

Arguments Against Metaphysical Indeterminacy and Vagueness¹
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In this paper, I'll examine some of the major arguments against metaphysical indeterminacy and vagueness. But first a little background. Suppose we're trying to decide what it takes for an entity to count as a person. We agree that a zygote is obviously *not* a person, but that a one-year-old child obviously *is* a person. What about cases in between? What about a fetus in the latter stages of development? Suppose that we can't decide about this case, that it seems somehow unsettled whether such a fetus should count as a person. In such a case, we say it is *indeterminate* whether the fetus in question is a person. The paradigm cases are determinate – we agree that the zygote is determinately not a person and the child determinately is a person. Indeterminacy arises in certain non-paradigm cases, where it doesn't seem appropriate to give either polar judgment, and where no further information would help us decide the case.

More specifically, we can say that the transition between non-person and person is a *vague* one. You can change the zygote one molecule at a time – one molecule shouldn't make a difference to whether or not something is a person! – and end up with something that is determinately a person. In such a transition (called a 'Sorites series') we know a change between non-person and person occurs, but at every specific stage we can point to it seems the change must not occur *there* (there is no 'sharp cut-off' between non-persons and persons).

The phenomena illustrated above -- indeterminacy and vagueness -- are common and familiar. The relevant question here is what the *source* of the indeterminacy and vagueness might be. A common answer is that indeterminacy comes from our use of language, from 'semantic indecision'. For example, the thought is (very roughly) that we just haven't decided exactly what we mean by the predicate 'is a person', and so for some cases its unsettled whether they fall in the extension of 'is a person'. Another option is that indeterminacy arises from gaps in our knowledge. Our usage of 'person' determines exactly which entities are persons, but had our usage been only marginally different we would've picked out a different class of things with our term 'person', so we can't *know*,

¹ Thanks to Ross Cameron, Ted Sider, Jason Turner, Robbie Williams, and Richard Woodward.

for those things to which ‘person’ might so easily have failed to refer, that they count as persons. Yet another option is that the indeterminacy comes (at least in part) from the world itself. There are robust, non-representational criteria of personhood, some entities determinately meet these criteria, some determinately don’t, and for some it’s simply metaphysically unsettled whether they meet them (and thus metaphysically unsettled whether they are persons).²

Metaphysical accounts of indeterminacy and vagueness have been decidedly unpopular, and this paper examines some of the major reasons for that unpopularity. But first a few caveats about what the subsequent discussion does *not* address. Some philosophers are skeptical about the very coherence of metaphysical indeterminacy and vagueness.³ I leave such deeply-entrenched skepticism to the side, both because given limited space it seems better to focus on arguments that engage more directly with metaphysical indeterminacy and because I don’t find such skepticism plausible – it seems that enough work has been done on metaphysical indeterminacy to show that it is at least *intelligible*.⁴ Metaphysical indeterminacy has also been somewhat tainted by association with non-classical logics⁵, but I won’t address objections based on classical logic. Metaphysical indeterminacy is compatible with classical logic and semantics, so the scope of such arguments is limited.⁶ Finally, to avoid overlap with other *Philosophy Compass* articles I will only briefly address Gareth Evans’ famous argument against indeterminate identity.⁷

1. Terminology

I assume that indeterminacy is the phenomenon that leads us to characteristic ‘no fact of the matter’ or ‘indefinite’ responses, and is exemplified by borderline cases in a Sorites

² These three options are the main ones discussed in the literature on indeterminacy, but there’s no argument that they are exhaustive. They are certainly not exclusive – for the above example, you could think both that there is semantic indecision in our use of ‘person’ and that whatever facts we’re trying to latch on to with our term ‘person’ are themselves indeterminate independent of how we represent them; likewise, you could think that *most* cases of indeterminacy are purely semantic indecision, but that some special cases have an epistemic or metaphysical component (or both). Some views in metaphysics -- the open future, restricted composition, endurantism -- are famously associated with metaphysical indeterminacy, and might naturally suggest a metaphysical source of indeterminacy. But these views are certainly not the only reasons one might have for adopting metaphysical indeterminacy. See Williams (2008) for discussion.

³ See, e.g., Dummett (1975), Lewis (1986), pg. 212-213.

⁴ See Barnes (forthcoming) and Barnes and Williams (forthcoming) for direct engagement with this kind of skepticism.

⁵ See, e.g., Tye (1994)

⁶ See Barnes and Williams (forthcoming) for a fully classical theory of metaphysical indeterminacy.

⁷ See Williams (2008) for a more detailed discussion.

series. (I don't think indeterminacy is reductively definable, so I'm not going to try.) I take 'vagueness' to refer to a sub-species of indeterminacy – those special cases of indeterminacy which yield a Sorites series.⁸ This means I don't demarcate any major distinction between indeterminacy and vagueness: commitment to metaphysical vagueness is just commitment to an instance of metaphysical indeterminacy which yields a Sorites series. I'll thus use the terms 'vagueness' and 'indeterminacy' fairly interchangeably.

This is controversial, however - on some views of vagueness it is a very different thing from indeterminacy. Likewise, on some views of vagueness metaphysical vagueness is a much more radical (perhaps incoherent) idea than metaphysical indeterminacy. If you're attracted to such an interpretation of vagueness, take me to just be talking about indeterminacy.

The interesting question, it seems, is whether the world itself – independently of how we represent it – could be indeterminate. And as far as I can tell, the arguments discussed here work equally well as arguments against metaphysical indeterminacy, though most are presented as specifically concerning metaphysical *vagueness*.

In some cases – in order to state technical points or clarify scope distinctions – I will use the operators ' Δ ' and ' ∇ ' as 'determinately' and 'indeterminately', respectively. As their use is purely clarificatory, I won't define them further.

2. Russell on the 'fallacy of verbalism'

Perhaps the most famous objection to metaphysical vagueness comes from Russell (1923). Thinking that vagueness could be metaphysical rests on a basic mistake, according to Russell: the 'fallacy of verbalism'. He explains:

Vagueness and precision alike are characteristics which can only belong to representation, of which language is an example. . . Apart from representation, whether cognitive or mechanical, there can be no such thing as vagueness or precision; things are what they are, and there is an end of it.

The passage is brief, and the defender of metaphysical vagueness could be forgiven for thinking its only argument is this:

1. Metaphysical vagueness requires non-representational vagueness
2. All vagueness is purely representational

⁸ Notice that not all cases of indeterminacy yield Sorites-like phenomena. If future facts are indeterminate -- if, e.g., it's indeterminate whether there will be a sea battle tomorrow -- this unsettledness doesn't give rise to vague transitions. There's no Sorites between sea battle and non-sea battle cases, even if it's indeterminate whether there will be a sea battle.

3. Therefore there is no metaphysical vagueness

As an argument against metaphysical vagueness, the above is hopelessly question-begging. To assume (2) is tantamount to assuming that there is no metaphysical vagueness. A more charitable reading of Russell's complaint against metaphysical vagueness should thus treat (2) as a conclusion of an independent argument, rather than an assumption. I'll look at two potential ways of arguing for (2) – the first is suggested by Russell's own remarks, the second is due to Matti Eklund.

Russell tells us that without 'representation. . . there can be no such thing as vagueness or precision'; independent of representation 'things are what they are'.⁹ One way of conceptualizing vagueness is as a kind of *mismatch* between our words and the world. Vagueness arises when our words don't latch on to the world appropriately. But if you take words out of the equation – as the defender of metaphysical indeterminacy suggests – you lose this mismatch. All you have left is the world. And if all you have left is the world, you can't speak coherently about precise or vague accounts of it – things just 'are what they are'.

But viewing vagueness as a mismatch between words and world doesn't rule out metaphysical vagueness that quickly. It's coherent to think that vagueness is always such a mismatch, but that in cases of metaphysical vagueness the direction of explanation for the mismatch is from world to words, rather than from words to world. The reference relation has two ends: referring terms and referents. If there is indeterminacy in our referring terms, eliminating that indeterminacy will entail determinate reference only if there is no equivalent indeterminacy in what we're trying to refer to.

3. Eklund on uniformity

Nevertheless, it's tempting to agree with Russell that at least the paradigm cases of vagueness look like semantic vagueness. And if we're already committed to semantic vagueness, why would we *also* commit ourselves to metaphysical vagueness?¹⁰

Yet if an argument from semantic indecision to (2) is to be successful, it needs to give us a reason to think that semantic indecision accounts of vagueness can *rule out* metaphysical vagueness. This is exactly the route take by Matti Eklund (2008): he argues

⁹ I'm not sure what 'things are what they are' means. But if it's, e.g., a claim about the identities that hold between objects or the properties that objects instantiate, the defender of metaphysical indeterminacy can agree. She need only deny that things are *determinately* what they are (e.g., all objects are determinately self-identical, but it might be indeterminate what objects there are and thus what identity facts *determinately* hold). She can still agree that determinately, 'things are what they are'. Scope distinctions are important! See section (6).

¹⁰ This is perhaps the idea behind Lewis' famous discussion of 'the outback'. See Lewis (1986), pg. 212.

that the obvious presence of semantic indecision in many of the paradigm cases of vagueness should lead us to reject metaphysical vagueness on grounds of parsimony.

According to Eklund, we're already committed to semantic (or at least representational) vagueness, and it would be better to assume that vagueness is a *uniform* phenomenon. Thus we should reject any commitment to some additional form of vagueness (such as metaphysical vagueness), because any such commitment would mean that vagueness is not uniform.

The main issue here is how we should understand uniformity. There seem to be (at least) three options. For vagueness to be a uniform phenomenon could mean for it to:

- (i) have a uniform analysis
- (ii) be a uniform conceptual primitive
- (iii) have a uniform source

Options (i) and (ii), however, needn't be violated by commitment to metaphysical vagueness (assuming we are already committed to some form of representational vagueness). Uniformity of type (i) could be maintained with commitment to both representational and metaphysical vagueness if all instances of the Sorites paradox were resolved by the same method, no matter whether those instances arose from metaphysical or representational sources. On this picture, a Sorites-like phenomenon is always given the same theoretical treatment – that is, we have a standard way of providing semantics for vague sentences (e.g., supervaluationism) – irrespective of the source of the vagueness in question. Vagueness would be a theoretically uniform phenomenon with multiple sources.

As analogy, consider the philosopher of modality who thinks that all claims of absolute necessity should be analyzed in terms of truth at all worlds, but who admits that different absolute necessities can have different sources – meaning (e.g. for analytic truths such as 'all bachelors are unmarried'); concepts (e.g., 'nothing is both red and blue all over'); the identity of things (which is the source of the necessity of essentialist truths, e.g. 'Shakespeare is human'), etc. The phenomenon of absolute necessity, on this picture, is theoretically uniform (it has a uniform analysis: truth at all worlds), but arises from multiple sources.

Likewise, to account for type (ii) uniformity, we can maintain that there is a single conceptual primitive involved in the notion of *indeterminacy* but that, again, there are nevertheless different *sources* of indeterminacy. Consider again the analogy to modality: there might be one primitive *concept* of necessity – i.e., each of analytic, conceptual, and metaphysical necessity might invoke the same primitive modal notion – but things could still fall under that one concept for different reasons. For example, it might be necessary that all bachelors are unmarried because 'all bachelors are unmarried' is an analytic truth,

whereas it might be necessary that I am human because being human is part of my nature. This needn't entail that the basic notion of necessity at work in the two cases is different.¹¹

Perhaps there is a univocal notion of indeterminacy. That leaves open what the explanation or *source* of indeterminacy is in any given case: indeterminacy might be multiply realizable.¹² The standard idea is that indeterminacy comes from the way we use our language; some argue that it's due to gaps in knowledge; defenders of metaphysical indeterminacy would simply maintain that it can *sometimes* arise in virtue of the way things are in and of themselves (rather than how we represent them).

Assuming that she is also committed to semantic vagueness, the defender of metaphysical vagueness cannot maintain that vagueness has a unified source, and so she cannot allow for uniformity of type (iii).¹³ But, crucially, it's at least plausible that the defender of semantic vagueness can't either. Even on a strictly representational theory of vagueness, it looks as though there will be multiple realizers for indeterminacy: there is vagueness in language, vagueness in concepts, vagueness in contexts, vagueness in beliefs, etc. Admittedly, these are all representational realizers for vagueness, and you might think that it's a much bigger jump to include non-representational sources amongst the realizers of indeterminacy. However, it's not clear how the defender of a representational-only account of vagueness could make this case without simply begging the question against metaphysical indeterminacy.

4. Step Arguments

Mark Heller (1996), Terrence Horgan (1994), (1995), and Hud Hudson (2001) have all argued that metaphysical indeterminacy is untenable because, in some crucial sense, there is a limit to just *how* indeterminate the world can be. Genuine metaphysical indeterminacy would require the absence of any 'sharp cut-off points', first-order or otherwise, in metaphysical versions of puzzles like the Sorites series or the Problem of the Many. But this, they argue, is something metaphysical versions of indeterminacy simply can't account for.¹⁴ A sharp cut-off will emerge *somewhere*.

¹¹ Cf. Fine on modality (Fine (2005)).

¹² See Barnes and Williams (forthcoming) for discussion.

¹³ Unless she adopts an extreme view according to which all semantic vagueness ultimately has its source in metaphysical vagueness. See Cameron (2009).

¹⁴ Whereas semantic theories have more resources: they can appeal to context-sensitivity, judgment-dependence, etc to explain layers of higher-order indeterminacy and vagueness.

To illustrate this, let's look at Heller's specific 'Step Argument'.¹⁵ Suppose there is a person, Hannah, who is 7 foot in height. She is determinately tall. You, Hannah, and God are now going to play the vagueness game. God gives you a magic wand which, each time you wave it, will make Hannah shrink by one one-trillionth of an inch. After each wave you will ask God 'Is Hannah tall?' at which point God will answer truthfully to the best of her ability. The game will end after you have waved the wand 36 trillion times. (Whoever said philosophers don't know how to have a good time?) At the start of the game God will be answering 'yes' to your question. At the end of the game, when Hannah is 4 foot in height, her answers will be 'no'. What's interesting is what God says – what she *can* say – in the middle.

First things first: Step Arguments like this cannot show that there is no indeterminacy for the case in question. Why not? Because we have no right to assume that there is a point at which God will stop answering 'yes' and start answering 'no'. The rules are that God answers to the best of her ability, and it may be that to some of the questions she will just refuse to answer; or perhaps she will say 'There's no fact of the matter'; or 'Well, she's tall to degree 0.99999'; etc. But while the argument doesn't show that there's no indeterminacy in whether Hannah is tall, Heller and Hudson both think it shows that there's no indeterminacy as to *where* the indeterminacy lies; and since they agree that the motivations for metaphysical indeterminacy depend on the claim that there *is* indeterminacy as to where indeterminacy lies, they take this as an argument against metaphysical indeterminacy.¹⁶

The only reason Heller and Hudson both think the above argument shows that there can be no indeterminacy as to when it is indeterminate that Hannah is tall is that they think there *must* be a first point at which God's answer to the question *changes*. The thought is that there must be a first question to which God's answer is determinately not the same as what it was at the last step (whether it changes from 'yes' to 'no' or from 'yes' to 'no fact of the matter', etc is, they argue, irrelevant – what matters is that there is a first point of change). But the metaphysical indeterminacy theorist who believes in higher-order indeterminacy shouldn't accept this.

What she should say instead is that, in response to some of the questions, it is indeterminate what answers God in fact gives.¹⁷ Give a list of the various ways God could have consistently answered the set of questions in the game: determinately, one of

¹⁵ I will discuss the version presented by Hudson (2001, Section 3.1). Hudson endorses its conclusion, after fixing a potential problem.

¹⁶ That the case for metaphysical indeterminacy hinges on there being indeterminacy in where the indeterminacy lies is, of course, a major assumption. Anyone not sympathetic to higher-order indeterminacy would reject it.

¹⁷ To make this a bit more intuitive – Hawthorne (2005) asks, in response to Williamson's deployment of the game, why God can't just mumble a bit. If there's some way for God to make it such that it's indeterminate what she said in her answers, then the game doesn't pose a problem.

those lists is correct, but there's no list such that *it* is determinately correct.¹⁸ So yes, it's determinately true that there's a first point at which God's answers change. But there's no point such that, determinately, God's answers first change *there*.

This style of move is, of course, very familiar in debates on indeterminacy. The main point here is just that, contra Heller, Hudson, and Horgan, there's nothing blocking the defender of *metaphysical* indeterminacy from making it.

5. Sider on indeterminate existence

Another famous problem for metaphysical indeterminacy comes from indeterminate existence. Indeterminate existence is thought, for a variety of reasons, to be untenable¹⁹, and so if metaphysical indeterminacy incurs commitment to indeterminate existence it should be rejected.

The most famous argument against indeterminate existence -- from Sider (2001), (2003) -- is not itself an argument against *metaphysically* indeterminate existence.²⁰ It explicitly assumes that all vagueness is semantic indecision. Yet it applies equally well to any *precisificational* theory of indeterminacy (or at least any precisificational theory that associates quantifiers with domains), whether or not what is being precisified is semantic indecision. Metaphysical theories of indeterminacy can be precisificational, and so Sider's argument affects any precisificational account of metaphysically indeterminate existence.²¹

Here is Sider (2009)'s summary of 'the core of the . . . argument':

The indeterminacy argument aims at those who think that unrestricted quantifiers can have precisifications. In what follows, let all quantifiers, both used and mentioned, be unrestricted. Suppose that '∃' has two precisifications, \exists_1 and \exists_2 , in virtue of which ' $\exists x\Phi x$ ' is indeterminate in truth value, despite the fact that Φ is

¹⁸ Some will, of course be determinately incorrect. You could argue that there's a cut-off, then, at the last question which all the lists of answers which aren't determinately incorrect all agree God answers "yes" to. If even this kind of cut-off is problematic on the Hudson/Heller picture, the ontic theorist should just add a further layer of indeterminacy -- it's indeterminate what the admissible lists are, etc. This way, she can always iterate additional "levels" of indeterminacy without the worry that indeterminacy will somehow *spread* to the paradigm cases.

¹⁹ Though see Hawley (2002) for important clarifications.

²⁰ Nor is it really an argument against indeterminate existence *per se* -- as Sider (2009) explicitly acknowledges. It is, instead, an argument against precisifications of the unrestricted existential quantifier (on the assumption that quantifiers are explicitly associated with domains). Many (though certainly not all) theories of indeterminacy will have to allow such precisification if existence is indeterminate.

²¹ For precisificational theories of metaphysical indeterminacy see, inter alia, Akiba (2004), Barnes (forthcoming), Barnes and Williams (forthcoming), Parsons and Woodruff (1995), Williams (2008).

not vague. ' $\exists x\Phi x$ ', suppose, comes out true when ' \exists ' means \exists_1 and false when ' \exists ' means \exists_2 . How do \exists_1 and \exists_2 generate these truth values? A natural thought is:

Domains \exists_1 and \exists_2 are associated with different domains; some object in the domain of one satisfies Φ , whereas no object in the domain of the other satisfies Φ

But the natural thought is mistaken. If Domains is assertible, it must be determinately true. But Domains entails that some object satisfies Φ (if "...some object in the domain of one satisfies Φ ...", then some object satisfies Φ). And so ' $\exists x\Phi x$ ' is determinately true, not indeterminate as was supposed.

This is not an argument against metaphysical indeterminacy: metaphysical indeterminacy doesn't entail indeterminate existence and doesn't require a precisificational interpretation. But it would be strange if precisificational theories were entirely closed off to metaphysical indeterminacy, and it would look ad hoc to stipulate that metaphysically indeterminate existence is impossible even if metaphysical indeterminacy is not.²² So the defender of metaphysical indeterminacy needs a response to Sider's argument.

To begin with, let's clarify what's going on. If the meaning of the existential quantifier is indeterminate, a precisificational theory of indeterminacy says we should precisify it. But Sider's argument aims to show that we cannot precisify the existential quantifier: one precisification would have a larger domain than the other, and thus would (determinately) be the meaning of the unrestricted existential quantifier.

When we precisify, we assign precise meanings to all elements of a language as a way of eliminating indeterminacy. But there will be different ways of doing this, and so it will be indeterminate which of the candidate-meanings we arrive at via precisification is correct. If *existence* is metaphysically indeterminate, then by precisifying we will arrive at (at least) two candidate meanings for 'there exists', neither of which is determinately better than the other. These are Sider's \exists_1 and \exists_2 .

But this is where we encounter Sider's problem. The best candidate meaning for 'there exists' is (determinately) an unrestricted existential quantifier. One of the quantifiers we arrive at via precisification (let's stipulate that it's \exists_1) is more expansive than the other – \exists_1 quantifies over something \exists_2 does not. So determinately \exists_1 is a better meaning for 'there exists' than \exists_2 . So \exists_2 was never really a precisification of 'there exists' after all – the only suitable meanings for 'there exists' are unrestricted quantifiers, and \exists_2 isn't unrestricted (just look at the domain of \exists_1 to see why). If that's the case, then 'there exists' determinately means \exists_1 (the only suitably candidate). And if 'there exists' determinately means \exists_1 then existence isn't indeterminate (at least not given a

²² Especially since many varieties of metaphysical indeterminacy will lead to indeterminate existence, even if they don't make this commitment explicit. See Williams (2008) for examples.

precisificational understanding of indeterminacy). Thus, if indeterminacy always admits the possibility of precisification, existence can't be indeterminate.

But the above argument is too quick. We're considering \exists_1 and \exists_2 , and asking which is the best candidate for the meaning of 'there exists'. Does the one with the more expansive domain (\exists_1) automatically (and determinately) win? Not obviously.²³ 'There exists' should pick out an unrestricted existential quantifier. So the best candidate-meaning must quantify over *everything* that exists – otherwise it is not unrestricted. But it must also quantify over *only* things that exist – otherwise it fails to be a quantifier. If a piece of language behaves quantificationally, but tries to specify as its domain something that isn't there, then it isn't really a quantifier.²⁴

According to \exists_1 , \exists_2 is not an *unrestricted* quantifier – it doesn't quantify over all the objects. But according to \exists_2 , \exists_1 is not a quantifier – it specifies as its domain something that doesn't exist (the set $\{a,b\}$), and thus fails as a quantifier.²⁵ Which is the better quantifier-candidate? There's no fact of the matter.

Why doesn't \exists_1 's quantification over an extra object (which \exists_2 misses) settle the matter? Because it's indeterminate whether \exists_1 does in fact quantify over an object which \exists_2 does not. And we can say this because, ex hypothesi, *it's indeterminate what exists*. So it's likewise *indeterminate* whether \exists_1 quantifies over an extra object – or whether, instead, \exists_1 is not a quantifier, because it specifies as its domain something that doesn't exist.

Contra Sider, the defender of precisificational indeterminate existence is not committed to the determinate truth of Domains. Domains is, by her lights, indeterminate. What's determinately true are some nearby conditionals. Determinately, *if* \exists_1 is a quantifier, there is some object in its domain which is not in the domain of \exists_2 . Conversely, determinately *if* \exists_2 is an unrestricted quantifier, \exists_1 is not a quantifier – and if it's not a quantifier, *it doesn't have a domain*. Because it's indeterminate what exists, it's indeterminate which antecedent is satisfied (though we can still say that determinately one of them is: determinately, either \exists_1 is a quantifier or \exists_2 is unrestricted).

²³ The problem for the defender of vague existence here is similar to the famous problem raised by Quine in 'On What There Is': how can we keep the more expansive ontology from winning by default? It is also structurally analogous to the 'D-problem' in modal metaphysics. Woodward (forthcoming) applies solutions raised for the latter, familiar from the modal setting, to the case of indeterminate existence.

²⁴ If we assume that quantifiers as associated with domains, and that domains are sets (as we have to for Sider's argument to work -- see Sider (2009) for discussion), it's easy to see why this is the case. If a piece of language looks quantificational but tries to specify as its domain something that doesn't exist, then it fails to pick out a domain, and so it isn't a quantifier.

²⁵ Turner (forthcoming) takes a similar line defending ontological pluralism.

For Domains to be determinately true, \exists_1 would have to determinately be a quantifier (rather than some pseudo-quantificational piece of language) and determinately have a larger domain than \exists_2 . But it's indeterminate whether \exists_1 is a quantifier, and thus indeterminate whether it has any domain at all. So it's indeterminate whether \exists_1 has a larger domain than \exists_2 .

Why do both \exists_1 and \exists_2 count as precisifications of the most natural meaning of 'there exists'? The best candidate for the meaning of 'there exists' must both be fully unrestricted *and* be a quantifier. If \exists_1 is a quantifier, it is determinately unrestricted; but \exists_1 is not determinately a quantifier. \exists_2 is determinately a quantifier, but not determinately unrestricted. Thus both \exists_1 and \exists_2 determinately meet *an* essential criterion of the meaning of 'there exists', but it's indeterminate of each whether they meet *all* the essential criteria. Yet there are no candidates which are better than \exists_1 and \exists_2 (because, *ex hypothesi*, it's indeterminate what exists, and so no candidate is both determinately unrestricted and determinately a quantifier – even though we can maintain that determinately *some* candidate is both unrestricted and a quantifier).²⁶

So both \exists_1 and \exists_2 can legitimately be said to be precisifications of the most natural meaning of 'there exists', without thereby incurring commitment to the determinate truth of Domains. A precisificational account of metaphysically indeterminate existence can thus avoid Sider's objection.

6. De dicto vs. de re indeterminacy

The above discussion of indeterminate existence illustrates an important point about metaphysical indeterminacy: there is often a major difference between its de re and de dicto forms. Indeterminate existence is deeply problematic when interpreted de re. The claim that *there is some thing* such that it's indeterminate whether *that thing* exists is hard, if not impossible, to make sense of. And any such de re reading of vague existence will face Sider's objection from domain variance.²⁷ The de dicto reading is much weaker: not that there is some thing such that it's indeterminate whether that thing exists, but

²⁶ We often precisify by specifying extensions or domains. On this construal of precisification, Domains looks undeniable. But this can't be the kind of precisification we use for *metaphysical* indeterminacy, simply because we can't precisify by sorting objects into extensions/domains if, e.g., it's indeterminate what objects there are. We can instead construe precisification as specifying exact reference-fixing rules. In the absence of metaphysical indeterminacy, such rules will automatically yield determinate extensions/domains. But this isn't the case if we've got metaphysical indeterminacy around. Gesturally: \exists_1 and \exists_2 are following different rules. The former says 'be bold' -- take everything, even the indeterminate (otherwise you risk being restricted). The latter says 'be cautious' -- only take the determinate (otherwise you risk being a pseudo-quantifier). The different reference-fixing rules correspond to different ways of precisifying 'there exists'.

²⁷ Basically: to say of some thing that it's indeterminate whether that thing exists we need to quantify over that thing, but once we've quantified over it we're pushed by Sider's argument toward saying that it determinately exists.

rather than it's indeterminate what things exist. A de re reading forces us to 'quantify in' to indeterminate existence claims, whereas a de dicto reading does not.²⁸

Similar differences arise for, *inter alia*, vague identity and vague parthood. Let's first examine the infamous case of vague identity. Gareth Evans presents his reductio of vague identity using names, as follows:²⁹

- (1) $\nabla(a=b)$
- (2) $\lambda[\nabla(x=a)]b$ ³⁰
- (3) $\sim\nabla(a=a)$
- (4) $\sim\lambda[\nabla(x=a)]a$
- (5) $\sim(a=b)$ [from (2) and (4), by Leibniz's Law]

This is not an outright contradiction, but Evans then reasons that if '∇' and its dual 'Δ' 'generate a modal logic as strong as S5', then we can put a 'Δ' prefix before (1)-(4) and Leibniz's Law, enabling us to derive:

- (5') $\Delta\sim(a=b)$

which is straight forwardly contradictory to (1).

As Lewis (1988) points out, in this form the argument is only effective if we assume that the names involved are rigid designators and that there is no referential indeterminacy as to what they pick out.³¹ But Williams (2008)*b* persuasively argues that the defender of metaphysically vague identities is not committed to allowing these dual assumptions. She can think that the names in question are referentially indeterminate *because of metaphysical indeterminacy*. (Again: the reference relation has two ends, words and world. Assuring that our words are associated with fully determinate reference-fixing rules does not ensure determinate reference, because it may be indeterminate what things are like at the world-end of the reference relation.)

This reply allows a de dicto reading of metaphysically indeterminate identity: it can be indeterminate what identities hold without there being some thing a and some thing b such that it's indeterminate whether $a=b$. If, because of metaphysical indeterminacy, it's

²⁸ Metaphysical indeterminacy has sometimes been specifically equated with de re indeterminacy. See, e.g., Williamson (2005).

²⁹ See Evans (1978).

³⁰ This is a property abstraction: b has the property of being indeterminately identical to a. The thought is then that the same abstraction won't work for a - it's not the case that a has the property of being indeterminately identical to a. So b has some property a lacks.

³¹ The argument is not intended as a reductio of identity-involving statements which are vague.

indeterminate what 'a' and 'b' refer to, we can be committed to metaphysically indeterminate identity³² *without* being committed to claims of the form $\exists x \exists y \forall x = y$.

Evans' argument doesn't threaten de dicto forms of metaphysically indeterminate identity. But if we reformulate the Evans argument using variables instead of names³³ we're forced to read the argument de re, making Williams-style response impossible. If this stronger, de re version of the argument is successful -- if we can show that *de re* metaphysically indeterminate identity is incoherent -- does it pose a problem for metaphysical indeterminacy? Only if commitment to indeterminate identity entails commitment to de re indeterminate identity -- but as we have seen this is not the case.³⁴

A similar distinction is important for indeterminate parthood. The possibility of indeterminate parthood has been offered as a reason to reject metaphysical indeterminacy, based on the worry that indeterminate parthood conflicts with classical mereology.³⁵ Classical mereology demands that for any two things, there is something which is their sum. But that isn't true if parthood can be indeterminate, so the thought goes. For suppose we have some thing A such that b is determinately a part of A, it's indeterminate whether c is a part of A, and it's determinate that nothing other than A, b or c is a part of A. Classical mereology tells us that there is a sum of b and c, and that no distinct things share all the same parts. It follows that it's indeterminate whether the sum of b and c is identical to A. But Evans has shown us we can't have (de re) indeterminate identity. Contradiction: indeterminate parthood and classical mereology are not co-tenable.

Again we need to be very careful to delineate exactly what the defender of metaphysical indeterminacy is committed to. If she takes a de dicto interpretation of indeterminate parthood she can, for example, still maintain that, determinately, for any things x and y there is some thing which is the sum of x and y. She doesn't deny classical mereology. What she denies is that for any things x and y there is some thing which is determinately the sum of x and y.³⁶ For the previous example, she says that determinately there is a sum of b and c, but there is no thing which is determinately the sum of b and c; and thus there is no thing such that that thing is indeterminately identical to A.

³² Insofar as identity statements which are indeterminate because of the presence of metaphysical indeterminacy count as 'metaphysically indeterminate identities'.

³³ As in Salmon (1982)

³⁴ Though see Barnes (2009) for a way of resisting the de re version in a classical setting.

³⁵ E.g., Weatherson (2003)

³⁶ That is, determinately there is a sum ($\forall x \forall y \Delta \exists z (z = \text{sum of } x \text{ and } y)$), but there's no thing such that *that thing* is determinately the sum ($\forall x \forall y \exists z \Delta (z = \text{sum of } x \text{ and } y)$).

If the defender of metaphysical indeterminacy adopts de dicto rather than de re interpretations of specific claims about metaphysical indeterminacy, she can end up agreeing with a lot of claims that are sometimes put forward as both (i) obviously true; (ii) incompatible with metaphysical indeterminacy. That for any things x and y there is determinately a sum of x and y and $\sim\exists x\exists y\forall x=y$ are two prime examples.

Perhaps we can get her to bite bullets by forcing a de re reading of the indeterminacy under discussion. If she defends indeterminate parthood, for example, she'll have to deny that for any things there is some thing which is determinately their sum (even though she can agree that determinately there is some thing which is their sum).³⁷ Insofar as the former claim is independently plausible, this might present a problem for her.

But choosing between de re and de dicto readings of claims about indeterminacy (and insisting that the de re claim is what's obvious or independently motivated) is tricky at best. It requires us to have intuitions about, inter alia, how to quantify in to determinacy-involving statements and how to distinguish when determinacy operators should take wide vs. narrow scope. A familiar claim from the vagueness literature is that there's no reason to think our intuitions are very good at tracking subtleties like these.³⁸

7. Conclusion

The above discussion is certainly not exhaustive. There are other objections to metaphysical indeterminacy which I haven't covered, and there are replies to the counter-arguments I've given. But I'm hopeful that, by examining some of the most influential and enduring arguments against metaphysical indeterminacy and vagueness, I've not only showed potential avenues of response to those arguments, but also illustrated the *kinds* of responses available (though often overlooked) to defenders of metaphysical indeterminacy. Metaphysical indeterminacy, when we pay attention to subtleties and spell out in detail what we mean, is (in my opinion, anyway) not nearly as problematic as it's often assumed to be.

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³⁷ See Barnes and Williams (2009).

³⁸ Cf. the ‘confusion hypothesis’ of supervaluationism (see, e.g., Keefe (2000), pg. 185).

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