# Ontological Pluralism

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According to *ontological pluralism*, there are different ways, kinds, or modes of being. Aristotle may have espoused it when he claimed that being is said in many ways.[1] Perhaps Bertrand Russell endorsed it when he said that the relation *to the north of* does not exist in the same sense that London does.[2] Insofar as students in their first philosophy class have a particular view in mind when they say that what it is for there to be a number is very different than what it is for there to be a coffee cup, this is that view.

Not surprisingly, philosophers disagree about who in fact held this view, but the accused include such notable figures as Aristotle, Aquinas, Descartes, Russell, Moore, and Heidegger.[3] But it has not fared well at the hands of analytic philosophers in the past half-century or so, historical notoriety notwithstanding. With few exceptions (perhaps Gilbert Ryle,[4] and more recently Kris McDaniel[5]), what little attention it has received has been largely derisive. Most contemporary analytic philosophers do not think ontological pluralism is a going concern. And the majority of philosophers do not just disagree with the view — they seem to think it untenable, perhaps unthinkable, and almost certainly devastatingly refuted.

From whence comes this refutation? Widespread dismissal of a view ought to be backed by serious argument. If ontological pluralism deserves the sort of treatment it has been getting at the hands of contemporary analytic philosophers, we must have a solid argument or two against it.

Yet, insofar as I can see, there is no such argument. After getting clearer on just what the view is, I consider all of the arguments against it that I can think

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[1]*Metaphysics* IV.2

[2]*The Problems of Philosophy* (Home University Library, 1912), p. 98; cf. also G. E. Moore, *Principia Ethica* (Cambridge University Press, 1903/1953), pp. 110–113.

[3]Accusing Aristotle, we have Michael Frede ("The Unity of General and Special Metaphysics: Aristotle's Conception of Metaphysics," in his *Essays in Ancient Philosophy* (Minneapolis: University of Minnesota Press, 1987), pp. 84–86); Aquinas, Herbert McCabe ("Categories," in Anthony Kenny (ed.), *Aquinas: A Collection of Critical Essays* (Notre Dame: University of Notre Dame Press, 1976), pp. 90–91); Descartes, Calvin Nomore ("Meaning and Objective Being: Descartes and His Sources," in Amélie O. Rorty (ed.), *Essays on Descartes' Meditations* (Berkeley: University of California Press, 1986), pp. 235–238); and Heidegger, Kris McDaniel ("Ways of Being," in David Chalmers, David Manley, and Ryan Wasserman (eds.), *Metametaphysics* (Oxford University Press, 2009)). See McDaniel (*op. cit.*, §§1–2 and ff.) for further discussion of ontological pluralism's pedigree.

[4]*The Concept of Mind* (London: University of Chicago Press, 1949); cf. Peter van Inwagen, "Meta-Ontology," *Erkenntnis* XLVIII (1998): 223–250, pp. 236–237.

[5]*Op. cit.*

of. As we will see, none of them succeed. Insofar as these arguments represent the best we foes of pluralism can come up with, we do not have nearly as strong a case as we seem to think.

# 1 Ontological Pluralism

Absent from the mainstream for so long, ontological pluralism is bound to seem strange to us. But we can gain some clarity by asking a contemporary adherent to explain her view.

## 1.1 An Opening Dialogue

Us: You claim that there are different 'modes' or 'ways' of being. But we cannot see what this could possibly mean.[6] Can you say anything to make your thesis clearer?

Pluralist: Let me try. Metaphysics, I hope you will agree, aims to uncover the ultimate structure of reality. Some of this structure is 'ontological': it has to do with what there is. 'Ontological structure' is the kind of structure we could represent by a pegboard covered with rubber bands. When we say that there are some negatively charged particles, we say that some of reality's pegs have the 'negatively charged' rubber band hanging from them. And when we say that an electron orbits a proton, we say that there is an 'orbits' rubber band stretched between one peg with an 'electron' band on it and another with a 'proton' band on it. (Not that the rubber bands represent other things — properties and relations — but rather they represent *that* certain things are or are related to each other in various ways. If you think that whenever something is red it instantiates a property, *redness*, you don't represent this with a 'red' rubber band, but rather by saying that, every time something has a 'red' rubber band hanging from it, there is also an 'instantiates' rubber band stretching between it and another peg with the 'property of redness' rubber band on it.) 'Ontology', as it is practiced by contemporary metaphysicians, can be thought of as studying the pegboard-like part of reality's structure.[7]

I am sure you will distinguish between different 'ontological categories': abstracta and concreta, or objects and events, or possibilia and actualia, perhaps.

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[6] A common complaint, made by e.g. David Lewis, *On the Plurality of Worlds* (Malden: Blackwell, 1986), pp. 2–3 and Trenton Merricks, *Objects and Persons* (Oxford University Press, 2001), p. 169.

[7] See my "Ontological Nihilism" in Zimmerman (ed.), *Oxford Studies in Metaphysics* VI (Oxford University Press, forthcoming), esp. §2.1.

Since you are not an ontological pluralist, you will think that the only way to make these distinctions is to say that things are some way or another — to hang different rubber bands on the pegs, as it were. But as an ontological pluralist, I hold that thinking of reality as having a single ontological structure — a single pegboard — is a mistake, as is thinking of ontological categories as divisions within this single structure. Rather, reality has multiple ontological structures — multiple, independent pegboards — with, say, the abstract things on this one and the concrete things on that one. Does this clarify my thesis at all for you?

Us: Well, it is certainly a nice picture, but I think you misidentify the source of our confusion. Maybe 'ontology' is about a certain kind of structure, but as we learned at Quine's knee, it is also about what is ranged over by the existential quantifier. As Zoltán Szabó puts it:

> The standard view nowadays is that we can adequately capture the meaning of sentences like 'There are *F*s', 'Some things are *F*s', or '*F*s exist' through existential quantification. As a result, not much credence is given to the idea that we must distinguish between different kinds or degrees of existence.[8]

Even if there were 'multiple pegboards', we would still talk about the pegs using a single existential quantifier and distinguish the pegs by using predicates. So unless you simply mean that some predicates are more metaphysically significant than others — which almost everyone will agree with nowadays — we still cannot see what you mean by saying there are different 'modes of being'.

Pluralist: Why should we think there is just one existential quantifier? I agree: ontology is about what existential quantifiers range over. I simply deny that there is only *one* of them. Rather, there are many — maybe one, '$\exists_1$', which ranges over abstracta, for instance, and another, '$\exists_2$' which ranges over concreta. If you want to talk about abstracta, you have to use '$\exists_1$'; if you want to talk about concreta, you have to use '$\exists_2$'.

Us: What do you mean we "have to use '$\exists_1$'" to talk about abstracta? We are sure we have never used such an expression; do you mean to say we have never talked about numbers or properties? That there is some strange, multi-quantifiered language and we can talk about abstracta only if we speak it?

Pluralist: No, you misunderstand. Remember that metaphysics aims to uncover the ultimate structure of reality. We metaphysicians want our theories to make this structure transparent; we want to express our theories in a way that makes plain what we think reality is ultimately like. We want, in short, theories

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[8]"Nominalism," in Michael J. Loux and Dean W. Zimmerman (eds.), *The Oxford Handbook of Metaphysics* (Oxford University Press, 2003), p. 13.

that are *metaphysically perspicuous*.[9] My claim is that we have to use different quantifiers to talk about things in different ontological categories *in order to speak in a metaphysically perspicuous way*.

Consider, for an example, a certain debate about the metaphysics of tense. Some philosophers think that reality is ultimately *tensed* — it makes a fundamental distinction between what was going on, will be going on, and is going on now.[10] Others deny this, holding instead that talk about what was or will be going on is ultimately to be understood as talk about what is (tenselessly) going on at past or future times.[11]

The first sort of philosopher, thinking that reality is irreducibly tensed, will think that the most metaphysically perspicuous way of describing reality — the way of describing it that makes plain its ultimate structure — will use primitive tensed locutions such as sentential tense operators 'WILL' and 'WAS' or a tensed predicate of times, 'is present'. According to them, these tensed expressions 'carve the beast of reality at the joints', in Plato's[12] phrase — they pick out reality's ultimate structural features. They are, in terminology David Lewis has made famous, *natural*.[13]

The second sort of philosopher, denying that reality is irreducibly tensed, will instead define such operators or predicates (insofar as he thinks them meaningful at all) in terms of untensed expressions. He thinks such expressions fail to carve at the joints; they are, at best, unnatural, gruesome gerrymanders of joint-carving tenseless expressions.

Call natural expressions, ones that 'carve reality at the joints', *fundamental*, let a *fundamental language* be a language where every simple expression is fundamental, and let a *fundamental theory* be a theory using only expressions of a fundamental language. Then the disagreement between the friend and the foe of tense — a paradigm debate about reality's ultimate structure — becomes a debate about what the true fundamental theory is like. The friend of tense insists it uses some tensed expressions; the foe disagrees.

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[9]Cf. John (O'Leary-)Hawthorne and Andrew Cortens, "Towards Ontological Nihilism", *Philosophical Studies* LXXXIX, 2 (1995): 143–165, §5.

[10]E.g., A. N. Prior, *Papers on Time and Tense* (Oxford University Press, 1968) and Peter Ludlow, *Semantics, Tense, and Time* (Cambridge, Mass.: MIT Press, 1999).

[11]E.g., Theodore Sider, *Four-Dimensionalism* (Oxford University Press: 2001), pp. 11–25 and D. H. Mellor, *Real Time* (Cambridge University Press, 1981) and *Real Time II* (London: Routledge, 1998).

[12]*Phaedrus* 265d–266a.

[13]"New Work for a Theory of Universals", *The Australasian Journal of Philosophy* LXI (1983): 343–377 and "Putnam's Paradox", *The Australasian Journal of Philosophy* LXII (1984): 221–236. Application of Lewisian naturalness to expressions (rather than properties) is suggested by Sider in his "Ontological Realism" (Chalmers, Manley and Wasserman, *op. cit.*) §§8–10.

My claim can about the need for multiple quantifiers is like the one made by the friend of tense about tensed expressions. When I say you 'have to' use different quantifiers, I mean you have to use them if you want to talk in an ontologically perspicuous manner. There are multiple joint-carving existential quantifiers — each of which ranges over a different pegboard, as it were — and any fundamental theory that has a hope of getting things right must use them all. To put ontological pluralism in a nutshell: *the true fundamental theory uses multiple existential quantifiers.*[14]

## 1.2   Choice Points

Our pluralist has stated her view nicely; it will be our task, in the sequel, to see whether we can find any good arguments against it. But the pluralist has made some decisions — and will need to make others — about how to deploy pluralism. We need to look at these decisions before we can fully evaluate the arguments to be considered.

### 1.2.1   Representing Pegboard Structure

The "multiple pegboard" picture of reality's ontological structure lies at the heart of ontological pluralism. Put in those terms, pluralism holds that any metaphysically perspicuous representation of reality's ultimate structure will represent it as including multiple ontological structures.

Fundamental theories are supposed to be metaphysically perspicuous representations of this ultimate structure, so they will need to represent it as including multiple ontological structures. But pluralism *qua* pluralism need not take a stand on what linguistic resources a fundamental language ought to use to do this representing.

On the *neo-Quinean* view, which our pluralist accepts, a fundamental language represents ontological structure with quantifiers. In this case, we need multiple quantifiers to represent multiple ontological structures. And not just any language with multiple quantifiers will do, either: a language with both an existential quantifier '∃' and a universal one '∀', for instance, will not be enough. Nor will a language with both a singular existential quantifier that ranges over things one at a time and another, plural one that ranges over them by groups. Both kinds of languages have multiple quantifiers, but these quantifiers are used to talk about the same things — the same pegs, as it were — in different (general

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[14]Cf. McDaniel's (*op. cit.*, §4) characterisation of ontological pluralism: "Each of the special restricted quantifiers which represent [the ontological pluralist's] postulated ways of existence cuts reality at the joints; they are the fundamental quantifier expressions."

vs. particular, or plural vs. singular) ways. An ontologically plural language, which represents reality as having multiple ontological structures, needs instead multiple quantifiers which cannot each be understood as ranging over the same pegboard in different ways but must instead be understood as ranging over different pegboards. A language with multiple singular existential quantifiers, for example, will turn the trick.

Ontological pluralists need not be neo-Quineans. In the *Tractatus*, for instance, Wittgenstein held that the most perspicuous description of reality would analyze quantifiers in terms of names. Accordingly, *neo-Tractarianism* holds that the fundamental theory represents ontological structure with (and only with) names. A neo-Tractarian pluralist represents reality as having multiple ontological structures by using different kinds of names. She holds that there is no single fundamental semantic category of names, but rather two distinct, name-like semantic categories. And to avoid ambiguity, she marks this difference syntactically, perhaps writing the names for abstracta in a different color, or with a different font, or in some other noticeably different way than she writes the names for concreta.

Even though pluralism is consistent with other views about the relationship between language and ontology, we should allow our pluralist friend her neo-Quineanism here. First, as neo-Quineanism has the weight of orthodoxy behind it, nobody can her of hiding her pluralism behind a non-standard thesis about how to represent ontology. Second, neo-Quineanism's main rival, neo-Tractarianism, faces some well-known difficulties.[15] And third, we can simply say more about the combination of pluralism and neo-Quineanism than about it and neo-Tractarianism. I know some standard arguments against the neo-Quinean version of the view, and can think of a few other non-standard ones. But I have no idea how to argue for or against the view that the fundamental language must have two different categories of names.

### 1.2.2 Sorting

Our pluralist must also decide how her multiple quantifiers will interact with her fundamental language's other resources. She has, broadly, two options. *Multi-sorted* languages assign each variable and name a specific 'sort', and allow each position of each predicate to take an argument only of a specified sort. For instance, if '$\exists_1$' were a type-1 quantifier supposed to range over concreta and 'is prime' were a type-2 predicate restricted to abstracta, then a sentence of the

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[15]It does not seem to allow for contingently existing objects, for instance; see Russell, Lecture 5 of *The Philosophy of Logical Atomism and Other Essays, 1914–19*, John G. Slater (ed.) (London: Allen & Unwin, 1986), and A. P. Hazen, "A Fallacy in Ramsey," *Mind* XCV, 380 (1986): 496–498.

form $\ulcorner \exists_1 x(x \text{ is prime})\urcorner$ would not be well-formed.[16] Either the variable $x$ would be the sort that '$\exists_1$' can bind, in which case it could not be an argument for 'is prime', or it would be the sort allowed as an argument for 'is prime', in which case '$\exists_1$' could not bind it. *Single-sorted* languages, by contrast, place no sorting restrictions on predicates and terms: each quantifier may bind any variable, and any variable or name can show up in any predicate position.

If she has sorted variables, a plurlaist could in principle do away with multiple quantifiers, letting the variables do all the ontologically plural work instead. In this case, a sentence of the form $\ulcorner \exists x_1(x_1 \text{ is F})\urcorner$ would say that an F exists in one way, and $\ulcorner \exists x_2(x_2 \text{ is G})\urcorner$ would say that a G exists in another. And even if she did not want sorting restrictions on her names and predicates, she could still do away with multiple quantifiers by trading them in for sorted variables in an otherwise unsorted language.

We might wonder whether trading quantifiers for sorted variables represents a significant philosophical decision. I suspect that our answer will depend in part on what we think of variables' semantic function. If they are semantically empty, syntactically separated 'extensions' of the quantifiers themselves,[17] then the decision will be mere bookkeeping — no more significant than the decision of whether to write the indices for our quantifiers as subscripts or superscripts. But if variables play a more semantically heavyweight role than that,[18] sorting the variables rather than the quantifiers may represent sympathies in line with some other view of the language/ontology relationship. We will here focus on multiple-quantifier pluralism, but everything said below in its defense could equally well be said in defense of a pluralism that differed only by sorting the variables instead.

That said, a pluralist still needs to decide whether her language will be single- or multi-sorted. Multi-sorted languages have some nice features; for instance, they help respect the intuition that a sentence such as

(1) The number seven is red,

is not just false but meaningless, since a multi-sorted rendering of (1) is syntactically ill-formed.[19] And by assigning each name a sort, the multi-sorted pluralist

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[16] A word on notation: italicized symbols are metasyntactic variables ranging over symbols of the commonly associated type. (We assume the object language has no italicized expressions.) '$\exists$', for instance, ranges over existential quantifiers, and '$x$' ranges over variables. '$F$' is a functor that combines with names or variables to range over expressions using those names or open in those variables. Quinean corner-quotes are sometimes omitted when no risk of confusion arises.

[17] Cf. David Kaplan, "Opacity", in Lewis E. Hahn (ed.), *W. V. Quine*, (La Salle, Ill.: Open Court, 1986), 229–289, p. 244.

[18] As they do in, e.g., Kit Fine, 'The Role of Variables', This Journal C (2003): 605–631.

[19] Thanks here to Marc Moffett and Cian Dorr.

can accommodate certain Tractarian sympathies: the differences between onto-logical structures will not be captured just by different quantifiers, but also by different categories of names.

But we will focus here on single-sorted pluralism. First, although some plu-ralists may like multi-sorted languages, not all will. A pluralist who wants one ontology of sets and another of non-sets will, if she wants sets to have both other sets and non-sets as members, need a set membership predicate '$\in$' that can take variables assigned to non-sets as well as variables assigned to sets as its first argument.

Second, single-sorted pluralism is harder to defend than multi-sorted. Certain arguments (e.g., those in §§2 and 5) are not easily formulated against a multi-sorted pluralism. On the other hand, I know of no arguments against multi-sorted pluralism that would not also work against the single-sorted variety. So a defense of single-sorted pluralism is, in passing, a defense of multi-sorted plu-ralism, whereas a defense only of the multi-sorted kind would leave single-sort pluralists out in the cold.

This decision also helps us avoid other difficult questions. Our pluralist's two quantifiers can take variables of the same type, so they will bind variables that go into the same sorts of positions. We will thus not consider higher-order languages, which have one quantifier that binds variables in name position and another that binds variables in predicate position.

Philosophers disagree about whether such languages should count as on-tologically plural. Well-entrenched philosophical tradition, extending back to Frege, suggests that they do: higher-order quantifiers range over an ontology of 'unsaturated', predicate-like 'concepts'; lower-order ones range over 'saturated' objects.[20] But this tradition has recently been challenged by those who hold that, if predicates do not denote predicate-like 'unsaturated' things, quantifiers that bind predicate-variables do not range over predicate-like 'unsaturated' things either.[21] By restricting our attention to single-sorted (and thus same-order) lan-guages, we leave this delicate issue for another day.

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[20]*Function and Concept* (Jena: Hermann Pohle, 1891), and "On Concept and Object," *Viertel-jahrsschrift für Wissenschaftliche Philosophie* XVI (1892): 192–205.

[21]E.g., Agustín Rayo and Stephen Yablo, "Nominalism through De-Nominalization," *Noûs* XXXV, 1 (2001): 74–92; and Timothy Williamson, "Everything," *Philosophical Perspectives* XVII (2003): 415–465.

## 2   The Disjunctive Quantifier Argument

Once the view is fully articulated and the incredulous staring is done, philosophers generally respond to ontological pluralism with: "Look, you can use '$\exists_1$' and '$\exists_2$' to define a new quantifier, '$\exists^*$', as follows:

(2)   $\ulcorner \exists^* x F(x) \urcorner =_{\text{df.}} \ulcorner \exists_1 x F(x) \lor \exists_2 x F(x) \urcorner$

Once you do, you see that '$\exists_1$' and '$\exists_2$' are restrictions of it. And, as we all know, if we want to find out what there is, we look to our *unrestricted* quantifiers and ignore the restricted ones. So '$\exists_1$' and '$\exists_2$' do not give you different kinds of being at all. They just quantify over things with the only kind of being — the kind things in the domain of '$\exists^*$' have."

Metaphysicians commonly insist that our unrestricted, rather than our restricted, quantifiers tell us what there really is. Consider a standard case. I say

(3)   There is nothing in the fridge,

but do not think that I thereby deny those physical theories that tell me I can see the inside of the fridge only thanks to the photons it contains. When I uttered (3), I used a quantifier which ignores the photons. I used a quantifier which, thanks to its restrictions, did not tell me the whole ontological story. I used an *ontologically misleading* quantifier.

The ontological pluralist thinks that quantifiers avoid misleading by being fundamental; since she thinks that '$\exists_1$' and '$\exists_2$' are fundamental and '$\exists^*$' isn't, she thinks that '$\exists^*$' is ontologically misleading in a way that '$\exists_1$' and '$\exists_2$' aren't.[22] But the argument suggests she is wrong about something — either about what it takes to avoid being ontologically misleading, or about the conditions under which a quantifier can be fundamental. Either way, the argument put more precisely runs:

**The Disjunctive Quantifier Argument:**

  (i)   '$\exists_1$' and '$\exists_2$' are restrictions of '$\exists^*$'.

  (ii)   If $\exists$ is an existential quantifier and $\exists'$ a restriction of $\exists$, then $\exists'$ is more ontologically misleading than $\exists$.

  (iii)   Therefore, '$\exists_1$' and '$\exists_2$' are ontologically miselading.

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[22]Cf. McDaniel, *op. cit.*, §§3–4. Note that McDaniel responds to the argument below by insisting that restricted quantifiers can be more natural than their unrestricted counterparts and thus denying (ii). While I am sympathetic to this line of thought, I think matters are a bit more complex when s-quantifiers are at issue; see §2.2 below.

And the pluralist ought to agree with her opponent that, if '$\exists_1$' and '$\exists_2$' are ontologically misleading, they are not fit to tell us what kinds of being there are.

The pluralist can respond to this argument in different ways. Which one she should choose depends on something we have thus far been silent about: what it takes for an expression to count as a *quantifier*. There are two criteria for quantification we might use: the inferential and the semantic.[23]

According to the inferential criterion, an expression is an existential quantifier if and only if it obeys the right inference rules. Which ones? Existential instantiation and generalization are the usual suspects. If $\exists$ is an existential quantifier, $F(x)$ a formula open in $x$, and $t$ a name, then these rules roughly say:

> Existential Generalization
> $F(t) \vdash \exists x F(x)$

> Existential Instantiation
> If $Q$, $R$, ..., and $F(t) \vdash P$, and if $t$ does not occur in $P$, $Q$, $R$, ..., or $F(x)$, then, $Q$, $R$, ..., and $\exists x F(x) \vdash P$[24]

If an expression satisfies this criterion, call it an *i-quantifier*.

According to the semantic criterion, an expression is an existential quantifier if and only if its semantic function is to say that there is something which satisfies the formula it prefixes.[25] If $\exists$ is an existential quantifier, its semantics must imply that $\exists x F(x)$ is true only if there is something that satisfies the open formula $F(x)$. If an expression satisfies this criterion, call it an *s-quantifier*.

We should also distinguish two notion of restriction. First, if $\exists$ and $\exists'$ are i-quantifiers, then we say that $\exists'$ is an *i-restriction* of $\exists$ iff every formula $F$ is such that $\exists' x F(x)$ entails $\exists x F(x)$ but not every formula $F$ is such that $\exists x F(x)$ entails $\exists' x F(x)$. And second, if $\exists$ and $\exists'$ are s-quantifiers, then we say that $\exists'$ is an *s-restriction* of $\exists$ iff $\exists$ ranges over everything $\exists'$ ranges over, but not *vice versa*.

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[23]Cf. Lewis, "Tensed Quantifiers," in Zimmerman (ed.), *Oxford Studies in Metaphysics* I (Oxford University Press, 2004), p. 14.

[24]In §5, I will suggest that $t$ must meet further conditions before we can generalize; this is one reason these characterizations are rough. Another is that these inference rules, as stated, leave no room for binary existential quantifiers, expressions of the form '$\exists(\ldots:$ _ _ _ $)$' which mean 'some ... is _ _ _'. (Thanks here to Cian Dorr.) Furthermore, this characterization makes quantification an essentially variable-binding matter: if a symbol doesn't bind variables, it cannot participate in the right inference rules. But the quantifiers in variable-free quantificational logics (e.g., that of Quine's "Variables Explained Away," *Proceedings of the American Philosophical Society* CIV (1960): 343–347) ought to satisfy the inferential criterion, too. We can make the rules sufficiently general, I think, but this is not the place to do it.

[25]Since we deployed the English 'there is' to state it, the cash value of this characterization depends on what 'there is' meant when we deployed it. §2.2 deals with this in detail.

Since there are two readings of 'quantifier' (and 'restriction'), there are two readings of the argument; the pluralist's response is different depending which one we choose. We will look at each in turn.

## 2.1 Inferential Quantifiers

The second premise of the Disjunctive Quantifier Argument, on an inferential reading of 'quantifier', says:

(ii-I) If $\exists$ is an existential i-quantifier and $\exists'$ an i-restriction of $\exists$, then $\exists'$ is more ontologically misleading than $\exists$.

But (ii-I) is problematic: less i-restricted i-quantifiers are too easy to come by. For any language with an existential quantifier $\exists$, we can define a new symbol that acts inferentially like a 'bigger' existential quantifier.

Here's how. First, pick a new symbol, $\alpha$. It will be a 'quasi-name': if we take a sentence with a name in it and replace that name with $\alpha$, we count the resulting expression as a sentence, too. Then, where $R$ is any $n$-placed predicate of the language, apply the following definitions:[26]

(4) $\ulcorner R(\alpha, \ldots, \alpha) \urcorner =_{\text{df.}} \ulcorner P \vee \sim P \urcorner$, where $P$ is some sentence not containing $\alpha$;

(5) $\ulcorner R(t_1, \ldots, t_n) \urcorner =_{\text{df.}} \ulcorner P \mathbin{\&} \sim P \urcorner$, where $P$ is some sentence not containing $\alpha$ and some but not all of the $t_i$'s are $\alpha$, and

(6) $\ulcorner \hat{\exists} x F(x) \urcorner =_{\text{df.}} \ulcorner \exists x F(x) \vee F(\alpha) \urcorner$.

The first two definitions make $\alpha$ act like a name assigned to a peculiar object — an object that satisfies all predicates, but (for polyadic ones) only in conjunction with itself. The third definition introduces a new expression '$\hat{\exists}$' which acts like a quantifier that is substitutional with respect to $\alpha$ but objectual otherwise.

'$\hat{\exists}$' satisfies the inferential criterion of existential quantification and $\exists$ counts as an i-restriction of it. So, assuming that (ii-I) is right, '$\hat{\exists}$' less ontologically misleading than $\exists$ and therefore give us a better picture of what there is. But this can't be right: '$\hat{\exists}$' is just a linguistic trick. We cannot possibly get ontological insight from it. If the language includes the predicate 'is a unicorn',

(7) $\hat{\exists}$x(x is a unicorn)

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[26]I adapt the following trick from Williamson, *op. cit.*, pp. 441–443. See Cian Dorr, "What We Disagree About when we Disagree About Ontology," in Mark E. Kalderon (ed.), *Fictionalism in Metaphysics* (Oxford University Press, 2005), pp. 256–257, and Sider, "Ontological Realism", §5 for similar tricks.

is true. But surely we ought not think that, really, there are unicorns after all. There are no unicorns, and any quantifier that seems to say differently is not telling us a straight ontological story. Since (ii-I) says otherwise, we ought to reject it and the inferential Disjunctive Quantifier Argument that relies on it.

An objection: In order for '$\hat{\exists}$' to count as an i-quantifier, $\alpha$ needs to count as a name. Otherwise, even if $Q, R, \ldots, F(t) \vdash P$, there is no guarantee that $Q, R, \ldots, \hat{\exists}xF(x) \vdash P$. Notice, for instance, that if $\alpha$ is not a name, then for every name $t$, $F(t) \vdash \exists xF(x)$. But $\hat{\exists}xF(x) \not\vdash \exists xF(x)$ — (7), for instance, does not entail

(8)  $\exists x(x \text{ is a unicorn}).$[27]

But (continues the objection), $\alpha$ is *not* a name. In order to be a name, an expression must refer to something, and $\alpha$ does not. So there is no problem here for (ii-I).[28]

Just as we can distinguish different criteria for quantifiers, we can distinguish different criteria for names. On what we might think of as an inferential (or, at least, syntactic) criterion, an expression counts as a name just in case it plays the right syntactic role. Call expressions that satisfy this criterion *i-names*. But on the semantic criterion, an expression counts as a name just in case there is something that it refers to. Call expressions that satisfy this criterion *s-names*.

On what we might call the *pure inferential criterion*, an expression is a quantifier if and only if it obeys the right inference rules, where any appeal to 'names' in those rules is to be understood as an appeal to i-names. But on what we might call a *mixed criterion* for quantification, an expression has to obey the inference rules where the 'names' in the rules are understood as s-names.

If 'quantifiers' in (ii) are understood as pure i-quantifiers, then the premise remains problematic. If 'quantifiers' are understood instead as s-quantifiers, the situation is more subtle. However, since the mixed criterion has both inferential and semantic elements, it will be useful first to see how the pluralist should respond to the Disjunctive Quantifier Argument understood as talking about purely semantic quantifiers. Once we see what the pluralist should say to that argument, we will be in a position to see what the pluralist should say about mixed i-quantifiers, too.

## 2.2  Semantic Quantifiers

If 'quantifiers' in the Disjunctive Quantifier Argument are interpreted semantically, pluralists ought to accept (ii). But premise (iii) then becomes

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[27]If $\alpha$ counts as a name too, though, then this counterexample is blocked: existential instantiation will license the inference from $Q, R, \ldots, F(t)$ to $P$ only if $t$ could be *any* name, $\alpha$ included.

[28]Thanks to Matti Eklund for pressing me on this objection.

(i-S)  '$\exists_1$' and '$\exists_2$' are s-restrictions of '$\exists^*$'.

A pluralist ought to deny that '$\exists^*$ is an s-quantifier at all, and so ought to deny that '$\exists_1$' and '$\exists_2$' are s-restrictions of it. Her denial of this depends on the fact that we used 'there are' in stating the semantic criterion for names; once we see what our use of 'there are' meant in this context, we will see why '$\exists^*$' is not, by the pluralist's lights, an s-quantifier.

The following thought may tempt us: "Well, we were speaking English when we formulated the criterion. And 'there are' is an expression of English. So we must have meant whatever 'there are' means in English when we said what it took for an expression to be an s-quantifier."[29]  But we should be careful. We may indeed have been speaking English when we stated the criterion, but it is not obvious that this by itself settles what our 'there are' meant.

Let me explain. Almost every English speaker will, in certain situations, happily assent to any of:

(9)  There is something that Ponce de Leon was searching for — the Fountain of Youth — that doesn't exist.

(10)  There is a dearth of beer in the fridge.

(11)  There are some hairstyles that have gone out of fashion.

(12)  There are three chairs in the lounge.

In their philosophical moments, however, most metapnysicians will insist that

(13)  There are no dearths, hairstyles, or non-existent objects,

which seems to contradict (9)–(11). And at least some metaphysicians have argued that

(14)  There are no chairs,[30]

which seems to contradict (12).

On the one hand, there is pressure to think that (9)–(12) are sometimes true. On an attractive picture of language, we can think of the contents of our assertions as being fixed by an ideal interpreter. This interpreter, omniscient of all

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[29]See, for instance, Peter van Inwagen, *op. cit.*, pp. 238–240 and "Quantification and Fictional Discourse," in Anthony Everett and Thomas Hofweber (eds.), *Empty Names, Fiction, and the Puzzles of Non-Existence* (Stanford: CLSI, 2000), pp. 237–238.

[30]E.g., van Inwagen, *Material Beings* (Ithaca, N.Y.: Cornell University Press, 1990), and Merricks, *op. cit.*

non-semantic facts, observes our behaviour (linguistic and otherwise) and assigns content to our assertions *charitably*: in a way that best makes sense of what we were up to in asserting them. But on this picture of language, it is difficult to see why the ideal interpreter would assign (9)–(12) contents that made them always false. English speakers use these sentences in and only in certain well-defined circumstances — ones we can know we are in without doing any difficult ontology — and so an ideal interpreter can best make sense of these assertions by giving them a content true in just those circumstances.

On the other hand, to conclude on this basis that philosophers are mistaken when they assert (13) and (14) would be to give too much philosophical weight to ordinary folk's unreflective utterances. Metaphysicians conclude (13) and (sometimes) (14) on the basis of deep and often difficult philosophical reflections; surely the vulgar cannot trump these reflections merely by speaking in recalcitrant ways.

Fortunately, we can grant that the folk speak truly when they utter (9)–(12), and that philosophers speak truly when they utter (13) and (perhaps) (14). The attractive interpretavist picture of language gives us reason to think that, unlike ordinary folk in their unreflective moments, metaphysicians, in their reflective uses of 'there are', should be interpreted as trying to use a fundamental quantifier — the metaphysically perspicuous quantifier of a fundamental language.

When ordinary folk utter (12), for instance, their behavior suggests they do not want their utterances to be sensitive to the world's ultimate ontological structure. Someone joins his friends at a dinner table; they happily say "There is an extra chair here; have a seat", and do not waste time wondering whether there are instead only some particles all arranged chairwise. Non-philosophers will not take high-falutin' philosophical principles to be even *relevant* to what they said: if they are in a situation where some particles are arranged chairwise, they take it as granted that their utterance's conversational purpose has been fulfilled.

By contrast, metaphysicians are not similarly confident when they utter (14). Even those who believe careful consideration establishes its falsity are willing to seriously entertain it, take their assertions to be warranted only thanks to the presence of particles arranged chairwise plus some non-trivial metaphysical theses, and are disposed to retract their denial upon coming to believe other high-level theoretical claims.

Furthermore, the types of evidence philosophers take to be relevant to the truth of (14) and its ilk, uttered in reflective circumstances, suggest they intend to latch onto reality's ultimate ontological structure with their use of 'there are'. Philosophers have argued against various ontological views on the grounds that

they are objectionably arbitrary,[31] anthropocentric,[32] or otherwise ungainly. Likewise, other high-level theoretical considerations, such as general principles about causation[33] or supervenience,[34] have been used to argue for various ontological results. This makes sense if 'there are', used in philosophical contexts, is supposed to express a fundamental, joint-carving quantifier — reality's ultimate structure ought not be arbitrary, anthropocentric, or ungainly, after all — but is mysterious if these uses of 'there are' are not to be so interpreted.

All this suggests that an ideal interpreter can best make sense of us by interpreting philosophers as intending that their uses of 'there are' latch onto a fundamental quantifier — where it is not transparent whether that quantifier produces a truth when attached to predicates 'is a chair', 'is a hairstyle', and so on — and interpreting ordinary uses of 'there are' as whatever they need to mean to make true most ordinary sentences using it. An interpreter might do this in any number of ways — by making 'there are' ambiguous or polysemous, by making it context-sensitive in certain ways,[35] or by adding a slot for an unuttered, contextually specified domain restrictor in our sentences.[36] The exact semantic details will not matter here, and for simplicity I will pretend the ideal interpreter interprets us as having two subtly different but largely overlapping languages: *philosophers' English*, in which 'there are' is expected to have a fundamental meaning, and *ordinary English*, in which it is not.

When we stated the semantic criterion for quantification, we were not speaking ordinary English — we were (and still are) speaking philosophers' English. So to be an s-quantifier is to range over things that a fundamental, joint-carving quantifier ranges over and say of those things that they satisfy the postfixed formula.

If ontological pluralism is false, then the philosophical 'there are' has as a semantic value the one unique fundamental quantifier. But if ontological pluralism is true, then there are two potential candidate semantic values for the philosophical 'there are': '$\exists_1$' and '$\exists_2$'. What happens to its semantic value then?

The philosophers' 'there are' is similar in many ways to a technical, theoretical term. We can think of it as having been implicitly introduced the way theoretical terms are often explicitly introduced: by reference to some theoretical role. We

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[31]E.g., van Inwagen, *op. cit.*, pp. 66–69; Merricks, *op. cit.*, pp. 41–42.

[32]E.g., van Inwagen, *op. cit.*, pp. 124–125; Sider, *Four-Dimensionalism*, pp. 156–157

[33]Merricks, *op. cit.*, chapter 3.

[34]E.g., Mark Heller, *The Ontology of Physical Objects* (Cambridge University Press, 1990), pp. 30–32; Michael Burke, "Copper Statues and Pieces of Copper," *Analysis* LII (1992): 12–17.

[35]Cf. Terry Horgan and Mark Timmons, "Conceptual Relativity and Metaphysical Realism," *Philosophical Issues* XII (2002): 74–96, Part II.

[36]See Jason Stanley and Zoltán Szabó, "On Quantifier Domain Restriction," *Mind and Language* XV, 2 (2000): 219–261.

introduce 'electron' for the players of the electron role, 'quark' for the players of the quark role, 'mass' for the player of the mass role, etc.[37] By intending the philosophical 'there are' to get at the metaphysically important core of the folk's counterpart term, we essentially introduce it as the player of the fundamental-quantifier role.[38]

Sometimes many things each play a given theoretical role, or at least come very close to playing it and no closer than any of the others. Relativity taught us, for instance, that nothing plays the role Newtonian mechanics assigned to 'mass'. As it turns out, two relativistic properties — *relativistic mass* and *proper mass* — each come very close to playing that role, and closer than any other. In this case, we say that Newton's 'mass' was indeterminate between these two properties. Much of what Newton said using 'mass' was true when it denoted one of these properties or another, and quite a bit of what he said using it was true whichever property it denoted.[39]

According to the ontological pluralist, there are two expressions that come equally close to playing the fundamental quantifier role and closer than any other: '$\exists_1$' and '$\exists_2$'. In fact, they each fail to play that role perfectly only because the role calls for uniqueness, and they are not unique. So our ontological pluralist will say that the philosophers' 'there are' is indeterminate between '$\exists_1$' and '$\exists_2$'.

She can precisify the philosophers' 'there are' with 'there are$_1$' and 'there are$_2$' and talk accordingly. Since 's-quantifier' was defined in terms of 'there are', she will think that it is likewise indeterminate in meaning, and precisify it by saying that an expression is an s-quantifier$_1$ iff it says that there are$_1$ some things which satisfy its postfixed formula, and that it is an s-quantifier$_2$ iff it says that there are$_2$ some things which satisfy its postfixed formula. She will also say that an s-quantifier$_1$, $\exists$, is an s-restriction$_1$ of another, $\exists'$, iff everything$_1$ ranged over by $\exists'$ is ranged over by $\exists$ but not *vice versa*, and similarly for s-restriction$_2$.

Now consider again premise (i), under the semantic interpretation, of the disjunctive quantifier argument. Given the indeterminacy in 's-quantifier' and the like, its precisifications are:

(i-S$_1$)  '$\exists_1$' and '$\exists_2$' are s-restrictions$_1$ of '$\exists^*$'.

(i-S$_2$)  '$\exists_1$' and '$\exists_2$' are s-restrictions$_2$ of '$\exists^*$'.

Since one expression is an s-restriction of another only if both expressions are s-quantifiers, if an expression is an s-restriction$_1$ of another, they are both s-quantifiers$_1$. An expression is an existential s-quantifier$_1$ only if its semantic

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[37]See Lewis, "How To Define Theoretical Terms," THIS JOURNAL LXVII (1970): 427–446.

[38]Cf. Sider, "Ontological Realism", §§5, 11.

[39]See Hartry Field, "Theory Change and the Indeterminacy of Reference," THIS JOURNAL LXX (1973): 462–481, and Lewis, "Putnam's Paradox," pp. 58–59.

function is to say that there is$_1$ something that satisfies its postfixed formula. But '∃*' does not say that there is$_1$ something that satisfies its postfixed formula, so, it is not an s-quantifier$_1$ and thus not an s-unrestriction$_1$ of anything else. For similar reasons, it is not an s-quantifier$_2$ and thus not an s-unrestriction$_2$ of anything else. So the pluralist will think that (i-S) is false on every precisification and hence false *simpliciter*. She will reject (i-S) outright, and so the Disjunctive Quantifier Argument gives her no reason to reject her pluralism.

Similar remarks apply to the objection in §2.1. On a mixed inferential criterion, an expression will count as a quantifier if and only if it obeys the right inferential roles, where those inferential roles are specified by reference to s-names — expressions that name something. But of course this criterion for s-names was stated in philosophers' English, where quantifiers are intended to be fundamental. Since the pluralist will insist that 'something' in this language is indeterminate between 'something$_1$' and 'something$_2$', she will insist that there are two kinds of names: names$_1$, which refer to something$_1$, and names$_2$, which refer to something$_2$. Then there will again be two kinds of mixed i-quantifiers; and for reasons that should now be familiar, the pluralist will insist that '∃*' is neither kind. Even on the mixed reading, the Disjunctive Quantifier Argument is no threat to the pluralist.

## 3   The Conjunction Argument

When she responded to the Disjunctive Quantifier Argument, the pluralist said that the philosophical 'there are' is indeterminate between the two fundamental quantifiers. But then she is vulnerable to a new argument:

> **The Conjunction Argument:**
>
> If 'there are' is indeterminate between '∃$_1$' and '∃$_2$', you will have to say, along with Ryle,[40] that for some F and G, both of
>
> (15)  There are Fs,
>
> (16)  There are Gs,
>
> are true, even though
>
> (17)  There are Fs and Gs

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[40]*Op. cit.*, §1.3.

is not. But quick reflection on how we use 'there are' reveals that we make inferences of this form all the time. It is implausible that we are systematically mistaken about these inferences, so pluralism must be wrong.[41]

This argument has two readings. According to the first, the pluralist invalidates the (clearly valid) inference from (15) and (16) to (17), and so objectionably revises logic. According to the second, the pluralist makes many (clearly sound) uses of this inference unsound, and so unreasonably accuses us of error.

First Reading: Does the pluralist's claim that the philosophical 'there are' is indeterminate between '$\exists_1$' and '$\exists_2$' render the argument invalid? No. If an argument uses an expression indeterminate in the way 'there are' is supposed to be, we might mean either of two things by calling it 'valid'. First, we might mean it is *globally valid*: if each premise is true on every precisification of 'there are', then so is the conclusion. Or we might instead mean it is *locally valid*: for each precisification of 'there are', if the premises are true on that precisification, then so is the conclusion.[42] But the pluralist will insist that the inference from 'There are$_i$ Fs' and 'There are$_i$ Gs' to 'There are$_i$ Fs and Gs' is valid for each $i$, and the validity — both global and local — of the inference using the philosophical 'there are', indeterminate between these candidates, follows from that.

Second Reading: The pluralist does have to say that certain inferences philosophers tend to make are unsound. Suppose a philosopher, Phil, reasons in a philosophical context as follows:

(18) There are numbers.

(19) There are chairs.

(20) Therefore, there are both numbers and chairs.

The pluralist holds that Phil's conclusion is false on each precisification of 'there are' and hence false *simpliciter*. Although the inference was valid, it is not the case that both of Phil's premises were true; in fact, the pluralist thinks that they were each indeterminate at best.

The Second Reading insists that, by saying this, the pluralist objectionably accuses Phil (and the rest of us) of error. How could we be systematically mistaken about inferences as simple as these?

But this charge works only if our systematic error is *unreasonable* — only if the error Phil made the sort he (and we) ought to have been in a position to avoid

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[41]Cf. van Inwagen, "Meta-Ontology", p. 237. Thanks to Ted Sider for pressing me on this argument.

[42]See, e.g., Williamson, *Vagueness* (London: Routledge, 1994), pp. 147–148.

in the first place. But, if the pluralist is right, his error is exactly the sort of error he ought to fall into given his metaphysical presuppositions. Since he is not an ontological pluralist, he takes himself to be using a quantifier (roughly extensionally) equivalent to '∃*'. If 'there are' in fact meant this, he would have spoken truly with (18) and (19).[43] It is only his blindness to certain metaphysical facts — facts we should expect him to be blind to, because he does not accept them — that lead him to perform the inference. But then there is nothing objectionable in the pluralist's accusing Phil of this sort of error.

Here is another way to see the point. Our pluralist thinks Phil is in a position very similar to the pre-relativistic Newtonian. As noted above, in Newton's mouth, 'mass' was indeterminate between relativistic and proper mass — not because Newton used 'mass' as though he thought it was indeterminate or otherwise semantically underspecified, but because the metaphysics of the situation left it with no single interpretation.[44] But no one would think that Newton's propensity to assert 'Particle $p$ has mass $m$' and 'Particle $q$ has mass $m$' and move from this to 'Particles $p$ and $q$ both have mass $m$' — even in situations where $p$ only had relativistic mass $m$ and $q$ only had proper mass $m$ — was evidence against relativity. Likewise, we should not think Phil's propensity to assert (18) and (19), and move from this to (20), is any evidence against pluralism.

## 4 VAN INWAGEN'S COUNTING ARGUMENT

Van Inwagen argues against ontological pluralism as follows:

**The Counting Argument:**

No one would be inclined to suppose that number words like "six" or "forty-three" mean different things when they are used to count different sorts of objects. The very essence of the applicability of arithmetic is that numbers may count anything: if you have written thirteen epics and I own thirteen cats, then the number of your epics *is* the number of my cats. But [being] is closely tied to number. To say that [there are no unicorns] is to say something very much like saying that the number of unicorns is 0; to say that [there are horses] is to say that the number of horses is 1 or more. The univocacy of number and the intimate connection between number and [being] should con-

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[43]Modulo various debates about the ontology of numbers and chairs, of course.

[44]Compare Hawthorne, "Three-Dimensionalism vs. Four-Dimensionalism," in Zimmerman, Hawthorne, and Sider (eds.), *Contemporary Debates in Metaphysics* (Malden: Blackwell, 2007), p. 267 on the context-sensitivity of 'simultaneous'.

vince us that there is at least very good reason to think that [being] is univocal.[45]

According to the pluralist, the philosophical 'there are' is indeed equivocal, as it is indeterminate between the various fundamental existential quantifiers. She also recognizes a quantifier expression which is not indeterminate — '∃*' from §2[46] — but this recognition alone won't help her. So long as she grants that the 'there are' in philosophers' English is equivocal, van Inwagen's argument would have her either deny that sentences such as

(21)  There are no unicorns if and only if the number of unicorns is zero

are unequivocally true in philosophical English or grant that there is an ambiguity in numerical terms such as 'zero' and 'one'.

　　Neither option is completely unpalatable, although it is hard to savor the taste of either. Fortunately for the pluralist, she need not choose. Van Inwagen makes a subtle slide in his argument. Grant that even in philosophers' English there is a tight tie between counting and quantification.[47]  And grant also that these connections guarantee that, if there are different senses of

(22)  There are no unicorns,

then there also must be different senses of

(23)  The number of unicorns is zero.

It does not follow, as van Inwagen seems to assume, that there must be different senses of 'zero'. There may instead be different senses of 'the number of'.

　　To say that the number of Fs is $n$ is to say that a certain *numbering* relation holds between something — the Fs themselves, or the property of F-ness, or

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[45]Van Inwagen, "Meta-Ontology", p. 236.  Having already defended the view that being is the same as existence (pp. 235–236), van Inwagen moves freely between the thesis that *being* is univocal and that *existence* is univocal. The equivalence of being and existence isn't under question here, but for uniformity, I have rephrased what he says using "existence" in quantificational terms instead.

[46]See McDaniel, *op. cit.*, §3.

[47]In §2.2, we compared the philosophical 'there are' to an explicitly introduced theoretical term. To extend the comparison further, we might here pretend the Ramsey sentence we used to fix its meaning specified certain ties with numerical quantifiers. For instance, the sentence may have a clause such as 'Σ is an existential i-quantifier that is fundamental and Δ is a numerical i-quantifier where, for any predicate Π, ⌜∼Σx(x is a Π) iff Δ(Π, 0)⌝ is true. (⌜Δ(Π, 0)⌝ is supposed to say, intuitively, that the number of Π-satisfiers is zero.) Then, *ceterus paribus*, pairs of candidate semantic values that respect this tie between numerical and existential quantification are more eligible to be the semantic values of these two quantifiers than pairs that do not.

what-have-you — and *n*. But, if we think that there are different candidate ways for things to exist, there is nothing particularly embarrassing about thinking that there are different kinds of numbering relations as well. Perhaps when there are$_1$ some Fs, then they number$_1$ some non-zero number *n*, and if there also aren't$_2$ any Fs, then they number$_2$ zero. There is no ambiguity in the terms for numerical objects, but only in the terms relating these objects to whatever they are counting. This sounds like a perfectly natural extension of ontological pluralism, providing the pluralist a way of preserving the tight tie between counting and quantification without equivocating on numerical terms.

## 5   The 'There Can Be Only One' Argument

According to ontological pluralists, the fundamental theory uses a language with multiple first-order, singular existential quantifiers. But there is an argument, due to Timothy Williamson and Vann McGee,[48] that in such a language the two quantifiers would be equivalent. The argument runs:

> **The 'There Can Be Only One' Argument:**
>
> If the pluralist's '$\exists_1$' and '$\exists_2$' are existential quantifiers, they must obey the inference rules appropriate to such quantifiers. If they do, they are provably equivalent. By existential$_2$ generalization, $F(t) \vdash \exists_2 x F(x)$. And by existential$_1$ instantiation, if $F(t) \vdash \exists_2 x F(x)$ and $t$ does not occur in $F(x)$, then $\exists_1 x F(x) \vdash \exists_2 x F(x)$. So, since we can always find some term $t$ that does not occur in $F(x)$, $\exists_1 x F(x) \vdash \exists_2 x F(x)$. Precisely the same argument, with indices swapped, shows that $\exists_2 x F(x) \vdash \exists_1 x F(x)$.[49]

If the pluralist's quantifiers are indeed provably equivalent, she is in trouble: if whatever one quantifier ranges over is also ranged over by the other, she will find it hard to justify the claim that we really have two ways of being here.

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[48]Williamson, "Equivocation and Existence," *Proceedings of the Aristotelian Society* LXXXVIII (1988): 109–127, and "Absolute Identity and Absolute Generality," in Rayo and Gabriel Uzquiano (eds.), *Absolute Generality* (Oxford University Press, 2006); and McGee, "A Rule for Everything," in Rayo and Uzquiano, *op. cit.*

[49]The argument is essentially a proof of part of a theorem by J. H. Harris ("What's So Logical About the Logical Axioms?" *Studia Logica* XLI (1982): 159–171), who suggests these inferentially exclusionary properties are what make logical constants *logical*. Neither he, McGee, nor Williamson deploy the argument directly against ontological pluralism. Williamson seem to assume at one point that the following argument would rule out pluralism ("Equivocation and Existence", p. 115), although he says things later in the same paper with regard to a different view which are in the same spirit as my remarks below.

But the argument that the quantifiers are equivalent relies on their obeying certain inference rules. In particular, the argument needs each quantifier to obey classical existential instantiation and generalization. And pluralists should have been suspicious of these rules long before they saw the 'There Can Be Only One' Argument.

Imagine you tell a pluralist that a certain book is about Tony, but do not tell her what kind of thing Tony is. Should she conclude that there $is_1$ something this book is about? No, for that presupposes that Tony $exists_1$,[50] which is not something she knows. If Tony does not $exist_1$, then from the perspective of the quantifier '$\exists_1$', 'Tony' is an empty name and cannot be generalized from. Should she instead conclude that there $is_2$ something the book is about? No, for that presupposes that Tony $exists_2$, something else she does not know. If Tony doesn't $exist_2$, then from the perspective of the quantifier '$\exists_2$', 'Tony' is an empty name and again cannot be generalized from.

Our pluralist friend should conclude nothing before she decides which quantifier she can generalize from, and she cannot do that until she finds out which quantifiers treat 'Tony' as non-empty. She is not unlike an (ontologically monistic) free logician: if told that a certain book is about Tony, he could not conclude that the book was about something unless he knew that 'Tony' was not an empty name.

The free logician avoids this problem by revising his (quantificationally monistic) inference rules as follows:

FREE EXISTENTIAL GENERALIZATION
$F(t)$ & $\exists x(x = t) \vdash \exists x F(x)$

FREE EXISTENTIAL INSTANTIATION
If $Q, R, \ldots, F(t)$, and $\exists x(x = t) \vdash P$, and if $t$ does not occur in $P, Q, R, \ldots,$ or $F(x)$, then, $Q, R, \ldots,$ and $\exists x F(x) \vdash P$

Our pluralist ought to follow suit: just as the free logician's monist quantifiers have to make sure a name is not empty before they generalize from it, each of her pluralist quantifiers must make sure that a name is not empty (with respect to themselves) before they generalize from it. That is, for each of her quantifiers $\exists_i$, she ought to endorse the following rules:

PLURALIST EXISTENTIAL$_i$ GENERALIZATION
$F(t)$ & $\exists_i x(x = t) \vdash \exists_i x F(x)$

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[50]That is, it would be to suppose that there $is_1$ something identical to Tony; I'm supposing that to exist is just to be identical to something, and if there are multiple ways of being, there are multiple kinds of existence — one for each way of being.

Pluralist Existential$_i$ Instantiation
If $Q, R, \ldots, F(t)$, and $\exists_i x(x = t) \vdash P$, and if $t$ does not occur in $P, Q, R, \ldots$, or $F(x)$, then $Q, R, \ldots,$ and $\exists_i x F(x) \vdash P$

With these rules, the 'There Can Be Only One' Argument cannot go through. Pluralist existential$_1$ instantiation will let us infer $\exists_2 x F(x)$ from $\exists_1 x F(x)$ so long as $\ulcorner F(t) \,\&\, \exists_1 x(x = t) \urcorner$ implies $\exists_2 x F(x)$. But it does not; pluralist existential$_2$ generalization tells us we need $\ulcorner F(t) \,\&\, \exists_2 x(x = t) \urcorner$ to infer $\exists_2 x F(x)$. If the pluralist's quantifiers obey these rules rather than classical ones, they will not be provably equivalent.

Does the pluralist threaten her position if she thus hitches her wagon to the free logician's star? Free logic is often accused of not being 'logic', since 'logic' is the logic of propositions, and sentences with empty names do not express propositions.[51] But whether this worry represents a real problem for the free logician or not, the pluralist need not share it — for she need not allow that names (in a fundamental language, at least) can be empty. She can insist instead that, for every name, there either is$_1$ something it refers to, or there is$_2$ something it refers to. Since a sentence should be able to express a proposition regardless of what ontological category its names' referents belong to, if she says this she can happily grant that logic is the logic of propositions.

In fact, the pluralist can avoid the 'There Can Be Only One' argument without appeal to *names* at all by appealing to free-variable-style inference rules. That is, she can simply replace the '$t$'s in the above inference rules with '$x$'s, add the word 'free' after 'occur' in her instantiation rule, and use whatever name-to-free-variable inference rules ontological monists like. The resulting rules still block the argument,[52] but need not be understood in a way that allows for empty names.

A more pressing objection complains that, if a pluralist modifies her inference rules in the suggested way, her $\exists_i$s are not really quantifiers after all. "Perhaps backwards 'E's in a language can each obey inference rules that look a little bit like quantificational ones," the objection goes, "but a symbol is not a quantifier unless it obeys good old-fashioned classical existential generalization and instantiation — none of this mucking about with free-logic-type rules and the like."

I cannot force anyone to call a symbol a 'quantifier' when it does not obey their favored inference rules. But if the objection is to have any force, it must say that somehow the standard rules capture 'what it is' to be a quantifier in a

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[51] See Williamson, "Absolute Identity," p. 382, for a version of this objection aimed at a different opponent.

[52] And also avoid versions of the argument that do not appeal to names, as in *ibid.*, p. 382; thanks here to Cian Dorr.

way the pluralist revisions do not. And while I do not know how to argue that a set of inference rules captures or fails to capture the essence of quantification, a couple of observations take a lot of bite out of the charge that, whatever it takes for some inference rules to be essential for quantifierhood, pluralist rules do not have it.

First, a logic with the proposed inference rules and an axiom to the effect that no names are empty will collapse into classical logic for languages with just one existential quantifier. As it happens, most linguists and philosophers cut their teeth on just such languages. So even though the pluralist denies that the classical inference rules are 'right', she can still explain why we were tempted to think they were: one-quantifier languages that do not allow for empty names — including classical first-order ones, which most of us cut our philosophical teeth on — display no visible difference between the classical rules and the pluralist's. We failed to notice the need for that extra premise because it was a logical truth and so never needed any special attention.

Second, *restricted* quantifiers do not obey 'good old-fashioned classical existential generalization and instantiation'. I cannot infer 'There is something in the fridge' from 'Elly the electron is in the fridge' if my use of 'There is something . . .' is restricted to foodstuffs, although classical existential instantiation would license the inference. Restricted quantifiers, in fact, obey the same inference rules we suggested above for pluralists. Surely, though, restricted quantifiers are *quantifiers* — any criterion of quantifierhood that leaves them out is not getting at 'what it is' to be a quantifier.

So I see no good reason to think the classical rules somehow capture 'what it is' to be a quantifier better than pluralist ones. In fact, things look just the opposite: the pluralist's rules, by ruling in restricted as well as unrestricted quantifiers, appear more general than classical ones, getting closer to the heart of what it is about quantifiers that make them quantificational.

## 6   The Economy Argument

So far, none of the arguments considered give ontological pluralists any serious trouble. A final manages to put some pressure on pluralism, although it falls short of anything like a decisive refutation.

We evaluate theories along a number of of dimensions. One of these dimensions is ideological: how many primitive expressions do we need in order to state the theory, how complex are those expressions, etc. As Ockham's razor says it is with ontology, when it comes to ideology, less is better: fewer and simpler primitive expressions are preferable to more or more complex ones. When all

else is equal, we ought to prefer theories with cleaner, leaner ideologies.

A theory's primitive expressions are the ones it refuses to define. In metaphysics, it is natural to think of these 'definitions' as metaphysical reductions or analyses, reducing some higher-level structure to some more fundamental structure. In this case, the primitive expressions of metaphysical theories are the *fundamental* expressions, the expressions supposed to carve nature at its joints.[53] The other expressions are then somehow analyzed or reduced in terms of these fundamental, primitive ones.

Ontologically plural theories have multiple primitive quantifiers. Pluralists can disjoin these multiple quantifiers to make a single 'big' quantifier (as we did with '$\exists^*$' in §2), and they can also use each of their quantifiers to define a predicate that applies to all and only things in its domain. For instance, if '$\exists_1$' and '$\exists_2$' are supposed to respectively range over concreta and abstracta, the pluralist can define 'is concrete' and 'is abstract' as follows:

(24) $\ulcorner t \text{ is concrete} \urcorner =_{\text{df.}} \ulcorner \exists_1 x(x = t) \urcorner$

(25) $\ulcorner t \text{ is abstract} \urcorner =_{\text{df.}} \ulcorner \exists_2 x(x = t) \urcorner$

Since these are defined terms, '$\exists^*$', 'is concrete', and 'is abstract' are not primitive expressions of the pluralist's theory.

There is another theory which takes '$\exists^*$', 'is concrete', and 'is abstract' as primitive and defines '$\exists_1$' and '$\exists_2$' in terms of them as follows:

(26) $\ulcorner \exists_1 x F(x) \urcorner =_{\text{df.}} \ulcorner \exists^* x(x \text{ is concrete } \& \ F(x)) \urcorner$

(27) $\ulcorner \exists_2 x F(x) \urcorner =_{\text{df.}} \ulcorner \exists^* x(x \text{ is abstract } \& \ F(x)) \urcorner$

Since it defines '$\exists_1$' and '$\exists_2$' but refuses to define '$\exists^*$', this theory has only one primitive — that is, one fundamental — quantifier. Thus, it is an ontologically monistic theory: it recognizes only one mode of being.

Suppose these two theories disagree only about whether it is the two quantifiers '$\exists_1$' and '$\exists_2$' or rather the expressions '$\exists^*$', 'is concrete' and 'is abstract' that are primitive. In this case, call the monist's theory the *monist counterpart* of the pluralist's theory. The recipe we used to cook it up was perfectly general, and every pluralist theory has a monist counterpart.[54]

Ontologically plural theories, with their multiple primitive quantifiers, look more ideologically extravagant than their monist counterparts. If appearances aren't deceiving, monists can argue as follows:

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[53]Cf. Dorr, "Non-Symmetric Relations", in Zimmerman, *op. cit.*, §2.

[54]Well, almost every pluralist theory has a monist counterpart. The recipe fails, for instance, when the pluralist theory has an infinite stock of quantifiers but does not allow infinitely long disjunctions and conjunctions. But I take it that if the only defensible form of pluralism needs infinitely many 'modes of being', pluralism is in pretty poor shape.

**The Economy Argument:**

(i) Every ontologically plural theory has a monist counterpart.

(ii) Any plural theory is more ideologically extravagant than its monist counterpart.

(iii) All else is equal between plural theories and their monist counterparts.

(iv) Therefore, every ontologically plural theory ought to be rejected.

If we think ideological economy is a theoretical virtue, we ought to accept the inference from (i)–(iii) to (iv). Take any pluralist theory. We might have lots of reasons to reject it — maybe it is empirically inadequate, or maybe it is ontologically extravagant in ways that have nothing to do with its pluralism. But even if there is no other reason for rejecting it, we still ought to reject it in favor of its more economical (by ii) but otherwise equal (by iii) monist counterpart.

But ought we accept premises (ii) and (iii)? Begin with (ii). It is tempting to think that the monist counterpart of a pluralist theory is more economical simply because it has fewer primitive expressions. But, in fact, it does not. We are tempted to think it does because we think to ourselves, "We traded in two quantifiers for one, so we lowered the primitive expression count by one." But we are wrong, because in order to give the monist theory as much expressive power as the pluralist, we had to introduce two new primitive predicates — 'is concrete' and 'is abstract' — to act as restrictors for the primitive '∃*'. If we count ideological economy by number of primitive expressions, the pluralist theory simply wins.[55]

A better defense of (ii) says that the monist counterpart is more economical because it trades in (some) quantifiers for predicates, and predicates are ideologically cheaper than quantifiers. Quantifiers, in some sense, run deeper than predicates. Quantifiers give us a realm of things, and predicates let us divide that realm. But the quantifiers seem to 'come first': only after we have our domain

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[55]Could the monist break even by defining, say, 'is concrete' as 'is not abstract'? Yes, but only if the concrete and the abstract are mutually exclusive. Perhaps some things are both concrete and abstract; the causally efficacious and spatiotemporally located 'immanent universals' defended by David Armstrong (*Universals and Scientific Realism Vol. 2: A Theory of Universals*, Cambridge University Press, 1978) may be likely candidates. At any rate, it is no part of ontological pluralism writ large that things not have have multiple kinds of being. Pluralism does not by itself rule out the truth of '$\exists_1 x \exists_2 y(x = y)$'; it needs some additional theoretical posits to do so. If the pluralist fails to make those posits, his monist counterpart cannot define one of his translating restrictors as the negation of the other. (On the other hand, if the pluralist *does* make these posits, then the monist may be in better shape, for the monist can rule out by definition what the pluralist must rule out by *fiat*; see the discussion of (28) below. Thanks here to Cian Dorr.)

of things, provided by the quantifiers, can we start dividing them up with our predicates.

These considerations make most sense when we understand ideological economy as a measure of structural complexity. The monist theory has, in a sense, one level of structure: that determined by the divisions between predicate extensions. But the pluralist theory has two levels of structure: these predicate-level divisions plus the divisions between the different ontologies.

So there is a sense in which pluralist theories are more ideologically costly than their monist counterparts. And since structural complexity is the sort of thing we should postulate only out of need, pluralist theories incur the sort of cost that we ought to avoid when we can. So premise (ii) of the Economy Argument looks compelling.

On to premise (iii). Why should we accept it? I suspect the thought behind (iii) is something like: "In addition to being economical, metaphysical theories must be *adequate*. That is, there is some body of data that the theory must, at a minimum, successfully analyze, reduce, or otherwise account for, and theories are to be evaluated on how well they account for this body of data. Clearly, though, whatever 'accounting' function takes us from theorems of the pluralist theory to data-sentences is easy turned into one which takes us from the monist translation of these theorems to the same data-sentences. So it looks as though, economy issues aside, the two theories are otherwise equal."

This line of thought is too quick. Note that there are theoretical virtues other than adequacy and economy. *Elegance*, for instance, is a virtue: when choosing between theories, we ought to prefer elegant to ungainly ones. And although monist theories will often be more elegant than their pluralist counterparts (there is no elegance to be gained by positing a separate way of being for, say, tweed suits), this will not always be the case.

Consider, for instance, the disagreement between Davids Armstrong and Lewis over structural universals. Says Lewis: The parthood relation we would need for structural universals violates classical mereoloical axioms, so there must be no structural universals.[56] Replies Armstrong: No, this means rather that parthood doesn't obey classical mereological axioms.[57] But Armstrong's response is unlovely: it holds that the metaphysically deep and important parthood relation acts very differently when it acts upon concreta than it does when it acts upon abstracta. An attempted axiomatization of the parthood relation, in the fundamental language, will seem hopelessly convoluted, including all sorts of clauses reflecting whether parts in are concrete or abstract. Furthermore, the

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[56] *"Against Structural Universals"*, *The Australasian Journal of Philosophy* LXIV, 1 (1986): 25–46.

[57] "In Defense of Structural Universals", *The Australasian Journal of Philosophy* LXIV, 1 (1986): 85–88.

response seems objectionably arbitrary. A monistic ontology may include many metaphysically important divisions — the division between abstract and concrete, the division between space-time points and their occupants, the division between phenomenal and non-phenomenal properties, etc. — so why should composition be so sensitive to *this* one?

If the distinction between concreta and abstracta is made to run deeper than the distinction between, say, space-time points and their occupants — that is, if it is upgraded to a distinction between different *ways of being* — the inelegance of Armstrong's response goes away. First, there is nothing arbitrary about composition's deferential treatment of concreta and abstracta: composition is sensitive to the only division between ways of being that there is. Second, the fundamental-language axiomatizations of the compositional rules look remarkably clean: there are simply two different axiom systems, one formulated using the fundamental quantifier for concreta, and the other using the fundamental quantifier for abstracta.[58]

These considerations suggest that (iii) does not hold in full generality: at least some pluralist theories — such as the pluralist version of Armstrong's — do better than their monist counterparts (in this case, by being more elegant). And their comparative advantages may merit paying higher ideological costs.

But a fan of the Economy Argument may feel we have not yet gotten to the heart of the matter. Quibbles over virtues aside, the core of the argument is that, once we see that monist theories can do everything pluralist ones can, ontological pluralism becomes so much window-dressing. What is the metaphysical payoff of endorsing a pluralist theory if we can do all the same work with its monist counterpart instead?

Two points are in order here. First, even if a monist theory can hijack its pluralist counterpart's analyses and reductions, there are still philosophically important senses of 'accounting for the data' on which the monist theory may do worse. For instance, distinctions between modes of being may help explain what would otherwise be mysterious facts about the kinds of epistemic access we have to things in different ontological categories.[59] And they can also explain certain otherwise inexplicable necessary connections. For instance, we usually think that ontological categories (such as 'abstract' and 'concrete') are *inclusive*: necessarily, everything belongs to at least one of them. If the ontological categories are ways of being, represented by multiple quantifiers in the fundamental language, this turns out to be a logical truth. The sentence

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[58]Cf. McDaniel, "A Return to the Analogy of Being", *Philosophy and Phenomenological Research* (forthcoming), §5.

[59]See McDaniel, "Ways of Being", §7.

(28) $\forall^*x(x \text{ is concrete}) \vee (x \text{ is abstract}))$,

under the pluralist's definitions, becomes the logically true

(29) $\forall_1 x(\exists_1 y(y=x) \vee \exists_2 y(y=x)) \ \& \ \forall_2 x(\exists_1 y(y=x) \vee \exists_2 y(y=x))$.

If (28) is to be understood as consisting only of primitive expressions, though, we have no such explanation of its necessity, and must posit it instead as a brute metaphysical fact. So the monist here has an 'account' for something the pluralist does not: the necessity of (28).[60]

The second point is that a theory's 'metaphysical payoff' often outstrips its explanatory power. Even if both are equally explanatory, the pluralist thinks her theory preferable because it respects the real, deep, felt difference between things existing in *different ways* and things merely being *of different kinds*. It is a difference Russell, Moore, our first-year students, and many others feel and want to secure, and the pluralist thinks the chief virtue of her theory is that it, unlike its monist counterpart, can provide a real metaphysical foundation for this difference.

Whether or not this difference alone is enough to merit a higher ideological cost is contestable. But we should be familiar enough by now with this particular contest to know that it provides no decisive win for the monist: it is a contest seen whenever a metaphysical reduction — whether of tense, modality, value, or modes of being — is proposed. The friend of irreducible tense from §1.1, for instance, thinks the benefit of primitive tensed locutions is well worth the ideological cost. His opponent disagrees — but he does not think his disagreement constitutes a decisive reason to reduce tense. Rather, it stems from a difficult weighing-up of costs and benefits, the results of which reasonable people may disagree about.

So even at best, the Economy Argument gives us no decisive refutation of pluralism, but rather only a reminder that whether we provide certain metaphysical reductions will depend in part on whether we think the reduction is worth the damage it does to our deep-seated intuitions about the nature of the world. If all else really is equal between a pluralist theory and its monist counterpart, then the Economy Argument places considerable pressure on the intuitions the pluralist wants to preserve. This pressure is alleviated somewhat once other potential benefits of pluralism — such as elegance or explanations for otherwise mysterious epistemic or metaphysical facts — are added in. But although this pressure — alleviated or not — may convince some of us to give up on the pluralist intuitions,

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[60]If the monist defined 'is abstract' as 'is not concrete', as suggested in note 55, the pluralist will be able to explain the necessity after all. But this strategy is not generally available; it only works for monists with $2^n$ (for some $n$), mutually exclusive, ontological categories.

it certainly does not *force* us to. As a result, while the Economy Argument might steer some away from pluralism, it convicts pluralism of nothing intellectually unacceptable and so cannot motivate the dismissive attitude towards pluralism that has spread wide among contemporary analytic philosophers.

## 7   Conclusion

Ontological pluralism has few friends and many foes — foes who think it untenable, perhaps unthinkable, and almost certainly devastatingly refuted. But having examined here every argument against pluralism we could think of, we found nothing to justify the dominant anti-pluralist attitude of the last half-century. The jury remains out, of course — we may bring to bear more anti-pluralist arguments before all is said and done — but nothing we have seen so far suggests that we should treat ontological pluralism as anything less than a serious metaphysical option.[61]