific sort of hand is a secondary substance. Aristotle, at 8a22–4, is very clear that secondary substances, as such, are not relatives. He points out that the secondary substance human is not said to be human of something, nor is ox said to be ox of something, nor is timber said to be timber of something. Rather, the secondary substance human is said to be rational animal; ox is said to be a bovine draft animal and

³³ Cf. Aristotle's frequent thought that a functional part that ceases to perform its function ceases to be that part (*Generation of Animals* 726b22–4; 734b27–7; *Metaphysics* 1035b16–17; b24–5; 1036b30; *De Anima* 412b20–5; *Parts of Animals* 640b34–641a7; *Meteorology* 389b31–390b2; *Politics* 1253a20–2; *Generation and Corruption* 321b28–32).

timber to be wooden trunks. Only in so far as they are possessions (*κτήμα*, *Categories* 8a24), for example, are secondary substances ‘of something’. In their own right secondary substances are not of something. So secondary substances are not relatives. Thus, on any specific reading of premise 2, hand is not a relative, and hence the extensional adequacy argument is invalid.

On a schematic reading of ‘hand’ and ‘body’, premise 2 is false and so the argument does not soundly derive the problematic conclusion. Read schematically, hand and body should be indifferent to the specific identities of the items that fall under them. But ‘hand is hand of a body’, while true of some bodies and hands, is not true of other pairs. In fact, as Aristotle went to great lengths to point out at 7b15–8a12, the proper correlative for ‘hand’, when read schematically, would be ‘handed’.³⁴ So the claim that ‘hand is hand of a body’ is false when these are taken schematically. ‘Hand is hand of a handed thing’ would be true on the schematic reading. But ‘a handed thing’ names no substance. So, on this reading, a hand could be a relative but could not be relative to, or part of, a substance.

Finally, does my reading avoid the interpretative difficulty which faces the scope-narrowing reading? If, as the scope-narrowing reading claims, Aristotle seeks to replace relativity₁ with relativity₂, why does he waver, in the *Categories* and elsewhere in his corpus, between the two conceptions of relatives? For example, at *Categories* 8, 11a20–36, Aristotle argues that we should not be concerned about some items, such as literacy, apparently being both relatives and qualities. The scope-narrowing reading, as we saw, found this hard to explain. But on my reading, it is easy to make sense of Aristotle’s argument.

Aristotle’s idea is this: (i) in virtue of its genus, ‘literacy’ is a relative; but (ii) in virtue of itself, literacy is a quality. (i) holds because, in general, knowledge is knowledge of something. (ii) holds because, in the particular case of ‘literacy’, literacy is not literacy of something. If I am correct, Aristotle’s thought is simple. ‘Knowledge’, read schematically, is knowledge of something (the knowable). In virtue of this, knowledge is a relative in the relativity₁ sense. But ‘knowledge’, taken specifically, picks out a certain sort of knowledge, say, literacy. In virtue of this, the sort of knowledge, literacy, need not be a relative, except in the relativity₂ sense.³⁵

Since relativity₁ and relativity₂ are simply different ways of understanding relatives, Aristotle need not select one way of understanding relatives to the

³⁴ Aristotle does not mention the example of ‘hand and handed’ but, since he mentions ‘head’ and ‘headed’, this omission surely has no significance.

³⁵ Cf. section 5.5 for further discussion of speciation of relatives.

exclusion of the other. Indeed, from a practical point of view, it makes sense to have both conceptions available for different kinds of philosophical and dialectical work that we need relative terms to do. The only proviso is that we do not overlook the ambiguity, which, if I am correct, Aristotle articulates in *Categories* 7. This perfectly explains Aristotle's concluding remark in *Categories* 8, 11a37–8 that there is nothing absurd in counting one item in both the relative and the quality categories: understood schematically, an item could be a relative, but understood specifically, it need not be.

Conclusion

This chapter examined Aristotle's distinction of substance from relatives in *Categories* 7. The traditional reading holds that Aristotle's two accounts of relatives differ in scope. I have argued that this reading does not explain Aristotle's apparent reaffirmation of the relativity₁ conception of relatives elsewhere in the *Categories* and in his corpus. In place of the scope-narrowing account, I have argued that relativity₁ and relativity₂ describe different ways of reading each relative. The formal features of relativity₁ relatives are explicable if relatives are read schematically. Aristotle's discussion of cognitive symmetry is explicable if relativity₂ relatives are relatives read specifically. With this ambiguity identified, Aristotle can avoid the unacceptable conclusion that some relatives are substances because the argument for this conclusion does not go through.

This distinction, between specific and schematic relatives, is an innovation, but an innovation within the constitutive approach to relativity. On the constitutive view, the analysis of relativity begins with an object, a relative and goes on to say that such an object is constituted by a relation it bears to a correlative. Aristotle's distinction between generic and specific objects in the non-substance categories, and the corresponding distinction between specific and schematic relatives, allow us to see that there are two possible referents of 'a brother'. One is a generic relative, a generic brother, which is constituted by bearing the 'is a brother of' relation to another generic object, a sibling. The other is an individual relative, a particular brother, which is constituted by bearing the '...is a brother of...' relation to some particular sibling. The innovation is driven by Aristotle's concerns in the *Categories*. On the one hand, Aristotle wants to preserve a distinction between substances and relatives, which the relativity₁ account might collapse; on the other hand, the distinction between generic and individual objects in non-substance categories allows

Aristotle to avoid this collapse because it drives the distinction between specific and schematic readings of relatives.

One crucial feature to note is that a specific relative, although constituted by a relation, may not have the same correlative as the corresponding generic relative. Thus, knowledge, taken generically, is constituted by relating to the knowable; but a specific knowledge, literacy, is constituted not by relating to the knowable, but to a specific correlative, letters. We could look in a bit more detail at a worked example. Paris is a primary substance. Said of Paris, but not present in Paris, is a secondary substance, human. But there are also non-substantial objects around. Knowledge is present in Paris but not said of him. That is, generic knowledge is present in Paris as a non-substantial, generic object. Knowledge is constituted by relating to the knowable as a correlative object. Moreover, individual knowledge, literacy, is present in Paris. Literacy is constituted by relating to an individual correlative, letters. Despite the introduction of individual relatives, Aristotle does not depart from the constitutive view of relativity but rather innovates within the constitutive framework.

Plato's version of constitutive relativity is much closer to the schematic relativity₁, both in terms of linguistic and conceptual resemblance. This much has been known since antiquity.³⁶ But, in contrast to most commentators, I have shown that Aristotle does not reject Plato's view but rather adopts it and adapts it to his own needs. Aristotle's ideas that no substance is a relative and that parts of secondary substances are substances put pressure on constitutive relativity. Aristotle responds to this tension by distinguishing relatives as general items from relatives as individuals. He still retains the constitutive view and indeed does not seem to reject the generic version of the constitutive view. But Aristotle adds the nuance that individual relatives can also be constituted by the relations they have.

³⁶ Simplicius, *In Cat.* 159, 10–20 follows Boethus of Sidon in claiming that the first definition that Aristotle gives (*Categories* 6a36) derives from Plato. Simplicius later reads Aristotle as rejecting the first definition and replacing it with a second definition (*Categories* 7, 8a32–5), which he takes to be Aristotle's settled view on the matter (Simp. *In Cat.* 198, 12–199, 1). (Bodéüs 2001, 117–18, 129) follows this ancient tradition. Some commentators make the weaker claim that the discussion of *Categories* 7 takes place with a 'Platonic background': (Jansen 2006); (Harari 2011, 536). (Hood 2004, 26) mentions the ancient view that Aristotle explicitly rejects Plato's view but does not endorse it herself. (Sedley 2002, 348–51) argues that *both* definitions originate in Academic debate. I discuss this influence in detail in my (Duncombe 2018).

Relativity in Aristotle's *Metaphysics* 5.15

Introduction

Metaphysics 5 presents a series of thumbnail discussions of key philosophical concepts. In this respect, it resembles the *Categories*. Although the two texts differ in approach, and *Metaphysics* 5 discusses many concepts the *Categories* does not, the two texts do overlap. For example: *Metaphysics* 5.8 (1017b10–26) discusses substance; *Metaphysics* 5.13 (1020a7–32) discusses quantity; *Metaphysics* 5.14 (1020a33–b25) discusses quality; and *Metaphysics* 5.15 (1020b26) discusses relatives.¹

Metaphysics 5.15 begins with a threefold classification of relatives (1020b26–b31). The first group are ‘relatives according to number’ (1020b32–3); that is, numerical relatives, like double and half. The second group are the ‘relatives according to their power to act and be affected’ (1021a15); that is, capacity relatives, like the able-to-heat and the heat-able. The third group (1020b30–32), which includes measure and measurable, knowledge and knowable, and perception and perceptible, is not labelled by Aristotle himself, but I will call them intentional relatives. It seems likely that this threefold classification is driven by the needs of the discussion in the *Metaphysics* as a whole.²

Aristotle then further classifies numerical relatives as (1020b32–1021a8): generally (ἀπλῶς) or definitely (ὠρισμένως) and relative to themselves (πρὸς αὐτοῦς) or relative to one (πρὸς ἓν). From 1021b3–5 Aristotle launches a further, orthogonal classification of relatives said ‘in themselves’ (καθ’ ἑαυτά) as opposed to ‘coincidental’ (κατὰ συμβεβηκός) relatives.³ The first group of relatives in themselves are the numerical, capacity, and intentional

¹ For a comprehensive comparison of the *Categories* and *Metaphysics* 5 see (Bodéüs 2001, XLI–LXIV).

² Numbers as relatives is crucial to the argument of *Metaphysics* 12.3, 1092b19–20; the relational character of powers recurs at *Metaphysics* 9.6, 1048a25–30; the relativity of perceptions at *Metaphysics* 4.5, 1010b30–1011a1.

³ Kirwan’s translation obscures the fact that ‘in themselves’ and ‘coincidental’ cut across the numerical, capacity, and intentional contrast (Kirwan 1971: 52). The τὰ δὲ κατὰ συμβεβηκός at 1021b8

relatives; the second are those that are relatives because their genus is a relative, such as medicine, which is relative because it is a sort of knowledge and knowledge is a relative. Aristotle, arguably, includes in this group things that are relatives because what possesses them is relative: equality is relative because what possesses equality, namely equal, is a relative.⁴ Finally, at *Metaphysics* 1021b3–11 Aristotle contrasts things that are relatives ‘in themselves’ and ‘coincidental’ relatives. Man or pale might turn out to be coincidental relatives if a pale man happens to be double.

Scholars disagree on how close the treatments of relatives are in *Metaphysics* 5.15 and the *Categories*. Some hold that the two texts agree but do not make this case in detail.⁵ Others, who you might call developmentalists, hold that there are significant philosophical differences between the two texts and that Aristotle’s view of relativity develops from that of the *Categories* to that of *Metaphysics* 5.15.⁶ In this section, I argue that what we find in *Metaphysics* 5.15 is consistent with the *Categories*, by showing that the tensions developmentalists point to are merely apparent.

It is true that there are structural differences between *Categories* 7 and *Metaphysics* 5.15. *Categories* 7 begins with a plausible definition of relatives (*Categories* 6a26) and goes on to discuss a series of hallmarks of relatives; *Metaphysics* 5.15 begins with a threefold classification of relatives (*Metaphysics* 1020b26–31). *Categories* 7 splits neatly into two parts, with the second part worrying away at the question of whether any substances are relatives; *Metaphysics* 5.15 has a more iterative structure, classifying relatives into the tripartite taxonomy then returning to expand further on the characteristics of each class before concluding with more distinctions. Overall, *Categories* 7 is interested in relatives as a class; *Metaphysics* 5.15 is interested in classes within the class of relatives.

These differences of structure and approach are superficial. We should be more worried about the apparent doctrinal divergence between Aristotle’s two treatments of relatives. First, commentators have identified that the *Metaphysics* countenances indefinite numerical relatives, while *Categories* 7 made it a condition that relatives which conform to relativity₂ are known

answers the τὰ μὲν καθ’ἑαυτὰ at 1021b3. Cf. (Bodéüs and Stevens 2014, 58) who better reflects the structure of Aristotle’s text.

⁴ The ἔτι at 1021b6 suggests that what follows is a new point *within* the same contrast, not a new contrast in its own right. Again, Kirwan obscures this.

⁵ (Morales 1994, 255); (Bodéüs 2001, XLVIIn3); (Harari 2011, 528); (Bodéüs and Stevens 2014, 161).

⁶ (Kirwan 1971, 164); (Gottlieb 1993, 107–9); (Hood 2004, 55).

definitely. Second, Aristotle's treatment of numerical relatives in *Metaphysics* 5.15 suggests that he abandoned exclusivity and aliorelativity. Third, Aristotle seems to treat intentional relatives differently in the *Categories* and the *Metaphysics*: although in both texts he claims that an intentional correlative is in some sense prior to its relative, the priority seems different in the two cases. Fourth, in the *Metaphysics*, Aristotle infers that some items are relatives just because their genus is. But the *Categories* rejects this sort of inference. I aim to resolve the apparent inconsistencies, so I don't comment on every point in *Metaphysics* 5.15; in particular, I don't discuss capacity relatives (*Metaphysics* 1021a14–25) in detail.

7.1 *Definite and indefinite relatives in Metaphysics and Categories* 7

During his discussion of numerical relatives, Aristotle distinguishes between definite and indefinite numerical relatives:

(T1) The first sort are said to be numerical either simply or definitely, relative to itself or relative to one. For example, the double relative to one is a definite number, while the multiple is numerically relative to one but is not a definite number, such as this or that. The one-and-a-half is relative to its reciprocal numerically relative to a definite number. The one-and-a-bit is relative to its reciprocal according to an indefinite number, just as the multiple is relative to one. That which exceeds relative to the exceeded is numerically wholly indefinite. For number is commensurable and number is not said of what is not commensurable;⁷ but that which exceeds relative to what is exceeded is simply such an amount and some more, which is indefinite

(*Metaphysics* 1020b32–1021a7. Translation Kirwan, modified).

Aristotle begins by giving some distinctions within the numerical relatives. Relatives are numerical either simply (*ἀπλῶς*) or definitely (*ὠρισμένως*); and relative to themselves (*πρὸς αὐτοῦς*) or relative to one (*πρὸς ἓν*). It is not clear from the Greek whether Aristotle mentions three classes (simply, definite relative to themselves, definite relative to one) or four (simply relative to themselves, simply relative to one, definite relative to themselves, definite

⁷ I translate Ross' emended text which has *συμμέτρου* here (Ross 1949, 329).

relative to one).⁸ Moreover, Aristotle goes on to give *five* examples—double, multiple, one-and-a-half, one-and-a-bit, and that which exceeds—and it is unclear how these fit into the taxonomy.

I want to focus on the philosophical and interpretive issue this passage presents by beginning with the five examples. The first example is the double (*Metaphysics* 1020b34). Aristotle is clear that the double is a definite number relative to one. Scholars usually gloss this as ‘double’ cashed out as ‘double of one’ and take Aristotle’s example to indicate the ratio of 2:1.⁹ But Aristotle does not intend to pick out a ratio: rather, he intends to pick out a number. For one thing, Aristotle does not mention ‘ratio’ here at all.¹⁰ For another, a ratio is a relation in which numbers are the relatives, but Aristotle seems focused on relatives and hence the numbers which represent the values of the ratio. Furthermore, Aristotle claims that double is a definite number when relative to one. Relative to one, double is two. The double is a numerical relative and a definite number relative to one.

The second example is the multiple. Again, Aristotle is clear that the multiple is a number relative to one, but this time, an indefinite number. So, scholars usually gloss the multiple as some multiple of one and express this as the ratio $n:1$, where n is an integer greater than 1.¹¹ But again, Aristotle’s point does not concern ratios as such but rather one of the numbers which makes up the value in a ratio. Aristotle’s idea is that, even relative to 1, ‘multiple’ will not pick out a definite number. Simply to say that there is a number that is a multiple of one is not to say what the number is. So, the multiple is a numerical relative, of the sort indefinite relative to one.

The third example is one-and-a-half and its reciprocal τὸ ὑφημιόλιον (literally: ‘the sub-one-and-a-half’). Aristotle mentions both the one-and-a-half and its reciprocal. I take it that these fall into Aristotle’s classification of relative to themselves, indeed, definite relative to themselves. The one-and-a-half, $1 + \frac{1}{2}$, is equivalent to three-halves or $\frac{3}{2}$, which is a definite number relative its reciprocal. The reciprocal of $1 + \frac{1}{2}$ is $\frac{2}{3}$.¹² Since three-halves is a definite number,

⁸ (Ross 1949, 328) distinguishes these readings. Alexander apparently took Aristotle to have a threefold division (Alexander, *In Met.* 402, 20–5), but modern translators and commentators take this to be a fourfold division ((Ross 1949, 328); (Heath 1949, 210); (Kirwan 1971, 164); (Hood 2004, 57)). An exception to this modern consensus might be (Bodéüs and Stevens 2014, 162) who mention ‘deux types’ of numerical relatives here.

⁹ (Ross 1949, 329); (Heath 1949, 210); (Kirwan 1971, 164); (Hood 2004, 58).

¹⁰ But he does mention ratios elsewhere: *Metaphysics* 11.5, 1092b8–15; *Metaphysics* 11.5, 1092b15–23; *Metaphysics* 11.6, 1092b26–32; *Nicomachean Ethics* 5.3, 1131a29–b3.

¹¹ (Ross 1949, 329); (Heath 1949, 210); (Kirwan 1971, 164); (Hood 2004, 58).

¹² Again, scholars follow Heath in glossing Aristotle’s point here in terms of ratios, in this case the ratio 3:2 (Heath 1949, 210); (Kirwan 1971, 168); (Hood 2004, 58). But this cannot be right because only :1 gives the ratio 3:2 and it is clear that Aristotle intends one-and-a-half to be relative to its

although not an integer, in relation to two-thirds, the one-and-a-bit and its reciprocal are definite numerical relatives, relative to each other.

The fourth example is one-and-a-bit relative to its reciprocal, τὸ ὑπεπιμόριον (literally: 'the sub-one-and-a-bit'). This is not relative to one, so the pair should be relative to themselves: in this case, indefinite relative to themselves. The 'one-and-a-bit' (ἐπιμόριον) was a term of art in Greek mathematics for a number formed on analogy the preceding case, to give $1 + \frac{1}{n}$ where n is an integer.¹³ This could also be expressed as $\frac{2}{n+1}$, whose reciprocal would be $\frac{n+1}{2}$.¹⁴ But, it is clear that, even relative to themselves, one-and-a-bit and its reciprocal are indefinite. Simply from knowing what one-and-a-bit is and knowing its reciprocal, we cannot know which definite numbers are at stake, because both involve the variable n .

The final example is that which exceeds. Aristotle tells us that that which exceeds is some amount and some more. Expressed algebraically, that is $n+m$.¹⁵ I take it that Aristotle's point about incommensurability illustrates just how indefinite such exceeding can be. To take the example from Heath: the diagonal of a square exceeds the side because the diagonal is the length of the side and some more.¹⁶ But the extent to which the diagonal exceeds the side cannot be expressed as a whole number ratio. So that which exceeds may even be incommensurable with that which it exceeds and so it exceeds by an indefinite amount.

Overall, I take it that the numerical relatives are relatives, not relations, so the numerical relatives are not ratios. Aristotle gives two orthogonal distinctions within the numerical relatives. First, numerical relatives divide into relative to one versus relative to themselves. These two kinds of numerical relative are distinguished by their correlative: the former correlate with one, the latter correlate with their proper correlative. Second, numerical relatives divide into definite versus indefinite relatives. The former pick out a specific number, the latter don't pick out a specific number but are indefinite because they pick out a class of numbers. Those things which are numerically relative

reciprocal and not to one. My approach is much closer to that of Alexander than to the modern consensus (Alexander, *In Met.* 403, 1–5).

¹³ See (Heath 1921, 215); (Heath 1949, 210).

¹⁴ Again, I read against the modern consensus, which takes the reciprocal to be 1 and so the ratio of the one-and-a-bit to the reciprocal is or $n+1:n$ (Heath 1949, 210); (Kirwan 1971, 168); (Hood 2004, 58). But, again, Aristotle intends one-and-a-bit and its reciprocal to be relative to themselves. One-and-a-bit turns out to be an indefinite number, when taken as relative to its reciprocal.

¹⁵ Those who hold that Aristotle has ratios in mind express this ratio of what exceeds to what is exceeded as $n+m:n$ (Hood 2004, 59).

¹⁶ (Heath 1949, 211).

Table 7.1. Taxonomy of numerical relatives

| | Definitely | Simply (i.e. indefinitely) |
|------------------------|---|---|
| Relative to one | Double relative to one | Multiple relative to one |
| Relative to themselves | One-and-half relative to reciprocal of one and a half | One and a bit relative to reciprocal of one-and-a-bit That which exceeds relative to That which is exceeded |

‘simply’ (*ἀπλῶς*), are those numerical relatives that lack some further qualification. That is, the ‘simply’ contrasts here with ‘definitely’ and so ‘simply’ ends up picking out the indefinite numerical relatives. This gives us the four-way taxonomy suggested by modern commentators, and allows us to plot the examples into those classes (see Table 7.1).

Commentators usually think that the cases of definite numerical relatives are those which express ratios that involve *only* whole numbers, while those that involve at least one unspecified number are the indefinite numerical relatives.¹⁷ This is not quite right because, as I suggested, these numerical relatives are not directly ratios. On my reading, the definite numerical relatives are those which, when considered as relative to some number end up being a definite number. Sometimes that number is one, sometimes it is the reciprocal of the relative. Thus, on my reading the definite numerical relatives are double, relative to one, and one-and-a-half and its reciprocal, relative to each other. The indefinite numerical relatives would be the multiple, even when relative to one, and one-and-a-bit relative to its reciprocal. Presumably, that which exceeds relative to that which is exceeded are also indefinite relative to themselves.

The mathematics of this passage lets us see the philosophical issue more clearly. In this passage, Aristotle allows both definite and indefinite numerical relatives, so allows both definite and indefinite relatives. But you might worry that in *Categories* 7 relatives ‘cannot be relative to some unspecified correlative and they cannot be known indefinitely’ (Hood 2004, 57). Hood raises two worries here. First, that the account of numerical relatives allows relatives to have an unspecified correlative, which *Categories* 7 does not. Second, given the discussion around relativity₂ (*Categories* 7, 8a31–2), if a relative is known definitely, then the correlative is also known definitely. If some relatives have an indefinite correlative, then it is hard to see how they can be known definitely.¹⁸

¹⁷ (Ross 1949, 329); (Kirwan 1971, 164); (Hood 2004, 58).

¹⁸ Hood offers her own answers to these worries at (Hood 2004, 138–9).

That is, Aristotle's discussion of numerical relatives looks in tension with his principle of cognitive symmetry (cf. section 6.4).

In fact, Aristotle has not changed his mind on these issues between *Categories* 7 and *Metaphysics* 5.15. *Categories* 7, like *Metaphysics* 5.15, allows relatives to have unspecified correlatives. I argued in sections 6.3 and 6.4 that *Categories* 7 distinguishes between a relative taken schematically and a relative taken specifically. According to *Categories* 7, a numerical relative like 'double' will be spelled out as 'double of a half'. But there is still a further question of how to understand the relative 'double'. We could understand it schematically, in which case we can say that double is double of half, without saying which specific double and half we have in mind. On the other hand, if we understand 'double of half' specifically, we can specify which correlative—which half—is intended. If the intended correlative is the definite number one, then we have determined the relative double as two. In T1, Aristotle is clear that double is relative to one. In that case, double will be a definite number—namely, two.

What about cases of indefinite relatives, which worry Hood? Take the case of the multiple. Even if specified as relative to one, the multiple will be an indefinite relative because one cannot tell, even from knowing the correlative, which specific number 'the multiple' picks out. But again, this is consistent with taking a relative schematically: in *Categories* 7, any relative can be taken schematically. And when a relative is taken schematically, one cannot tell, even from knowing the correlative, what the specific identity of the relative is. In other words, if we understand *Categories* 7 as I did in sections 6.3 and 6.4, we see that there is no sudden introduction of indefinite relatives in *Metaphysics* 5.15. The indefinite numerical relatives are simply relatives taken schematically.

Hood's second worry is also resolved straightforwardly. The principle of cognitive symmetry says that if a relative is known definitely, then its correlative is known definitely. That is, definite knowledge of the correlative is a necessary condition on definite knowledge of the relative. Hood worries that this condition is not met, because T1 allows some correlatives to be indefinite, such as the reciprocal of one-and-a-bit. But it is plausible that no indefinite relative or correlative can be known definitely. So the definite knowledge condition given by the principle of cognitive symmetry cannot be met. Let's grant that an indefinite relative cannot be known definitely. This is not a problem, because none of the examples mentioned in T1 have a definite relative, but indefinite correlative. The only way to violate the principle of cognitive symmetry would be to have a definite relative and an indefinite

correlative. But one of Aristotle's examples is of that form. The indefinite relative, one-and-a-bit, is relative to an indefinite correlative, but one-and-a-bit is also indefinite. Since the relative is indefinite, one cannot know the relative definitely; so, *a fortiori*, one cannot know the relative definitely and the correlative indefinitely. Hence this example does not violate the principle of cognitive symmetry. The indefinite relative, multiple, has a *definite* correlative—one—so multiple does not violate the principle because one cannot know the relative definitely; so, again, one cannot know the relative definitely and the correlative indefinitely. The definite relative, one-and-a-half, has a definite correlative so does not violate the principle, because it is possible to know both the relative and correlative definitely. Finally, the definite relative, double, has a definite correlative, one. So, again, this does not violate the principle. None of the classes of example Aristotle considers in T1 would violate the principle of cognitive symmetry.

Some examples Aristotle does not consider might violate the principle. For example, the correlative pair multiple relative to one. According to reciprocity, if multiple is relative to one, the one is relative to multiple. In this case, it looks like there is a definite relative, one, and an indefinite correlative, multiple. This could violate the principle of cognitive symmetry, assuming that it is possible to know one definitely but not know multiple definitely. But that is not damaging to my suggestion that *Categories* 7 and *Metaphysics* 5.15 are compatible. If one relative to multiple does fail the cognitive symmetry test, all that shows is that one does not conform to relativity₂. And that is precisely what we would expect: we can know definitely one, without knowing definitely to what one is relative. In short, Aristotle's invocation of indefinite relatives in *Metaphysics* 5 is consistent with his ideas of relativity in *Categories* 7.

7.2 Exclusivity in *Metaphysics* 5.15

Exclusivity is an important principle in *Categories* 7, which must apply to all relatives.¹⁹ Plato seemed at best ambivalent about exclusivity, which caused his view of relativity some problems.²⁰ In *Metaphysics* 5.15, however, Aristotle seems to allow that some relatives do not relate exclusively to their proper correlative. Rather, one relative may have different correlatives. In particular,

¹⁹ *Categories* 7, 6b15–27; see sections 1.4.1 and 5.3 for further discussion of exclusivity.

²⁰ See section 4.3.

numerical relatives do not always relate exclusively. At *Metaphysics* 1020b26, Aristotle gives the examples of double and half, triple and third, and multiple and sub-multiple. These would be perfectly good examples of exclusive relatives. Double is double only of its half; triple is triple of only its third, and, generally, multiple is multiple only of its sub-multiple. However, during his classification of numerical relatives in T1, Aristotle says that numerical relatives can be relative in general or definite way and 'either to themselves or to one'. For example, 'double is a definite number relative to one' (*Metaphysics* 1020b34). That is, at *Metaphysics* 1020b26 double relates to half but at 1020b34 double relates to one. But this contradicts exclusivity. If double relates to half, it relates only to half, and likewise with one. Aristotle seems to recognize a sort of numerical relative that does not obey exclusivity. So does Aristotle abandon exclusivity in the *Metaphysics*?

The answer is to be found in the underlying conception of relatives that Aristotle has available. In particular, the distinction we detected between schematic and specific relatives.²¹ We have already seen that Aristotle makes use of this sort of move in his discussion of the Babbling Fallacy in the *Sophistical Refutations*.²² The expression 'double', in different contexts, might pick out different objects. Schematically, 'double' could pick out a generic double if we understand double to be double of half. Where 'double' means simply double of half, exclusivity holds, since there is only one item of which double as such is double—namely, half. Specifically, 'double' could pick out two if we understand 'double' to be double of one. Where 'double' simply means 'two', exclusivity holds, since there is only one item of which two is double—namely, one. These two different ways of understanding 'double' allow Aristotle to retain exclusivity, at the expense of saying that 'double' is an ambiguous expression. On each way of disambiguating 'double' exclusivity holds; but we give up on the ideas that relative expressions are homonymous.

But if this is right, we can see that Aristotle does not change his mind on the issues of exclusivity between *Categories* 7 and *Metaphysics* 5.15. The distinction between schematic and specific readings of relatives is already present in *Categories* 7 and is exploited in the *Sophistical Refutations*. So Aristotle would be able to exploit that distinction to retain exclusivity *Metaphysics* 5.15 by recognizing that double, and other numerical relatives, are ambiguous: but on either disambiguation, exclusivity holds.

²¹ See section 6.3.

²² See section 5.6.

7.3 *Aliorelativity in Metaphysics 5.15*

Categories 7 seemed to rule out reflexive relatives by specifying that all relatives are aliorelative (*Categories* 6a36). However, in *Metaphysics* 5.15, Aristotle appears happy to class the equal, the similar, and the same as numerical relatives:

(T2) And also in another way the equal, similar, and the same [are numerical relatives], for all are said with respect to the one: things are the same whose substance is one; things are similar whose quality is one; things are equal whose quantity is one. (*Metaphysics* 1021a9–14. My translation, following Kirwan)

Aristotle's point is this: one features in the account of each of the equal, the similar, and the same. To be equal is to share one quantity. For example, two sticks are equal just in case they have the same length. To be similar is to share one quality. For example, wine and the sea are similar in that they are both dark-coloured. To be the same is to share one substance. For example, Achilles and Hector are the same in that they are both men.²³

It is not entirely clear why Aristotle groups equal, similar, and the same as *numerical* relatives: but I won't pursue that point here.²⁴ Rather, I want to draw out the point that the equal, the similar, and the same are all apparently *reflexive* relatives. For the above way of taking Aristotle's point suggests that Aristotle allows the equal, the similar, and the same to be self-relatives. If being equal is to share one quantity, it seems that any stick will be equal to itself since any stick shares one quantity with itself. The same line of thought shows similar and the same to be reflexive relatives. So, does Aristotle change his mind and straightforwardly allow reflexive relatives in the *Metaphysics*?

I think we can see the *Metaphysics* account of these reflexive relatives as a conservative extension of an idea already in the *Categories*. In section 5.1 I explained why, in the *Categories*, Aristotle holds that all relatives are aliorelatives: reflexive relatives, such as similar, might turn out to be self-constituting. Self-constituting entities violate the primacy of primary substance, and so reflexive relatives were ruled out. In the *Metaphysics*, Aristotle would not put

²³ This is a common way to take Aristotle's point (Kirwan 1971, 165); (Hood 2004, 59). In answer to the question posed by (Kirwan 1971, 165), I take it that things that are similar are those that share a quality, while those that are the same share a genus or species.

²⁴ Alexander, *In. Met.* 405, 17–19 suggests that these examples are numerical relatives because of reference to unity, which is the principle of number (*Metaphysics* 1021a12–14), while the earlier examples are numerical relatives because the relative exceeds the correlative. Since unity and excess are both numerical notions, these are two sorts of numerical relatives. Cf. (Kirwan 1971, 164–5).

the point in terms of the primacy of primary substance. But in the *Metaphysics*, Aristotle is clear that relatives depend on substances in various ways.²⁵ Even without appeal to the primacy of primary substance, relatives cannot be 'free-floating' entities. Hence, even in *Metaphysics* 5.15, Aristotle would not allow a self-equal, a self-similar, or a self-same. So, in what sense does he allow equal, similar, and same to be relatives?

Answer: in the same sense that he allows them to be relatives in the *Categories*. In section 5.1, I argued that reflexive relatives, such as similar, are said to be similar in virtue of some quality. For example, wine and the sea are similar in being dark, but neither the wine nor sea is a self-similar. In T2, we find the same idea spelled out explicitly: the similars share one quality; wine and the sea are similar in that they share one quality (being dark), but this does not entail that either is a self-similar. Aristotle conservatively extends this thought to obviously like cases. The equals share one quantity, but it does not follow that any equal is a self-equal; the same things share a kind, but it does not follow that any equal is a self-equal. *Metaphysics* 5.15 simply makes explicit something implicit in the *Categories* account of aliorelativity. Aristotle does not change his mind about aliorelativity.

7.4 *Dependence, priority, and reciprocity*

After discussing capacity relatives in detail (*Metaphysics* 1021a14–25), Aristotle anatomizes intentional relatives (*Metaphysics* 1021a26–b2). In this dissection, Aristotle introduces an idea about priority. Some priority relation holds between an intentional relative (such as measure, knowledge, perception, or sight) and its correlative (such as measurable, knowable, perceptible, or seen):

(T3) So the things called numerical and capacity relatives are all relative because each is said to be just what it is of something else, that which it is (*αὐτὸ ὃ ἔστίω*), but not because something else is said to be of the relative. But the measurable (*τὸ μετρητόν*) and the knowable (*τὸ ἐπιστητόν*) and the thinkable (*τὸ διανοητόν*) are called relative because something else is said to be relative to them (*Metaphysics* 1021a26–30).²⁶

²⁵ *Metaphysics* 1001b30; 1070a34; 1088a30; 1088a28; 1088b1.

²⁶ Hood coins the expression 'intentional' to describe this class of relatives and I follow her terminology here. The clause, *αὐτὸ ὃ ἔστίω*, is found in the manuscripts of Aristotle but omitted by Alexander (Alexander, *In Met.* 406, 25, 31). Jaeger excised it as a gloss on *ὄπερ ἔστίω*. Ross retains '*αὐτὸ*

One note on this translation: I have translated the verbal adjectives which end in *-ητόν* using an English equivalent ending: *-able*. For example, I translate *τὸ διανοητόν* as ‘thinkable’. However, the Greek idiom is systematically ambiguous where the English is not. Gottlieb and Hood point out that *τὸ διανοητόν* could mean ‘what is thought’, ‘what is being thought’, or ‘what can be thought’.²⁷ This point will be important below.

In T3 Aristotle contrasts numerical relatives, like double, with intentional relatives, like knowable. He says that numerical relatives are relative because they are ‘just what they are’ (*ὅπερ ἐστίν*) relative to some correlative. That is, in the case of a schematic double, the double is just what it is relative to half. Furthermore, in specific cases, one can determine the correlative based on the relative. For example, one can determine the content of ‘half’, read specifically, if the double is determined as two.²⁸ But the specific correlative, one, is not said to be what it is i.e. one, relative to double. Rather the specific correlative is said to be half relative to double.

Intentional relatives reverse this feature. What is measurable, knowable, or thinkable are such because measure, knowledge, or thought relates to them. Taken schematically, of course, the knowable is simply the correlative of the relative knowledge, and similarly with the other cases. But taken specifically, the knowable has some content, spelled out as some knowable domain, such as geometry. Taken specifically, the perceptible has some content; for example, a colour. These specific correlatives of intentional relatives are relative only in so far as some knowledge relates to geometry. Colour is a perceptible only in so far as perception relates to colour. And the measurable is relative only in so far as it relates to a measure. Measurable, as a length, knowable, as a domain, and perceptible, as a colour, are what they are independently and are relative only in so far as the relative relates to them. Which is why Aristotle says that knowledge explains why the knowable is a relative: without the existence of knowledge, geometry would not be knowable.

So far, there is no tension between *Categories* 7 and *Metaphysics* 5.15. In *Categories* 7 Aristotle points out that the knowable is prior to the knowledge

ὅ ἐστίν’ in his edition, but says that Jaeger is probably right to delete it (Ross 1949, 330). (Kirwan 1971, 52), (Hood 2004, 63), and (Bodéüs and Stevens 2014, 57) do not translate this clause but Ross does in the Barnes collected works of Aristotle (Barnes 1984, 2: 1612). In my view, the clause should be retained. The sentence may be repetitive, but it is palaeographically well supported and makes philosophical sense. With the repetition, it is clear that Aristotle gives a scheme for a statement like ‘double is double of something else’, which clearly repeats the relative, once as subject and once in the predicate.

²⁷ (Gottlieb 1993, 102); (Hood 2004, 65).

²⁸ (Reeve 2016, ad loc.) suggests this reading.

(7b15–8a12. See section 5.4). The point Aristotle makes in T3, that what is knowable is prior in content to knowledge and knowledge explains why the knowable is a relative, is compatible with the knowable being prior to knowledge. It could be the case that the knowable, as a theorem, exists before knowledge and, when knowledge of the knowable comes about, the knowable fixes the content of the knowledge, in virtue of knowledge coming to be relative to it, while the knowable comes to be knowable as a relative.

What has troubled commentators, however, is that Aristotle seems not to explain the priority of an intentional relative over its correlative in this expected way. Instead, he says the following:

(T4) (i) For the 'thinkable' (τό τε γὰρ διανοητόν) signifies that there is thought of it, (ii) but its not the case that thought is relative to that of which there is thought (ἡ δianoia) (for this would be to say the same thing twice). (iii) Similarly, also sight is sight of something, not of which sight is (although it is true to say that) (iv) but relative to colour or something else of that sort
(*Metaphysics* 1021a30–b2).²⁹

Aristotle takes thought and thinkable to exemplify an intentional relative and its correlative. If that is right, what Aristotle says in T4 (i) may conflict with what he says in *Categories* 7, 7b15–8a12. The question is how to understand the verb 'is' (ἔστιν) in (i). One could understand this 'is' as existential and the corresponding verbal adjective διανοητόν as 'thinkable'.³⁰ In that case, Aristotle's point would be that the existence of the thinkable means that there exists a thought of the thinkable. This seems to be the assertion that thought and thinkable are existentially simultaneous, which Aristotle denied in *Categories* 7, 7b15–8a12, and which, in any case, Aristotle seemed at pains to avoid just above (T3).³¹

Can we preserve the consistency between *Categories* 7 and T4? Hood offers an alternative reading of the verb 'is' in this passage (Hood 2004, 66–9). She takes 'is' as expressing possibility.³² Hood then translates this way: 'For "thinkable" signifies that thought of it is possible' (Hood 2004, 65). This would retain the consistency because now T4 (i) makes the innocuous point that the

²⁹ I thank two anonymous readers from the press for pressing me to rethink my interpretation of this passage.

³⁰ (Kirwan 1971, 52) and (Bodéüs and Stevens 2014, 58) translate as an existential is. Verbal adjectives, such as διανοητόν, are ambiguous in Greek. Each can be read either modally or factually. Read modally διανοητόν is translated as 'thinkable', while read factually διανοητόν means 'is in fact thought'. For a good discussion on this point in this passage see (Hood 2004, 66–7).

³¹ (Kirwan 1971, 166) and (Hood 2004, 67) raise this sort of worry.

³² She cites (Smyth 1984, 45, §187b) as an authority that, accented as here, ἔστιν can express 'it is possible'.

thinkable is simply what *can* be thought of.³³ And what can be thought of may be existentially prior to the thought of it. The difficulty, however, is that $\epsilon\sigma\tau\upsilon\upsilon$ used this way to indicate possibility is an impersonal verb, while in Hood's translation takes the $\epsilon\sigma\tau\upsilon\upsilon$ predicatively. If the $\epsilon\sigma\tau\upsilon\upsilon$ does indicate possibility, it cannot be translated as Hood translates. Rather, the clause would have to mean 'it is possible that thought is of something', translating with an expletive subject (compare the English locution 'it is raining'). But if this is the translation, the sentence does not support Hood's case because Aristotle claims that 'thinkable' signifies that it is possible that thought is of something, not that 'thinkable' signifies that thought of it is possible.

If neither Kirwan's existential reading nor Hood's modal reading is satisfactory, we could take the lead from T3. In T3 existential priority did not seem to be at stake at all. Rather, Aristotle's point about intentional relatives there seemed to be that the correlative, when taken specifically, has, or perhaps is, some content that does not depend on the relative.³⁴ For example, the knowable, taken as geometry, has some content independently of the relative. Knowledge, as knowledge of geometry, is geometrical knowledge. The content of the knowledge is specified by the specific correlative, in this case, geometry. The knowable—geometry—is prior in content to knowledge, and geometry only becomes a relative in so far as knowledge comes to relate to it.

The same applies to the thinkable. A theorem can be described as thinkable if it could be the content of some thought. A thought of that theorem is a theorem-thought: the content of that thought is specified by the theorem. Because the theorem is the content of the thought the theorem can be described as thinkable. The thinkable is prior in content to the thought, and the thought explains why the theorem, as a thinkable thing, is a relative. But all this is compatible with the theorem being existentially prior any thought.

T4 (ii) confirms this reading. Aristotle says that it is not the case that thought is relative to that of which there is thought because to specify thought as that of which there is thought would be to say the same thing twice.³⁵ Aristotle's argument is compressed, but we can unpack it this way:

1. There is a thought, *a*, of some *x* of which there is thought [Supposition]
2. Any thought is thought of some thinkable, *x* [Premise]
3. So, *a* is a thought of some thinkable, *x* [From 1, 2]

³³ (Reeve 2016, ad loc.) translates the $\epsilon\sigma\tau\upsilon$ as 'can'.

³⁴ Here I follow a way of understanding the passage suggested by (Gottlieb 1993, 108), (Morales 1994, 269), and an anonymous reader from the press.

³⁵ On this idea of uninformative reiteration, cf. *Metaphysics* 1037a30–2; *Sophistical Refutations* 173b10–11 referenced by (Kirwan 1971, 66) and (Hood 2004, 70).

4. 'Thinkable' signifies some x , such that there is some thought of x [Premise]
5. So, a is a thought of some x , of which there is some thought [From 3, 4]

But the conclusion (5) simply restates the supposition (1). This is the sense in which specifying thought as of that of which there is thought is to say the same thing twice: the specification simply goes round in a tight, uninformative circle. This tight circle could be broken if we give some content to that of which there is thought; for example, a thought is thought of a theorem, geometry, or mathematics. In that case, we could break the circle and conclude that the thought, a , is a thought of some theorem. We cannot specify the correlative of thought as that of which there is thought. This is simply to fail to offer a specification. The thinkable must have some independent content if it is to be informative enough to specify a thought. This comes through clearly at *Metaphysics* 1051b6, where Aristotle points out that the thought that something is pale is true because the thought conforms to the truth that the thing is pale; the thing is not pale because the thing conforms to the true thought.

Aristotle reiterates these examples with a further example of an intentional relative, sight in (iii) and (iv). Again, his reasoning is compressed, but unpacking it we find it to be structurally similar to the example of thought:

1. There is a sight, a , of some x of which there is sight [Supposition]
2. Any sight is sight of some visible, x [Premise]
3. So, a is a sight of some visible, x [From 1, 2]
4. 'Visible' signifies some x , such that there is some sight of x [Premise]
5. So, a is a thought of some x , of which there is some sight [From 3, 4]

Sight is sight of something. But how are we to specify of what sight is sight? If the answer is that sight is sight of whatever sight is of, although it is true, we simply have an uninformative bit of circular reasoning. To say what sight is, we cannot simply appeal to sight. Instead, we must mention a specific correlative for sight, say, colour. Colour is one way to cash out the visible, sufficient to specify sight in a non-vacuous way.

The upshot in the *Metaphysics* is that the thinkable must have some independent content, to which thought conforms and cannot simply be characterized as 'whatever thought is of'. Other intentional correlatives—measurable, knowable, and visible—are similar. Each has some independent content to which the relatives conform.

Finally, some scholars have thought that T3 departs from Aristotle's commitment to reciprocity.³⁶ Reciprocity is the principle that, provided x and y are properly given, if x is said to be what it is relative to some y then y is said to be what it is relative to x (*Categories* 7, 6b28–36). In the *Categories*, Aristotle gives the example of knowledge and knowable, and perception and perceptible, as reciprocals (*Categories* 7, 6b34–6). Thus, if thought is said to be thought of the thinkable, the thinkable is said to be thinkable of the thought. It looks like Aristotle says that thinkable is an exception to this rule in T3, claiming that 'the measurable, the knowable, and the thinkable are called relative because something else is relative to them' (*Metaphysics* 1021a30). If thinkable is an exception, Aristotle seems to abandon reciprocity as a principle for all relatives.

But if we look closely, what Aristotle says in the two texts is consistent. In the *Categories*, Aristotle's point is that knowledge and the knowable reciprocate because knowledge is called knowledge of the knowable; in the *Metaphysics*, Aristotle's point is that the thinkable is called a relative because thought is relative to the thinkable. The *Categories* is concerned with what it takes for a relative and correlative to *reciprocate*; the *Metaphysics* is concerned with what it takes for a relative and correlative *to be relatives*. The two texts ask slightly different questions and the answers are consistent. The thinkable is a relative because thought relates to the thinkable, in the sense that the content of the thinkable is prior to thought. But thought and thinkable nevertheless reciprocate because thought is said to be thought of thinkable, and the thinkable thinkable by thought.

Aristotle spells out that intentional relatives fit their correlatives in *Metaphysics* 5.15. Aristotle puts the idea to work in several other places in the *Metaphysics*. During Aristotle's introduction to his discussion of unity (*Metaphysics* 1052a15–1053b8), Aristotle mentions the function of unity as a measure and digresses to discuss measures in general terms (*Metaphysics* 1053a31–b3).³⁷ He says that we tend to say that knowledge and perception are measures—after all, we come to know things by knowledge or perception. However, knowledge and perception are more *measured* than measure. For example, we come to know the height of someone by seeing a cubit-measure applied to them. Thus, my knowledge of someone's height conforms to their

³⁶ (Gottlieb 1993, 107–8). For my discussion of reciprocity see section 5.3.

³⁷ (Hood 2004, 72) draws our attention to this passage, and my reading of it expands on her idea about it. For a different way to understand this, see (Reeve 2016, ad loc.)

height as measured; their height as measured does not conform to my knowledge of their height. Aristotle can't help developing this thought into a swipe at Protagoras (*Metaphysics* 1053a35–b3). Protagoreans claim that a man who knows or perceives is the measure of how the world is. One way to understand this is as the extraordinary claim that the world conforms to a man's knowledge or perception of it. But once we realize that knowledge and perception are not measures, but measured things, the Protagorean doctrine collapses into the truism that a man's knowledge or perception conforms to how the world is.

This idea, that intentional relatives fit the world rather than the world fitting them, is consistent with the priority of the knowable discussed in the *Categories*. But we can see why, given the concerns of the *Metaphysics* in general, that *Metaphysics* 5.15 emphasizes this aspect of intentional relatives. These ideas about intentional relatives are involved in Aristotle's response to Protagoras in *Metaphysics* 4.5. Aristotle is trying to show, against Protagoras, that it is impossible that the underlying subjects of perception would not exist without perception. He makes two points:

(T5) For perception is certainly not perception of itself, but there is also some other thing beyond the perception, which is necessarily prior to perception. For what moves something is prior in nature to what is moved, and even if they are said to be with reference to each other, this is no less so.

(*Metaphysics* 4.5, 1010b35–11a2. Translation Reeve)

Here Aristotle draws on these ideas about the perceptible content being prior to perception. Perception is not perception of itself for the reasons Aristotle gives in T4: specifying perception as perception of itself would be vacuous. To specify a perception, one must specify some content for perception. But, according to T5, this content is causally prior to the perception. So, even though, schematically, perception is said to be relative to the perceptible, the content of the perceptible is prior to the perception. If that is so, Aristotle concludes, the underlying subject of the perception is prior to the perception.

In sum, in *Categories* 7, Aristotle claimed that for certain intentional relatives—such as knowledge—the correlative is existentially prior to the relative—the knowable can exist before knowledge. In *Metaphysics* 5.15, Aristotle seemed to pull back from this commitment. However, closer examination of the arguments in *Metaphysics* 5.15 showed that Aristotle there presses a different priority relation: intentional relatives conform to the content of the correlative and not vice versa.

7.5 Speciation

The final discrepancy between our two texts concerns speciation.³⁸ For Aristotle, a kind can have species. The kind animal has species such as human. Relative kinds also have species. Knowledge can have species like medicine, for example. But are species of relatives themselves relatives? In different texts, Aristotle seemingly gives different replies to this question. At *Metaphysics* 5.15, 1021b3–11, Aristotle contrasts ‘in themselves’ (*καθ’ ἑαυτά*) relatives with ‘coincidental’ (*κατὰ συμβεβηκός*) relatives. One sort of *καθ’ ἑαυτά* relatives are relatives in virtue of their genus. Then Aristotle says:

(T6) So some relatives are called relatives in themselves, and of these some are called that way, while others [are called relative in themselves] if their genera (*τὰ γένη*) are like that, for example, medicine (*ἡ ἰατρικὴ*) is among the relatives because its genus (*τὸ γένος*), knowledge (*ἡ ἐπιστήμη*) is thought to be relative. (*Metaphysics* 1021b3–5).

Aristotle’s point here is that, for at least some items described as relative, those items are relative in virtue of their genus being relative. Not only that, but Aristotle allows that the species are not deficiently relative or just relatives in some derivative sense. The relative species are *καθ’ ἑαυτά* relatives. The species, medicine, is just as much a relative as its genus, knowledge, is. So, some species of relatives are relatives.

However, this contrasts with Aristotle’s treatment of the speciation of relatives in *Categories* 8 (see section 5.5). There, Aristotle has an extended discussion of how relatives are divided into species (11a25–32) and uses strikingly similar examples to discuss speciation—namely, knowledge and its species—although in *Categories* 8, the species are literacy and musicianship, rather than medicine. In *Categories* 8, Aristotle points out that:

(SPECIATION) Some species of relatives are not relatives.

Speaking strictly, there is no contradiction between T6 and speciation. Speciation says that some species of relatives are not relatives; but maybe medicine is one of the species of relatives that *is* a relative. However, the examples given in *Categories* 8 are, like medicine, species of knowledge. The

³⁸ (Ross 1949, 331), (Kirwan 1971, 166–7), and (Hood 2004, 80–1) raise this worry.

reason that Aristotle gives in *Categories* 8 for literacy and musicianship not being full-blooded relatives is that literacy is not called *literacy* of anything, but rather literacy is called knowledge of something (namely, letters) (*Categories* 8, 11a20–36). The same reasoning would also rule out medicine as a full-blooded relative. But Aristotle is happy to include medicine amongst the *καθ' ἑαυτά* relatives in T6.

How can we resolve this apparent discrepancy? Throughout his reflections on relativity, we have seen that Aristotle develops two perspectives on relatives: the schematic and the specific. The *Categories* 8 passage uses language and concepts related to the schematic perspective on relatives, while *Metaphysics* 5.15, here, at least, uses the specific perspective. With this in view, we can see that there are two ways to handle speciation of relatives, which are consistent. To see this, we should look again at the apparently conflicting text in *Categories* 8.

Aristotle applies the criterion for being a relative given in relativity₁, namely that a relative is said to be 'just what it is of something else'. This is the first reason to think that *Categories* 8 takes up Aristotle's first perspective on relatives. When we take this point of view, are the species of a relative themselves relatives? As this passage clearly shows, that depends on the species in question. Literacy is not really a relative as it fails the condition given at *Categories* 6a36. Literacy is not said 'of something' and we do not say 'literacy of something'. That is, 'literacy' (*γραμματική*) cannot take an objective genitive. Hence, literacy is not a relative by the standards of relativity₁. This fits nicely with the context of *Categories* 8, where Aristotle does not want to endorse any cross-categorical items (*Categories* 8, 11a20–36). On the one hand, literacy seems to be relative, since literacy is knowledge of something, namely letters.

So literacy is not a relative; at most it is a quality. But, as Aristotle points out, we can still give the genus of literacy. Literacy is a species of knowledge. As Aristotle puts the point, literacy is knowledge of something. At this point, Aristotle does not tell us which sort of knowledge literacy is. This is significant. We saw in section 6.4 that, from the relativity₂ perspective, we define each relative by mentioning its proper correlative. Knowledge is defined by the knowable because there is an exclusive and exhaustive relationship between them. Literacy doesn't have such an exclusive and exhaustive partner. 'Letters' is the only candidate, and 'literacy is literacy of letters' is not a grammatical statement, let alone a legitimate definition. This is Aristotle's point when he says that 'literacy is not literacy of something, nor musicianship musicianship of something'. These cannot be defined, at least, cannot be defined as relatives. Literacy and musicianship could be defined as qualities,

sorts of knowledge. Knowledge is a full-blooded relative, but its species may not be. Hence, Aristotle is happy to endorse the view that none of the species of knowledge are relatives, at least, not in their own right.

To confirm this reading, I can say more exactly how καθ' ἑαυτά relatives are divided into species. Recall Aristotle's second perspective on relatives; namely, what it is to be this specific relative. One relative is distinguished from another relative based on what its proper correlative is. The proper correlative corresponds exactly to the relative. In this case, the relative is knowledge and the proper correlative is the knowable. From this point of view, how would species of relatives come about? Well, they would come about in pairs of exclusive and exhaustive correlatives. To define as a relative a species of a relative, we must give a correlative that corresponds to the relative. That correlative will naturally be a species of the correlative:

(CORRELATIVE SPECIES) If x correlates with y , then a species of x correlates with a species of y .³⁹

For example, if knowledge correlates with the knowable, then species of knowledge correlate with species of the knowable. That is, medicine, a species of knowledge, will correlate with health, a species of the knowable. Indeed, medicine, as such, correlates only with health. This principle only holds when we are asking what it is to be some specific relative, not when we are giving an account of that relative by genus and differentia. Again, another way to put the point is that, viewed this way, medicine and health satisfy the principle of cognitive symmetry. If I know definitely medicine—that is, I can pick medicine out from all the other knowledges, and medicine is a relative—then I know definitely to what it corresponds; namely, health.

One final thought on speciation in *Metaphysics* 5.15. Just after this discussion of speciation, Aristotle points to another class of items that are called relatives in their own right:

(T7) Again, all those things which are called relative in respect of their possessors, for example, equality is called a relative because the equal is a relative and similarity is called a relative because the similar is

(*Metaphysics* 1021a6–8. Translation Kirwan, modified).

³⁹ We saw a similar principle of speciation of relatives in play in Plato (see section 4.2.1).

Here Aristotle mentions equality and similarity—items that we would now class as relations, rather than relatives. He stresses that equality and similarity are called relatives only derivatively, because the things that possess equality and similarity—the equal and the similar—are relatives. Aristotle does have available the idea that there are items that do the relating, as well as items that are related. I've been arguing that Aristotle, and indeed, ancient analyses of relativity generally, focus on the things that relate. But here Aristotle mentions items that do the relating. But that is not a problem for my reading. On the contrary, the fact that Aristotle devotes only one sentence in his whole corpus to what we would now call relations shows that I am right to stress how peripheral relations were—and how central relatives were—to ancient relativity. This sentence shows that Aristotle could have given a larger role to relations but chose to focus on relatives in his analysis of relativity.

Conclusion

In this chapter I argued that the conception of relativity found in *Metaphysics* 5.15 is consistent with that found in *Categories* 7. I set my face against the scholarship which argues that Aristotle's views on relativity in the *Categories* and *Metaphysics* are inconsistent, and suggestive of a development in his views between the two texts: if the two texts are consistent, there is no need for a developmentalist move. It is true, however, that there are differences in emphasis between the two texts. *Metaphysics* 5.15 often relies on the specific understanding of relatives. This specific perspective is present in the *Categories*, but does much less work. But the specific perspective makes sense given the concerns of *Metaphysics* 5.15, which aims to make distinctions within the class of relatives: the specific perspective is precisely what allows these distinctions within the class of relatives. In the next chapter, we will see how Aristotle and Alexander apply some Aristotelian ideas about relativity to criticize the theory of Forms.

Relativity and independence in Aristotle's *On Ideas*

Introduction

In Plato and Aristotle, relativity impinges on wider philosophical debates. In Chapter 3 we considered an argument that used relatives against the Forms, known as the Greatest Difficulty. Relativity puts pressure on the theory of Forms because of tension between relativity and separation. This chapter discusses another problem that relativity poses for the Forms because of the tension between relativity and independence.

In his commentary on *Metaphysics* 1.9, Alexander of Aphrodisias records a discussion of relativity from Aristotle's lost work, *On Ideas*.¹ Apparently, the discussion had two parts. The first part reconstructed a Platonist argument 'from relatives' (ἐκ τῶν πρὸς τι) (Alexander, *In Met.* 82.11–83.22), which I label the 'Relatives Argument'. The second part criticizes the Relatives Argument (Alexander, *In Met.* 83.23–34), developing Aristotle's elliptical criticism at *Metaphysics* 1.9, 990b15. In this chapter, I argue that commentators misunderstand Aristotle's criticism. Our clearer view of Plato and Aristotle on relativity helps us see that the traditional reading of Aristotle's crucial, but ambiguous, remark at *Metaphysics* 1.9, 990b15 faces serious difficulties. My alternative reading disambiguates Aristotle's remark differently to make good sense of Aristotle's attack on the Relatives Argument.

Section 8.1 outlines the traditional reading of the Relatives Argument refutation. Section 8.2 argues that this reading faces two problems: one philosophical, one lexical. Section 8.3 outlines my alternative reading. Section 8.4

¹ (Fine 1993, 34) discusses the relationship of Alexander to *On Ideas*. Alexander likely records an authentic Aristotelian line of thought, even if he does not quote Aristotle's lost text verbatim. Fine argues that Aristotle's critique targets Plato's Platonism (Fine 1993, 34). But it may be that at least some arguments in *On Ideas* arose from debates between Aristotle and fellow early Academics (Isnardi Parente 1981). The presence of Eudoxus in *On Ideas* suggests this (Dancy 1991, 23–56). That said, many arguments in *On Ideas* react to specific claims in Plato's dialogues, as (Dancy 1999, 54–5) suggests.

shows that my reading faces neither problem. Section 8.5 shows how the Relatives Argument should be understood, given Aristotle's refutation.

8.1 *The Relatives Argument*

Alexander presents the Relatives Argument in the following text:

(T1) (RA1) The argument from relatives, which establishes Ideas, is like this. In cases when the same thing is predicated of a plurality not homonymously, but so as to make clear some single nature, either because the thing signified by the predication is true of them *properly*, as whenever we call Socrates and Plato 'man'; or because they are likenesses of true ones, as in the case of likenesses whenever we call them 'man' (for we make clear when we signify in those cases that the likeness of men have the same nature); or if one of them is a paradigm, the other a likeness, as if we were to call Socrates and the likenesses 'men.'

(RA2) When we predicate the equal itself of things here, we predicate homonymously; for the same account does not fit them all; nor do we signify the truly equals. For the quantity in sensibles continually changes and is not determinate. So none of the things here accurately take the account of equal.

(RA3) But neither do we predicate 'equal' of them as paradigm and likeness. For none is more paradigm or likeness than the other.

(RA4) Even if someone were to accept that the likeness is not a homonym to the paradigm, it would always follow that these equal things as likenesses are equal to the properly and truly equal.

(RA5) If this is the case, there exists some Equal, in itself and proper, in relation to which things in this world, as being likenesses of it, became and are called equal. And this is an Idea (Alexander, *In Met.* 82.11–83.16).

In the Relatives Argument, the Platonist argues that a Form corresponds to each term predicated homonymously of a plurality.² 'Equal' is a relative according to Aristotle (*Metaphysics* 5.15, 1021a9; 1021b7) and, as we will see, Aristotle appeals to relatives. Some think that the Argument is intended only

² The Relatives Argument differs from the One Over Many argument, which claims that a Form corresponds to each term predicated synonymously of a plurality (Alexander, *In. Met.* 80.8–81.22).

to establish Forms corresponding to relatives.³ But nothing explicit restricts the Argument to that.

I focus on the refutation of the Relatives Argument, but to orientate my discussion, I will present a brief, unargued account of how the Relatives Argument works.⁴ The Relatives Argument distinguishes three exhaustive ways a predicate can be used without switching meaning. '*F*' is predicated non-homonymously of each of *a*, *b*, and *c* if, and only if, (i) '*Fa*', '*Fb*', and '*Fc*' are true, and (ii) '*F*' has the same account in each case. RA1 gives three exhaustive non-homonymous ways predication happens.⁵ First, 'proper' predication: when 'man' is used of Socrates and Plato. Plato and Socrates are both men when 'man' has the account 'rational animal'. Second, 'improper' predication: when 'man' is used of likenesses of Plato and Socrates. In this case, 'man' has an account like 'statue of a rational animal'. Third, 'mixed' predication: when 'man' is used of Plato and of a likeness of Plato.⁶ In this case the account of the predicate may be a disjunction: 'man' means 'either a rational animal or a likeness of a rational animal'. But proper, improper, and mixed predications exhaust non-homonymous predications.

RA2 to RA4 argue that a predicate like 'equal' cannot be used non-homonymously of sensible pluralities.⁷ Take three apparently equal sticks. According to RA2, we cannot *properly* call the plurality equal for the metaphysical reason that their dimensions shift constantly.⁸ Presumably, '*a*, *b*, and *c* are equal' is false when 'equal' has the account 'have the same length' because *a*, *b*, and *c* never have the same length. RA3 points out that we cannot predicate 'equal' of three sticks *improperly* either because none of the sticks is an image. Finally, 'equal' cannot be used in a mixed way either since no stick is more paradigm than another. After this, the text suppresses some moves needed for the conclusion, but I can supply them. Either (i) 'equal' is just

³ (Owen 1957, 107).

⁴ More scholars try to understand the positive Relatives Argument than the refutation. For a range of approaches to understanding the Relatives Argument see: (Robin 1908, 19–21); (Cherniss 1944, i: 229–32); (Mansion 1949); (Owen 1957); (Barford 1976); (Leszl 1975, 185–244); (Rowe 1979); (Fine 1995, 142–82); (Baltzly 1997); (Crubellier 1996); (Clarke 2012).

⁵ Many agree that these are exhaustive: (Owen 1957); (Fine 1995, 145–6); (Clarke 2012, 10).

⁶ The label 'mixed' comes from the useful discussion in (Clarke 2012, 8).

⁷ This is a minority view of how the argument works, endorsed by (Barford 1976) and (Clarke 2012); others hold that that RA2–RA4 only rule out proper and mixed predications in the sensible world and so there must be Forms, of which sensibles are likenesses (Owen 1957); (Leszl 1975); (Rowe 1979); (Fine 1995, 143).

⁸ (Owen 1957, 109) argues that this metaphysical point is irrelevant to the Relatives Argument. Shifting dimensions do not make 'equal' homonymous. Rather different ways to specify the predicate 'equal'—for example, to mean 'having the same size as *a*' or 'having the same size as *b*'—show that the predicate changes its meaning. Fine rejects this reading (Fine 1995, 164–70).

homonymous or (ii) there is an equal which is not sensible. But not (i). So there is an equal which is not sensible. Call this the 'Idea of Equal'.

Various aspects of this argument are suspect. However, Aristotle expresses one particular criticism in the lemma under which Alexander records the Relatives Argument:

(T2) Next, of the more accurate of the arguments, some make ideas of relatives, of which we say there is no independent genus, while others mention the third man

(*Metaphysics* 1.9, 990b15–17. Cf. *Metaphysics* 9.4 1079b4–13).

T2 signposts a shift from the arguments according to 'One Over Many' and 'thinking of things that no longer exist' (*Metaphysics* 1.9, 990b11–15) to the 'more accurate' arguments. T2 also indicates which arguments are 'more accurate'. Presumably, Aristotle's audience knew these arguments well enough that simple descriptive phrases can pick them out. But Aristotle's description of the Relatives Argument also indicates an objection.

Aristotle expresses the objection in the relative clause. Aristotle claims consensus that there is no independent genus of Forms (or maybe Forms of relatives). The consensus must include at least the Platonists who press the Relatives Argument. The critic claims that the Relatives Argument has consequences incompatible with the Platonist's commitments concerning Forms and relativity. So both critic and Platonist, or just the Platonist, agree that there is no independent genus of Forms of relatives.

Aristotle's criticism is that the Relatives Argument generates Forms the Platonist cannot accept. For example, the Relatives Argument generates a Form corresponding to Equal because 'equal itself' cannot be applied non-homonymously to things here. But the Platonist must reject a Form of Equal. Alexander explains his take on Aristotle's point:

(T3) [Aristotle] said that this argument establishes also ideas of relatives. At least, the present proof came forth on the basis of the equal, which is a relative. But they used to deny that there are ideas of relatives because ideas in themselves subsist by themselves, because they are certain substances, while the relatives have their being in their disposition (*σχεσει*) relative to each other (*πρὸς ἀλλήλα*). (Alexander, *In Met.* 83.23–6).

Alexander's reading of Aristotle's refutation could be construed this way:

1. All Forms are substances. [Premise]
2. All substances are independent. [Premise]
3. All Forms are independent. [From 1, 2]
4. All relatives have their being in their disposition
relative to each other. [Definition]
5. No relatives are independent entities. [From 4]
6. There are no Forms for relatives. [From 3, 5]
7. There are Forms for relatives. [From RA]
8. \perp [Contradiction 6, 7]

The criticism of the Relatives Argument aims to show the Platonist has contradictory commitments. On the one hand, the Relatives Argument generates Forms for relatives. On the other hand, there cannot be Forms for relatives because such a Form would not be independent. So the Platonist can either abandon Relatives Argument or abandon a key feature of Forms.

Since Aristotle's strategy here is *reductio ad absurdum*, the whole refutation must be based on premises that the Platonist accepts. Otherwise, the refutation begs the question. In particular, the Platonist should be committed to (3), that all Forms are independent. Aristotle does have his own commitments that are relevant to the argument. Aristotle commits himself to something close to (5) because he holds that that no substance is a relative (*Categories* 8a35; *Metaphysics* 1088a21–b4), and, in so far as substances are independent, no relative is independent. But Aristotle cannot simply appeal to his own commitments, on pain of begging the question.⁹

In (4), Alexander tells us what it is to be a relative. This premise is crucial for the refutation and must be endorsed by both the critic and the Platonist. But premise (4) puzzles commentators.¹⁰ Here the investment to clarify Plato's and Aristotle's notions of relativity pays a dividend. Premise (4) articulates the constitutive view of relativity, where relatives are understood generically. The constitutive view of relativity specifies that the relation a relative bears towards its correlative constitutes that relative. Plato and Aristotle share this view of relativity.¹¹ Premise (4) articulates just this when it says that a relative has its

⁹ Cf. (Fine 1995, 184–6). Fine argues that Aristotle's commitments drive this argument: 'Plato and Aristotle agree that substances must be definitionally basic. But Plato believes, whereas Aristotle denies, that some relatives enjoy the requisite definitional fundamentality. It is Aristotle's disagreement with Plato that motivates his present argument' (Fine 1995, 187). But if this were right, Aristotle's refutation would simply beg the question against the Platonist.

¹⁰ (Fine 1995, 185).

¹¹ Sections 2.1, 2.2, 2.3, 2.4, and 5.1.

being in its disposition towards something else because being a relative just is to relate to something else. But, as we have seen, the correlative cannot just be *any* thing else: being a given relative, say, a larger thing, is a matter of relating to a special correlative, in this case, a smaller thing. That correlative is itself constituted by the relationship: a smaller thing is what it is in relation to a larger thing. Again, Plato and Aristotle share this commitment (sections 2.2, 2.3, and 5.3), and premise (4) articulates it.

Alexander and modern commentators agree that Aristotle objects that the Relatives Argument generates a class of items which are at once relative and independent. Not all commentators follow Alexander in thinking that the Relatives Argument directly generates unacceptable Forms for relatives.¹² But, none the less, these readers take the Relatives Argument to generate a class of unacceptable entities, which are at once relative and independent.

8.2 *A straw Platonist and a lexical problem*

I want to press two difficulties with this traditional reading. The first is philosophical; the second lexical. Philosophically, the refutation attacks a straw target. A good deal of evidence shows that Plato held that some Forms are *interdependent*; especially, Forms for relative entities, such as master and slave. Lexically, the traditional reading takes Aristotle's expression καθ' αὐτὸ γένος to refer to Forms, but reviewing Aristotle's terminology in the *Metaphysics* and elsewhere shows that καθ' αὐτὸ γένος nowhere means 'Form'.

I begin with the philosophical difficulty. There are good reasons to think that Plato denied that all Forms are independent in the sense required by the Relatives Argument. Plato recognizes both non-independent Forms and non-independent genera. I distinguish three ways of understanding (3), corresponding to three different readings of 'independent'. On any of these ways of understanding (3), Plato would have rejected (3). So, the Relatives Argument attacks a straw target.¹³

¹² (Owen 1957, 110) inserts an extra step here. Owen claims that there is a Platonic assumption that certain linguistic terms, such as 'equal', are semantically incomplete. This is just what it means to be a relative term. 'Equal' cannot meaningfully be used without a complement: 'two is equal' is meaningless until completed with 'to twice one', for instance. The objection, on Owen's view, is that the Relatives Argument posits at least one 'complete' use of incomplete term; namely, when 'equal' is predicated of the Form Equal. But, according to Owen, there is no such use for an incomplete term.

¹³ Compare *Posterior Analytics* 1.4, 73a34ff with *Metaphysics* 5.18, 1022a24–36, where Aristotle distinguishes various senses of καθ' αὐτό. The sense of καθ' αὐτό most closely related to this are the first, third, and fifth given in *Metaphysics* 5.18, 1022a24–38. The Relatives Argument could be attacking some Platonist who rejects the independence of Forms. But I know of no plausible candidates. After all, what sort of Platonist rejects the independence of Forms? Maybe Xenocrates (see section 8.2.3)?

8.2.1 Independence as purity

The first sense of ‘independent’ (*καθ’ αὐτό*) is purity.¹⁴ On this understanding of ‘independent’, independent things exclude contradictory attributes. A ring finger is a finger and not also a non-finger. So a ring finger is independent. But a large thing is large and also a small, depending on what it is compared to. So a large thing is not independent. Understanding ‘independent’ this way would give rise to:

(3’) All Forms exclude their opposite.

If (3’) is the right reading of (3), then either premise (5) is false, so the refutation is unsound; or ‘independent’ means something different in premise (3) and premise (5), so the argument is invalid.

On the unsoundness: if we read ‘independent’ to mean ‘excludes contradictory attributes’, (5) claims no relatives exclude their contradictory attribute. *Some* relatives don’t exclude their contradictory attribute: the larger thing can also be a smaller thing. But *some* relatives do exclude their contradictory attribute. A master is not also a non-master. So a master excludes its contradictory just as much as a finger does. Aristotle recognizes both sorts of relative (*Categories* 7, 6b15–18). If independence is purity, the refutation attacks a straw target since the refutation relies on a false premise, with no reason to think that the Platonist would accept that false premise. Alternatively, the argument uses ‘independent’ to mean ‘excludes contradictory attributes’ in premise (3) but with some other sense in premise (5), in which case the refutation is invalid through equivocation.

8.2.2 Existential independence

The second sense of ‘independent’ is existential independence. x is existentially independent just in case it is possible that x exists and no other thing, y , exists. In this case, (3) would mean:

(3’’) It is possible that any Form exists and no other thing exists.¹⁵

¹⁴ (Owen 1957, 110–11). Cf. *Republic* 524d8–525a1.

¹⁵ (Fine 1995, 185) doubts that existential independence is at stake because she thinks Aristotle tends to use cognates of *χωριζέειν* for existential independence and because *Posterior Analytics* 1.4 gives a definitional sense of ‘independent’. Alexander seems to have taken ‘independence’ to mean existential independence, as his interpolation of ‘subsist’ as a gloss on Aristotle suggests.

On this reading, the Relatives Argument would come out valid. (3") tells us that any Form can exist alone. Premise (5) follows from (4) because each relative is constituted by a relation to a correlative. So, if any Form is a relative, it must be constituted by a relation to a correlative. So, if any Form is a relative, it cannot exist alone.

However, the refutation would be unsound because (3") is false. Some Platonic Forms apparently cannot exist alone. In the course of the Final Argument, Socrates persuades Cebes that the presence of a certain Form brings with it the presence of another. For example, if some group exhibits the Form Three, then it also exhibits the Form Odd, since the Form Three brings with it the Form Odd:

(T4) 'So is it true,' he said, 'concerning some things of this sort, that not only does the Form itself merit its own name for all time, but there is also something else that merits it, which is not the same as the Form, but which, whenever it exists, always has the feature of that Form. Maybe what I mean will be clearer still in the following case: presumably the odd must always be given this name that we are now uttering, mustn't it?'

'Certainly.'

'Is it the only thing of which that is true—this is my question—or is there also something else, which is not just what the odd is, but all the same must always be called "odd" too, together with its own name, because its nature is such that it is never deprived of the odd? By this I mean, for example, the state in which threeness is, and many other things too. Consider the case of threeness. Don't you think that threeness should always be called both by its own name and by the name of the odd? The odd is not just what threeness is, but nevertheless threeness, fiveness, and an entire half of the number series are somehow naturally such that each of them is always odd, despite not being just what the odd is.'

(*Phaedo* 103e1–104b2. Translation Sedley and Long).

If, contrary to possibility, the Form Odd ceased to exist, then the Form Three would also cease to exist. Indeed, the Forms of Odd and Even depend on the existence of further Forms. If the Form One ceases to exist, not only would there be no odd numbers, but also no Form of Oddness.¹⁶

¹⁶ (Fine 1993, 186) raises this objection and adds that Plato's Forms depend for their existence on The Good (*Republic* 505a–b; 506a; 508–9b). This also serves, in her view, to show that Forms lack definitional independence too.

8.2.3 Definitional independence

The third sense of ‘independence’ is definitional independence. x is definitionally independent of y just in case it is possible to define x and not mention y . Here x and y are placeholders for objects. That means two things. First, these are real, as opposed to nominal, definitions. Second, definitional independence is not being able to say what some object is without mentioning any other *object*. Every real *definiens* will mention some *attribute* of the *definiendum*; what is at stake here is whether the *definiens* must mention some *object* that is not identical to the *definiendum*.

This, on this interpretation, (3) would mean:

(3'') It is possible to define any Form without mentioning any other thing.¹⁷

Again, Plato would deny (3''), especially in the case of Forms corresponding to relative entities. I have discussed this argument in detail in Chapter 3. For my discussion here, the key text is *Parmenides* 133c8–d2. Parmenides identifies a class of Ideas that correspond to relatives. He gives as examples of relatives master, which correlates with slave, and knowledge, which correlates with truth. Aristotle agrees that these are relatives.¹⁸ Although Parmenides focuses on proving separation of Forms and participants, his point about Ideas of relatives is general: Ideas of relatives are what they are in relation to each other. For example, an Ideal Master is what it is relative to an Ideal Slave. Likewise, Ideal Knowledge is what it is relative to Ideal Truth. Each relative Idea each has a correlative, in relation to which it is what it is.

Furthermore, the correlative Idea relates back to the relative. As the $\pi\rho\delta\varsigma$ $\acute{\alpha}\lambda\lambda\eta\lambda\alpha$ indicates, the correlative has its essence in relation to the relative. Thus, just as the Ideal Master is what it is relative to the Ideal Slave, so the Ideal Slave is what it is relative to the Ideal Master.¹⁹ In fact, many commentators have thought that Parmenides’ point concerns definitions or essences.²⁰ I can give you an adequate, general account of what it is to be a master

¹⁷ (Fine 1995, 186–7) offers an alternative, namely that ‘independent’ means ‘can be defined without mentioning a non-Form’.

¹⁸ On master and slave, see *Categories* 7, 7a31–b8; on knowledge and the object of knowledge, see *Categories* 6b25–6; *Metaphysics* 1020b31; *Topics* 114a17–18; 121a1; 146b2; 149b4–15; *Sophistical Refutations* 181a35–6.

¹⁹ Cf. Aristotle *Categories* 7, 6b28–7a21. For Aristotle, relatives reciprocate (*Categories* 6b28–35) and he uses as examples master and slave (*Categories* 6b29–30) and knowledge (*Categories* 6b34–5). Cf. section 5.3.

²⁰ See (Owen 1957, 107); (Peterson 1981); and (Rickless 2007, 85–93). In my (Duncombe 2013) I take a slightly different line.

without mentioning any item other than a slave, but I must mention a slave. This is the sense in which the Ideal Master and the Ideal Slave are relative to each other.

Alexander makes this point, in remarkably similar language, when he contrasts Forms with relatives. He says that Forms are independent, 'while the relatives have their being in their disposition (*σχέσει*) relative to each other (*πρὸς ἄλληλα*)' (Alexander, *In Met.* 83.26). The use of *πρὸς ἄλληλα* echoes Plato, and the background assumption of constitutive relativity is pertinent. Certain things have their being in their relationship to other things. Masters have their being in their relationship to slaves and vice versa. Plato holds that Ideas, particularly relative Ideas, can depend on each other to be what they are. Some Ideas are interdependent.

Admittedly, the *Parmenides* describes correlative Ideas in the context of an objection to Socrates' inchoate theory of Forms. But The Greatest Difficulty is not aimed at rejecting correlative Forms. The Greatest Difficulty questions the assumption that Forms and participants are separate (133d7–e4). The Difficulty arises from the conjunction of the view that Forms are separate with certain assumptions about the formal features of relatives (see Chapter 3). So the Greatest Difficulty may leave correlative Ideas undisturbed. Hence, I think it is safe to use this passage as evidence that Plato has a commitment to relative Ideas. So premise (3) of the refutation—i.e. that all forms are independent—is not a claim that Plato would accept, and the refutation looks in danger of addressing a straw target.

You might reply to all this in the following way. Admit that Ideas, understood as Forms, may not be independent in any suitable sense. But, taking a developmentalist line, you hold that Plato drops Forms in favour of genera and the Relatives Argument targets genera. Surely, Plato thinks that there are not interdependent *genera*. In fact, just as some Forms are interdependent, so are some genera, at least according to *Sophist* 255c–d. There, the visitor distinguishes the kind Different from the kind Being amongst the Greatest Kinds, he does so precisely on the grounds that Different is not a genus of independent (*καθ' αὐτό*) things (255c14). Rather, Different is a *πρὸς ἄλληλα* kind.²¹ Genera, whether amongst the Greatest Kinds, or amongst the inferior kinds, are not independent. Some genera of relatives, such as Different, are not independent. So, even if we think that genera, rather than Forms, are at stake in the refutation of the Relatives Argument, the criticism misses the target, as Plato holds that some genera are not *καθ' αὐτό*. If premise (3) is

²¹ I defend this reading in my (Duncombe 2012). Cf. section 2.1.

understood to pick out genera rather than Forms, the refutation attacks a straw target.

So, on any available understanding of premise (3), the traditional construal of the refutation attacks a straw Platonist.²² To save the traditional construal, one could argue that a Platonist other than Plato is the target of the refutation. Unlike Plato, this Platonist would have to hold that there all Forms are independent. Who could such a partisan of the Forms be? Certainly not Speusippus, Plato's successor as head of the Academy.²³ Speusippus rejected the Forms all together (*Metaphysics* 987b19ff; *Metaphysics* 1083a1–1086b10). Possibly Xenocrates, whom Aristotle often engages polemically. But Xenocrates may have allowed some dependent Forms. At least, Aristotle characterizes him as holding that view and says that Xenocrates held that (1) 'Forms and numbers have the same nature' (*Metaphysics* 1028b24ff =Fr. 34H/103IP).

This, Aristotle argues, leads Xenocrates to the following problem. (2) numbers combine with each other. For example, two and three make five. But by (1) and (2), (3) the Form Two with the Form Three makes the Form Five. But this precisely makes the Form Five depend on the Form Two and the Form Three.²⁴ So Xenocrates must abandon the identification of Forms as numbers (*Metaphysics* 1086a6–11). Xenocrates' commitment to dependent Forms may be unwitting and unwelcome.²⁵ But Aristotle presents Xenocrates as facing this problem precisely because Xenocrates holds that some Form depends on other Forms. Xenocrates would be just as much a missed target as Plato.

As well as making the refutation attack a straw target, the traditional reading faces lexical difficulties. When we look at T2, we see that the traditional reading takes the claim that there is no independent genus (*καθ' αὐτὸ γένος*) of relatives to be the claim that there are no Forms of relatives. However, the context of T2 shows that 'independent genus' probably does not pick out Plato's celebrated entities. *Metaphysics* 1.9 uses technical vocabulary to refer to these entities: *τά ἰδέα* (*Metaphysics* 990a36; 990b16; 990b19; 990b23; 990b29; 991a23; 991b2) and *τά εἰδή* (*Metaphysics* 990b5; 990b9; 990b11; 990b12; 990b17; 990b29; amongst others). In fact, Aristotle only uses *καθ'*

²² Tamer Nawar suggests that the Platonist holds that the Forms are independent because they can exist without any things we see around us (rather than being independent *simpliciter*). I don't think this can be the sense of 'independent' at stake in this argument either since premise (2) asserts that substances are independent. If 'independent' here means 'able to exist without the things we see around us', then premise (2) is either (i) false, if you are a Peripatetic; or (ii) redundant, if you are a Platonist. If you are a Peripatetic, (2) is false because some substances are things we see around us. If you are a Platonist (2) is redundant because (2) identifies the substances with Forms, but that identity is supposed to be argued for in premise (3).

²³ DL 4.1.

²⁴ I follow (Dillon 2003, 110).

²⁵ For some suggestions on how Xenocrates might reply to Aristotle see (Dillon 2003, 110).

αὐτὸ γένος twice in his corpus: in our target passage and in the parallel at *Metaphysics* 13.4, 1079b4–13.²⁶ Hence the expression καθ' αὐτὸ γένος is unlikely to refer to Form or Idea in *Metaphysics* 1.9. Indeed, why would Aristotle suddenly switch from using terms translated as 'Ideas' and 'Forms' to a radically different expression for the same point?

Indeed, Alexander himself acknowledges the lexical awkwardness. At the end of his report of Aristotle's criticisms, Alexander says:

(T5) Again, he [Aristotle] made the opinion common ground when he said that it relates to his own view because he said 'of which things we say that there is no independent genus', saying 'genus' instead of 'existence' or 'nature', if indeed, the relative is like an appendage, as he says elsewhere

(Alexander *In Met.* 83.30–33. My translation, after Fine).

Alexander's point draws on a metaphor for relatives that Aristotle uses. At *Nicomachean Ethics* 1096a21, Aristotle says that a substance is prior to a relative since 'a relative is like an appendage (παραφυάδι) or accident (συμβεβηκότι) of what is (τοῦ ὄντος).'²⁷ One way to understand this metaphor is that a relative is an appendage in the sense that it depends on a subject of predication. Thus, 'a brother' is an appendage of a substance, such as Hector, since 'a brother' is predicated of Hector. If this is Aristotle's meaning, then there would be nothing special about relatives that makes them an 'appendage'. Any accident is just as much 'an appendage' as a relative. There would be nothing especially appendage-like about relatives.

Alternatively, we could take Aristotle's point more generally. Just like an appendage or an accident, a relative is, in some sense, not independent. This, I suppose, is how Alexander reads Aristotle. Alexander claims that Aristotle uses term γένος, rather than 'existence' (ὑπόστασις) or 'nature' (φύσις), because γένος does not imply independence. Alexander thinks that, for Aristotle, relatives do not have an independent existence or nature. This could suffice for no Forms being relatives, if having an independent existence or nature characterized Forms. But Alexander finds it hard to see why Aristotle would use the terminology of καθ' αὐτὸ γένος here, because, as we have seen Aristotle does not use such language to refer to Forms. So Alexander is forced to read Aristotle as repeating the claim that relatives are not independent.

²⁶ Aristotle uses a similar expression (γένος καθ' αὐτό) at *Generation of Animals* 759a18. But there the context makes clear that he is discussing animals reproducing according to their biological type.

²⁷ Later Platonists, for example Plotinus (*Enneads* 6, 2.16), pick up this 'offshoot' trope.

In short, there are good philosophical and lexical arguments against the traditional reading. On the one hand, the traditional reading makes the refutation attack a straw Platonist, who claims that all Forms are independent. But Plato mentions Forms for items that both Aristotle and Plato would consider to be relatives and other non-independent items. On the other hand, I questioned whether *καθ' αὐτὸ γένος* would even mean 'Form' as the traditional reading must take it. I concluded that, given Aristotle's general usage in *Metaphysics* 1.9, it is unlikely that *καθ' αὐτὸ γένος* refers to a Form.

8.3 *An alternative reading of the refutation*

There is something wrong with the traditional reading. In this section, I diagnose the problem and suggest an alternative reading of one of the crucial lines of Aristotle's text. This alternative reading, as I will argue in the following sections, can help us avoid the problems of the traditional reading presented above.

Below is the Greek text of T2, the crucial sentence where Aristotle describes and criticizes the Relatives Argument:

(T2) Ἦτι δὲ οἱ ἀκριβέστατοι τῶν λόγων οἱ μὲν τῶν πρὸς τι ποιούσιν ἰδέας, ὧν οὐ φαμεν εἶναι καθ' αὐτὸ γένος, οἱ δὲ τὸν τρίτον ἄνθρωπον λέγουσιν
(*Metaphysics* 1.9, 990b15–17. Cf. *Metaphysics* 1079b4–13).²⁸

This sentence is syntactically ambiguous. The relative pronoun, ὧν, could correlate with either (i) τῶν πρὸς τι or (ii) τῶν πρὸς τι...ἰδέας, depending on whether we take ὧν to be neuter or feminine.

The first disambiguation yields the problematic traditional reading. If the ὧν correlates with τῶν πρὸς τι, Aristotle says, 'we say that there is no independent genus of relatives'. Aristotle makes the point that there are no Forms for relatives, which leads to the difficulties discussed above. However, these difficulties can be avoided if we disambiguate Aristotle's text differently: if we

²⁸ In discussion, Jamie Dow and George Boys-Stones pressed the suggestion that what Aristotle denies here is that there is a *γένος* over and above the individuals that make up that *γένος*. That is, Aristotle makes a nominalist move. This is a fascinating suggestion, perhaps supported by (Frede 1987b); (Frede 1981); and (Frede 1987a), which suggest that the *Categories* is realist about genera and species, while the *Metaphysics* is nominalist. But I think nominalism is unlikely to be in play here. If Aristotle were making a nominalist point, it would not be pertinent to the argument at hand. Aristotle would be a nominalist about either genera of Ideas or genera of Ideas of relatives. Neither of which are at stake here.

take $\delta\nu$ to correlate with $\textit{idéas}$. This yields the reading where Aristotle says, 'we say that there is no independent genus of Ideas of relatives.' So, rather than asserting (i) there is no independent genus of relatives, the alternative reading asserts that (ii) there is no independent genus of *Ideas* of relatives.

These two claims are not equivalent. (i) rejects a class of relatives that is independent. (ii) rejects only a class of Ideas of relatives that is independent. (i) rules out there being an independent master. However, (ii) allows an independent master; (ii) rules out only an independent Form Master. That is, (ii) rules out a Form Master that does not have a corresponding Form Slave. (i) is strictly stronger than (ii). (i) entails (ii) because (i) rejects independent relatives, whether Forms or not. But (ii) does not entail (i) since (ii) only rejects independent Forms of relatives.

On my reading, Aristotle is not concerned about whether the Relatives Argument generates Forms for relatives *simpliciter*. Rather, he worries that the Relatives Argument generates Forms for relatives *without* generating Forms for corresponding correlatives. Aristotle objects because the Relatives Argument generates a Form Master but does not also generate a corresponding Form Slave. The point is polemical but directed against a certain Platonist argument rather than a Platonist position as a whole. The Relatives Argument seems attractive to the Platonist because it generates independent Forms. But, Aristotle points out, the argument generates independent Forms for relatives. But there are no such Forms. So the Relatives Argument as a whole is suspect.

Aristotle's remarks elsewhere suggest there is no independent genus of Ideas of relatives because relative Forms relate to correlative Forms. In the *Topics*, Aristotle invokes some principles about the Forms, which he there calls 'Ideas':

(T6) For there is no Idea ($\textit{idéa}$) of any appearance and it seems right to say that a Form relates to a Form ($\tau\acute{o}\ \delta'\ \epsilon\textit{ĩ}\delta\omicron\varsigma\ \pi\rho\acute{o}\varsigma\ \tau\acute{o}\ \epsilon\textit{ĩ}\delta\omicron\varsigma$), for example, desire itself is of pleasure itself and wish itself of good itself. So there will not be an apparent good or an apparent pleasure since being the apparent good itself or apparent pleasure itself is absurd (*Topics* 147a6–11).

The examples of Forms for relatives are Desire and Wish and the Forms for their correlatives are Good and Pleasure. These all correspond to Platonic examples of relative/correlative pairs.²⁹ Aristotle sketches an argumentative

²⁹ Wish-good at *Charmides* 167e; desire-pleasure at *Charmides* 167e, *Republic* 437b–c and *Symposium* 200a.

strategy based on the principle that each Form for a relative (Desire Itself or Wish Itself) corresponds to a Form for its correlative.³⁰

Aristotle argues that the Platonist cannot hold all of their views about Forms and merely apparent pleasures or goods. Aristotle's argument is not watertight, but it is obvious that Aristotle invokes the premise a Form for a relative correlates with a Form for its correlative: the Form Desire relates to the Form Pleasure; the Form Wish relates to the Form Good. If desire were to relate to apparent pleasure, the Form Desire would relate to the Form Apparent Pleasure. But since there are no Forms for appearances, the Form Desire cannot relate to the Form Apparent Pleasure. So, desire does not relate to apparent pleasure. For this argument to go through, Aristotle and the Platonist must both agree that each relative Form relates to the Form for the correlative (Desire Itself to Pleasure Itself), and so no relative Form is independent. On my reading of T2, Aristotle complains the Relatives Argument generates a Form for a relative, without generating a Form for a corresponding correlative. So some relative Forms are not relative to correlative Forms, and so some relative Forms are independent.

Before my case rests, I need to cross-examine some evidence against my reading of the refutation of the Relatives Argument. In T3, Alexander does not report Aristotle's objection to be that there is no independent genus of Ideas of relatives. Rather, Alexander reports Aristotle's objection to be that there are no Ideas of relatives (Alexander, *In Met.* 84.24–5).³¹ If I'm right, I need to explain how Alexander got Aristotle wrong in T3.

First, although Alexander's report is sometimes called a 'fragment', Alexander does not quote Aristotle's lost text verbatim. We know this because Alexander paraphrases Aristotle into non-Aristotelian vocabulary. Alexander uses *πρὸς ἄλληλα* to describe how relatives relate to their correlatives, and, while *πρὸς ἄλληλα* is Plato's usual term for that relationship, Aristotle uses a different technical term (*ἀντιστρέφειν*).³² Furthermore, Alexander specifies the manner of this relation using 'disposition' (*σχέσις*). Again, Aristotle does not use this terminology, which may be originally Stoic, but at any rate post-dates Aristotle.³³

³⁰ *Topics* 146b36–b4 might explain this since it says that relatives are defined and have their essence (*οὐσία*) in relation to each other. In so far as you think that Forms are the bearers of definition and essence, Forms for relatives will relate to Forms for correlatives.

³¹ The alternative manuscript tradition of Alexander's commentary, printed by (Fine 1995, 9), compresses this point, simply stating that 'those who introduce Ideas did not want Ideas to be among the relatives' (or 'did not want Ideas of relatives') (83.24–5).

³² *Categories* 6b28; 6b37; 6b39; 7a4; 7a10; 7a20; 7a22; 7a25; 7a26; 7a27; 7b13; 12b22.

³³ See Galen, *Plac.* 7.1.10–15=SVF 3.259=LS29E. Cf. Chapter 10. The Stoics also used an adverbial phrase that corresponds to the noun *σχέσις*, namely, *πῶς ἔχον* (Simp. *In Cat.* 165, 19–25= SVF 2.403=LS 29C; Simp. *In Cat.* 217, 21–5). Aristotle uses a similar adverbial phrase in the context of

Since T3 is not a verbatim report, we can ask why Alexander presents Aristotle's objection to the Relatives Argument as he does. Two assumptions drive Alexander's construal. First, Platonic Forms are Aristotelian substances. T3 and T5 show that Alexander assumes this. But it does not follow that *Aristotle* holds Platonic Forms to be Aristotelian substances. Second, Alexander thinks that Aristotle holds that no relative is a substance.³⁴ Thus, Platonic Forms, on Alexander's reading, cannot be relatives. Alexander's exegesis of Aristotle's ambiguous statement is natural, given these Peripatetic thoughts about relatives, substances, and Forms. Alexander's terminological remarks on Aristotle's actual text suggest to me that Alexander was reading Aristotle's *On Ideas* closely, but, as we have seen, Alexander's reconstruction of the elided argument in the background is problematic. This gives us reason to think that Alexander is over-interpreting, rather than accurately reporting, the argument he finds in the *On Ideas*.

8.4 *Back on target*

T2 is syntactically ambiguous. One disambiguation leads to a family of readings that face serious objections. I suggested a different disambiguation, which, as we saw, garners support from a *Topics* discussion Aristotle has regarding Forms of relatives. How would my reading solve the philosophical and lexical difficulties that I identified above?

On my proposed reading, Aristotle claims that there is no genus of Forms of relatives without corresponding correlatives. 'Genus' here has its usual Greek sense, not a technical sense, and so means simply 'class' or 'group'. As we have seen, Plato endorses the view that each relative Form has a corresponding correlative Form. There is no Form Master, which does not correspond to Form Slave. But, as we will see, the Relatives Argument generates a Form for a relative without a corresponding correlative Form. I will discuss below how

relatives (*Categories* 8a31; 8a39; *Nicomachean Ethics* 110, 113; *Topics* 142a29; 146b5; *Physics* 246b8; 247a2; 247b3), but never uses the noun we find in Alexander. For more on Stoic terminology of relatives, see Chapters 9 and 10.

³⁴ *Categories* 8a13–b24. We do not know what Alexander himself had to say on this passage: his commentary is lost. However, Peripatetics before Alexander, such as Boethus of Sidon, read Aristotle as claiming no relative is a substance. (Simp. *In Cat.* 187, 31–188, 7) as well as Neoplatonists such as Syrianus (Simp. *In Cat.* 199, 17–200, 4) and Simplicius himself (Simp. *In Cat.* 198, 1ff). The thought may be that a relative is an 'offshoot' of a substance, which means that a relation must be grounded in a substance. But this means that a relative cannot be a substance (Alexander, *In Met.* 84, 34).

effective the refutation is. But, on my reading of Aristotle's crucial claim, his objection may fail but not because it misses its target.

How does this reading address the lexical problem? Recall that *καθ' αὐτὸ γένος* is a rare expression that Aristotle nowhere, at least nowhere else, uses to indicate 'Form'. On my proposed reading this is no problem. *καθ' αὐτό* indicates that there is a relative entity, in this particular case, a Form, without a corresponding correlative, while *γένος* has the usual sense of a class of items.

There is precedent for Aristotle using 'independent' or 'in itself' to refer to one of a correlative pair, when taken independently of its proper correlative. In *Categories* 6, Aristotle distinguishes quantity from relative by saying that relatives, such as large and small, are not used 'in themselves' but only 'relative to something':

(T7) Of these (sc. small and large) none is a quantity but are among the relatives (*πρός τι*). For nothing is said to be large or small independently (*αὐτὸ καθ' αὐτό*) but by reference towards something else (*πρός ἕτερον*). For example a mountain is called small and a millet grain large because the one is large compared to its kind, while the other is small compared to its kind. Therefore, the reference is towards something else since if large or small were said independently, the mountain could never be called small nor the millet-grain large. (*Categories* 5b16–22. My translation, after Ackrill)

Aristotle's point here is that relatives, such as large and small, cannot be predicated without some relevant comparator, either explicit or implicit. But Aristotle repeatedly describes the illegitimate use as using a relative independently; that is, without mentioning the correlative.

Aristotle uses an expression we can render as 'independently' in a similar way in the *Sophistical Refutations*:

(T8) Concerning the solution to leading someone into saying the same thing many times, it is clear that one should not allow any relative to signify something if the predicate is separated off independently (*καθ' αὐτάς*), for example 'double' instead of 'double of half' (*Sophistical Refutations* 181b25–9).

Here Aristotle makes the point about how to avoid the 'babbling' fallacy. The fallacy is avoided by not allowing one's opponent to use a relative attribute, such as 'double', without the context of the corresponding correlative, in this case 'double of half'. But the expression that Aristotle uses to rule out the use

of the relative predicate without the correlative is to say that we cannot use the relatives 'independently' (*καθ' αὐτάς*).

So there are good lexical reasons to think that Aristotle would use the expression 'independently' in T2 to refer to a Form of a relative taken independently of its proper correlative. Thus, Aristotle there aims to deny that there is a genus of Forms of relatives without a corresponding correlative. Such an understanding avoids both the philosophical and lexical problems of the traditional reading. Below I explain precisely how my reading reconstructs the refutation.

8.5 *The refutation of the Relatives Argument*

It is easy to see, on this reading, how Aristotle's refutation of the Relatives Argument should work. Aristotle's objection would be that the Relatives Argument generates a Form for a relative but does not also generate a Form for its corresponding correlative. The relatives argument generates a Form, for example, Master, without generating a Form for Slave. But, according to Platonic principles, which Aristotle endorses dialectically, there is no Form for a relative, without a corresponding Form for the correlative. On my reading, Aristotle objects that the Relatives Argument generates a Form for Master, but does not generate a corresponding Form for Slave.

I can confirm this reading by showing that this refutation is on target. That is, the Relatives Argument can be understood to generate Forms for relatives without a corresponding Form for relatives. We can see how this would work, given the premises of the Relatives Argument:

- (RA1') There are three sorts of non-homonymous predication (82.12–83.5).
- (RA2') Predication of 'a master' to sensible things is none of those three (83.6–83.14).
- (RA3') So either (i) 'a master' is just homonymous or (ii) there is a master that is not sensible. But not (i).
- (RA4') So (ii) there is a master that is not sensible (83.15).
- (RA5') This is the Form Master.

Here I have reconstructed the Relatives Argument but substituted the example of the relative-correlative pair for master and slave. Both Plato and Aristotle endorse this pair as an example of correlatives (*Parmenides* 133d–e; *Categories* 6b28–35). This brings out precisely the fact that the relative and correlative differ. RA1' enumerates three ways that 'a master' could be used

non-homonymously: proper, improper, and mixed. RA2' rules out 'a master' being predicated of several items in any of these ways. Suppose we take two masters, a master of chattel slaves and a master of agricultural slaves, and predicate 'master' of each. There is no reason that one of these should be an image of a master, so we are not using 'master' improperly. Nor is there any reason that one is an image and the other a master since they are both, by stipulation, human masters. That leaves 'proper' predication. Suppose that, as well these sorts of master, there are two sorts of slaves. Can both a master of chattel slaves and a master of agricultural slaves be masters in the same sense?

Given the generic constitutive view of relativity that we have seen in play in this argument, as well as being a philosophical commitment of Plato and Aristotle, these sorts of master are not masters in the same sense. On the generic constitutive view of relativity, a relative is constituted by its relation to a given correlative. A master of chattel slaves relates to chattel slaves; a master of agricultural slaves relates to agricultural slaves. So, in the former case, 'a master' means 'a master of chattel slaves', while in the second case, 'a master' means 'a master of agricultural slaves'. So, in these applications, 'master' is homonymous. If the remainder of the Relatives Argument proceeds as above, this will generate a Form Master.

Aristotle complains that Relatives Argument generates a Form Master without generating a Form Slave. Is this correct? One might think not. Certainly, running through the Relatives Argument with master as an example generates a Form Master. And, by parity of reasoning, running through the argument 'slave' substituted for 'master' will generate a Form Slave. So the Relatives Argument does not generate a Form Master without a Form Slave. In fact, Relatives Argument generates both. It appears that, on my reading, the refutation would miss its target.

This appearance is mistaken. Certainly, both Form Master and Form Slave can be generated, but they do not bear any special relationship to each other as our sources in Plato and Aristotle tell us they should. In particular, the Form Master and the Form Slave should be constituted in relation to each other. But the Form Master, as generated by the Relatives Argument, is not constituted by its relation to the Form Slave any more than in relation to, for example, the Form Large or the Form Equal. The Relatives Argument generates all such relative Forms, but each is independent of the others. Thus, the Relatives Argument generates a Form Master and a Form Slave, but in such a way that they are independent of each other. Aristotle's objection is precisely that the Form Master and the Form Slave should be *interdependent* but the Relatives Argument allows them to be *independent*.

Conclusion

This chapter argued against the traditional reading of Aristotle's refutation of the Relatives argument in the lost treatise *On Ideas*. On the traditional reading, Aristotle rejects the Relatives Argument because the argument posits Forms for relatives, of which there are none. I gave two arguments against this reading: the first philosophical, the second lexical. First, on the traditional reading, the refutation misses its Platonic target. I argued that neither Plato, nor his immediate successors, held that Forms are independent in the required sense. Second, the evidence from the surrounding context suggested that Aristotle would not use the expression *καθ' αὐτὸ γένος* to refer to the Forms. An alternative way to disambiguate Aristotle's crucial sentence avoids these problems. Rather than take the relative pronoun to refer to relatives, I take it to refer to Ideas. On this reading, Aristotle asserts that there are no independent Forms of relatives—that is, no Forms of relatives without a correlative Form, but that the Relatives Argument generates them. I showed that the Relatives Argument does in fact generate such problematic Forms and defended my reading from some possible objections.

We also see, to connect to a more general theme of this book, how a better understanding of relativity gives a better understanding of long-standing interpretive puzzles in ancient scholarship. In this case, I could offer a better understanding of the refutation of the Relatives Argument in Aristotle's *On Ideas*. In particular, I am much clearer about how relativity and independence create problems for the Forms. Along the way, I stressed where the generic constitutive view of relativity impinges on the discussion. Again, that view of relativity, shared by Plato and Aristotle, supported my successful interpretation. This chapter shows the double value of the project I'm engaged with in this book: on the one hand, better understanding how relativity underpins various ancient philosophical discussions; on the other, better understanding how the generic constitutive view impacted upon, and can help account for, ancient debates.

The sources discussed in this chapter are like a pair of brackets. Aristotle made the Relativity Argument in the fourth century BCE; Alexander reported that argument in the second century of our era. In that parenthesis fall Hellenistic philosophy and the Stoic's radical reflections on relativity. Our next chapters turn to that.

Stoic relativity

Introduction

Stoic thinking about relativity was sophisticated and influential. Chapter 9 examines a report by Simplicius to argue that constitutive relativity played a crucial role for the Stoics. That will be interesting if we want to know about ancient relativity. But the report is also important for understanding Stoic philosophy. Stoic ontology recognizes only bodies as something. To sustain their corporealism, the Stoics developed a radical metaphysical analysis of property possession involving four ‘categories.’ ‘Relatively disposed’ is one such category. Moreover, relativity played a key role in Stoic ethics and physics. I discuss these upshots in Chapter 10.

Simplicius’ report defines two Stoic notions of relativity: ‘relative’ (*πρός τι*)—also known as ‘differentiated relatives’—and ‘relatively disposed things’ (*πρός τι δέ πως ἔχοντα*).¹ Recent scholars have understood these as two classes of relative properties: ‘hard’ and ‘soft.’ This orthodox reading faces serious difficulties: the text asserts that Stoic relatives and relatively disposed things are objects, not properties; the text gives several examples of each sort of relativity, but the orthodox reading does not classify the examples correctly; and the orthodox reading misunderstands certain principles governing relative change that Simplicius reports. Furthermore, scholars fail to explain how the distinction fits into the reported taxonomy of ‘independent’ (*καθ’ αὐτό*), relative (*πρός τι*), differentiated (*κατὰ διαφοράν*), and relatively disposed things (*πρός τι δέ πως ἔχοντα*).

I argue that both (a) Stoic relatives and (b) relatively disposed things are classes of objects. A relation to something constitutes the relatively disposed things, making Stoic relatively disposed things directly constituted relatives. A power in relation to something constitutes each relative, making Stoic relatives indirectly constituted relatives. My evidence is this. First, Simplicius reports these features. Second, my reading explains the text, examples, and change

¹ Some scholars render *πρός τι δέ πως ἔχοντα* as ‘relatives somehow disposed.’ It will become clear why I prefer ‘relatively disposed things.’

principles. Third, my account explains where Stoic relative and relatively disposed things fit into the wider taxonomy that Simplicius offers. In the following chapter, I discuss how my account can explain why the Stoic distinction would interest the Stoics and show how the Stoic distinction fits into ancient thought about relativity more widely.

Section 9.1 introduces Simplicius' report of Stoic relativity in detail. Section 9.2 explains the orthodox way of understanding the report. Section 9.3 gives four objections to the orthodox understanding of the report. Section 9.4 proposes my alternative, that a relation directly constitutes the relatively disposed things, while a relation indirectly constitutes the relatives. Both Stoic relativities are in the family of constitutive relativity.

9.1 *'I should put the point more clearly'*

In his commentary on Aristotle's *Categories* 7, Simplicius details Stoic relativity. Simplicius is discussing whether Aristotle's first account of relatives includes states (possessions) and positions.² As counterpoint to Aristotle, who tries to retain a unitary category of relatives, Simplicius reports that the Stoics 'number two sorts instead of one' (Simp. *In Cat.* 165, 31); namely, the relative and the relatively disposed.

Without pausing to explain, Simplicius launches into taxonomy, plotting the relative and the relatively disposed against each other and against absolute (*καθ' αὐτά*) and differentiated things (*κατὰ διαφοράν*) (Simp. *In Cat.* 165, 32–166, 15).³ After the taxonomy, Simplicius tracks back, giving a 'more clear' statement of the Stoic distinction between relative and relatively disposed things (Simp. *In Cat.* 166, 15–29).⁴ The more clear statement has three moves. First, Simplicius gives a characteristic trait of each sort of relativity; second, Simplicius shows some examples have the characteristic traits; third, Simplicius gives a change-based test to distinguish the Stoic relatives from Stoic relatively disposed things.

Here is the first move:

(T1) If I should put the point more clearly, they call 'relative' (*πρός τι*) all the things which are directed towards something on account of their own character (*κατ' οὐκείον χαρακτηριστήρα*), while 'relatively disposed' (*πρός τι δέ πως ἔχοντα*)

² See section 5.1. (Mignucci 1988b) discusses this taxonomy in detail and rightly points out that the taxonomy here is not a revision of the traditional four Stoic categories (on which see section 10.2).

³ As we will see, the taxonomy ends up using the label 'relative' (*πρός τι*) with a broad and narrow extension (see section 9.4).

⁴ The 'more clear' statement gives Stoic views. See (Mignucci 1988b, 148n12); (Sedley 2002, 340).

are all the things which by nature obtain or don't obtain for something without change (i.e., alteration) in themselves but with the regard towards the external thing

(*Simp. In Cat.* 166, 15–19=SVF 2.403=LS29C (part).

My translation after Fleet, LS).

Stoic relatives are directed towards something else 'on account of their own character'. Stoic relatively disposed things obtain or don't obtain on the basis of some relationship to something outside them. So far, not so clear. But Simplicius goes on to give some examples:

(T2) So whenever some differentiated, arranged thing inclines towards something else, that thing will be a relative only (*πρός τι μόνον*), like possession (*ἡ ἔξις*), knowledge (*ἡ ἐπιστήμη*), and perception (*ἡ αἴσθησις*). But whenever it is considered not according to its inherent difference, but merely according to the disposition relative to something else, it will be a relatively disposed thing. For the son and the man on the right need something from outside with respect to their subsistence (*ὑπόστασιν*)

(*Simp. In Cat.* 166.20–29=SVF 2, 403=LS29C (part).

My translation after Fleet, LS).

The examples of Stoic relatives given here are: possession (*Simp. In Cat.* 166.21), knowledge (*Simp. In Cat.* 166.21), and perception (*Simp. In Cat.* 166.21).⁵ Knowable correlates with knowledge, possessed with possession, and perceptible with perception. Simplicius also repeats that relatives are 'differentiated', a point stressed in his taxonomy to which I will return to below (sections 9.3–9.4).

Simplicius gives the son (*Simp. In Cat.* 166, 23), the man on the right (*Simp. In Cat.* 166, 23) and, elsewhere, father (*Simp. In Cat.* 165, 37; 166, 9) as examples of relatively disposed things. These things need something external for their subsistence.⁶ Simplicius explains how this distinguishes the two sorts of relativity:

(T3) That is why, although no change takes place in themselves, a father whose son died would no longer be and the man on the right [would no

⁵ Elsewhere we are given the sweet (*γλυκί*) and the bitter (*πικρόν*) as examples of Stoic relatives (*Simp. In Cat.* 166, 6; 166, 11; 166, 26).

⁶ I translate *ὑπόστασις* as 'subsistence' following a suggestion in (Brunschwig 2003, 219) and the translation in (Annas and Barnes 1985, 135), against LS29C who have 'being there'. Presumably, Long and Sedley take *ὑπόστασις* as the spatial location of the man on the right. But does not make sense with the other example, namely, son. For what it's worth, Long and Sedley elsewhere endorse 'subsist' as a translation of cognates of *ὑπόστασις* (Long and Sedley 1987, 1: 164).

longer be] when his neighbour changes his place. But sweetness (*γλυκύ*) and bitterness (*πικρόν*) would not be altered unless the power belonging to them were to also co-change (*συμμεταβάλλοι*).⁷ So if they, even without themselves being affected, alter on the basis of the disposition of something other towards them, it is clear that the relatively disposed (*τὰ πρὸς τί πως ἔχοντα*) have their being only in relationship (*τῇ σχέσει μόνῃ*) and not according to any difference (*κατὰ τινα διαφοράν*)

(Simp. *In Cat.* 166.24–29=SVF 2, 403=LS 29C (part).

My translation after Fleet, LS).

Simplicius explains change for each class. Relatively disposed items change in this way. A father relates to a son; when the son ceases to be, the father ceases to be. A man on the right relates to a man on the left; when the man on the left changes place, the man on the right ceases to be. Simplicius omits some qualifiers here. You might ask: ‘the father ceases to be *what?* Ceases to be *simpliciter?* Ceases to be a *father?*’ Moreover, the example of father and son is awkward. Arguably, a father whose children have all died is no longer a father, but a son whose father has died is still a son. I have more to say on this awkward example in Chapter 10, but briefly, on the constitutive view of relatively disposed things, a son exists precisely when the son’s parents exist. When the son ceases to be, the father as such ceases to be. This is because being a father just is to be the father of a son. When Hector ceases to be, Priam *as a father* ceases to be even if Priam *as Priam* continues.

In general, we can formulate a change principle for relatively disposed things this way:

(CHANGE₁): For all *x* and for some *y*, if *x* and *y* are a relative-correlative pair, then (if *x* ceases to be what it is, *y* ceases to be what it is).⁸

⁷ For *συμμεταβάλλοι* meaning ‘change with or together’, LSJ cites: Aristotle, *Generation of Animals* 716b4, *Nicomachean Ethics* 1100a28.

⁸ This is sometimes described as a case of ‘Cambridge change’ or ‘mere Cambridge change’ (Mignucci 1988b, 152). I think this is a mistake. An item, *x*, Cambridge changes if and only if a predicate, *F*, comes to hold or ceases to hold of *x*. So all changes are Cambridge changes. Some changes satisfy this condition *without* gaining or losing an intrinsic feature: these are the strict, or ‘mere’ Cambridge changes (Geach 1969, 71–2); (Sedley 2002). But Simplicius invites us to focus on relational change; that is, changes that involve gaining or losing a relation. Relational change is not co-extensive with mere Cambridge change. Having longer legs than arms is an intrinsic feature of Achilles, but if Achilles changes so that his arms are longer than legs, he’s undergone a relational, but not mere Cambridge change. Moreover, Cambridge change implies that an underlying ‘subject’ exists through the change, but Simplicius does not describe such a view: he suggests that a father as such ceases to exist when the son dies.

In contrast, a different principle of change (change₂) governs some relative items, such as the sweet and the bitter. The sweet and the bitter would not change, except on the condition that the power belonging to each were to co-change. Suppose that the sweet is the power to sweeten. One way to understand the sweet would be as the power to induce certain kinds of sweet appearances or sensations in subjects. But Simplicius is clear that the sweet correlates to the bitter. To understand the connection, we might think that the sweet is the power to sweeten something comparatively bitter. The power to sweeten acts in relation to the power to be sweetened; the sweet sugar acts on my comparatively bitter tongue. Sweet things induce certain sweet sensations in me because my sensory apparatus is bitter compared to what sweetens it. If sweetness changed, say, the sweetness became more potent, my tongue would also change to a corresponding degree: it would become more sweetened. We could put change₂, the principle of change that governs at least some relatives, as follows.

(CHANGE₂) For all x and for some y , if x and y are a relative-correlative pair, then (if the power belonging to x changes, then the power belonging to y co-changes).

Simplicius' 'more clear' statement distinguishes Stoic relatives from relatively disposed things, using some characteristic traits of each, including two principles governing change of each sort of relativity. But what is each sort of relativity and how do these characteristics distinguish them? In section 9.2, I examine an orthodox answer to these questions.

9.2 *The orthodox reading of Stoic relativity*

Orthodoxy takes the 'more clear' statement to distinguish two non-exclusive classes of property: relative properties and relatively disposed properties.⁹ Scholars formulate the point differently. But the core contrast is this. Orthodox readers differentiate two classes of (relational) properties. Stoic relatives are 'soft' relative properties.¹⁰ Soft relative properties are grounded in both a

⁹ (Reesor 1957, 77), (Rist 1971, 54), (Mignucci 1988b), and (Sedley 2002) all hold that we have a distinction here between two sorts of relational properties but differ on how to cash this out.

¹⁰ (Sedley, 2002; 334) originates the terminology of 'hard' and 'soft' relatives. Cf. (Mignucci 1988b, 158).

monadic property and a relation;¹¹ Stoic relatively disposed things are ‘hard’ relative properties, grounded only in a relation.¹²

(SOFT) Being F is a soft relative property just in case for any x and some y ($(Gx$ and Rxy) grounds Fx).¹³

(HARD) Being F is a hard relative property just in case for any x and some y (Rxy grounds Fx).

On the orthodox view, the example being sweet is a soft relative property since being sweet involves both a non-relational property, e.g. a certain chemical composition, and a relation to some perceiver, such that the perceiver experiences the sweet thing as sweet. The example of being on the right is a hard relative property since an item is on the right purely in virtue of bearing the ‘... is to the right of...’ relation to something.¹⁴

A variation on the orthodox reading contrasts Stoic relatives and relatively disposed things using intrinsic difference: ‘ F is relatively disposed if and only if... an A which is F does not thereby differ intrinsically from an A which is not F ’ (Menn 1999, 232). Like the orthodox reading, Menn takes the relatively disposed things to be a class of properties. But Menn rejects the orthodox

¹¹ ‘[T]he relational character of $\pi\rho\acute{o}s$ $\tau\iota$ terms is permanently tied to the internal state of the objects to which they are attributed’ (Mignucci 1988b, 157). ‘ $\pi\rho\acute{o}s$ $\tau\iota$ properties consist partly in a relation but partly also in an internal state of their bearer’ (Sedley 2002, 334). Sedley also gives a non-equivalent semantic formulation of soft relativity: ‘ F is a relative provided only that the statement that x is F requires a completion: x is F of y , than y , for y or whatever the relation might be’ (Sedley 2002, 334). This is sometimes called a ‘semantic’ notion of relativity since being a relative, in this case a $\pi\rho\acute{o}s$ $\tau\iota$, depends on some semantic features of a certain expression. (Annas and Barnes 1985, 130–40) endorse it in a different context. Mignucci holds that ‘semantic relativity’ somehow underlies both the Stoic relatives and Stoic relatively disposed things (Mignucci 1988b, 188). I have picked Sedley’s non-semantic formulation because he typically relies on that formulation throughout his discussion (e.g. at Sedley, 2002, 335).

¹² The relatively disposed: ‘depend entirely on their relation to something else’ (Reesor 1957, 77); is an ‘extrinsic relation’ (Long and Sedley 1987, 1: 177–8); ‘are solely constituted by their relations to something else’ (Mignucci 1988b, 159); ‘does not merely entail some such relation but actually consists in that relation’ (Sedley 2002). Another set of commentators, who (Mignucci 1988b, 159n21) rightly thinks are misguided, take the $\pi\rho\acute{o}s$ $\tau\iota$ $\delta\acute{\epsilon}$ $\pi\omega\varsigma$ $\epsilon\chi\omicron\nu\tau\alpha$ to be simple correlatives: (Krämer 1971, 85); (Isnardi Parente 1986, 4–7); (Elorduy and Alonso 1972, 1: 254). (Rist 1971, 54) stands outside both interpretations.

¹³ ‘[T]he relational character of $\pi\rho\acute{o}s$ $\tau\iota$ terms is permanently tied to the internal state of the objects to which they are attributed’ (Mignucci 1988b, 157). Mignucci’s statement here might suggest a slightly different gloss, where Gx grounds Rxy and Rxy , in turn, grounds Fx . Assuming that grounding is transitive, this entails an account (SOFT’) in which F is a relative property if for any x and any y (Gx grounds Fx). But this also looks like a non-starter because it loses what is relational about relative properties. The whiteness of sugar is grounded in the chemical structure of sugar. So on soft’ whiteness is a relative property. But whiteness ought not to be a relative property.

¹⁴ Simplicius gives two examples of the relatively disposed: ‘son’ and ‘on the right’ (Simp. *In Cat.* 166, 21–6). The former fits the orthodox analysis much less well: one does not lose the property of being a son simply when one’s parents cease to be. A male orphan is still a son.

view. The relatively disposed things are the properties that something can gain or lack without undergoing an intrinsic change. Relational change is not co-extensive with non-intrinsic change; so, Menn's relatively disposed are not co-extensive with the orthodox relatively disposed. Menn's thought is that 'being a father' is a relatively disposed property because Castor, who has the property, does not differ intrinsically from his childless twin, Pollux. Since Castor and Pollux don't differ intrinsically when one is a father and one is not, 'father' is not relatively disposed. I consider Menn's discussion of the Stoic categories more fully in section 10.2.

9.3 Problems for, but not just for, the orthodox reading

The orthodox reading faces several difficulties. First, at least some of the examples Simplicius gives are objects of a certain sort. T2 gives 'the father' and 'the man on the right' as examples of Stoic relatively disposed things and the substantives 'knowledge', 'state', and 'condition' as examples of Stoic relatives. So, *prima facie*, Stoic relatives and relatively disposed things are objects. Simplicius refers to both Stoic relatives and relatively disposed as 'things', which have certain features. Simplicius defines the relatively disposed as 'all the things which by nature obtain or don't obtain for something without change (i.e. alteration) in themselves but with the regard towards the external thing' (Simp. *In Cat.* 166, 16–19).¹⁵ Orthodox readers take 'themselves' (αὐτά) to refer back to the 'for something' (τινί) that is, the objects which bear the properties. This yields the reading that the relatively disposed are the *properties* that an object can gain or lose without the *object* changing in itself. But this is not syntactically possible, since 'themselves' (αὐτά) is plural, while 'for something' (τινί) is singular. The 'themselves' (αὐτά) must refer back to the relative pronoun 'which' (ὅσα), that in turn refers to the relatively disposed things.¹⁶ The Greek says that the relatively disposed things are the items that

¹⁵ To save you looking up the Greek: ὅσα πέφυκεν συμβαίνειν τινί καὶ μὴ συμβαίνειν ἄνευ τῆς περὶ αὐτὰ μεταβολῆς καὶ ἀλλοιώσεως μετὰ τοῦ πρὸς τὸ ἐκτὸς ἀποβλέπειν.

¹⁶ My reading of the syntax leaves a semantic problem. In a philosophical context, one would expect, as previous commentators have expected, that *συμβαίνειν τινί* means 'belong to something'. Since the relatively disposed items *συμβαίνειν τινί* (belong to something), readers have thought what belongs or does not belong to an object are the relatively disposed items, so the relatively disposed items are properties. However, one use of *συμβαίνειν* is 'to occur, to happen, to exist' (LSJ *sv* iii). Taking *συμβαίνειν* this way allows us to understand that the relatively disposed things are 'all the things which by nature obtain or don't obtain somehow without change in themselves, that is, alteration, but with regard to the external thing'. The relatively disposed are objects of which attributes are true. Indeed, certain attributes will be essential to the relatively disposed item.

undergo the change, rather than the properties that the thing that undergoes the change does or does not have. So both Stoic relatives and relatively disposed things are not sorts of property but sorts of property bearer.¹⁷

Second, the orthodox reading misclassifies the examples. Even supposing that both relative and relatively disposed things are properties, Simplicius' examples don't correspond to 'hard' and 'soft' relativity. On the one hand, being a father illustrates hard relativity: being a father depends only on the '...a father of...' relation. If so, mothers and fathers have nothing in common. If '...is a mother' is constituted only by the '...is a mother of...' relation and '...is a father' only by the '...is a father of...' relation, mothers and fathers turn out not to be male and female parents: mothers and fathers are just isolated sorts of thing. Adding '...is a parent of...' doesn't help. In that case, there are just three sorts of thing (mothers, fathers, and parents). If being a father were grounded in being male and being a parent, being a father wouldn't be a hard relative property. So being a father arguably depends both on a relation ('...is a parent of...') and a non-relational property ('...is male'). But if being a father is merely accidentally related to being a male, then being a father looks like it turns out to be a soft relative.

On the other hand, being sweet is a soft relative so should rely on both a non-relational feature (e.g. chemical composition) *and* a relation. But being sweet arguably just depends on being sweeter than something more bitter since the chemical composition of even paradigmatically sweet things (e.g. sugar, honey, saccharine) differs. So, being sweet is arguably a hard relative, while being a father is arguably a soft relative. Which is precisely the wrong way round.

Third, the orthodox reading gets the 'change test' wrong. According to the test, relatively disposed things come to be or cease to be merely on the basis of a relational change. Soft relative properties should be immune to merely relational change. But according to the orthodox understanding of relative properties, a relative property, being *F*, is grounded both in a relation, *R*, and a non-relative property, being *G*. But then nothing prevents a merely relational change leading to the loss of the property: losing *R* would lead to the loss of *F*, irrespective of *G*.

¹⁷ One anonymous reader volleys the ball back to my court: save the orthodox reading by understanding the relatively disposed to be the properties which an object can gain or lose without the *properties* changing in themselves. I respond with a lob: arguably, any property can be gained or lost without the property changing in itself. If so, the orthodox reading cannot be easily saved since the relatively disposed properties are not a distinctive class of properties.

Fourth, the orthodox reading, like other readings, struggles with Simplicius' taxonomy. Just before his 'more clear' statement, Simplicius describes a Stoic taxonomy plotting the classes of relative (πρός τι), absolutes (καθ' αὐτά), differentiated (κατὰ διαφοράν), and relatively disposed things (πρός τι δέ πως ἔχοντα):

(T4) The Stoics count two kinds here, rather than one: they posit some amongst the relatives (ἐν τοῖς πρὸς τι), others in the relatively disposed (πρὸς τί πως ἔχουσι). They put the relatives in contradistinction to the absolutes (τοῖς καθ' αὐτά), and the relatively disposed to the differentiated things (τοῖς κατὰ διαφοράν). They say that the sweet and bitter and suchlike, which they dispose in this way, are relatives, while the relatively disposed are, for example, right, father, and suchlike. They say that things characterized by some form are the differentiated things.

(Simp. *In Cat.* 165, 32–166, 1. My translation, after Fleet).

In T4, Simplicius mentions Stoic relatives and relatively disposed and plots them against the absolutes and the differentiated. He continues:

(T5) Just as the notion of the absolute things (καθ' αὐτά) is other than that of the differentiated things (κατὰ διαφοράν), so too the relatives (τὰ πρὸς τι) are other than the relatively disposed (τὰ πρὸς τί πως ἔχοντα). The consequence of the combination is reciprocal (ἀντεστραμμένη δέ ἐστὶν τῶν συζυγιῶν ἢ ἀκολουθία).¹⁸ For the differentiated belongs to the absolute; for the absolute things have some differences, just as the white and the black. Yet the absolute things do not belong to the differentiated things; for the sweet and the bitter have differences according to which they are characterized, yet such things are not absolute, but relative

(Simp. *In Cat.* 166.3–8. My translation, after Fleet).

In T5, Simplicius distinguishes absolute things from differentiated things and mentions a relation between them.¹⁹ Differentiated things belong to the abso-

¹⁸ Scholars disagree over how to understand 'reciprocal' here. The absolutes are a subset of the differentiated while the relatives relate to the relatively disposed in an analogous but 'reciprocal' way (Simp. *In Cat.* 166, 3). In my view, the force of this remark is that every absolute is differentiated, but not every relative need be relatively disposed. (Mignucci 1988b, 137) and (Menn 1999, 232n26) take 'reciprocal' to mean that the relatively disposed are a subset of relatives. This does not take into account that that πρὸς τι is used with two different meanings in the taxonomy. See section 9.4.

¹⁹ Scholars dispute the meaning of 'absolute things' and 'differentiated things' here. (Reesor 1957) holds that the absolute things are property bearers, e.g. individuals like Hector, while the differentiated

lute. But the absolute does not belong to the differentiated because some differentiated things are not absolute: differentiated relatives such as the sweet and bitter. Simplicius continues:

(T6) But the relatively disposed, which are opposed to the differentiated things, are also all (*πάντως*) relatives: for the man on the right and father are somehow disposed with something and are relative to something. The sweet and the bitter, while being relatives are differentiated things, but the relatively disposed are opposite to the differentiated things

(Simp. *In Cat.* 166, 8–11. My translation, after Fleet).

T6 claims that all relatively disposed things are relatives. Simplicius explains:

(T7) For it is impossible that the relatively disposed things are absolutes or differentiated: for they depend only on the relation to something else; on the other hand, the relatives are not absolutes, since they are not unconditioned, but will all be differentiated: for they are thought of with some character.

(Simp. *In Cat.* 166, 12–15).

Many readers take Simplicius at face value when he asserts that the relatively disposed things are all (*πάντως*) relatives, but not all relative are relatively disposed things (Simp. *In Cat.* 166, 8–12), i.e. that the relatively disposed things are a proper subclass of the relative.²⁰ This poses a problem for the orthodox reading because hard relatives are not a proper subclass of soft relatives. The classes of hard and soft relatives are exclusive, so no item can fall into both. Hard relative properties are grounded in one thing, a single relation; soft relativities are grounded in two things, a monadic property and a relation. But nothing is grounded both in one thing and in two things. So nothing is both a hard and a soft relative property. This is a problem the orthodox reading makes for itself: the orthodox hard/soft distinction does not reflect the orthodox reading of the taxonomy of relative and relatively disposed things.

things are properties, e.g. being white or being black. (Mignucci 1988b, 138–41) rejects this and holds that both are classes of properties. Mignucci's argument that we have classes here is unconvincing. He argues that relatively disposed are said to be 'contrapositive' to the differentiated things (Simp. *In Cat.* 166, 8–9) and 'oppose' the differentiated things (Simp. *In Cat.* 166.11); being contrapositive and opposing are relations that hold between classes, not individuals. So Simplicius discusses classes throughout. But Mignucci can't explain why all the examples given for relatively disposed are individuals. Even within his key sentence, the *τὰ δὲ πρὸς τί πως ἔχοντα* are described as *πάντως καὶ πρὸς τί*, which suggests taking all the individuals to be relatives.

²⁰ (Sedley 2002) and (Mignucci 1988b, 136–7).

In fact, the taxonomy isn't a problem just for the orthodox reading: Simplicius' taxonomy appears inconsistent.²¹ The taxonomy plots the relatively disposed things as a proper subclass of the relatives. But the taxonomy *also* entails that the classes of relatives and relatively disposed things are exclusive, so no relatively disposed thing is a relative. In other words, Simplicius asserts (1), (2), and (3), which form an inconsistent triad:

- (1) Relatives are all (πάντως) differentiated (κατὰ διαφοράν) (Simp. *In Cat.* 166, 14–15).²²
- (2) The relatively disposed things exclude the differentiated things (κατὰ διαφοράν) (Simp. *In Cat.* 165, 34–5).
- (3) The relatively disposed things are all (πάντως) relatives (Simp. *In Cat.* 166, 8–12).
- (4) The relatively disposed things exclude the relative. [From 1, 2]
- (5) No relatively disposed things are relative. [From 4]
- (6) ⊥ [From 3, 5]

This inconsistency is not just a problem for the orthodox reading, of course. But the inconsistency shows that we should rethink how to understand the taxonomy.

9.4 An alternative reading of Stoic relativity

I argue that the relatively disposed things are relatives, hence objects, constituted by a relation to their correlative. The differentiated relatives are relatives constituted by a power they have in relation to their correlative. That is, the Stoic relatively disposed things are directly constituted relatives while Stoic relatives are indirectly constituted relatives (see section 1.3.3).

Textual evidence first. In T7, just before the 'more clear' statement, Simplicius stresses that: (i) the relatives are differentiated things because the differentiated relatives are thought of with a 'character'. (ii) The relatively disposed things are not differentiated but depend only on a relation to something else. Simplicius makes the same point about the relatively disposed

²¹ (Mignucci 1988b, 146) notices this but (Menn 1999, 231n26) does not.

²² Simplicius uses the adverb πάντως, which we interpreted as 'all' at Simp. *In Cat.* 166.9, where it quantifies over all relatively disposed things. Also, the claim cannot be that all absolutes will be all differentiated things. The μέν...δέ...construction (166, 14–15) makes 'the relatives' the subject of each predicate, 'are not absolutes' and 'are all differentiated things'.

things in T1. Relatively disposed things depend on, and only on, their relation to something else. The relation constitutes the relatively disposed object: bearing that relation is all it takes to be that object; without the relation there is no object:

(RELATIVELY DISPOSED) For all x and for some y , x is a relatively disposed thing iff Rxy constitutes x .

This idea is now familiar. To say that an object is constituted by a relation just means that there is nothing more to being that object than bearing the relation in question. A brother as such is a brother of some sibling. If, *per impossibile*, a brother as such were to cease to be a brother of something, the brother as such would cease to be.²³ A father relating to an offspring constitutes a father. If a father as such ceases to relate to his offspring, then the father ceases to be.

This seems a bit strange. It is inessential to being Priam that his offspring exist. But it is essential to, indeed constitutive of, a father *qua* father, that their offspring exist. Put another way, the singular term 'a father' could pick out Priam. However, the singular term 'a father' could refer to an object that is just a father. In that case it is essential to being a father as a father that the father is a father. We might now wonder about the correlative. What is the correlative of a father as a father? In this case, a father is father of a son. But again, 'a son' need not refer to a specific son, Hector. A father as such does not essentially relate to Hector. Rather, father as such relates to son as such.

Other reports of Stoic thought about relativity confirm that their relation to the correlative constitutes relatively disposed things:

(T8) The universe is a perfect body but the parts of the universe ($\tau\acute{\alpha}$ τοῦ κόσμου μέρη) are not perfect since they are relatively disposed to the whole ($\pi\rho\acute{\omicron}\varsigma$ τὸ ὅλον πως ἔχειν) and are not absolute ($\kappa\alpha\theta\prime$ αὐτά).

(Plutarch, *de Stoic. rep.* 1054e11–f2=SVF II 550).

Plutarch quotes the second book of Chrysippus' *On Movements*. The idea of the relatively disposed things is attributed to Chrysippus, which suggests an early date for this Stoic innovation. In T8 a relatively disposed thing, a part, depends on some correlative, the whole. The part of the cosmos is not perfect since it depends on the whole. The whole, on the other hand, does not depend

²³ Cf. (Mignucci 1988b, 136–7).

on the parts.²⁴ This view makes some sense: if a part is destroyed or removed, the whole can continue to exist, but if the whole is destroyed a part cannot continue to exist. But although the relationship to the correlative constitutes the relative, the reverse does not obtain.

Because T8 is difficult for his reading, Mignucci has tried to avoid understanding T8 as making the point that a relatively disposed thing depends for its existence on something else.²⁵ Mignucci has two strategies. First, he denies that the expression ‘relatively disposed to the whole’ indicates an instance of a relatively disposed thing. But this seems linguistically unlikely: ‘the whole’ is obviously an example of a ‘thing’ (τι) and other sources use instances of the schema πρὸς τι πῶς ἔχειν to indicate that some item is a relatively disposed item (e.g. at Sextus M9 261).

Second, Mignucci argues that T8 invokes not a theory of relativity, but rather a theory of mereology. Chrysippus’ claim that a part existentially depends on a whole is motivated by his specific views of parts and wholes, rather than his general view of relatively disposed things. But without further elaboration of the Stoic theory of mereology, this reply seems ad hoc. A theory of mereology is a theory of the part–whole relation; the part–whole relation is an instance of relativity. So even then, the Stoic theory of relativity is at issue. Furthermore, Chrysippus’ point appeals to the nature of relations to explain the existential dependence of parts on wholes, rather than some special mereological theory. So overall, despite Mignucci’s objections, T8 is excellent evidence in favour of my reading.

A second text supports my claim that their relation to something else constitutes relatively disposed things. Elsewhere, Simplicius reports a later Stoic view:

(T9) Cornutus says that things are ‘relative’ when each has a disposition relative to the other (πρὸς ἕτερον ἢ σχέσις)—not as a matter of syntax (as ‘having’ and ‘being had’), but as a matter of reality (ὑπόστασις), when one thing is oriented towards another (πρὸς ἕτερον ἀπόνευσις) by being the very thing it is (Simp. *In Cat.* 187, 28–188, 3. Translation, Boys-Stones).

Cornutus, a Stoic of the first century of our era, viewed being a ‘relative,’ a relatively disposed item, as a matter of being the very thing that it is. The

²⁴ Epictetus echoes the point that the parts depend on the whole. In discussing man as part of the cosmos, Epictetus says, ‘the parts are well disposed to yield to the whole’ (Arr. Epict. 4.7.6 ff.).

²⁵ (Mignucci 1988b, 209).

orientation towards something else, a father relating to an offspring, makes a father a father: the relation constitutes to the relative.

So, Stoic relatively disposed things are items constituted by a relationship to a correlative. How are we to think of the Stoic relatives that Simplicius contrasts with the relatively disposed things, the other Stoic relatives? T7 mysteriously says that the Stoic relatives are differentiated because they are ‘thought of with some character’. What is this character of a Stoic relative? We learn more when Simplicius contrasts the relative differentiated things with non-relative differentiated things:

(T10) For the differentiated belong to the absolutes: for the absolute beings have some differential, like the white and the black. However, the absolutes don’t belong to the differentiated: for sweet and bitter have a differential, according to which they are characterized, but such things (sc. the sweet and the bitter) are not absolutes, but relatives

(Simp. *In Cat.* 166, 3–8. My translation, after Fleet).

The differentiated, non-relative things include black and white, while the differentiated, relative things include sweet and bitter. Moreover, all differentiated things are characterized according to a certain ‘species’ (εἶδος), which distinguishes them from other things (Simp. *In Cat.* 165, 37–166, 1). In the case of non-relative differentiated things, like black, this character is not, and does not involve, a relation; in the case of relative differentiated things the character is or involves a relation to a correlative (as we saw in T5).

But there is a class of differentiated items. Being differentiated amounts to having or being thought of with a certain character. The differentiated come in two sorts, the relative and the non-relative. The non-relatives, such as black, have their character independently of any correlative. If black is a non-relative attribute, then a black thing does not need a correlative, such as white, to be and to be recognized as black. However, the relative differentiated things, such as the sweet, do need something else to be, and to be recognized as, what they are. The sweet needs some corresponding power; for example, the bitter.

So what is the character of sweetness, which on the one hand, relates to the bitter and on the other, differentiates sweetness from other things? It is the power to sweeten.²⁶ T3 indicates that sweetness and bitterness have powers, such that if the power of sweetness changes, the power of bitterness also

²⁶ (Reesor 1957, 76) also stresses that the relatives are powers. Cf. Aristotle, *Met.* 5.15, 1020b29–30, where certain relatives are said to be ‘according to’ powers.

changes. This suggests the powers operate in relation to each other. Correlative powers characterize sweetness and bitterness, but also relate to each other. For example, the power to sweeten characterizes or constitutes sweetness, but the power to sweeten also operates only in relation to the bitter. To sweeten is to make something less bitter. For the differentiated relatives, such as sweet and bitter, their differentiating characteristic is a power to act in relation to some correlative.

We could put the point more precisely in this way:

(DIFFERENTIATED RELATIVE) For all x and for some y , if Rxy then (x is a differentiated relative iff x is constituted by the power in relation to y).

Sweetness and bitterness are a relative-correlative pair. Sweetness just is the power to act in relation to the bitter; the power to make something bitter more sweet. Likewise, bitterness is the power to act in relation to the sweet.²⁷ This principle also correctly captures the other examples of differentiated relatives: possession, knowledge and perception. We could see knowledge, for example, as a power to know the knowable; perception is the power to perceive the perceptible; possession is the power to possess the possessable.²⁸

So a $\pi\rho\acute{o}s\ \tau\iota$ is constituted by a power. Is that power a $\pi\rho\acute{o}s\ \tau\iota\ \delta\acute{e}\ \pi\omega\varsigma\ \acute{\epsilon}\chi\omicron\nu$? Nothing rules this out since the power to sweeten may be constituted by its relation to the bitter. But unless ‘...constitutes...’ is a transitive relation, it does not follow that the sweet is a $\pi\rho\acute{o}s\ \tau\iota\ \delta\acute{e}\ \pi\omega\varsigma\ \acute{\epsilon}\chi\omicron\nu$.

Stoic relatively disposed things are constituted by their relationship to a correlative, while the Stoic relatives are constituted by a power to act in relation to some correlative. Thus, Stoic relatively disposed items are directly constituted relatives, while Stoic relatives are indirectly constituted relatives. This reading has textual support. I’ll now offer further reasons to accept my reading of the two sorts of Stoic relativity: I can explain the ‘more clear’ statement and the troubling taxonomy without the problems facing the orthodox reading.

²⁷ Note that a sweet individual, a particular honeycomb, and a bitter individual, a particular coffee, are not at stake here. It is clear that a honeycomb is not constituted by its power to act on a cup of coffee.

²⁸ Plato’s *Charmides* includes many examples of relatives applying a power to their correlative: greater to the less (*Charmides* 168b1–2; 168c8); heavier to lighter (*Charmides* 168c8); but especially cases of perception and knowledge: hearing to sound (*Charmides* 168d1–4); knowledge (*Charmides* 168b2–3; 169a3). See section 2.5.

9.4.1 The alternative explains the ‘more clear’ statement

The ‘more clear’ statement suggests relatively disposed things are objects, while the relative may be objects. My reading gets this right. The examples of the relatively disposed things such as the thing on the right (*Simp. In Cat.* 165, 36), the man on the right (*Simp. In Cat.* 166, 23), a father (*Simp. In Cat.* 165, 37; 166.9), and a son (*Simp. In Cat.* 166, 23) are all objects. In general, relatives are objects that bear a relation. In this special case, the relatives are objects that are constituted by the relation that they bear, which is precisely what the relatively disposed things do. On the other hand, Simplicius gives the differentiated relatives, for example, the sweet, the bitter, knowledge, possession or state, and perception as substantives in the text. These are constituted by a power that these items have: the power to act in relation to certain other things. Stoic relatives are objects constituted by a relation: the power to act on some correlative.

Does my suggested reading classify the examples correctly? Cases like ‘a father’ should turn out to be relatively disposed while cases like ‘sweet’ should turn out to be relatives. A relatively disposed item, like a father, does have a correlative, an offspring. What it is to be a father is to be father of an offspring. That is, relating to the offspring constitutes being a father. But a father isn’t a relative since it would be strange to say that a father is constituted by a power to act in relation to an offspring.

On the other hand, sweetness is not constituted by a relation to bitterness. Sweetness is not sweeter than bitterness. This would be a category error. But, sweetness can be constituted by a power; specifically, the power to sweeten. These powers differentiate these items from each other. If we were to ask the question: ‘what makes something sweet, rather than black?’ the answer would involve the idea that sweetness is the power to sweeten something. Likewise, knowledge is differentiated from other items by its characteristic to know the knowable. Just earlier in his discussion, Simplicius gave a taxonomy of absolute, differentiated relative, and relatively disposed things. There he says that relatives are not absolutes (*καθ’ αὐτά*) but are generally differentiated (*κατὰ διαφοράν*), for they are ‘conceived with some characteristic’ (*Simp. In Cat.* 166.15). If we were to ask what distinguishes knowledge from perception, the answer will be that knowledge has a distinctive characteristic that involves a relation: the power to know the knowable.

My suggested reading gets the two change principles correct. Change₁ obviously captures all the relatively disposed things since these items are constituted

by their relation. If x is a relatively disposed thing and x loses the relation that constitutes it, then x ceases to be. Change₁ does not capture any relative: a relative is constituted by a power, not by a relation, so cannot be caught by change₁. Change₂ captures all the relatives since where two things are relative correlatives, each is constituted by its power to act in relation to the other. So if one power changes, the other must change. Suppose the sweet is the power to sweeten a bitter thing and the bitter is a power to make a sweet thing more bitter. If the power of bitterness becomes stronger, the power of sweetness must become correspondingly stronger, in order that the power of sweetness is not overwhelmed by the bitter. Finally, no relatively disposed things are captured by change₂. Since the relatively disposed things are not constituted by a power, the relatively disposed things simply cannot be caught by change₂.

9.4.2 Explaining the taxonomy

Finally, my reading explains the problematic taxonomic passage. The taxonomy described by Simplicius is inconsistent. On the one hand, there are some relatives, the differentiated relatives (including the sweet and the bitter) that exclude the relatively disposed things (Simp. *In Cat.* 166, 8–12). On the other hand, the relatively disposed things are supposed to be a proper subclass of relatives (Simp. *In Cat.* 166, 8–12). On my reading, the differentiated relatives do exclude the relatively disposed things. This is obvious a priori: a power constitutes the differentiated relatives; a relation constitutes the relatively disposed things. A power is not identical to a relation. But nothing can be constituted by more than one thing. So, nothing can be both a differentiated relative and a relatively disposed thing. Clearly my reading respects this thought in the taxonomy.

But we are left with the residual worry that the taxonomy locates the relatively disposed things as a subclass of relatives. Is the taxonomy irredeemably incoherent? Not necessarily. We can explain this if the taxonomy uses ‘relative’ ($\pi\rho\acute{o}s\ \tau\iota$) in two senses.²⁹ One sense of ‘relative’ just means ‘not absolutes’. This broad, colourless sense of ‘relative’ is not exclusive to discussions of Stoic

²⁹ (Mignucci 1988b, 170–80) notes that $\pi\rho\acute{o}s\ \tau\iota$ must be being used in two senses in the taxonomy. Chrysippus resigned himself to the view that each term means more than one thing. Cf. Gellius 11.12.1=SVF 2.152=LS37N.

relativity. In fact, it is found frequently in ancient discussions.³⁰ Clearly, the broad sense of ‘relative’ can encompass both the relatively disposed things, which are not absolute because they are constituted by a relation, and the differentiated relative, which are not absolute because they are powers to act in relation to something. The other sense—the strict sense—of *πρός τι* picks out *πρός τι* that are differentiated; for example, sweet and bitter. I label these ‘differentiated relatives’.

Thus, the taxonomy can be understood to have the following structure. The broad *πρός τι* have two subclasses: the differentiated *πρός τι* and the *πρός τι* *δέ πως* *ἔχοντα*. The differentiated *πρός τι* and the *πρός τι* *δέ πως* *ἔχοντα* are exclusive (but not necessarily exhaustive of the broad *πρός τι*). The taxonomy appears incoherent because the term ‘relative’ is sometimes used to contrast with ‘absolute’ (at *Simp. In Cat.* 165, 32–7; *Simp. In Cat.* 166, 8–10), but sometimes ‘relative’ refers to a proper subclass of the broad relative (at *Simp. In Cat.* 166, 14–15).

Using the same term for a class and a proper subclass of that class is confusing but surprisingly common for Stoic taxonomies.³¹ Diogenes reports a Stoic taxonomy of arguments with precisely this structure (DL 7.78, 1–11). ‘Conclusive’ arguments (*περαυτικῶν λόγων*) are divided into two subclasses: ‘conclusive’ and ‘syllogistic’. Diogenes is clear that ‘conclusive’ is used in two senses: one generic (*ὁμωνύμως τῷ γένει* at DL 7.78.1) and one specific (*εἰδικῶς* DL 7.78.5). That is, ‘conclusive’ is the expression used both for the class and a proper subclass of that class. Similarly, Sextus records a Stoic taxonomy of sophisms (*PH* 2.292–235). At *PH* 2.229, 11, the sophisms are distinguished into four classes. Sophisms with: false conclusions; false-seeming conclusions; unclear conclusions; otherwise unacceptable conclusions. But the false ‘concluding sophisms’ are called ‘sophisms’ at *PH* 2.230, 2. Again, the Stoics used the same term for a class and a subclass of that class.

Final example: Simplicius reports a similar double entendre for the Stoic ‘qualified’ (*Simp. In Cat.* 212–13). Simplicius states that there are three ways in which the Stoics used the expression ‘qualified’ (*τὸ ποιόν*) (*LS28N7=SVF* 2.390). Simplicius is clear that one of these senses is narrower than the others (*Simp. In Cat.* 212, 12–31=*LS28N1*). The first and broadest sense of ‘qualified’ covers things with enduring states, like a prudent person, temporary states,

³⁰ Plato, *Theaetetus* 160b9; Aristotle, *Metaphysics* 1011a17; Xenocrates (*Simp. In Cat.* 63, 22). Cf. (Dillon 2003, 151); Speusippus in Aristotle, *Posterior Analytics*, 97a6–22. Cf. (Cherniss 1944, i: 59–62) cited in (Reesor 1957, 67); Sextus, *PH* 1, 135–40; Polystratus, *On Irrational Contempt* 23, 26–26,23=*LS7D2–3*.

³¹ I thank Katerina Ierodiakonou for this observation.

like a person with their fists up, and processes, like a person running (Simp. *In Cat.* 212, 15–17=LS28N2). The second sense of ‘qualified’ is narrower, covering only enduring and temporary states, not processes (Simp. *In Cat.* 17–20=LS28N3). The third sense is ‘most specific’ (εἰδικώτατον) and includes only enduring states (Simp. *In Cat.* 212, 20–3). I’m not suggesting strict isomorphism between the Stoic taxonomies of ‘qualified’ and ‘relative’. Rather, Simplicius’ report confirms that the Stoics used the same expression to refer to a generic notion and species of ‘qualified’, precisely what we see in our target passage regarding ‘relative’.

So some Stoic taxonomies used the same label for a class and for a subclass of that class. In our passage, ‘relative’ (πρός τι) is used in a broad sense and a narrow sense. The broad relative has two subclasses: the relatively disposed things and the differentiated relative. The latter are πρὸς τι in the narrow sense. On the one hand, the relatively disposed and differentiated relatives are exclusive, according to the taxonomy.³² My reading has precisely this result: relatively disposed things and differentiated relatives are exclusive because the former are constituted only by a relation, while the latter are constituted by a power to act in relation to something. On the other hand, relatively disposed things and the differentiated relatives are both relative in the broad sense of ‘not absolute’. Clearly, if a relation constitutes an object, like a father, as on my reading of the relatively disposed thing, that object is not an absolute. Nothing could be a father all by itself. Similarly, if something, like the sweet, is constituted by its power to act in relation to something else, it is not an absolute either since nothing can be sweet all by itself, in the absence of a correlative to act on.

In sum, Simplicius’ taxonomy makes two orthogonal distinctions: differentiated/non-differentiated and absolute/relative (as T4). ‘Relative’ in this sense just means ‘non-absolute’. This gives us a conceptual space with four regions: differentiated relative; differentiated absolute; non-differentiated absolute; and non-differentiated non-relative (see Table 9.1). These regions are exclusive (nothing can fit into more than one) and exhaustive (each thing must fit into at least one). But not every region needs to be filled. Differentiated relatives includes sweet and bitter, but excludes differentiated absolutes like black and white (T6, T7). Non-differentiated relatives include relatively disposed items, such as a man on the right (T6), but exclude the differentiated absolutes, the non-differentiated absolutes, and the differentiated relatives (T7). But the relatively disposed are all relatives, in the sense that relatives contrast with

³² Cf. (Mignucci 1988b, 145–8).

Table 9.1. Simplicius' taxonomy

| | Relatives | Absolutes |
|--------------------|--|--|
| Differentiated | Differentiated Relatives Sweet Bitter Possession Knowledge Perception | Differentiated Absolutes Black White |
| Non-Differentiated | Relatively Disposed A father A son A man on the right | Non-Differentiated Absolutes (<i>This class is empty</i>) |

absolutes (T6). The differentiated absolutes, such as black and white, fit neatly: some differentiated things are absolute, after all (T5). But not all differentiated things are absolute: some are the differentiated relatives (T5). The only unpopulated region is non-differentiated absolute. But this seems right: Simplicius is keen to point out that if something is absolute then it is differentiated (T5), in contrast to relatives, which come in both differentiated and non-differentiated sorts (T5).

Conclusion

This chapter has discussed a Stoic distinction between two notions of relativity. Or, more precisely, I discussed the report of such a distinction in Simplicius. The orthodox way to understand the report is as attributing two sorts of relative property to the Stoics: 'hard' and 'soft' relative properties. We saw four problems for this reading. First the report seems to describe sorts of object, rather than sorts of property. Second, the orthodox reading does not get the Stoic examples of Stoic relative and relatively disposed thing right. Third, the orthodox reading did not get the change test right. Fourth, the orthodox reading did not get the right broader taxonomy of relative, independent, relatively disposed, and differentiated things.

My suggestion, that the relatively disposed things are objects constituted by a relation they bear to something else, while the Stoic relatives turn out to be differentiated relatives constituted by a power they have in relation to something, can address these problems. First, it respects the text of Simplicius' 'more clear' statement of the distinction, particularly the explicit feature of the text that holds the relatives and relatively disposed to be objects not

properties. Second, my reading cleaves the examples correctly. Third, my reading gets the change principles right. Fourth, I addressed the worry that the taxonomy is inconsistent by pointing out that the Stoics regularly used the same expression to label a class and a proper subclass in their taxonomies. The taxonomy turns out to be comprehensible on my reading. Since my reading offers a better explanation of the Stoic report, it ought to be accepted.

But we now have three notions of relativity in Simplicius' discussion. First: relative as non-absolute. This isn't a specifically Stoic invention but is invoked to describe the Stoic position. Second: the Stoic differentiated relatives, which are differentiated precisely by their power to act in relation to a correlative. Third: the relatively disposed items. Simplicius reports these notions in a complex taxonomy, but we can reconstruct the Stoic distinction from it.

This still leaves us with a question: is this a genuine Stoic distinction between two sorts of relative? To make the case for an affirmative answer, we would like to see that distinction play a role in Stoic philosophy. This would be excellent confirmation that the relatively disposed are directly constituted relatives and the relatives are indirectly constituted, because of a power. The next chapter will offer such a confirmation.

10

Relativity in Stoic physics, metaphysics, and ethics

Introduction

Simplicius' report distinguishes Stoic relatives and relatively disposed things. The differentiated relatives are constituted by a power in relation to something, while the relatively disposed things are items constituted by a relation. But Simplicius' report tells us nothing on the Stoic motivation for two sorts of relativity. So, what motivated the Stoics to distinguish differentiated relatives from relatively disposed things? This question is pressing since 'relatively disposed' appears in a *different* four-way contrast attributed to the Stoics, the so-called Stoic categories: subject or substrate (*ὑποκειμένον*), qualified (*ποιόν*), disposed (*πὼς ἔχον*), and relatively disposed (*πρὸς τί πὼς ἔχον*). Scholars sometimes downplay differentiated relatives. Although Simplicius reports the differentiated relatives as a class of items the Stoics committed themselves to, scholars don't assign a philosophical role to the differentiated relatives.

Section 10.1 contends that the differentiated relatives pertain to Stoic physics; particularly, the physically basic active and passive principles. Section 10.2 explains how the relatively disposed things feature in Stoic metaphysics, especially the Stoic categories. Section 10.3 shows how my understanding of the relatively disposed clarifies a well-known debate within the Stoa on the unity of the virtues. Section 10.4 handles some objections to my reading of the relatively disposed. Section 10.5 compares the Stoic view with some earlier views of relativity.

10.1 Differentiated relatives and Stoic physics

Scholars tend to assume that differentiated relatives form part of the Academic background to certain ancient discussions.¹ Others connect the differentiated

¹ For example, citing Xenocrates' distinction between absolute and relatives (Simp. *In Cat.* 63.22) and even Aristotle's definition at *Categories* 6a36. (Menn 1999, 230–2) suggests that the distinction emerged from Academic debating practices. For a detailed account see (Sedley 2002).

relatives with anti-Sceptical moves a Stoic might make.² But neither approach explains why differentiated relatives interested the Stoics especially: many philosophers faced sceptical challenges and were influenced by the Academy. Moreover, these accounts don't explain why the Stoics identified *differentiated* relatives, which feature in Simplicius' report. I argue that the differentiated relatives are part of the tool-kit of fundamental Stoic physics.

The Stoics held that every being is a body.³ This follows from two commitments: (1) something is a being if and only if it can act or be acted upon and (2) if something can act or be acted upon, then it is a body.⁴ The Stoics took this corporealism so seriously that they took the soul to be a body because the soul causally interacts.⁵ We might ask two sorts of question about corporealism. First, a metaphysical question: any being is a body, but what is the nature of body? I'll say more about the Stoic answer in section 10.2. Second, a physical question: what are the basic bodies which compose other things?

The physically basic stuffs are known as the Stoic principles:

(T1) [The Stoics] think that there are two principles (*ἀρχαί*) of the universe, that which acts and that which is acted upon. That which is acted upon is unqualified substance, i.e., matter; that which acts is the reason (*λόγος*) in it, i.e. god. For this, since everything is everlasting, constructs every single thing throughout all matter (DL 7.134=SVF 2.300=LS44B. Translation LS).

The active and the passive principles are powers. The active principle—also called 'reason' or 'god'—is constituted by its power to act; the passive principle—also called 'unqualified substance' or 'matter'—is constituted by its power to be acted upon. The interaction of these two principles constructs each thing. How the interaction of the two constructs things is unclear but metaphors of a craftsman and material recur, along with the idea that the active principle acts on the passive principle to produce the forms of the things we encounter.⁶

² (Long and Sedley 1987, 1: 178).

³ Alexander, *In Top.* 301, 19–25=SVF 2.329=LS27B: "existent" is said only of bodies"; cf. Plutarch, *Com. Not.* 1073e4=SVF 2, 525: 'for only being is body'; Plotinus, *Enneads* 6, 1, 28, 6–7 (=SVF 2, 319): 'for they (sc. the Stoics) think that bodies are beings; Simp. *In. Cat.* 301, 22=SVF 2, 329=LS27B: 'but those people [the Stoics] posited being of bodies only'. On the other hand, the incorporeals of time, space, and sayables do not, strictly speaking, exist (Sextus M10, 218=SVF 2, 331).

⁴ Cicero, *Academica* 1, 39=SVF 1.90=LS45A: 'only body was capable of acting or being acted upon'; Sextus M8, 263=SVF 2.363=LS45B: 'according to (the Stoics) the incorporeal is not of a nature either to act or be acted upon'. Nemesius 78.7–79.2=SVF 1.518=LS45C: '[Cleanthes says] no incorporeal interacts with a body and no body with an incorporeal, but one body interacts with another body'.

⁵ Nemesius 78.7–79.2=SVF 1, 518=LS45C 'therefore, the soul is a body'; Nemesius 81.6–10=SVF 2, 790=LS45D.

⁶ Cf. Seneca *Ep.* 65.2–3; Sextus M9, 75–6=SVF 2.311=LS44C; Alexander *De Mixt.* 225, 18–27; 226, 24–31.

The principles are bodies: something is a body either if it can act or if it can be acted upon. This disjunction captures both the active and the passive principles. The active principle is a body because it can act; the passive principle is a body because it can be acted upon.⁷ But crucially, each is constituted by its power: the one to act, the other to be acted upon.⁸

Now, a worry: in what sense are the principles distinguishable? They are not physically separable.⁹ No Stoic chemists puzzle over how to ‘split the body’ to release god and matter—although such an achievement might win both the Nobel Prize for Chemistry and the Templeton Prize for Progress in Religion. As I mentioned, some sources describe the active principle using features not obviously to do with its power relative to the passive principle.¹⁰ But these descriptions, while true of the active principle, are not what constitutes the active principle.¹¹ The active and passive powers function in relation to each other but are not physically separable.¹²

My reading of Stoic relatives explains why. The active and passive principles are differentiated relatives. A certain power to act in relation to something constitutes the active principle. Put in terms of Simplicius’ Stoic taxonomy (section 9.4.2), the active principle lacks an absolute differentiation. Rather, the active principle, god, is distinguished precisely by its power to act in relation to something, matter. Just as in the case of sweet, the sweet is differentiated by its power to act in relation to some correlative bitter thing, so too the active principle is differentiated by its power to act in relation to the passive. The taxonomy reported by Simplicius uses the sweet as an example to make a conceptual point; namely, that some stuffs are constituted by their power to act in relation to correlative stuffs. The active principle and the sweet are both such stuffs.

So is matter. Is matter, the passive principle, constituted by its power to act? Alexander (*De Mixt.* 226, 31–33b) presses this question as an objection.

⁷ (Brunschwig 2003); (Long and Sedley 1987, 274). ⁸ (Algra 1999, 384).

⁹ Calcidius, 292=SVF 1, 88=LS44D; Alexander, *De Mixt.* 225, 1–2=SVF 2.310=LS45H. That said, on one interpretation of the Stoic conflagration, the active principle and passive principle separate momentarily. Some sources report that Jupiter is alone during the conflagration, although it is unclear whether this refers to *god*, the active principle, or *a* god, who could be the active and passive mixed together (Seneca *Ep.* 9; Plutarch *Com. Not.* 1077d9–e2; Epictetus *Arr. Epict.* 3, 13, 4, 1–3). Cf. Alexander *De Mixt.* 226.17–19, where we learn that during the conflagration, god and matter are preserved ‘alone’ (μόνοι). *μόνοι* in the plural could mean that god and matter are preserved separately, so split; or that god and matter alone are preserved, while other things are destroyed by the fire.

¹⁰ The active principle, god, is ‘intelligent’ (Aetius 1, 7, 33=SVF 2, 1027=LS46A; DL 7, 135–6=SVF 1.102=LS46B). God is fate, or brings things about according to fate (Aetius 1, 7, 33=SVF 2.1027=LS46A; DL 7, 135–6=SVF 1.102=LS46B). In so far as it acts on matter, god is a ‘designing fire’ (Aetius 1, 7.33=SVF 2.1027=LS46A; Stobaeus 1.213, 15–21=SVF 1, 20=LS 46D).

¹¹ DL 7, 142=SVF 1, 102=LS46C says that ‘god,’ ‘intelligence,’ ‘fate,’ and ‘Zeus’ are all one.

¹² A point made by (Long and Sedley 1987, 1: 274).

Alexander argues that in a Stoic blending, the two elements of the blend act on each other (*ἀντιπράσχειν ὑπ' ἀλλήλων*). If body is a mixture of god and matter, then god acts on matter, but god is also acted upon by matter. But god was supposed to act only. So, according to Alexander, the Stoics are committed to three claims that cannot be true together:

- (BLENDING) In a blending the elements of the blend act on each other;
- (BASIC) In basic physics, god and matter form such a blend, and;
- (GOD) God only acts.

Blending, basic, and god cannot all be true together, although any two of them can be. Blending and basic entail that god is acted upon, which is inconsistent with the principle that god only acts. Although Alexander doesn't make this point, blending and basic form an inconsistent triad with a different assumption:

- (MATTER) Matter is only acted upon.

Matter, blending, and basic cannot all be true since blending and basic imply that matter acts on something (namely, god), but matter cannot act on anything.

Alexander's objection is off target. The Stoics need not commit to blending. In a blending, the elements don't act on each other. Each blended element, of course, has a power involved in forming the mixture. But that power need not be a power to act: it could be a power to be acted upon. Only active god and only passive matter can form a blend because one has the power to act, the other to be acted upon. The Stoics, on my reading, should say that matter is constituted not by a power to act, but rather by its power to be acted upon. The passive principle does not have a power to *act* at all so cannot be constituted by a power to act.

Differentiated relatives underpin the active and passive powers. To return to the analogous case, the differentiated relative, the sweet, has a correlative, the bitter. The sweet is constituted by a power to act on the bitter, to make it sweeter. We could then view the bitter as relative, to the sweet, with a power to act on the sweet to make it more bitter. Or, we could think of the bitter as a correlative, with a power to be acted upon by the sweet. This explains why both the active and the passive principles fit into the taxonomy as differentiated relatives (see section 9.4). One principle, the active principle, is constituted by its power to act in relation to the other, the passive principle. The

passive principle is constituted by its power to be acted upon, in relation to the active principle. Each of these principles is a differentiated relative since each is constituted by a power it has in relation to the other.

My suggestion that the differentiated relatives are part of the conceptual toolkit of fundamental Stoic physics explains why the Stoics would distinguish between differentiated relatives and relatively disposed things. The relatives are constituted by a power of a certain kind; namely, a power in relation to something. So the principles can meet the criterion of being that is given by the Stoics. Moreover, each principle *must* be constituted by a power, not by a relation. If the principles were relatively disposed things then each would be constituted by a relation. But if a mere relation constituted principles, the principles may be neither a power to act nor a power to be acted upon. Without guaranteeing that each principle is either a power to act or be acted upon, it is possible that neither principle would meet the criterion of being. So it is important to Stoic physics that some notion of relativity, differentiated relatives, can build in powers to act and be acted upon. Hence, it is important to the Stoics to distinguish the relatives from the relatively disposed. The notion of relatives to which Simplicius attests is part of fundamental Stoic physics.

10.2 *Relatively disposed things and Stoic metaphysics*

The relatively disposed things connect to Stoic metaphysics, in particular the four so-called ‘categories’: substrate (*ὑποκείμενον*), qualified (*ποιόν*), somehow disposed (*πῶς ἔχον*), and somehow disposed in relation to something (*πρὸς τι πῶς ἔχον*).¹³ Scholars disagree about this quartet: even over whether we should call them ‘categories.’¹⁴ I can’t offer a comprehensive interpretation of the Stoic categories. But I will say enough, especially about the latter two categories, to suggest that the relatively disposed things, which I understand as objects constituted by relations, do duty in the Stoic scheme.

¹³ Plotinus, *Enneads*, 6, 1, 25=SVF 2, 371; cf. Simp. *In Cat.* 66, 32–67, 2=SVF 2, 369=LS27F; Plutarch, *Not. Comm.* 1083a–1084a=LS28A; Plutarch, *Stoic. Rep.* 43=SVF 2, 49.

¹⁴ The most influential recent treatment of the Stoic categories is (Menn 1999). See also (Brunschwig 2003). Some of Menn’s arguments are criticized by (Collette-Dučić 2009). (Long and Sedley 1987, 1: 167–79) discuss the categories in detail but worry that the Stoic quartet cuts across the ‘most basic categorical division favoured in antiquity, that between *per se* and relative’ (Long and Sedley 1987, 1:165) so prefer ‘Stoic genera.’ (Sandbach 1985, 40) holds that there is analogy with the Aristotelian ten, although few scholars agree with him (see (Sambursky 1959, 17); (Pohlenz 1949, ii. 39); (Gould 1970, 170) cited in (Sandbach 1985, 40)).

Each existing thing in the Stoic world falls into all four of the categories.¹⁵ The first is called ‘substrate’,¹⁶ or ‘substance’, where these mean basic material.¹⁷ ‘Substrate’ may have been used in two senses: primarily for unqualified material and secondarily for that which is commonly or peculiarly qualified.¹⁸ Physically, the substrate may be undergoing continual flux, but metaphysically, a substrate is a being, so, the substrate is a corporeal thing.¹⁹ The qualified is also corporeal, so, qualified things interact with each other.²⁰ The qualified tells us what type of thing we have, even if that type has only one token.²¹ For many objects being that object means having a certain qualification. Being a piece of wood means having a quality of being solid.²²

The third category, disposition, included a range of examples. Sources give us times (‘yesterday’), places (‘in the Academy’), actions, lengths (‘three cubits’), and colours (‘white’).²³ The fourth category, the relatively disposed—like non-relational disposition—tends to feature in contexts that discuss something not obviously corporeal, such as virtue or constitution (*constitutio*).²⁴ But we also find an example of the relatively disposed things in the context of an ontological point about holism.²⁵

Recent scholarship offers an attractive philosophical motivation for all this.²⁶ What makes a statement of the form ‘*a* is *F*’ true? One answer is that something is in a substrate *a*. ‘The onion is sugary’ is true because of sugar in the substrate, the onion. You could call this the ‘stuff in things’ picture. The onion is sugary because some stuff, sugar, is in the thing, the onion. For the Stoics, only corporeal things can act or be acted upon, so the sugar, a corporeal stuff, can act on the onion, a corporeal thing, to make the onion sugary. The Stoic here employs the first category, substrate (*ὑποκείμενον*) and the second category, qualified (*ποιόν*). The onion is the subject and the sugar is the qualification. The qualification explains why the onion is sweet, but it also explains

¹⁵ Plutarch *Comm. Not.* 1083e=LS28A6. ¹⁶ Plotinus *Enneads* 6, 1 25.1–5=SVF 2, 371.

¹⁷ Stobaeus 1, 11, 5a, 187=SVF 1, 87; 2, 317. (Pohlenz 1949, vol. 2 page 39) holds that the first category can be called ‘elements’: Arr. Epict. 4.8,12=SVF 1, 16, 19.

¹⁸ Porphyry quoted in Simp. *In Cat.* 48, 11–16=LS28E.

¹⁹ (Plutarch, *Comm. Not.* 1083e); (Rist 1969, 155); (Long and Sedley 1987, 1: 172).

²⁰ Simp. *In Cat.* 217, 32–218, 1=SVF 2, 389=LS28L. Cf. Plutarch, *Comm. Not.* 1085E = SVF 1, 380.

²¹ (Rist 1969, 171); (Nawar 2017).

²² Plutarch, *de Stoic. Rep.* 43, 1053f=SVF 2, 449. Each body therefore has a first quality, the first four being: the cold for air, heat for fire, drought for earth, and moisture for water—see Galen, *In Hipp. de nat hom.* I, XV, 30K=SVF 2, 409.

²³ (Rist 1969, 167) cites these. Simp. *In Cat.* 66, 32 =SVF 2 369; Dexippus, *In Cat.* 34, 19 =SVF II 399; Plotinus *Enneads* 6.1.30 =SVF II 400.

²⁴ For the former see Galen, *PHP* 7, 1, 12–15=SVF 3, 259=LS29E; Cf. Plutarch, *On Moral Virtue*, 440e–441d=LS61B; for the latter see Seneca, *Ep.* 121.10=SVF 3.184=LS29F.

²⁵ Plutarch, *de Stoic. Rep.* 1054e–f=SVF 2.550=LS29D. Cf. Arr. Epict. 4, 7, 6 ff.

²⁶ (Rist 1969, 155).

what the onion has in common with other sugary things. On this way of thinking, the presence of *F* in *a* makes ‘*a* is *F*’ true. This example seems consistent with Stoic corporealism: both sugar and onion are bodies.

Some cases are less obvious. What about the true predication, ‘the onion is sweet’? The onion doesn’t have a straightforward qualification but does have the feature of being sweet, shared with all sorts of other sweet things. In this case, the truth-maker is less clear. Some ancient thinkers would retain the stuff in things picture and hold that the onion is sweet because of the presence of *sweetness*, the corresponding quality, in the onion. Maybe the Stoics are such thinkers. Some evidence suggests that the Stoics hold that a prudent man is prudent through the presence of prudence in the man (Stobaeus 1, 138, 14–139, 4=LS55A) or that virtue is part of the sage (Sextus *M*9, 24).²⁷ In this case, an abstract qualification, sweetness, is added to the onion. The presence of *F*-ness in *a* makes ‘*a* is *F*’ true. If they take this line, the Stoics must think abstract qualities are bodies in the subject.

Predications like ‘Achilles runs’ are trickier still. On the stuff in things model, ‘Achilles runs’—an action predication—is true because of the presence of a bodily running stuff, in Achilles. Running-ness is replaced by a different bodily stuff, standing-ness, when Achilles stops. A place predication, ‘Achilles is in the camp’, is made true by the presence of a body, in-the-camp-ness, in Achilles, replaced by a body, in-the-fray-ness, when Achilles joins the battle. A time predication, ‘sunrise is after dawn’, is explained by the presence of a body (after-dawn-ness) in a body (sunrise). But these explanations are obscure. A relational predication, ‘Achilles is a son’, is even harder to account for on the stuff-in-things model.

Such cases push the Stoics to posit the categories of disposed and relatively disposed things.²⁸ When *a* is *F* without any *F*-ness being in *a*, the Stoics will say that *a* is *F* *somehow disposed*. This might be disposed or relatively disposed. An action predication, such as ‘Achilles runs’, is true but not because some qualified stuff, running-ness, is in Achilles.²⁹ The Stoics recognize cases where an object might satisfy a predicate, without that object having the corresponding quality.³⁰ The object satisfies the predicate by being *somehow*

²⁷ Evidence from (Menn 1999, 220). (Nawar 2017, 18) cites further evidence: Tertullian, *De Anima* 5; Sextus *M* 9, 211.

²⁸ Although these cases provide the philosophical motive for the third and fourth categories, Menn thinks that the relatively disposed things developed chronologically before the simple disposition, in response to a challenge to Stoic ethical theory from within the Stoa (Menn 1999, 234–47). For criticism of Menn see (Collette-Dučić 2009).

²⁹ Simp. *In Cat.* 212, 12–13, 1=LS28N. Cf. (Long and Sedley 1987, 1: 172); (Irwin 1996, 469); (Nawar 2017); (Menn 1999, 217–18) puts this point clearly.

³⁰ Such items would be ‘qualified’ in a loose sense (Simp. *In Cat.* 212, 12–213, 1=LS28N), a point made by (Menn 1999, 223).

disposed. Achilles satisfies the predicate ‘runs’ not because some running-ness is in Achilles, but because Achilles is disposed in a certain way. Similarly, relational predications, like ‘Achilles is a son’, are made true by Achilles being disposed in a certain way towards something. Hence, Achilles relatively disposed is a son.

Something like this must be right. But what are these relative or non-relative dispositions? The sources agree the disposed things are nothing over and above the substrate, and maybe the quality.³¹ We find identities like these attributed to the Stoics: the soul is breath (*πνεῦμα*) somehow disposed (Porphyry in Eusebius *Evangelical Preparation* 15, 11, 4=SVF 2, 806); virtue is the commanding faculty (*ἡγεμονικόν*) somehow disposed (Sextus *M* 11, 23); knowledge is the commanding faculty somehow disposed (Sextus *PH* 2, 81–3).³² On one way of understanding this, the view seems like a non-starter. Achilles, disposed as running, is just Achilles, and Achilles, disposed as sitting, is just Achilles. So ‘Achilles runs’ and ‘Achilles sits’ have the same truth-maker; namely, Achilles. So ‘Achilles runs’ and ‘Achilles sits’ are true together. But there cannot be one truth-maker for contrary truths. So the view reduces to absurdity.

Here is another idea:

To analyse something as a *πῶς ἔχον* [disposed] is to analyse it by a participle clause of circumstance: as pronouns signify *ὑποκείμενα* [substrates] and as nouns (when their grammatical form reflects their meaning) signify a *ποιόν* [qualified], so participles signify something *πῶς ἔχον* [somehow disposed] (Menn 1999, 226–7).³³

According to Menn, a circumstantial participle signifies a disposition.³⁴ Menn does not develop the idea beyond this remark but the idea is promising. If a participle signifies a disposed thing in the way that a pronoun signifies a substrate or a noun signifies a quality, then a disposed thing should be a thing in the world. In Stoic ontology, there are two ways to be: as a being (*ᾧν*) or as a something (*τι*). The former can act or be acted upon, the latter need not act

³¹ Plotinus, *Enneads* 4, 7, 4, 11–21; Sextus *M* 10, 170; *M* 7, 349; *M* 9, 343; Cicero, *Tusculans* 1, 21, cited in (Menn 1999, 226).

³² Virtue is often reported to be a disposition of the soul: by Galen, (SVF 3.122.3–6), by Plutarch (SVF 3.111.14–15=1.50.1; cf. SVF 3.63.34; 3.25.21), by Sextus (*M* 11, 23); by Seneca, (*Ep.* 113, 2; cf. 113.24; *Ep.* 113, 7; *Ep.* 113, 11).

³³ In square brackets, I translate the Greek in Menn’s original.

³⁴ This is similar to the idea in (Rist 1969, 170) that the disposed and the relatively disposed specify the manner in which a subject has a qualification—the way in which Achilles is pale.

or be acted upon. Abstract objects are somethings ($\tau\acute{\iota}\nu\alpha$).³⁵ Presumably, a disposition is not a being. Dispositions neither act nor are acted upon: running neither acts on Achilles nor is acted on by Achilles. But a disposition could be a something. This, of course, would make it an object, rather than a property. But that is precisely what we would expect given the results of the previous chapter, where I argued that Simplicius' report shows that a relatively disposed is an item constituted by a relation.³⁶

This would allow us to avoid the 'one truth-maker, contrary truths' problem. A disposed thing (or a relatively disposed thing) is a something and therefore two different dispositions ($\pi\acute{\omega}\varsigma \acute{\epsilon}\chi\omicron\nu\tau\alpha$) are different somethings: running is a different thing to sitting. Hence, Achilles with the disposition running is not the same as Achilles with the disposition sitting. So Achilles, disposed as running, is not the same as Achilles, disposed as sitting. So 'Achilles is running' and 'Achilles is sitting' have different truth-makers.

Thus, the Stoics motivate dispositions in general. Scholars generally agree that the 'relatively disposed' I discerned in Simplicius' report corresponds to the fourth of the categories discussed by the Stoics.³⁷ In section 9.4, I argued that something is a relatively disposed thing just in case a relation constitutes that thing. For example, a father is a relatively disposed thing because being a father just is to be a father of offspring. So we would expect that the relatively disposed, in the Stoic categories, indicate that relating in the right way to some correlative constitutes an item.

How would we analyse an individual we might come across, the referent of the term 'Priam', according to the Stoic categories?³⁸ Priam is a certain bit of matter: he is thereby a substance and an existing substrate. Priam is also a man, thereby qualified. Priam is a standing man so is disposed in a certain way. Finally, Priam is a father: a father of Hector. So Priam is disposed relatively to something. This Stoic analysis attributes to Priam four different sorts of identity, not four sorts of property. 'Priam' turns out to refer to a bundle of

³⁵ Seneca *Ep.* 58, 13–15=SVF 2, 332 (part)=LS27A; Alexander, *In Top.* 301, 19–25=SVF 2, 329=LS27B.

³⁶ There is a further question: if the (relative) dispositions are mere somethings ($\tau\acute{\iota}\nu\alpha$), what sort of somethings are they? Some limited evidence suggests that they are incorporeals since the Stoics thought of ways of acting as incorporeals according to Stobaeus 2.98, 4–6=SVF 3.91=LS33J.

³⁷ (Reesor 1957, 75–7); (Long and Sedley 1989, 2: 179); (Sedley 2002, 341). (Graeser 1978) disagrees, and suggests that we are offered two rival category schemes. (Mignucci 1988b, 170–80) argues that there is a simple equivocation: the four Stoic categories and the taxonomy offered here are incommensurable and, although 'relatively disposed' features in each, the relatively disposed are a class of properties in the taxonomy and a class of individuals in the four categories (Mignucci 1988b, 180).

³⁸ (Brunschiwig 2003, 228) gives a helpful worked example, which I adapt.

co-located objects: a body, a man, a standing man, and a father.³⁹ Regarding the fourth category, we could say that Priam *qua* father is father of Hector.⁴⁰

Priam *qua* father is a relatively disposed thing. A relation to an offspring constitutes a father as such. Being a father just is to be properly related to an offspring. So when the body labelled 'Priam' is disposed in the right way towards Hector, the body labelled 'Priam' is identical to a father. In other words, Priam *qua* father is a father of Hector. This is how the Stoics can give a corporealist analysis of apparently incorporeal stuffs, such as fatherhood. And it involves precisely the notion of relatively disposed things Simplicius reports in his 'more clear' statement.

In short, the relatively disposed make sense for the Stoic analysis of the metaphysics of things, in terms of the four categories. This confirms and explains how the relatively disposed, which we find in Simplicius' report, in fact is the same notion we find in reports of the Stoic categories.

10.3 *Relativity and Aristo's virtues*

We can confirm that relatively disposed is the same in Simplicius' taxonomy and in the Stoic categories, by seeing how the notion functioned in a debate within the Stoic school. Independent sources record an intra-school debate between Chrysippus and Aristo over the unity of virtues. The Stoics recognized four primary virtues—wisdom, courage, justice, and temperance—along with a range of other virtues and indeed vices.⁴¹ Aristo proposed that

³⁹ It is unclear what the scholarly consensus is on this point, but my reading may not be standard. The four Stoic categories are often thought to be ways a thing can be 'discussed' (de Lacy 1945, 255). A full account of the Stoic categories is beyond my scope here, but I think there are good reasons to think that the categories are not mere 'aspects' or 'modes of presentation' of an object, but rather different identities it has, particularly Plutarch's report that the Stoics 'make each of us four' (Plutarch, *Comm. Not.* 1083e). I thank Tamer Nawar for discussion on this point especially for suggesting that we can understand the Stoic categories in terms of *qua* objects.

⁴⁰ For a contemporary take on these intentional objects, known as '*qua* objects', see (Fine 1982, 100). Briefly, a *qua* object is a combination of a 'basis' and a 'gloss'. The basis is a particular thing, *a*, and the gloss is the property, *F*. Together these form the object denoted by '*a qua F*'. *a qua F* has the following features: (i) *a qua F* is essentially *F*; (ii) *a qua F* may exist at different times to *a*; (iii) *a qua F* may exist at different times to some other *qua* object, *a qua G*; and (iv) *a qua F* depends for its existence on *a* being *F*. In this case, Priam is the basis and being a father is the gloss. So, Priam *qua* father is essentially a father; Priam *qua* father may exist at different times to Priam and Priam *qua* brother; Priam *qua* father depends for its existence on Priam being a father. This neat way of presenting *qua* objects draws on (Keller 2004).

⁴¹ Stobaeus 2. 59, 4–60, 2; 60, 9–24=SVF 3.262, 264=LS61H. For the question of the unity of the virtues in Plato see *Protagoras* 329c6–d1.

virtue is a single thing, but that it is called by many names because of different relative dispositions:

(T2) Aristo thought that virtues are neither many, like Zenon, nor a single thing called by many names, as the Megarics, but [many] because of the fact that they are somehow disposed relative to something (*πρὸς τί πως ἔχουσιν*)’
(DL 161, 2–4).⁴²

Galen, presumably taking his information from Chrysippus, informs us:

(T3) [Aristo] Thinks that virtue is a single thing called by many names because of relative disposition (*πρὸς τι σχέσις*)
(Galen *PHP* 7.1.14=SVF 3.259=LS29E)

Plutarch also gives us some useful information:

(T4) Chrysippus criticizes Aristo because he said that the other virtues were dispositions (*σχεσεις*) of a single virtue
(Plutarch, *On Stoic Self-Contradiction* 1034d=LS61D2–4).

I assume that *πρὸς τί πως ἔχουσιν* and *πρὸς τι σχέσις* are ways of referring to the fourth Stoic category; *σχεσεις* alone may also refer to the fourth category. Aristo explains the apparent plurality of virtues because virtue is a single thing relatively disposed to a plurality of things. Chrysippus rejected this explanation, arguing that the virtues are different qualifications in the soul and that explains the apparent plurality of virtues.

The usual way to understand the disagreement is to say that Aristo denies, while Chrysippus affirms, that different virtues correspond to different intrinsic states.⁴³ For Aristo, there is a one-to-many correspondence between intrinsic states—in this case mental states—and virtues. One mental state, which for simplicity I will call ‘knowledge’, with the same content, corresponds to different virtues in different circumstances.⁴⁴ In contexts of temptation,

⁴² I follow the text of (Long 1964). (Menn 1999, 234) prints *πρὸς τί πως ἔχον*, which would translate as ‘according to the relative disposition’. I think nothing turns on this difference since to have a relative disposition is just to be somehow disposed relative to something.

⁴³ (Schofield 1984, 89); (Menn 1999, 235); (Long and Sedley 1987, 1: 179).

⁴⁴ Some sources call this mental state ‘health’ (Plutarch, *On Moral Virtue*, 440E–441D=LS61B (part), others call it ‘knowledge of goods and evils’ (Galen, *PHP* 7, 2, 2–3). (Schofield 1984, 89) and (Menn 1999, 235) both hold that Aristo’s single virtue is knowledge or a knowledge. Note the difference between mental state and states of the mind. The dispute is whether different virtues correspond

knowledge gives temperance. In situations of danger, knowledge gives courage. In situations of decision-making, knowledge gives justice. But in each context there is only one mental state, knowledge, and it differs only in so far as it relates to different contexts. Chrysippus may have posited a one-to-one correspondence between states and virtues (Plutarch *On Moral Virtue* 440e–441d= LS61B7) or he may hold a many-to-many correspondence.⁴⁵ But in either case, Chrysippus holds that different virtues correspond to different intrinsic states.

Scholars all agree to this loose sketch of the Aristo-Chrysippus debate. Controversy arises when scholars parse the disagreement into the Stoic categories. Aristo's position, that different virtues correspond to one intrinsic state, could be understood in two ways: (1) the single intrinsic mental state is relatively disposed towards the different circumstances; (2) the intrinsic mental state merely relates to the different circumstances. In the first case, the intrinsic mental state sits in the fourth category (relatively disposed).⁴⁶ In the second case, the intrinsic mental state sits in the non-proprietary relatives, the broad class of relatives, such that a thing is relative just in case it is not absolute.⁴⁷ Analogously, Chrysippus may be understood as asserting either: (1) each virtue corresponds to a quality; (2) each virtue corresponds to a (non-relative) disposition of the commanding faculty (*ἡγεμονικόν*).⁴⁸ In the first case, the virtues are in the category of qualification; in the second, the category of disposition. Here, I don't pursue the question of how to understand Chrysippus' own position, although I will have something to say on Chrysippus' reply to Aristo.⁴⁹

We face an interpretive dilemma here. We can either parse Aristo's position to be that virtue is a relatively disposed thing or that virtue is a non-proprietary relative, equivalent to merely relating to something. Neither is satisfactory. If we take the second option, Aristo holds virtue to be a single thing that merely relates to different circumstances, and hence virtue is a relative in the broad, non-proprietary sense. So, why do our sources, especially T3 and T4, report that Aristo held virtue to be a single thing relatively disposed? We cannot rule

to different mental states, not whether different virtues correspond to different states of the mind. Both Aristo and Chrysippus hold that virtue is just a single disposition of the *ἡγεμονικόν*.

⁴⁵ (Menn 1999, 239).

⁴⁶ (Menn 1999, 235) and (Collette-Dučić 2009, 212n43) take this line.

⁴⁷ (Schofield 1984, 89) and (Long and Sedley 1987, 1: 179) take this line.

⁴⁸ (Menn 1999, 237–42) advocates the latter; (Collette-Dučić 2009) gives a recent defence of the former.

⁴⁹ (Collette-Dučić 2009) discusses Chrysippus' own view in detail.

out the possibility that Chrysippus' characterization of Aristo influenced these sources. This is likely for T3, and possible for T2 and T4. If that is the case, T2–T4 are not reliable guides to Aristo's own terminology. Moreover, Plutarch reports Aristo as using simply relatives (which I discuss below, T5).

Although T2–T4 are not reliable evidence that Aristo used the expression I translated as 'relatively disposed', there is good reason to think Aristo held that virtue is a relatively disposed thing. First, if Aristo didn't hold that virtue is a relatively disposed thing, Chrysippus' criticism, which almost certainly did use the expression I translate as 'relatively disposed', would miss its target. So either Chrysippus mischaracterized Aristo and Chrysippus' reply misses, or Chrysippus' characterization, followed by later sources, is correct. Second, if Aristo did hold that virtue is a relative in the broad sense of something non-absolute, then Chrysippus disagrees only mildly. For Chrysippus also thinks that the virtues are relatives in this broad sense since he holds them to be sorts of knowledge.⁵⁰ So the debate wouldn't be about whether virtues are relatives or qualifications but only about what sort of relatives virtues are.⁵¹

So, we can understand Aristo to make the point that virtue is in the category of relatively disposed. Combined with the orthodox understanding of the relatively disposed in Stoicism (section 9.2), this yields a reading where Aristo holds that virtue is a single intrinsic mental state, which differs only when placed in different external circumstances. This makes sense of the fact that some sources describe Aristo's view using the language of relative dispositions and that there is a substantive disagreement between Chrysippus and Aristo.

However, this reading of Aristo struggles to make sense of Plutarch's report of Aristo's view:

(T5) Aristo of Chios also made virtue essentially one thing, which he called 'health'. It was by relativity that he made the virtues in a way different and plural, just as if someone wanted to call our vision 'white-seeing' when it apprehended white things, 'black-seeing' when it apprehended black things and so on... as the knife, while being one thing, cuts different things on different occasions, and fire acts on different materials although its nature is one and the same

(Plutarch, *On Moral Virtue*, 440e–441d=LS61B (part). Translation LS).

⁵⁰ (Menn 1999, 235).

⁵¹ These considerations are independent of the historical thesis in (Menn 1999, 234–6) that Aristo developed the notion of the relatively disposed precisely to articulate his idea that virtue is one thing, relatively disposed.

Here Plutarch gives an analogy between virtue and vision, an analogy that holds on Aristo's account. Vision is white-seeing or black-seeing depending on what it relates to, the object of vision. Knowledge turns out to be courage or temperance or another virtue, depending on the object knowledge relates to.⁵² However, the analogy of vision misleads if virtues are supposed to differ not intrinsically but only depending on their relation to external things. After all, the intrinsic features of vision co-vary with the external objects of vision.⁵³ Vision does not simply depend on extrinsic features. So vision and, by the analogy, virtue, do not fit into the Stoic relatively disposed.

Result: an interpretive dilemma. On Aristo's metaphysics of virtue, virtue does not plausibly fit into either the broad relatives or the Stoic relatively disposed. At least, virtue does not fit into the relatively disposed, as traditionally interpreted. However, if we understand the relatively disposed as I have been urging, as objects constituted by a relation, then Aristo's claim and Chrysippus' reply are intelligible.

On my reading of T5, Aristo urges that that the same item, the soul, or the *ἡγεμονικόν* (LS61B), can have different identities, depending on its relative dispositions. The same applies to the faculty of sight. 'Black-seeing' is not merely using the faculty of sight on a black item. This would imply that the *same* faculty could also be applied to a different item, say, a white thing. Rather, 'black-seeing' is a *different* faculty to 'white-seeing'. There turns out to be two faculties of sight. On the view of relatively disposed things that I have been pressing, this makes sense since the sight-faculty cannot exist *simpliciter* but only disposed in some way or another, in this case, relatively disposed to the objects of sight. 'Virtue' turns out to be a class of different faculties, each constituted by its relation to a proper correlative.

Chrysippus' objection to this view would also make sense: on Aristo's account of virtue, one cannot hold the Stoic orthodoxy that the virtues are a unity, an orthodoxy that Aristo seems committed to himself since he calls all the virtues 'health' relatively disposed to different things. If the virtues are merely relatively disposed items, they have nothing in common since the relation it bears to its correlative constitutes each relatively disposed thing. If sight just is the concatenation of white-seeing, black-seeing, red-seeing, and

⁵² (Schofield 1984, 89) thinks these examples are Plutarch's invention, but even if so, there is no reason to deny that the examples accurately reflect Aristo's view. In any case, Aristo has form for this sort of idea since he is reported by Plutarch (*On Exile* 600e=SVF I.371=LS67H) to say 'native land', 'house', 'cultivated field', 'smithy', and 'doctor's surgery' come to be so called in relation to the occupant.

⁵³ (Long and Sedley 1987, 1: 179); (Menn 1999, 235n30) offers his own response to this objection.

so on, these ‘sights’ have nothing in common, except that we happen to label them all ‘sight’. Likewise, if virtue is just the concatenation of ‘examining action’, ‘moderating desire’, and ‘relating to other people’ (countenanced by Plutarch at (Long and Sedley 1987, 61B7–10)), ‘virtues’ have nothing in common.⁵⁴

So again, my hypothesis proves its value. Not only does Simplicius’ explicit report of the Stoic taxonomy make sense, but we can also see how Stoics might have put the relatively disposed things, so understood, to work. Along the way, I have shown the interpretive value of my approach as it makes sense of Aristo’s proposal and the debate surrounding it.

10.4 *Objection handling*

According to Chapters 9 and 10, Stoic relatively disposed things are a class of objects. In particular, the relatively disposed things are a class of objects constituted by a relation. I just want to mention here that some sources use terminology connected to relatively disposed things, that one might think are counter-evidence to my reading. It turns out that these sources refer to relations, rather than relatives, and use terminology to pick out relations; that is, things that do the relating, rather than relatives, the things related. I don’t think that this harms my reading.

The Stoics held a theory about how selves and others feature in our ethical lives. This theory is known as *oikeiosis* (*οἰκειώσις*), a term I leave untranslated, but which conveys the sense of a process whereby certain things become increasingly deserving of consideration.⁵⁵ When describing the Stoic theory of *oikeiosis*, Hierocles uses the analogy of circles that enclose us:

(T6) Each of us is, as it were, enclosed by many circles, some smaller, some larger, the latter enclosing, the former enclosed, according to their different and unequal dispositions relative to each other

(*πρὸς ἀλλήλους σχέσεις*) (Stobaeus 4.671, 10=LS 57G (part)).⁵⁶

⁵⁴ This reading is isomorphic with Sedley’s reading of the debate between Aristo and Chrysippus (Sedley 2002, 341), but Sedley, in line with his general reading, puts the point in terms of virtue being a property.

⁵⁵ *DL* 7, 107=SVF 3.493; Stobaeus 2, 85=SVF 3.494=LS 59B; Sextus *M* 7, 158=SVF 3.284=LS 69B are some of the central sources for this view. For discussion see (Brennan 2005, chap. 10).

⁵⁶ I follow the reading of (Long and Sedley 1987, 1: 349). (Brennan 2005, 157) reads the sentence differently, taking *πρὸς ἀλλήλους* to be governed by *ἡμῶν* not *κύκλους*, to translate as ‘based on our different and unequal dispositions relative to *each other*’ (Brennan 2005, 157) with my italics.

This Stoic source makes the point that the circles are unequal relative to each other. Hierocles describes this by saying that the circles have a disposition relative to each other; the circles relate to each other in a certain way. But the circles are not *constituted* by their relation to each other. The noun *σχέσις* corresponds to the adverbial phrase *πῶς ἔχον*, while *πρὸς ἀλλήλους* is, as we have seen, a natural way to discuss reciprocal relations.⁵⁷ So there is a linguistic connection to the relatively disposed things. The language reflects the conceptual connection. If some relative dispositions are the things related, but not constituted, by a relation there would be a counter-example to my claim that relatively disposed things are objects constituted by a relation. Happily, Hierocles is discussing the relation the circles have, not discussing the circles. That is, he discusses the relation, not the relatives. A *σχέσις*, in Hierocles' usage, picks out the relation, rather than the thing related.⁵⁸ Thus, this passage isn't counter-evidence to my proposed understanding of the relatively disposed things.

The anonymous commentator on the *Theaetetus* slips between relatives and relatively disposed, again in the context of a discussion of *oikeiosis*, which could indicate that there isn't as strong a distinction between relatives and relatively disposed things as I have suggested. The commentator makes the point that *oikeiosis* differentiates between different items. Anon. argues that *oikeiosis* is not equal relative to (*πρός*) oneself and relative to (*πρός*) whatever else because we are not *disposed* in the same way (*ὁμοίως ἔχομεν*) relative to (*πρός*) even different parts of our own bodies, valuing our eyes more than our fingers (Anon. *In Plat. Theaetet.* 5,18–6.31=LS 57H).⁵⁹ Again, the language may be closely connected to the language of relatively disposed things, but, conceptually, the commentator's point concerns relations, not relatives. Thus, the fact that the commentator seems to refer to items not constituted by a relation is not counter-evidence to my claim: the relatively disposed things can still be interpreted as the class of items, each of which is constituted by a relation.

Although grammatically possible, Brennan's reading is unlikely since Hierocles goes on to give the first circle as encompassing not even one person, but just a person's body. So the size of the circles is not based on our dispositions relative to others; sometimes the circle just captures a close, non-person: my body.

⁵⁷ For a similar use of this abstract noun, see Hierocles 2, 1–9=LS57C.

⁵⁸ Cf. Alexander's vocabulary, using *σχέσις*, in section 8.3. *σχέσις* was also central to the distinctive, realist analysis of relativity given by Simplicius (Simp. *In Cat.* 167, 16–18; 32–5; 169, 9–11). Plotinus had argued that *σχέσεις* must form part of the analysis of relativity (*Enneads* 5, 1, 6–9; *Enneads* 6, 1, 7; *Enneads* 6, 1, 6, 21–30), but also that *σχέσεις* are mind dependent, so relativity is mind-dependent, while Simplicius has a distinctive realist interpretation relativity involving *σχέσεις*.

⁵⁹ Anon. has a longish discussion of relatives at col. 62.

Finally, I can say something about Simplicius' examples of relatives, the sweet, knowledge, state (or possession), and perception (see section 8.1). These look like they should be in the second Stoic category, the qualified.⁶⁰ We can now see, however, that this is harmless. The differentiated relatives are constituted by a power and the sweet, knowledge, and so on are given as examples of that. Such items cannot comfortably be characterized as qualified things, in the Stoic four-category scheme, since they are organized and differentiated around fulfilling a single function.⁶¹ There is no reason a physical thing, like the active principle, could not be viewed under the Stoic categories; and it can harmlessly turn out to be in, for example, the second category.

With the philosophical points clarified, we can indulge in some historical speculations. If the differentiated relatives relate to physics, in particular the physics of an active and a passive principle (see section 10.1), then it seems that the differentiated relatives should have been distinguished from the general relatives by a Stoic with such a physical theory.⁶² Suppose our Stoic comes under pressure from an Academic, or anyone else with a broad contrast between absolute and relatives. This opponent would want to put pressure on the Stoic physical view of an active and passive principle. An obvious attack would be this: the active and passive principles are not absolutes since neither is independent of the other. So both are relatives. But, since both principles are simply relative to each other, what makes one active and the other passive? The Stoic could reply by making a conceptual distinction between the broad relatives, that is, anything that is not absolute, and the differentiated ones, which are constituted by a power to act in relation to something. This creates conceptual room to distinguish the active from the passive, without making one an absolute item and the other a relative.

When Stoic category thinking developed to the point where it involved another, entirely orthogonal, notion of relativity, it became necessary to firm up the difference between the differentiated relatives and the relatively disposed.⁶³ The motivation for this need not have been external but simply to make clear an apparently confusing profusion of notions of relativity: non-proprietary broad relatives, differentiated relatives, and the relatively disposed.

⁶⁰ A point pressed by (Long and Sedley 1987, 1: 177); (Sedley 2002).

⁶¹ Simp. *In Cat.* 214, 24–37=SVF 2, 391=LS28M; Simp. *In Cat.* 212, 12–213, 1=SVF 2.390=LS28N.

⁶² Is Zeno himself such a Stoic? Aristocles attributes such a physical theory to Zeno (quoted in Eusebius, *Evangelical Preparation* 15.14.1=SVF 1.98=LS45G).

⁶³ At the latest, by the time of Chrysippus' critique of Aristo.

10.5 Stoic, Platonic, and Aristotelian relativity

I worried in Chapter 9 that no one has explained in detail how Stoic relativity relates to ancient thought about relativity more widely. Here I will compare the resulting Stoic notions of relativity to some others, especially the formal features of relativity I have discussed elsewhere in the book.

10.5.1 Reciprocity

A prominent feature of Platonic and Aristotelian treatments of relativity is reciprocity, the view that if a relative, x , bears a relation, R , to its correlative, y , then y bears the converse of R to x . This does not seem to be a prominent feature of Stoic relatively disposed things.⁶⁴ For the Stoics, a relation to the correlative constitutes these relatives. Now, it is true that, for example, a father is constituted by the ‘...is a father of...’ relation to some offspring, and so relates to the offspring. And it is true that the offspring, therefore, bears the converse of the ‘...is a father of...’ relation to the father. Nothing in the sources rules this out, and just as well, since it follows necessarily from how I have set up relative dispositions.⁶⁵ The differentiated relatives do seem to respect reciprocity, at least to a degree. Each differentiated relative is constituted by a power with respect to its correlative. In so far as ‘...having a power with respect to...’ is a relation, differentiated relatives, like the sweet and the bitter, do reciprocate with each other. So although Simplicius does not attribute reciprocity to the Stoics, reciprocity does apply to all Stoic relatives.⁶⁶

10.5.2 Symmetry principles

There are two symmetry principles to consider. The first is existential symmetry. The second is epistemic symmetry. The first of these principles has provoked some anxiety amongst commentators on Stoic relativity.⁶⁷ Simplicius uses a father and a son as an example of relatively disposed things obeying

⁶⁴ Cf. (Sedley 2002, 341n27).

⁶⁵ In fact there is some evidence that later Stoics recognized reciprocity: Arr. Epict. 4.8.12=*SVF* 1.16.19 gives a possible case of the relatively disposed things which refers to them as ‘how they are combined with each other’. See (de Lacy 1945, 248).

⁶⁶ Cf. (Sedley 2002, 342n27).

⁶⁷ (Annas and Barnes 1985, 135) and (Mignucci 1988b, 68) take this to be a matter of existential dependence or, as I have been saying, existential symmetry.

existential symmetry (Simp. *In Cat.* 166, 22–6). Simplicius says that when a son dies, the father ceases to be.

This seems obviously false: Priam does not die when Hector does. So it is not obvious that fathers and sons *existentially* depend on each other: a man does not cease to be a son when his parents die; but a man ceases to be a father when his only child dies.⁶⁸ If existential symmetry does not apply to the Stoic account of relativity, this would represent a significant departure from earlier accounts.

Can we explain why the Stoics would think that existential symmetry applies to both a father and a son? There are two suggestions: that the examples are poorly chosen (Annas and Barnes 1985, 135); that the relatively disposed things are not subject to existential symmetry (Mignucci 1988b, 183). But neither seems to properly address this problem: Annas and Barnes simply dismiss it; Mignucci does not explain why the Stoics might mistakenly think existential symmetry holds of relatively disposed items.

In section 10.2, I pointed out that in the Stoic category scheme, an individual might be considered to be the basis for a set of *qua* objects. I especially argued that a relatively disposed thing is a *qua* object. Thus, Priam *qua* father is relatively disposed to Hector. Priam being a father is the basis for a separate object, Priam *qua* father. Hector being a son is the basis for a separate object, Hector *qua* son. Priam *qua* father is essentially a father; Hector *qua* son is essentially a son. But Priam *qua* father can exist at different times to the concrete individual Priam, even though Priam grounds Priam *qua* father. So Priam *qua* father, is relatively disposed as a father, to Hector. Hector *qua* son, is relatively disposed as a son, to Priam.

We can now make sense of Simplicius' puzzling assertion. When Hector ceases to exist, Priam is no longer relatively disposed as a father to Hector. Since Priam is no longer relatively disposed to Hector, Priam *qua* father of Hector ceases to be. But it does not follow from this that Priam ceases to be. Nor does it follow that Priam ceases to be disposed in other ways. In fact, since, on the constitutive view of relativity, its relation to a son constitutes a father, so when the son ceases to be, the father ceases to be. But, again, it does not follow from this that Priam ceases to be, only that Priam *qua* father ceases to be. With the constitutive view, it is easy to make sense of the Stoic's commitment to existential dependence of the relative on the correlative.

⁶⁸ (Annas and Barnes 1985, 135) and (Mignucci 1988b, 182–3) express this worry with existential symmetry.

Cognitive symmetry features prominently in Aristotle's discussion in *Categories* 7. In Aristotle, we saw that cognitive symmetry was a matter of knowing *definitely* (section 6.4). If some agent knows definitely a relative then she knows definitely the correlative. Cognitive symmetry was used to distinguish generic from specific relativities in Aristotle. But, again, this feature is noticeably absent from Simplicius' report. This, of course, is no reason to think that the Stoics denied some sort of epistemic symmetry for either the relatively disposed things or the differentiated relatives. But the epistemic symmetry is of a weaker sort than what we call cognitive symmetry. Epistemic symmetry is not a matter of knowing definitely, but merely knowing:

(EPISTEMIC SYMMETRY) For all x and for some y , (if x and y are a correlative pair then (if a knows x then a knows y)).

It makes sense that the Stoics would endorse epistemic symmetry. For the relatively disposed: if I know what a father is, then I know that the father has an offspring. For the differentiated relatives: if I know what it is to be sweet, then I know that being sweet is the power to sweeten. But if I know what the power to sweeten is, I know that it is a power in relation to the bitter. As long as knowledge is closed under known implication, if I know what sweetness is, I know that it acts in relation to the bitter. So I know at least something about the correlative. In the case of differentiated relatives, cognitive symmetry may not apply but a slightly weakened version of the principle does.

So the Stoics could endorse this weaker principle, epistemic symmetry. Is there any evidence that they did? Mignucci's admirably thorough sifting of the evidence for Stoic relativity turns up a discussion in the *Scholia Marciana* possibly attributed to Heliodorus and based on Stoic material.⁶⁹ My interpretation of this witness differs significantly from Mignucci's and we must bear in mind that, because this evidence probably dates from the eighth century AD, we cannot rule out contamination from other sources, particularly Aristotelian sources. Furthermore, the metaphysical terminology seems filtered through grammatical terminology. Despite these reservations, we do have an attribution of epistemic symmetry to the Stoic relatively disposed items, based on the existential dependence that characterizes the relatively disposed:

(T7) A relatively disposed ($\pi\rho\acute{o}\varsigma\ \tau\iota\ \epsilon\check{\chi}\omicron\nu$) is that which has a relation to something else; if one gives one of them, an understanding of the other comes to

⁶⁹ See the notes in (Mignucci 1988b, 189n54).

be and ceases with it; for instance, when I say ‘father’ I understand the son too, since there will be no father if there is no son. Thus when there is the son there will be also the father; but if the son is destroyed the name of the father is also destroyed

(*Grammatici Graeci* 1, 3, 387.8–12) (cf. Mignucci 1988: 189).

According to this passage, understanding of the relative comes with understanding of the correlative. Despite the difference in terminology, this seems like an instance of epistemic symmetry. The source explains epistemic symmetry by appealing to existential symmetry: a father depends for his existence on having a son. This is supposed to explain why, if I know a father, or I know the referent of the expression, ‘father’, then I know a son. The Stoics were well aware that one could know an individual father without knowing that he is a father.⁷⁰ The epistemic dependence here is not between individual fathers and sons but rather between father as such and offspring as such.

On the view of the relatively disposed I have been pressing, we can understand how this explanation is supposed to work. A father as such depends for its existence on the offspring as such. So knowing what ‘a father’ means entails knowing that there is something that is the offspring of that father. If I don’t know that ‘a father’ means something that relates to an offspring, I can’t really be said to know what ‘a father’ means. So, although not reported in Simplicius, there is some evidence that links epistemic symmetry to the Stoic relatively disposed items.

A number of other sources confirm this view of relatives in the Stoics. In particular, Sextus gives two arguments against the coherence of signs (*PH* 2 117–20). The second (*PH* 2 118.5–120) attacks any notion of a sign, not just the Stoic. But the first argument, from *PH* 2 117.1–118.5, targets the technical Stoic notion of a sign as a ‘preantecedent statement in a sound conditional, indicative of the consequence’ (*PH* 2 104). Here is Sextus’ argument:

(T8) [I]t is not possible that [signs] indicate their consequences, if the sign is relative to the signified and because of that is grasped together with it. For the relatives are grasped with each other. And just as it is not possible to have grasped the right as right of left before the left, nor the reverse, and similarly with the other relatives, so too it is not possible to have grasped the sign as of a signified before the signified. But if the sign is not pre-grasped

⁷⁰ DL 7.192=LS37B; Lucian, *Philosophers for Sale* 22=LS37L=SVF 2.287.

before the signified, it is not possible that it is indicative either since it is grasped at the same time as it and not after it.

(*PH* 2 117–18. My translation based on Annas and Barnes).

I reconstruct Sextus' argument this way:

1. For all x and y , if x is a sign of y , then x and y are correlatives.
2. For all x and y , if x and y are correlatives, then x and y are grasped at the same time.
3. For all x and y , if x is indicative of y , then x is grasped before y .
4. Suppose a is a preantecedent statement in a sound conditional indicative of the consequence, b .
5. a is a sign and b is a signified. [From 4, Stoic definition of signs]
6. a and b are grasped together. [From 1, 2, 5]
7. a is not grasped before b . [From 6]
8. a is not indicative of b . [From 3 and 7].

Since 'a' and 'b' are just any sign and its signified, nothing turns on which sign and signified are in question. So, Sextus' conclusion is completely general. Sextus' argument seems valid. Premise (1) is true and follows directly from the Stoic definition of a sign and some minimal assumptions about relatives; in particular, that where x relates to y , then x and y are correlative: the sign relates to the signified and so the sign and signified are correlatives. Smoke is a sign, which signifies fire. So smoke and fire are correlatives.

Premise (2) asserts epistemic symmetry: the claim correlatives are grasped together (*συγκαταλαμβάνεται*).⁷¹ Sextus formulates his point quite generally, such that if any relative is grasped, so too is its correlative. The thought may be something like this. You cannot grasp that smoke is a sign of fire, unless you already know what a sign is and what a signified thing is.⁷² But (2) seems to be part of the Stoic conception of relatives. That is the sense in which a relative and correlative are grasped together, for the Stoics: to know what a relative is, one must know what its correlative is.

Premise (2) can be safely attributed to the Stoics. Given that this argument targets the specifically Stoic notion of signs, rather than a more general dogmatic concept, it gives evidence that the Stoics endorsed epistemic symmetry

⁷¹ This term is often used in Sextus to discuss this epistemic symmetry of correlative items: (*PH* 2 117–120, 125, 169; *M* 8 165, 169–170, 175, 394), cited in (Barnes 1988b, 24).

⁷² Cf. Sextus, *M* 8 165 and (Barnes 1988b, 6).

for relatives. Notice too that since Sextus goes on to give a structurally similar argument against signs in general (*PH* 2 118, 5–120), at *PH* 2 117.1–118.5 Sextus must have the specific Stoic view in mind, rather than some general dogmatic view that epistemic symmetry holds. Otherwise, two arguments would not be needed.

10.5.3 Aliorelativity

Simplicius mentions repeatedly that both the differentiated relatives and the relatively disposed things are relative to ‘something else.’⁷³ Clearly at least some Stoic relatives obey aliorelativity, but the source conveys the strong impression that all of each sort of relative is aliorelative. I think we can understand why the Stoics may think this. For the differentiated relatives, the central cases are of a relative that is constituted by a power to act, relating to something that is constituted by its power to be acted upon. But it seems plausible that nothing is constituted by both a power to act and a power to be acted upon.

In the case of the relatively disposed things, the thought is a little less clear. An equal thing is constituted by the relation it bears to itself. But it seems that that equal thing need not be aliorelative. I suppose the reason to think that the relatively disposed things must be constituted by a relation to something else is that non-aliorelatives would be simple disposed things. In Stoic metaphysics, something can have a disposition, an equal, but it has that disposition independently of anything else, in rather the same way that Achilles can have the disposition standing or running independently of anything else. It is only those dispositions which something cannot have independently which end up being relative dispositions. So naturally all relative dispositions are aliorelative.

Conclusion

This chapter explained how the distinction between two notions of relativity fits into Stoic philosophy: differentiated relatives pertain to fundamental Stoic physics, the relatively disposed things to Stoic metaphysics, particularly the four categories. I argued that my reading makes sense of the debate within the

⁷³ For the relatively disposed things: Simp. *In Cat.* 166, 13; for the relatives: Simp. *In Cat.* 166, 17; Simp. *In Cat.* 166, 20.

Stoa over the unity of virtue. Finally, I showed that these two notions of relativity connect to different features of relativity, common in ancient thought: existential symmetry, epistemic symmetry, and aliorelativity. This proved the value of my project but also provides indirect evidence for the main claims of Chapter 9: that Stoic relatives are constituted by a power to act in relation to something, while Stoic relative dispositions are constituted by a relation.

I've now charted the course of ancient thinking about relativity from Plato to Chrysippus. I've not made any claims about how the earlier views influenced the later; but we have seen remarkable convergence—many analyse relativity as a relation to a correlative constituting a relative. Many philosophers retain formal features like reciprocity, cognitive symmetry, and existential symmetry. Certainly, there are important differences across generations and schools: Plato's relatives are general objects; Aristotle makes room for specific, individual relatives; the Stoics find the need to account for relative powers as well as specific relatives. But these differences are driven by philosophical developments beyond relativity: by reflecting on substance and non-substantial individuals in the case of Aristotle; by reflecting on fundamental physical and metaphysical commitments for the Stoics. Relativity underpins many arguments in these thinkers, but relativity plays second fiddle, not first violin. In the final chapter, I look at some thinkers who build their philosophy around the phenomenon of relativity: the Pyrrhonian Sceptics.

Relativity against dogmatism in Sextus Empiricus

Introduction

Sextus often tells us that relativity underpins Pyrrhonian Scepticism (*PH* 1 39; *PH* 1 137–9; *PH* 1 167). Some scholarship focuses on the role of relativity in overarching Pyrrhonist sceptical strategies.¹ Much less scholarship addresses relativity in Sextus more generally. This question is important since how Sextus takes relativity should inform our understanding of the role of relativity in the Pyrrhonist strategies.

Some scholars argue that for Sextus a thing, *a*, is a relative just in case *a* bears an ‘incomplete’ predicate, a predicate of the form ‘ $\exists y(Ray)$ ’. However, such a view cannot explain all the dialectical uses to which Sextus puts relatives. In this chapter, I argue that we find in Sextus the view that *a* is a relative just in case ‘*Rab*’ is part of the concept of ‘*a*’. In other words: *a*, conceived of as relative to *b*, is a relative. Sextus’ conceptual view of relativity is a close cousin of the constitutive view detected in ancient philosophy but the move to the conceptual level serves Sextus’ suspicion that we cannot access the real nature of things.

Two sorts of argument support my reading. The first are direct arguments based on Sextus’ ‘Sceptical’ concept of relativity (*M* 8 161.4–163.1; *M* 8 164–5). The second are indirect arguments, based on an inference to the best explanation. In arguments against the dogmatic concepts of signs, causes, and proofs, Sextus relies on epistemic symmetry, existential symmetry, and aliorelativity. This can only be explained if Sextus invokes the conceptual view.

In section 11.1, I set up the two readings of Sextus’ view of relativity. Section 11.2, presents the direct argument. Section 11.3 discusses the indirect

¹ On relativity in the ten Aenesidemian modes: (Barnes 1988b, 22); (Annas and Barnes 1985, 128–45); (Barnes 1988, 10–15); (Hankinson 1995, 155–81); (Sedley 2015). On relativity in the Agrippan material: (Barnes 1988b, 15–19); (Hankinson 1995, 163); (Brennan and Lee 2014).

evidence: anti-dogmatic arguments that rely on formal principles governing relatives. These formal principles only obtain given a conceptual reading.

11.1 Accounts of relativity

This section sets up two readings of relativity in Sextus.² The readings differ on how Sextus delineates relatives. Traditionally, scholars hold that Sextus invokes an incompleteness reading of relativity.³ In line with the incompleteness view, traditional readers take Sextus to invoke the idea of incomplete predicates: predicates of the form $\exists y(Ray)$ or those synonymous with such predicates. One problem: when discussing what relativity is, Sextus focuses on *things* that relate rather than *predicates* that have some semantic feature (cf. *M* 8 161; *M* 8 163; *M* 8 453; *M* 10 269–75).⁴ The incompleteness reading uses the analysis of relativized predicates to specify this class of relative entities. Once we have defined the class of incomplete predicates in the usual way usual, the relative entities are the entities of which an incomplete predicate is true.⁵

The traditional reading both over-generates and under-generates relatives. Sextus supposes ‘bitter’ to be non-relative at *M* 8 161. But ‘ α is bitter’ arguably means ‘ α is bitter compared to something’. So, ‘ α is bitter’ is synonymous with a predicate of the form $\exists y(R\alpha y)$. So on the traditional reading ‘bitter’ is a relative, contrary to Sextus’ supposition. The traditional reading also under-generates. Sextus supposes proof to be a relative (*PH* 2 175; *M* 8 335; *M* 8 387), but, while ‘ p is a proof’ may entail ‘ p is a proof of something’, ‘ p is a proof’ is not synonymous with ‘ p is a proof of something’. Saying that p is a proof claims a certain epistemic status for p but not a relational status for p .

² I bracket the discussions of relativity in our other main sources for Pyrrhonism (namely, Diogenes Laertius and Philo of Alexandria). (Annas and Barnes 1985, 131–40) hold that each source exhibits a different notion of relativity.

³ Mainly (Annas and Barnes 1985, 139) and (Barnes 1988b, 21–3). (Brennan and Lee 2014, 248n3) also endorse a reading of relativity based on incomplete predicates. I describe the incompleteness reading in depth in the introduction (section 1.3.2).

⁴ (Barnes 1988b, 21) agrees that Sextus focuses on relative entities rather than relative properties despite his analysis putting relative properties at the forefront. (Annas and Barnes 1985) officially put relative properties first but occasionally slip into discussing entities as relative: ‘...darker *things* are semantically relative’ (Annas and Barnes 1985, 140. My italics).

⁵ Barnes has some fancy footwork to take in Sextus’ insistence on relative concepts, but this is incidental to his basic strategy. Barnes asserts that the class of incomplete predicates corresponds to a class of relative concepts. It then turns out that the class of relative entities is the class of entities which fall under a relative concept, but given how Barnes sets things up, this is just a trivial variation on his incompleteness analysis (Barnes 1988b, 23–4).

As well as getting the scope of relativity wrong, incompleteness cannot account for the formal features of relativity that Sextus relies on in his anti-dogmatic arguments. In Sextus epistemic symmetry and existential symmetry govern relatives.⁶ Epistemic symmetry claims that if an agent knows a relative, such a larger thing, then that agent also knows the correlative, a smaller thing. Sextus often invokes this principle (*PH* 2 117–20; 125; 169; 176; *PH* 3 7; 27–8; *M* 8 161–2; 165; 174–5; *M* 9 353; 355).⁷ Diogenes' report of Aenesidemus' relativity mode also invokes epistemic symmetry (*DL* 9 87–8), as does Philo's (*On Drunkenness* 186–8).⁸ If the incompleteness reading of relatives in Sextus is correct, a larger thing is a relative because 'is larger than something' is true of it. But this leaves mysterious why simply knowing a larger thing entails that an agent also knows the smaller thing. I know that Ajax is larger than something without knowing what. The incompleteness reading has difficulty accounting for epistemic symmetry.

Existential symmetry claims that a relative exists just when its correlative exists. Sextus often appeals to existential symmetry (*PH* 3 25–27; *PH* 3 101–3; *M* 8 164; 273; *M* 9 234; 340; 357; *M* 10 265–7).⁹ For example, a pet exists only when their owner exists: if the owner dies the animal ceases to be a pet. Again, the incompleteness view struggles to explain Sextus' invocation of existential symmetry. On that view, Argos is a relative because 'is a pet of something' is true of Argos. But when the man of whom Argos is a pet dies, Argos ceases to be a pet—he may cease to be a relative entity—but Argos continues to exist.

The incompleteness reading struggles to account for other formal features too. Sextus often appeals to aliorelativity (*PH* 2 175; *M* 8 387; *M* 9 239). For example, no entity proves itself. The traditional view has no principled way to ensure aliorelativity. 'α proves α' is a perfectly good incomplete predicate, so a self-prover is a relative entity on the incompleteness reading. But Sextus denies that a self-prover is a relative entity.¹⁰ But the incompleteness reading cannot give a principled reason why Sextus would deny that a self-prover is a relative entity. The best the incompleteness reading can do is to point out that aliorelativity is a commitment shared by many ancient philosophers.¹¹ While true this does not explain why Sextus in particular appeals to aliorelativity.

⁶ For earlier further discussion of these principles, see sections 1.4.3 and 1.4.4; for Aristotle 6.4; and for the Stoics 10.5.2.

⁷ Cited in (Barnes 1988b, 24).

⁸ Cf. (Annas and Barnes 1985, 129–38) who read these passages differently.

⁹ Cf. section 1.4.4.

¹⁰ (Barnes 1988b, 22) acknowledges this.

¹¹ (Barnes 1988b, 23).

11.1.1 The conceptual reading

I defend a different reading, the ‘conceptual’ reading. I take seriously Sextus’ remark that how relative entities are ‘conceived’ (*νοούμενα*) separates relative entities from non-relative ones (*M* 8 162). In particular, relative entities are ‘those things conceived according to their relation to something else.’¹² This definition has noteworthy features. First, being a relative is a matter of being conceived in a certain way, namely in relation to something. Second, being a relative is a matter of being conceived in relation to something *else*. Third, Sextus goes on to say that to conceive of the relative entity, ‘we need to focus at the same time’ on the entity *to which* it relates, the correlative (*M* 8 162). A relative is an entity that we cannot conceive of without also conceiving of something else. We could make Sextus’ conceptual account precise with the following statement:

(CONCEPT) *a* is a relative entity and *b* is its correlative iff (i) not ($a=b$); (ii) ‘*Rab*’ is part of the concept ‘*a*’.

Concept asserts that one cannot think of a relative entity except as bearing some relation to something else, indeed, to something that bears the relation back to it.¹³ For example, the relation ‘larger’ is the reciprocal of ‘smaller’. The concept of some relative entities may include more than the relation. Sextus does mention this, but the relation may be merely a proper part of the concept the relative entity. A father is a relative entity, and the concept of a father includes the relation ‘is a father of offspring’. But the concept of a father also involves being male.

How does this compare with the traditional reading? On concept, Achilles is not a relative entity. It is not part of the concept of ‘Achilles’ that Achilles relates to something. But, on concept, items like ‘the paler thing’, ‘a parent’, or ‘a master’ are relatives. The concept ‘a parent’ includes that a parent is parent of something, an offspring. Put another way, knowing what it is to be a parent involves knowing that a parent is parent of an offspring. The reverse also obtains: knowing what it is to be an offspring involves knowing that an

¹² ‘πρὸς τι δὲ ἐστὶ τὰ κατὰ τὴν ὡς πρὸς ἕτερον σχέσιν νοούμενα’. I translate *σχέσις* as ‘relation’ and ‘πρὸς τι’ as ‘relative entities’. *σχέσις* is attested as an expression for ‘relation’ in later antiquity (e.g. Galen, *PHP* 7, 1, 10–15=SVF 3.259=LS29E; Alexander, *In Met.* 83, 26) but could be translated in other ways (e.g. as ‘disposition’). However, ‘πρὸς τι’ cannot be translated as ‘relation’ here as it refers to the entities that relate rather than what relates them. For uses of *σχέσις* cf. Chapters 8–10.

¹³ Cf. section 1.4.3.

offspring is offspring of a parent. Moreover, according to concept, the *qua* object, Achilles *qua* a faster thing, would be a relative. It is part of the concept 'Achilles *qua* faster thing' that it is faster than something. On concept Achilles may not be a relative but Achilles *qua* faster than Hector is.

One observation: under the incompleteness reading the same relative entity can be encountered in different guises, depending on which relational predicates are true of it.¹⁴ Thus, Achilles, as a relative entity, can be thought of as Achilles, swifter than Hector. Or Achilles can be thought of as Achilles, son of Thetis. But on the conceptual reading, a relative entity cannot be encountered in different guises. A parent, as a relative entity, can only be conceived of as relative to an offspring, as the concept 'a parent' involves only that relation and the correlative. I cannot conceive of one and the same relative as a parent and as a faster thing, for example. Under concept, I have a lot more information about a relative entity. Just by knowing what it is to be a parent, I know that a parent is parent of offspring. But this bounty comes at the cost of being unable to reconceptualize a relative entity in different relationships.

Does this entail that under concept relatives are mind-dependent? Clearly, a relative depends on concepts in some sense. According to concept, a larger thing is a relative just in case 'being larger than a smaller thing' features in the concept of 'a larger thing'. Since being a relative depends on a relation featuring in a concept, without concepts there would be no relatives. But this does not imply that relatives are reducible to mental items. Sextus need not assume anti-realism about relatives.¹⁵ Concept is more modest: concept only says that we cannot access the nature relatives independently of our concepts. As Sextus likes to say, we cannot say what the nature of objects, independent of appearances.¹⁶ Since the conceptual account does not make claims about the nature of relatives but only about how relatives are conceived, the conceptual account works within Sextus' sceptical project.

11.2 *Explicit discussion of the conceptual account*

Sextus explicitly formulates the conceptual account during his discussion of signs in *M* 8. First, Sextus' strategy distinguishes relatives from absolutes

¹⁴ Cf. section 1.3.2.

¹⁵ Although *M* 8 454, 1–5 could be read as Sextus polemically characterizing the Stoics as anti-realists about *πρός τι* relatives, this does not imply that Sextus, or a Pyrrhonian, need be an anti-realist about relatives.

¹⁶ Here are a few examples. Perceptual cases: *PH* 1 78; *PH* 1 93; *PH* 1 125; Axiological cases: *PH* 1 87; *PH* 1 134; Epistemological cases: *PH* 1 123; *PH* 1 129; *PH* 1 140; Logical cases: *PH* 1 167; *PH* 1 200.

(*M* 8, 161–3). Second, Sextus gets agreement that signs are relatives (*M* 8 164). Third, he argues that, given certain formal features of relatives, which signs have in virtue of being relatives, signs cannot do what they are supposed to do (*M* 8 165–9). The second and third stages have parallels in *PH* (*PH* 2 117; 124–6) but the first stage does not. I now turn to that:

(T1) Amongst beings, the Sceptics say, some are according to difference, others are relatively disposed to something. Those according to difference are conceived according to their own subsistence and absolutely such as pale, dark, sweet, bitter, and everything like this. For we apprehend them bare and individually and without grasping them together with something else
(*M* 8 161.4–162.1).¹⁷

(T2) Relative are the things conceived according to their disposition relative to something else and not grasped absolutely, that is on their own; for example, paler and darker and sweeter and bitterer and anything if it is of this form. For pale or dark or bitter are thought of individually, not in the same way as paler or darker (*M* 8 162.1–7).

(T3) But in order that we conceive of one of them, it is necessary to apprehend also that thing of which it is paler or that thing of which it is darker
(*M* 8 162.7–9).

T1 reports a self-described sceptical view of relativity although Sextus may not endorse this view himself. After all, Sceptics speak without endorsing positions (*PH* 1 192–3). T1 and T2 use terminology familiar from Stoic sources on relativity, but Sextus does not target the Stoics in particular. I have already mentioned T2 above. T2 seems to use ‘conceiving’ and ‘grasping’ interchangeably. T3 gives important additional information in the form of a necessary condition: if an agent conceives of one relative, then the agent must also conceive of that to which that thing relates.

These passages indicate that Sextus invokes concept. In T1, Sextus draws an ontological distinction on the basis of a cognitive distinction: how things, particularly relatives, are conceived. Concept enables such a move, because concept establishes a connection between an ontological claim on the left hand side (i.e., what it is to be a relative entity) and some cognitive claims on the right hand side (i.e., about how things are conceived). If Sextus operates

¹⁷ Cf. section 9.4, where we saw differentiated relatives attributed to the Stoics. Here Sextus takes this as an avowedly sceptical notion although, of course, it could also be shared with the Stoics.

with concept he can use the cognitive distinction between how relative and non-relative items are conceived to draw an ontological distinction between relative and non-relative items. If Sextus were not operating with a view like concept, this move would be illegitimate.

T1–T3 also underline (ii) in concept. Relatives are those items conceived of as relating to something else. But what is it to conceive of something as relating to something else? Here is one answer. If S thinks of some item, x , as paler, S thinks of some item, y , than which x is paler. If S thinks of a snowball as paler, S must think of something than which the snowball is paler. This answer can't be quite right. First, it over-generates relatives. Almost anything can be conceived of as somehow relative to something else. Second, it seems false. To think of some x as paler, S need not think of some specific thing than which x is paler. Granted, S might have to think *that* x is paler than something, but S need not think of any given thing that it is darker than x .

T1 is better understood this way. A relative concept is any concept that cannot be grasped 'absolutely' that is, without grasping another concept. Dark and pale can each be conceived of without the other, but darker and paler cannot because to think of something as darker, we must conceive of it as darker than something paler. In other words, Sextus gives a modal analysis of relative concepts: the relative concepts are those that cannot be grasped without grasping some other concept.

This formulation is not yet fine-grained enough because it still over-generates relatives. I cannot adequately grasp the concept of a human without grasping the concept of an animal. But the concept human is not a relative concept because a human is not a relative item. Sextus refines his account to deal with such counter-examples in T3. T3 tells us that to conceive of something as paler, I also need to conceive of a thing *than which* the paler is paler. I need the concept of the correlative of the paler. The concept of a relative is such that to grasp it, one must grasp, not *some* other concept, but *the* concept of the correlative. This approach gives us the granularity to block the counter-example. To grasp the concept human, I must grasp some other concepts, but I need not grasp the concept of the correlative because human *has* no correlative.¹⁸

¹⁸ (Barnes 1988b, 22–3) explicates this move in linguistic terms, where relative concepts correspond to two-place predicates. This linguistic analysis seems unwarranted because Sextus' discussion remains in the cognitive domain.

Sextus' move relies on a distinction that he does not draw: the distinction between an act of *conceiving* and the *concepts* involved in that act.¹⁹ To conceive of something as pale, I need the concept pale, but not any other concepts. To conceive of something as paler, I need the concept paler, but also the concept darker. This is because to conceive of something as paler is just to conceive of that thing as paler than some darker thing. It would be false to claim that, if S conceives of some *x* as paler than some *y*, S does not also conceive that *y* is darker than *x*. So if S conceives of something as paler, S conceives of something as darker. Moreover, if S conceives of something as paler, then S must have the concept paler. Certain acts of conceiving correspond to certain concepts: acts of conceiving as relative correspond to relative concepts.

Thus, the conceptual view best captures Sextus' explanation of relativity because concept employs concepts to deliver ontology and because concept captures the necessary and sufficient conditions that Sextus gives. However, nothing shows that Sextus affirms concept as his own philosophical position on relativity. Sextus keeps the account of relativity broad enough to cover a range of dogmatic approaches to relativity centred on the key idea that relatives are the items conceived of in relation to something else.

11.3 *The conceptual account in action*

Sextus invokes the conceptual view in a range of dialectical arguments against dogmatic concepts. I will discuss three different arguments Sextus offers. In each case, the argument relies on an assumption that follows from the conceptual view of relatives.

11.3.1 Signs and epistemic symmetry

Sextus gives two arguments against the coherence of signs in *PH* 2 117–20. The first argument, from *PH* 2 117, 1–118, 5, targets the technical Stoic notion of a sign as a 'pre-antecedent statement in a sound conditional, indicative of

¹⁹ But which the Stoics did: Plutarch, *Com. Not.* 1084f–1085a=SVF 2.847 (part)=LS39F. This is how (Sedley 1985, 88–9) takes the point. Some scholars hold that the 'concepts' talk may have run its course in Stoicism with Zeno (Caston 1999, 184), but most scholars talk as if concepts form a key part of Stoic cognitive and semantic theory at least until Chrysippus (Brittain 2005, 166). Perhaps Galen, *Plac.* 5.3.1=SVF 2.841, part=LS53V, gives reason to think that Chrysippus appealed to conception (*ἐννοια*), as Galen reports Chrysippus as holding that reason is an assembly of conceptions (*ἐννοιαῶν*) and preconceptions (*προληψεῶν*). For further discussion see (Mansfeld 2003, 117).

the consequence' (*PH* 2 104).²⁰ Sextus then offers a more general argument against signs (cf. *PH* 2 118–20; *M* 8 164–5; *DL* 9 97). This argument does not rely on the particular Stoic account of signs; rather it relies on a more neutral account of signs many dogmatists would endorse. Sextus carries out a *reductio* to derive a contradiction in the dogmatist position:

(T4) For [the dogmatists] say that [signs] are both relative to something and revelatory of what is signified (to which they say [signs] are relative). Hence if it is relative to something and relative to what is signified, it must be co-grasped in every way with the sign, just like the left to the right and the upwards to the downwards and the other relatives. But if revelatory of what is signified, it must necessarily be grasped before them, in order that, having been pre-grasped before hand, it may lead us to a conception of the object known on the basis of it. But it is impossible to conceive of an object which cannot be recognized before something before which it must necessarily be grasped. Therefore, it is impossible to think of something which is both relative to something and revelatory of that relative to which it is conceived. But the sign is said to be both relative and revelatory of the signified; so it is impossible that the sign is conceived of. *PH* 2 118–120. Translation Annas and Barnes, modified. Cf. *M* 8 165–9; *DL* 9 97.²¹

Sextus argues that there are no signs and no signified things. Sextus describes the relationship of sign to signified using the cognitive notion of relatives being 'co-grasped' (*συγκαταλαμβάνεται*). Such 'συν-' compounds are common when Sextus discusses the relationship of relatives to each other.²² The force of the 'grasping' is cognitive but also covers all the judgements in question.

²⁰ I discussed this argument in section 10.5.2.

²¹ There is a puzzle in the second sentence of this text. Here is the Greek: ὅθεν εἰ μὲν πρὸς τι ἐστὶ καὶ πρὸς τῷ σημειωτῷ, συγκαταλαμβάνεσθαι πάντως ὀφείλει τῷ σημειωτῷ, καθάπερ τὸ ἀριστερόν τῷ δεξιῷ καὶ τὸ ἄνω τῷ κάτω καὶ τὰ ἄλλα <τὰ> πρὸς τι. Something unusual happens in the Greek here, for which I don't have a good explanation. In Greek, relativities are typically given with the genitive or πρὸς with accusative. In this text, Sextus uses πρὸς with accusative but also πρὸς with a dative, for example, πρὸς τῷ σημειωτῷ. There are a few possible linguistic explanations. One is that συγκαταλαμβάνεσθαι, being a συν-compound, takes an object in the dative. This wouldn't quite work since πρὸς τῷ σημειωτῷ is an indirect object of συγκαταλαμβάνεσθαι, not a direct object but maybe Sextus feels that the gravity of the συν-prefix attracts the indirect πρὸς into the dative. The other explanation is that, following usual Greek usage, πρὸς with a dative indicates a very close connection (*LSJ* sv. πρὸς bii). Thanks to Brad Inwood for raising this puzzle.

²² Relatives are 'understood together' *συννοεῖσθαι* (*PH* 3 27–8), 'comprehended together' *συνεπινοεῖσθαι* (*M* 8 161, 165), and we 'remember them together' *συνμνημόνευσις* (*M* 9 353, 355, 356). We 'light on them together' *συνεπιβάλλειν* (*M* VIII 162); they 'strike us together' *συννοσπίπτειν* (*M* 8 165, 174). Relatives are 'grasped together' *καταλαμβάνεσθαι* (*PH* 2 117–120, 125, 169; *M* 8 165, 169–70, 175, 394). This vocabulary suggests epistemic symmetry between relatives and their partner. But there is also an existential aspect to the symmetry. Relatives 'exist together' *συνπαρῆχειν* (*PH* 3 25, 27; *M* 8 273; 9 234, 340; 10 265–7) and 'subsist together' *συννφίστασθαι* (*PH* 3 26, 27; *M* 8 273). They are

For example, grasping the sign that a woman is lactating (an obstetric judgement) is a different cognitive operation from grasping the sign smoke by smelling smoke (olfactory perception) and even definitional judgements, such as knowing what ‘the left’ is. Hence, we should take ‘grasping’ to cover a broad range of cognitive operations.

The argument of T4 can be reconstructed like this:

1. a is a sign of the signified b iff a reveals b [Premise]
2. For all x and for some y , if x is a sign and y is a signified, then Rxy [Premise]
3. For all x and for some y , (if (x is grasped at t_n and Rxy), then y is grasped at t_n) [Premise]
4. For all x and for some y , (if (x is a sign and y is a signified), then x and y are grasped at t_n) [From 2, 3]
5. For all x and for some y , (if (x reveals y and x is grasped at t_n), then y is grasped at t_n) [Premise]
6. Suppose a is a sign and b is a signified [Supposition for *reductio*]
7. a and b are grasped at t_n [From 4, 6]
8. a does not reveal b [From 5, 7]
9. a reveals b [From 1, 6]
10. \perp [From 8, 9]
11. So not (a is a sign and b is a signified) [Discharge *reductio*]

Since ‘ a ’ and ‘ b ’ are arbitrary, nothing in this argument turns on which sign and signified are in question and Sextus’ conclusion is general. Premise (3) is not explicit in the text, but must be added as an assumption. With that assumption, the argument shows no two things stand in the ‘signifies’ relationship. The line of thought is simple enough. Signification entails a relationship; a relationship entails grasping the relatives at the same time; but signification entails that the sign is grasped before the signified. So, signification is incoherent.

Although valid, it is hard to escape the feeling that Sextus’ argument has gone wrong because the conclusion is false. The problem is premise (3). Sextus needs a version of epistemic symmetry about relatives for his argument to go through:

(GRASP) For all x and for some y , (if (x is grasped at t_n and Rxy), then y is grasped at t_n).

‘destroyed together’ *συναναίρεῖσθαι* (PH 3 101; M 8 164; 9 357; 10 267) they are ‘routed together’ *συνπεριτρέπεσθαι* (PH 3 103). Examples and translations from (Barnes 1988b, 24).

The problem is that grasp is false. Basic arithmetic relates to there being no largest prime. I have grasped basic arithmetic, but I have not grasped that there is no largest prime. I certainly did not grasp that theorem at the same time as grasping basic arithmetic. So grasp is false, making Sextus' argument overall unsound.

But taking the conceptual view of relatives, we can explain the presence of grasp. Under the conceptual reading, *a* is a relative entity just in case '*Rab*' is part of the concept of '*a*'. What would be involved in cognitively grasping *a*? Assume that Sextus holds:

For any *x*, if some agent grasps *x*, then that agent grasps what it is to be *x*.

Where *x* is a relative, under the conceptual account, this principle will give us grasp. On the conceptual account, a relative is simply what is conceived of as relating to some correlative. So to grasp a relative one must grasp that the relative relates to some correlative. This is the force of Sextus' remark, in T4, that to grasp the right, one must also grasp that the right is right of the left and hence at the same time grasp the left. Applying the conceptual reading to the anti-sign argument, a sign is a relative entity just in case being sign of a signified is part of the concept of a sign. To grasp a sign, one also, at the same time, grasps the signified. So grasp follows from the conceptual view of relatives.

Of course, this does not make the anti-signs argument good. In fact, the argument won't worry anyone since all it now shows is that when I grasp the concept 'a sign' I also grasp the concept 'a signified'.²³ The argument does *not* show that by grasping a sign I also grasp *what* that sign signifies, which would generate incoherence. Even supposing that grasping what a sign signifies always comes later than grasping the sign, the argument does not show that by grasping that a woman is lactating, I, at the same time, grasp that she has given birth. That is, it does not show the problematic conclusion that no two things stand in the '...signifies...' relationship; it only shows the true, but innocuous, conclusion that the notions 'sign' and 'signified' do not stand in the '...signifies...' relationship.

In short, the anti-signs argument confuses being a sign or signified thing with being the concept 'a sign' or 'a signified'. Signs and signified things, like smoke and fire, can stand in the '...signifies...' relation; the concept of 'a sign' and the concept of 'a signified' do not stand in the '...signifies...' relation. We might see this as a symptom of running together two ideas of relatives. On the

²³ For a treatment of these issues in Augustine, see (Nawar 2015, 9–11).

one hand, to make the argument sound, it relies on the conceptual view of relatives. On the other hand, to generate the problematic conclusion, it relies on the idea that two items not specifically conceptualized as sign and signified can stand in the ‘...signifies...’ relationship. But debunking this argument would depend on teasing the conceptual view of relatives from these alternatives. Many ancient thinkers would struggle to do this, especially if they are committed both to the idea that a relation to a correlative constitutes a relative and to something like knowing a thing entails knowing what it is. A sceptic is entitled to use the argument, especially against those who conflate different notions of relatives: the burden is on the dogmatist to show that their commonly held view of signs and a commonly held view of relatives cohere.

Thus, Sextus’ appeal to grasp is best explained by the conceptual view of relatives being in play. Sextus’ anti-signs argument involves the conceptual view of relatives. Many ancient thinkers would have trouble debunking the anti-signs argument due to their own commitments about relatives. This constitutes one indirect argument for Sextus’ dialectical commitment to the conceptual view of relatives. Unless Sextus dialectically holds that view, we cannot understand why grasp features in the anti-signs argument.

11.3.2 Causes and existential symmetry

Sextus’ attack on causes appeals to another symmetry principle: existential symmetry. Relatives exist at all the same times as their correlatives. In *PH* 3 Sextus offers three arguments against causes, each of which takes existential symmetry as a premise. The first is a destructive dilemma (*PH* 3 25–6), the second a destructive trilemma (*PH* 3 26–7; cf. *M* 9 232–6), and the third Sextus calls a ‘peritrope’ (*PH* 3 28). Below, I will discuss the trilemma that appears in *PH* 3 since it invokes existential symmetry in its general form. The trilemma starts with the claim that ‘either (i) the cause must co-exist (*συνυφίστασθαι*) with the effect or (ii) pre-exist it or (iii) come about after it’ (*PH* 3 26). When eliminating the second horn, Sextus invokes the existential symmetry of relatives:

(T5) But nor can [a cause] pre-exist [the effect]: for [the cause] is said to be conceived relative to [the effect] and the relatives, as they themselves say, in so far as they are relative to something, co-exist and are co-conceived with each other. (*PH* 3 26–7. My translation after Annas and Barnes).

Despite the use of ‘co-exist’ (*συνυπάρχειν*), which may be a Stoic term, this argument targets a range of dogmatic opponents. Regardless of the target, the structure is still significant for my reading of Sextus. This argument can be reconstructed in the following manner:

1. For all x and for some y , (if (x is a cause and y is an effect), then Rxy). [Premise]
2. For all x and for some y , (if Rxy , then (x exists at t_n iff y exists at t_n)). [Premise]
3. For all x and for some y , (if Rxy , then (x is conceived with y)). [Premise]
4. For all x and for some y , (if (x is a cause and y is an effect), then (x exists at $t_{m < n}$ and y exists at t_n)). [Premise]
5. So, for all x and for some y , (if (x is a cause and y is an effect), then not (x exists at $t_{m < n}$ and y exists at t_n)). [From 2, 4]

This sub-argument aims to establish the lemma that, since cause and effect exist at the same time, the cause cannot precede its effect. Again, I set out the argument in a rigorous way so we can see that the argument is valid, but the line of thought is simple: causation suffices for a relation; a relation suffices for existential symmetry; existential symmetry suffices for causes co-existing with their effects.

There are two worries about this argument. The first worry is that (2), existential symmetry, is false, so the argument is unsound:

(EXISTENTIAL SYMMETRY) For all x and for some y , (if Rxy , then for all t (x exists at t iff y exists at t)).

Sextus states existential symmetry explicitly, but the principle seems false. A father and a son are related to each other (indeed, one is a cause of the other, as Sextus admits in the parallel passage at *M* 9 235). But the father exists before the son. So existential symmetry is false.

The second worry is that (3) is irrelevant to deriving the conclusion. So why does Sextus include it? This is not, of course, a worry about the validity of the argument as a classically valid argument can have premises not used to derive the conclusion. Rather, it is an interpretive worry about why Sextus includes a logically irrelevant premise.

We can solve both of these problems together by invoking the conceptual view of relatives. First, the conceptual view yields existential symmetry. Second, Sextus includes premise (3) not because he needs (3) for validity, but

to indicate that his dogmatic opponents operate with the conceptual notion of relativity. While (3) is not a full statement of the conceptual view, it suffices to make the point that such a view of relatives is in play.

How does conceptual relativity entail existential symmetry? a is a relative just in case the relation, Rab , features in the concept of a . If so, a cannot be conceived of without b . If a cannot be conceived of without b , it is a conceptual truth that if a exists, b exists.²⁴ So at any time a exists, b exists. Applied to the case of a cause, a cause cannot be conceived without an effect. So it is a conceptual truth that if a cause exists, an effect exists. So at any time a cause exists, an effect exists. From which it follows that a cause does not pre-exist its effect.

If we invoke the conceptual reading, we can understand the argument. However, as with the anti-signs argument, the argument will not worry the proponent of causes. All the argument shows is that our concept of a cause exists at the same time as our concept of an effect. Can the conceptual reading say more to convince us that causes exist at the same time as effects? The father, say Priam, exists before the son, Hector. But before Hector exists, Priam *qua* father does not exist. Priam *qua* father is a relative on the conceptual account because the concept of Priam *qua* father involves a relation to an offspring. So before Priam's offspring exist, Priam *qua* father does not exist and Priam is not conceived of as a father. Likewise with the offspring: Hector, *qua* offspring, is conceived of as an offspring, and Hector *qua* offspring exists as long as Priam, conceived as a father exists. But, arguably, Priam *qua* father is the cause of Hector *qua* offspring. The cause, Priam, and the effect, Hector, need not exist together; but Priam, conceived of as a cause, and Hector, conceived of as an effect, do, in fact, exist together.

The anti-cause argument provides further indirect evidence for the presence of the conceptual view of relatives in Sextus. Without that view, the anti-cause argument appeals to a false premise. So the best way understand Sextus' attack is that it relies on the conceptual view of relatives. Hence, this view is present in Sextus.

11.3.3 Demonstration and aliorelativity

In a number of anti-demonstration arguments, Sextus exploits the idea that demonstration is relative to the conclusion (*PH* 2 169; *PH* 2 179; *M* 8 335;

²⁴ This conditional may be false, but I'm assuming that Sextus would endorse it.

M 8 462). For now I focus on an argument which exploits dogmatic commitments about relativity and about consequence. Here is the text:

(T6) Moreover (*εἴτα καὶ ἐπεὶ*),²⁵ they say that demonstration is relative to something; i.e., relative to the consequent (*ἐπιφοράν*) and relatives are conceived of relative to other things, as they themselves say, then it must be that what is demonstrated is other than the demonstration. So if the conclusion (*συμπέρασμα*) is what is demonstrated the demonstration is not thought of with the conclusion. For also either the conclusion contributes something towards the demonstration or it doesn't. If it does contribute, it will be revelatory of itself and if it does not contribute but is redundant, it will not be part of the demonstration, when we will say that the demonstration is unsound by redundancy (*PH* 2 175. My translation after Annas and Barnes).

We could reconstruct the argument of T6 in the following way:

1. For all x and for some y (if Rxy then x is different from y) [Aliorelativity]
2. a is a proof [Premise]
3. b is the conclusion of a [Premise]
4. a is a proof and b is the conclusion of a [From 2, 3]
5. If a is a proof and b the conclusion of a then Rab [Premise]
6. a is different to b [From 1, 5]
7. Either (b adds something to a) or not (b adds something to a) [Dilemma]
8. Suppose b adds something to a [Supposition]
9. If b adds something to a then b reveals itself [Premise]
10. b reveals itself [From 8, 9]
11. For any proof, the conclusion does not reveal itself [Circularity]
12. So, a is a non-proof [From 10, 11]
13. Suppose not (b adds something to a) [Supposition]
14. If not (b adds something to a) then b is not part of a [Premise]
15. b is not part of a [From 13, 14]
16. For any part of any proof, that part adds something to the proof [From Redundancy]
17. So, a is a non-proof [From 15, 16]²⁶
18. So, a is a non-proof [Discharge Dilemma]

²⁵ Annas and Barnes translate this *ἐπεὶ* as 'since' but that gets Sextus line of argument the wrong way round. I've taken the *ἐπεὶ* with the future indicative as a temporal clause, rather than as Annas and Barnes, as a causal clause.

²⁶ Since the conclusion, b , adds nothing to the 'proof' a , by redundancy, turns out not to be a proof.

A few preliminary points: T6 uses two different words for the conclusion of a demonstration *ἐπιφοράν* and *συμπέρασμα*. The former is Stoic logical vocabulary, the latter Aristotelian.²⁷ This reflects Sextus' tendency to gloss over doctrinal differences between different dogmatists' positions. This makes it tricky to be definite about the target of Sextus' argument. But the Stoics, at least, must be squarely in the frame since there is a direct allusion to the Stoic view that some arguments are no good because of redundancy (*παρολκῆ*). Redundancy occurs when one of the premises is not used to derive the conclusion (Sextus *M* 8 431.1–432.1). Avoiding redundancy was a condition on giving a good argument in Stoic logic:

(T7) Argument is invalid through redundancy when something extraneous is superfluously added alongside the premises, as in 'If it is day, it is light. But it is day. But also virtue benefits. Therefore it is light.' For the premise that virtue benefits is superfluously added alongside the other premises since on its removal it is possible through the remainder, 'if it is day, it is light' and 'but it is day', for the conclusion 'therefore it is light' can be deduced
(Sextus *M* 8, 431, 1–432, 1).

Redundancy is a foul in Stoic logic which works in the following way.²⁸ Suppose that we present the set of premises of a putative proof as ' Γ ' and the conclusion as ' q ':

(REDUNDANCY) The proof ' Γ entails q ' commits redundancy iff there is some premise p in Γ such that if p is removed from Γ , then Γ entails q .

A 'proof' that can lose a premise yet still entail the conclusion is not a proof in Stoic logic. As well as redundancy being a foul, circularity is also a problem for a proof: nothing can prove itself in either Peripatetic logic (*Prior Analytics* 24b18–20) or Stoic logic (Alexander, *in A.Pr.* 18, 12–22).

(CIRCULARITY) ' Γ entails q ' commits circularity iff q is in Γ .

That is, an argument is circular just in case the conclusion is in the set of premises.

²⁷ Although maybe *συμπέρασμα* appears as Stoic vocabulary as well: *PH* 2 135.

²⁸ Arguably, 'redundancy' could be a failure in Aristotelian syllogistic logic too. In the syllogistic system, no valid arguments have premises not used in the derivation of the conclusion. Aristotle's general definitions of 'syllogism' also have some relevance requirement (*Prior Analytics* 24b20).

Second, the targets of this argument are supposed to agree with a key premise; namely, that relatives are, or are conceived of, relative to other things. Aliorelativity was a commonplace in antiquity, as we have seen.²⁹ But Sextus needs a stronger aliorelativity whereby if two things relate to each other, one cannot be part of the other: Sextus needs that the conclusion not be part of the demonstration.

The argument of T6 aims to catch the notion of demonstration in a dilemma. Either: (i) the conclusion contributes something to the demonstration or (ii) the conclusion does not contribute something to the demonstration. If (i) then the conclusion will be revelatory of itself, which is circular. If (ii) then the conclusion will be redundant. But in that case, the demonstration includes redundant premises. So the demonstration is unsound by redundancy. Sextus invokes a formal feature of relatives, aliorelativity, to establish the lemma that the conclusion contributes nothing to the demonstration; that is, (ii), on the grounds that the conclusion must be conceived of as separate to the demonstration. I reconstruct the argument for this lemma here:

1. For all x and for some y , (if (x is a demonstration and y is its conclusion), then Rxy) [Premise]
2. For all x and for some y , (if Rxy , then x is conceived of as different to y) [Premise]
3. For all x and for some y , (if (x is a demonstration and y is its conclusion), then x is conceived of as different to y) [From 1, 2]

Again, since nothing turns on which specific demonstration is under discussion, the argument threatens all demonstrations. Sextus' argument, although valid, involves a false premise—premise (2). In its general form, aliorelativity is false: Achilles is equal to himself; so Achilles relates to himself. But Achilles is not conceived of as different to himself: it is hard to see what this could even amount to. But aliorelativity, premise (2), does not assert that nothing relates to itself. Sextus' aliorelativity only rules out *conceiving* of a relative as relating to itself. The incompleteness view cannot account for this commitment to aliorelativity. '... is equal to ...' is a perfectly good example of an incomplete predicate. So on an incompleteness view, premise (2) is obviously false.

While the incompleteness view cannot explain Sextus' appeal to aliorelativity, the conceptual view should. In cases where a relative relates to a

²⁹ See sections 1.4.3, 2.5.2, 5.1, and 10.5.3.

correlative, the conceptual view entails that they must be conceived as different things. After all, the conceptual view stipulates that an entity is a relative just in case the concept of that entity involves a relation to something *else*. The same is manifestly true of relative entities like demonstration and conclusion. If a demonstration demonstrates a conclusion, then the demonstration cannot be thought of in relation to the conclusion on pain of failing to meet a necessary condition of being a relative entity. So, given the conceptual view of relatives and the uncontroversial claim that a demonstration is a relative, the conclusion cannot be thought of in relation to the demonstration.

This seems arbitrary. Aliorelativity follows from the conceptual view of relatives but only because the conceptual view happens to include condition (i), which stipulates that a relative and correlative are different.³⁰ Is it that Sextus, maybe following tradition, just holds that relatives and correlatives differ? Is there a reason behind this stipulation?

There is a reason. Take a putative relative like ‘the larger thing’. Setting aside Sextus’ condition (i), there is still a necessary condition on ‘the larger thing’ being a relative. The smaller thing must feature in the concept of ‘the larger thing’. This is acceptable. But when we suppose that a relative need not differ from its correlative, things go wrong. ‘An equal’ can be specified, as ‘equal to an equal’. But this is circular: the concept we are trying to specify, ‘an equal’, features in the specification, ‘an equal is equal to an equal’. Now, Sextus may have no problem with circular conceptions. But he certainly has quarrel with circular definitions (*PH* 2 207) and Sextus, at least twice, happily discusses definitions (*PH* 2 23–8) under the heading of conceptions (*PH* 2 22; *PH* 2 29). This suggests that in Sextus, if someone has conception of *X*, then that person has a definition of *X*. In fact, there is plausibly a stronger connection between conception and definition since if someone has a definition of *X*, then plausibly they have a conception of *X*. For how could someone define *X* without having a conception of *X*?

So assume that Sextus dialectically holds the following biconditional: someone has a conception of *X* iff that person has a definition of *X*. This biconditional blocks circular conceptions. There are no circular definitions; that is, no definitions in which what is defined features in the gloss. But since no definitions have that form, and definition is equivalent to conception, no conceptions have that form. Applied to relatives under the conceptual account, no conception of a relative features that relative because no definition of a relative features that relative in the gloss.

³⁰ Thanks to Harvey Lederman for pressing me on this point.

With all this in place we can understand Sextus' overall anti-demonstration argument in the following way. The demonstration relates to the *demonstrandum*. Because of aliorelativity, the *demonstrandum* is conceived of as different from the demonstration. There are now two ways to read this difference. Either the *demonstrandum* contributes to the demonstration or not. In the first case, the *demonstrandum* contributes to its own demonstration. So the demonstration is circular and turns out not to be a demonstration. In the second case, the demonstration includes something different from it but which is not needed to prove the *demonstrandum*. So the demonstration has a redundant element and turns out not to be a demonstration. The conceptual view of relativity must be in the background here to make sense of how aliorelativity is used.

Understanding Sextus' anti-demonstration argument does not mean we should endorse it. The argument trades on an ambiguity in the term 'demonstration'. On the one hand, 'a demonstration' could refer to the premises together with the conclusion they prove. On the other hand, 'a demonstration' could refer to just the premises. With this ambiguity identified, we can actually grasp either horn of Sextus' dilemma. In the first sense of 'demonstration', the *demonstrandum* contributes to the demonstration as it is the conclusion of a demonstration. But in this sense, the *demonstrandum* does not contribute to its own proof: only the premises of the demonstration do that. So we can grasp the first horn of Sextus' dilemma. In the second sense of 'demonstration', a demonstration is just the premises. In that case, demonstration need not contain anything redundant in proving the *demonstrandum*. So we can also grasp the second horn of Sextus' dilemma. Sextus' argument trades on an ambiguity in 'demonstration', but, nevertheless, reveals that he endorses the conceptual view of relativity.

Finally, how does Sextus' conceptual relativity relate to the constitutive views of relativity that I detected in Plato, Aristotle, and Stoicism? On the one hand, the similarities are significant: conceptual relativity, like generic constitutive relativity, entails the formal features of epistemic symmetry and existential symmetry and aliorelativity. Conceptual relativity also adds a class of entities to a common-sense ontology: the relatives such as 'the larger man', that the incompleteness view would not recognize.

However, there is one obvious difference between the mainstream constitutive views and the conceptual view. On the former view, a relative is constituted by relating to something; on the latter a relative is constituted by being *conceived* relative to something. What would motivate Sextus to make this subtle change? One answer is this. The constitutive view makes a claim about

the nature of a relative. A relative has a relation as its nature. But Sextus is notoriously cautious of, even allergic to, making claims about how things are in their nature, especially when appearances conflict (*PH* 1 34; *PH* 1 59; *PH* 1 98; *PH* 1 193; *PH* 1 235). In fact, Sextus often contrasts relativity with nature (*PH* 1 132; *PH* 1 135; *PH* 1 140; *PH* 1 163; *PH* 1 167; *PH* 1 177; *PH* 1 186). In that context, moving his account of relativity to the conceptual level makes sense. Sextus ought to remain agnostic about the nature of a relative. And, as we have seen, it turns out that with that move, Sextus can deliver much of what the constitutive view delivers but without a commitment about how things are independent of how they are conceived.

Conclusion

This chapter has argued for what I call the conceptual view of relatives in Sextus. Traditionally, scholars have thought that Sextus dialectically holds a relative entity to be an entity of which an incomplete predicate, or synonym of an incomplete predicate, is true. Such a reading faces two related difficulties. It generates relative entities that Sextus does not think are relative; it cannot explain the formal features Sextus attributes to relative entities (aliorelativity, epistemic symmetry, and existential symmetry). I proposed a view of relative entities whereby an entity is relative just in case a relation to a correlative features in the concept of the relative. I argued for this reading from direct textual evidence when Sextus discusses the ‘Sceptical’ notion of relatives and from indirect evidence that certain otherwise puzzling arguments Sextus presents, which invoke epistemic symmetry, existential symmetry, and aliorelativity, can be explained on the conceptual view. We cannot ignore conceptual relativity if we want to understand many of the anti-dogmatic arguments Sextus makes.

12

Conclusion

This book has been about how ancient philosophers thought about relativity, what ideas they shared, and what ideas they did not. Throughout the book, I have tried to reconstruct ancient ideas with more sympathy than judgement. I have been more concerned with what the ancient views were than with assessing those views philosophically. I have reconstructed the arguments of Plato, Aristotle, Stoics, and Sextus, connecting one position to the next and one thinker to the last. But I have not given purely historical explanations. I have continually argued that ancient thinkers had reasons for the views they held. That is, I have offered philosophical explanations for the evidence we find in ancient philosophical texts.

I take it that this is a philosophical project. Ancient philosophy is philosophy and studying ancient philosophy is doing philosophy. That involves reconstructing arguments, evaluating them, showing conceptual connections, all because we seek some insight into a philosophical question. Of course, I might have to do more work to get at ancient philosophical material. Ancient philosophical sources are not as accessible as a twentieth-century monograph or a twenty-first-century online journal article. The ancients wrote in genres unfamiliar to us, from an alien literary and intellectual culture, of which very little survives. To engage with this material responsibly requires a good deal of interpretive work, itself often a philosophical enterprise. But the goal is to do philosophy.

The challenges of this enterprise go beyond the problems of comprehending the texts of ancient people. The challenge is to shed, or at least consciously suspend, certain of our own common-sense assumptions about relativity. Common sense, especially philosophical common sense, is not innate: it is acquired from our philosophical training, from our recent philosophical ancestors, and from their and our philosophical concerns. Shedding these presuppositions is difficult, and indeed, may be misguided. Analytic philosophy, in particular, has developed many logical and technical tools, which are hugely useful for getting a clearer understanding of ancient texts.

But when it comes to ancient relativity, analytically orientated scholars have allowed their common sense to get the better of them. Looking at ancient

relativity through the telescope of Frege and Russell—with the insights of the *Begriffsschrift* and the *Principles of Mathematics*—ancient relativity has appeared distorted. To some, the telescope is kaleidoscopic, making ancient thinking on relativity appear confused, fractured, even childish. To others, the telescope is rose-tinted and makes ancient thought on relativity appear like that in Frege, where we find the idea of a relation as an incomplete function.

However, making progress is not straightforwardly a matter of suspending common sense. The approach I have taken in this book, reconstructing arguments rigorously to see what assumptions about relativity ancient thinkers rely upon, draws on our sense of what is philosophically plausible and logically needed for a conclusion. Decisions about what is the right reading of an ancient philosophical text are bound up with philosophical commitments about what is plausible or reasonable, especially concerning relativity. In this book I have not so much tried to suspend philosophical common sense as to recognize that at least some parts of philosophical sense may not be common to our ancient colleagues and ourselves.

To explain where the ancients differed from us, I introduced three broad theses about ancient relativity. First that Plato, Aristotle, Stoics, and Sceptics share a broadly constitutive view of relativity. These thinkers share a theory of relativity that tends to ask ‘what is it to be a brother?’ or ‘what is it to be a larger thing?’ Their reflections on relativity begin by asking what it is to be a given relative. Not only that, but the relative does not simply have a relation, it is constituted by that relation. I showed that this is true for Plato on the basis of careful sifting of linguistic and dialectical evidence in Chapters 1 and 2: the constitutive view best explains certain puzzling dialectical moves Plato makes across speakers, arguments, and dialogues. Chapters 3 and 4 confirmed that Plato assumed a generic constitutive view of relativity by an inference to the best explanation. His discussions of separation and the Forms and the partition of the soul are compensable if Plato assumes generic constitutive relativity.

For Aristotle, my argument was direct since Aristotle’s treatment of relativity is more explicit. Chapter 5 was an exposition of the formal features of relatives in *Categories* 7, the *Topics*, and the *Sophistical Refutations*. I showed that formal features like aliorelativity, scalability, exclusivity, and reciprocity are present and are comprehensible on the generic constitutive view adopted by Aristotle. Chapter 6 delved more deeply into Aristotle’s reasons for distinguishing substances from relatives, arguing that Aristotle can distinguish substances from relatives by making a distinction within constitutive relativity. Chapter 7 showed that Aristotle’s view of relativity does not change

substantially between *Categories* 7 and *Metaphysics* 5.15. Chapter 8 brought the Platonic and Aristotelian strands of the book together, making sense of how Aristotle deployed relativity in his argument against Platonic Forms in his text *On Ideas*.

For the Stoics and Sceptics, views on relativity are more nuanced and adapted to other purposes, although constitutive relativity still exerted a strong influence. Chapter 9 showed that the Stoics also focus on relatives and still think about what it takes to be a relative by a direct reading of a report of a Stoic taxonomy. I confirmed this in Chapter 10 by asking what uses the different Stoic relativities would be put to. The Stoics adapt relativity for several purposes: their metaphysical analysis of objects; their physical analysis of objects; and, debates about the unity of virtues. Chapter 11 showed that Sextus articulates a view very like the constitutive view, although, as a sceptic, it is through concepts: after all, he would not be willing to think that we can access any items, including relatives, in themselves.

My second broad thesis about ancient relativity was that philosophy affects relativity. That is to say Plato, Aristotle, Stoics, and Sceptics adapted constitutive relativity to their own concerns and projects. I won't recap every example discussed in the book, but the different attitudes towards aliorelativity struck by Plato's Socrates in the *Charmides* and Aristotle in the *Categories* provide a great illustration. In the *Charmides*, Socrates was ambivalent about whether all relatives are aliorelative (section 2.5.2). He seems to have good reasons to think that at least some relatives are aliorelative but is unsure whether all relatives are aliorelative. Socrates even calls for a 'great man' to give an account of relativity in sufficient detail to decide the issue (Critias, by the way, is not that man). Socrates has a metaphysical picture of relativity—the power-to-nature analysis—but not one sufficient to decide the issue of aliorelativity.

In contrast, Aristotle is very clear that no relatives are aliorelatives because he adapts constitutive relativity into his ontological framework in the *Categories*. The crucial contextual difference is that the *Categories* has an ontology that insists on the primacy of primary substance. Transposed into this context, constitutive relativity must be aliorelativity. If a constitutive relative relates to itself, then it might be self-constituting. If a relative is self-constituting, then it might float free from primary substance. But that is not permissible in the ontology of the *Categories*. Furthermore, to maintain the primacy of primary substance, Aristotle needs to distinguish substances from relatives. This means introducing a refinement to the constitutive view, to distinguish generic and specific ways to take a relative.

Another quick example of the philosophical context affecting relativity comes from Sextus. Sextus moves from the ancient consensus about constitutive relativity to a related idea of conceptual relativity. On the one hand, in order to respond to his dogmatic opponents, Sextus wants to invoke relativity. But he cannot straightforwardly adopt the constitutive view of relativity. That move would be dialectically sound, since Sextus' opponents accept constitutive relativity, but might end up committing Sextus to a view about the natures of things, in this case, relatives, independently. To avoid this crux, rather than say that a relative is constituted by the relation it bears to a correlative, Sextus argues that a relative cannot be conceived of without its correlative. We saw how he put this to work in section 11.3. Constitutive relativity, planted in different contexts, grows slightly differently but always retains its core characteristics.

My third broad thesis was that, just as philosophy affects relativity, relativity affects philosophy. Prominent in this book has been the effect ancient thinking about relativity had on the debate over the Forms. Two chapters from this book deal with ways in which relativity was invoked in arguments against the Forms. Chapter 3 looked at the so-called Greatest Difficulty: an argument that Parmenides presents against the inchoate theory of Forms offered by the young Socrates. On my reading, the upshot of the Difficulty is not that there are no relations between Forms and participants. Rather, if we make some plausible assumptions about separation and are committed to constitutive relativity, the Forms cannot do the crucial work that a Platonist would want them for: for example, to be objects of knowledge. The Platonist could give up on constitutive relativity in order to save the Forms. But, as I pointed out in section 3.5, it is not obvious that Plato is such a Platonist.

Aristotle also deployed relativity against the Forms. At least, Aristotle pointed out that the Platonist's relatives argument generates Forms for relatives, which do not conform to common assumptions about how relativity works, as I showed in section 8.5. Correlatives, on the common, constitutive understanding of relativity are interdependent, but the supposedly correlative Forms generated by the Relatives Argument are each independent. It seems that the Relatives Argument generates items that have incompatible features. Thus, Aristotle turns shared assumptions about relativity against a Platonist argument for the Forms.

Given the troubles that constitutive relativity causes, you might think that Plato would be better off without it. But, as we saw in Chapter 4, a key argument of Plato's moral psychology—the argument that the soul has parts—depends on constitutive relativity. Plato's partition argument seemed to face

two serious objections. First, it generates too many parts in the soul; second, it does not generate enough parts in the soul. But a view of relativity, at least for intentional relatives, that involves exclusivity and the principle of qualification for relatives can save the argument from these objections, as I showed in section 4.3.

For the Stoics, I devoted Chapter 10 to explaining the ways in which constitutive relativity may have influenced their philosophical outlook. In section 10.1, we saw that a Stoic idea about fundamental physics relies on differentiated relatives, which are powers to act on each other. In section 10.2, I showed how relatively disposed things play a role in the Stoic metaphysical analysis of objects, which, according to the Stoics, can be parsed into the quartet of categories. Finally, section 10.3 showed how Stoic thinking about the relatively disposed had an impact on Stoic ethics; in particular, the debate between Aristo's claims about the unity of the virtues and Chrysippus' refutation of it.

Those are, of course, just some of the ways in which relativity impinges on ancient philosophy. I discussed more in this book, and there are many more left to discuss.

12.1 Horses' heads

I don't hold the constitutive view of relativity and I don't think you should either. Nor do I think that one of the more refined versions of constitutive relativity we have encountered in the book will remedy its shortcomings. The principal failing of the view is in its DNA. On a constitutive view of relativity two (or more) different relations cannot hold of one (and the same) relative. Constitutive relativity matches relatives, relations, and correlatives one-to-one-to-one. This feature prevents constitutive relativity doing some crucial explanatory work that we would want from a theory of relativity.

Russell famously puts the point against Plato this way:

(T1) Plato is perpetually getting into trouble through not understanding relative terms. He thinks that if A is greater than B and less than C, that A is at once great and small, which seems to him a contradiction. Such troubles are among the infantile diseases of philosophy (Russell 1946, 143).¹

¹ Cf. (Russell 1946, 164).

We're now in a position to see precisely what is wrong about Russell's criticism but also what is right about it. Russell is wrong to say that Plato thinks that just because something, *a*, is greater than *b* and smaller than *c*, *a* is both great and small. On the constitutive view, Plato would say that *a* is greater than *b* and *a* is smaller than *c* would entail that *a* is both a larger thing and a smaller thing. But, on this view, nothing is both a larger thing and a smaller thing. If pressed, Plato would admit that *a* is not greater than *b* and smaller than *c* after all.

But that reveals the flaw of the constitutive view. Any adequate account of the phenomenon of relativity—the phenomenon that things relate to things—needs to leave room for *one and the same thing* to bear different relations to *different* things. Contrary to Russell, the problem is not that Plato thinks that '*a* is larger than *b* and smaller than *c*' is a contradiction; the problem is that Plato thinks that '*a* is larger than *b* and smaller than *c*' is false.

This flaw in the constitutive way of thinking about relatives was seen clearly in the nineteenth and early twentieth century, when logicians began to develop the formal logic of relations. There is a well-known quip from De Morgan, quoted by Tarski: 'All the logic of Aristotle does not permit us, from the fact that a horse is an animal to conclude that the head of a horse is the head of an animal.'² I can't find De Morgan anywhere putting the point as pungently as that.³ What I can find is the rather more pedestrian:

(T2) There is another process which is often necessary, in the formation of the premises of a syllogism, involving transformation which is neither done by syllogism, nor immediately reducible to it. It is the substitution, in a compound phrase, of the name of the genus for that of the species, which the use of the name is particular. For example, 'man is an animal, therefore the head of a man is the head of an animal' is inference but not syllogism. And it is not mere substitution of identity, as would be 'the head of a man is the head of a rational animal', but the substitution of a larger term in a particular sense (De Morgan 1847, 114).

To see De Morgan's point, consider the following inference:

- (1) a horse is an animal;
- (2) so, a horse's head is an animal's head.

² (Russell and Whitehead 1927, sec. I. 291; 37.2; 37.62); (Tarski 1941, 73).

³ For more on the provenance of this remark, see (Hood 2004, 16n10).

This argument can easily be proved in first-order predicate calculus (which I leave as an exercise for the reader). But Aristotle's logic lacks the formal resources to account for the validity of an argument like the one above, as De Morgan argues.⁴ In particular, De Morgan's worry is that one cannot validly move from a predication of a general term, such as 'an *F* is a *G*', to predication of specific terms which are relative to the general terms, such as 'an *X* of an *F* is an *X* of a *G*'. And, of course, 'an *X* of an *F*' expresses a relation.

De Morgan is right that Aristotle's syllogistic cannot handle cases like this. That is not to say that the syllogistic could not be extended to do so.⁵ Moreover, De Morgan is clear that his point is limited to the formal syllogistic: De Morgan does not claim that Aristotle could not have viewed these as correct inferences.⁶ And indeed, Aristotle does have something to say about inferences involving relativities:

(T3) Relatives should be used in like manner to a state and its privation. For the sequence of these is also direct. For example, if triple is a multiple, then a third is a fraction. For triple is relative to third and multiple to fraction. Again, if knowledge is a belief, then also the object of knowledge is the object of belief; and if sight is a perception then also the object of sight is the object of perception.

(*Topics* 114a14–19. Translation Pickard-Cambridge, modified. Cf. *Topics* 119b1–5)

Here Aristotle articulates a principle of inference concerning relatives: if a relative is a sort of a relative, then the correlative of the first is a sort of the correlative of the second. Thus, if a triple is a sort of multiple, then a third is a sort of fraction. Aristotle fills in this principle with a few examples of intentional relatives too: if knowledge is a belief, then the object of knowledge is the object of belief; if sight is a perception then the object of sight is the object of perception.

This principle could validate De Morgan's argument if we ignore constitutive relativity. Aristotle's inference rule allows us to infer from two relatives such that one is a sort of the other, that their correlatives are such that one is a sort of the other. In other words, it allows inferences that obey this schema:

⁴ (De Morgan 1847, 114).

⁵ William of Ockham developed a theory of 'oblique syllogisms' to handle a class of arguments involving relations. See (Thom 1977).

⁶ (De Morgan 1847, 114).

(RELATIVE INFERENCE SCHEMA) If R_1 is a sort of R_2 , the correlative of R_1 is a sort of the correlative of R_2 .

Suppose that we allow that a horse is a relative and a horse is a sort of an animal. We also allow that a horse's head is the correlative of a horse, and an animal's head is the correlative of an animal. With all these suppositions, the inference rule Aristotle articulates would show that something very close to De Morgan's argument is valid:

- (1) A horse is a sort of animal [Premise]
- (2) A horse's head is correlative to a horse [Premise]
- (3) An animal's head is correlative to an animal [Premise]
- (4) If a horse is a sort of animal, the correlative of a horse is a sort of the correlative of an animal [Instance of RIS]
- (5) So, the correlative of a horse is a sort of the correlative of an animal [From 1, 4]
- (6) So, a horse's head is a sort of animal's head [Substitution of 2, 4 into 6]

However, Aristotle would not allow all those suppositions. In particular, Aristotle would not allow that a horse's head is correlative to a horse or that an animal's head is correlative to an animal; that is, he would not allow premises 2 or 3. All Aristotle would allow, given the view of relativity in the *Categories*, is that a head is head of a headed thing *only*: a head is not head of a horse or of an animal except in so far as a horse is a headed thing (*Categories* 6b36–a4. Cf. section 5.3).

This result tells us something important. De Morgan is right that Aristotle's logic cannot handle relativity, but Aristotle's limitation is conceptual, not formal. In fact, we saw that Aristotle does have a formal logical rule that would validate inferences like De Morgan's. What Aristotle does not have is a way of thinking about relatives that would allow us to put horses, animals, and heads into that framework as relatives. Aristotle does think that relatives can be plugged into the relative inference schema; he just does not think a horse or an animal are relatives of the right sort, so 'a horse' and 'an animal' cannot be plugged into the schema. To correctly use an inference schema, one needs not only the schema, but also to correctly understand what can fill in the schema. Aristotle has the schema but does not have the right idea about what can fill it in.

To understand the validity of arguments like De Morgan's not only do we need something like the inference schema, but we also need the idea that a

relative can bear more than one relation. This is precisely what Aristotle, and anyone with a constitutive view of relativity, lacks. The conceptual limitations of the constitutive view ripple out to unsettle Aristotle's logical theory. Indeed, any version of constitutive relativity will have trouble explaining why one relative can apparently bear more than one relation. If Aristotle set back the logic of relations, it was because of how he thought about relativities, not because of his formal resources.

A post-Fregean view of relativity has the conceptual resources to explain why De Morgan's argument is valid. A head is relative to a horse; a horse is an animal; so, that same head is relative to an animal. The relative, a head, can be encountered under different aspects: in the first place, relative to a horse, in the second, relative to an animal. However, on the constitutive view, we cannot explain the validity of this inference: a horse's head, as such, is head of a horse; an animal's head, as such, is head of an animal. But a horse's head cannot be encountered under a different aspect, say, as an animal's head. On the constitutive theory, its relation to a horse constitutes a horse's head. There is nothing more to being a horse's head than being the head of a horse (not an animal); and there is nothing more to being an animal's head than being head of an animal (not a horse). There is no way to encounter the horse's head as an animal's head. Because the constitutive theory lines up relatives, relations, and correlatives one-to-one-to-one, it lacks some crucial explanatory powers that a theory of relativity needs; in particular, it cannot explain why arguments like De Morgan's are valid.

De Morgan was not the first to notice this limitation of Aristotle's logic with respect to relations. Galen's reputation as a logician rests on noticing that some arguments that involve relativity cannot be handled by either Aristotelian or Stoic logic.⁷ For example, the first such example Galen gives is this: 'Theo has twice Dio; but, Philo has twice Dio; so, Philo has four times Theo.'⁸ He also offers: 'Sophroniscus is father of Socrates; so, Socrates is a son of Sophroniscus.'⁹ Galen is right that these arguments are not shown to be valid by Aristotle's logic or Stoic logic. It is a further question, which I cannot pursue here, whether Galen has anything clear to say about what a relational argument is or even what relational arguments have in common.¹⁰ But it seems likely that Galen thinks such arguments are valid as they stand, even if they need further elaboration to make such arguments candidate demonstrations.¹¹

⁷ Galen, *Introduction to Logic*, 16, 1.

⁹ Galen, *Introduction to Logic*, 16, 10.

¹¹ (Morison 2008, 111).

⁸ Galen, *Introduction to Logic*, 16, 1.

¹⁰ (Morison 2008, 105–13).

To think of these arguments as valid, even if not as demonstrations, needs a radical shift in thinking, away from the constitutive view, towards a view where one and the same relative can bear more than one relation to different correlatives. In the first argument, Theo is compared to Dio and then to Philo. So, one and the same Theo is encountered as relative to Dio and Theo. This is very much against the constitutive way of thinking about relativity. On the constitutive view, the first premise would be that a double is double of a half. From this we could not infer anything about the things that stand in the 'double of' relation.

The second argument is even closer to the modern analysis in first-order logic and reveals a slightly different limitation with the constitutive view of relativity. The argument takes as a premise that a (irreflexive, asymmetric, intransitive) relation obtains between two relatives and infers that the converse of that relation holds of the relatives as well. On the constitutive view, we could infer that a father is father of an offspring, but we could not infer that a particular offspring is offspring of a particular father, just on the basis that the latter is father of the former. In other words, we cannot infer from Sophroniscus is father of Socrates that Socrates is son of Sophroniscus. The constitutive view only allows us to ask questions about fathers as such, not about particular fathers. That is, it only tells about what a relative, as such, relates to, not what a particular relative might relate to.

Whether Galen gets credit for identifying a class of relational arguments or not, his writing certainly highlights two key flaws of the constitutive view: that one cannot encounter the same relative in several different relations; and that one cannot encounter relatives as particulars. These limitations, of course, go beyond the formal limitations of Aristotle's logic or Stoic logic and to the heart of constitutive relativity. There is a much more detailed story to be told about the development of relational logic, and how the constitutive view may have helped or hindered it. I have not even attempted to begin that story here. All I have done is to highlight some ways in which ancient and modern logic helps us see that the constitutive view cannot explain why many commonplace arguments are valid.

Whatever we say about the constitutive view of relativity as a philosophical theory, it has proved an invaluable contribution to philosophical history. Philosophers have often thought that their ancient colleagues either: had no theory of relativity; or had a view of relativity that is too hopelessly and obviously confused even to be considered a theory; or had a theory that is a trivial variation on a twentieth-century theory. The constitutive view of relativity might fail to do some important explanatory work, and so turn out to be

wrong. But I have shown that ancient philosophers had a theory, or, better, family of theories of relativity that can be stated clearly and is not a trivial variation on a twentieth-century theory of relativity. Our ancient colleagues may turn out to have been wrong about relativity, but their contribution is no less valuable for that.

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