

Response to Eklund¹ Elizabeth Barnes and JRG Williams

Matti Eklund (this volume) raises interesting and important issues for our account of metaphysical indeterminacy. Eklund's criticisms are wide-ranging, and we'll be unable to address them comprehensively. Instead, we'll focus our reply on a few key points, taking the opportunity to remark on the background methodology and assumptions that inform our view and, where appropriate, indicating how these may differ from Eklund's.

We begin our account of metaphysical indeterminacy by defending the intelligibility of indeterminacy. Eklund finds this defence unpersuasive, so it seems fitting to begin our reply by addressing these criticisms. We'll then move on to discuss Eklund's remarks on vagueness and indeterminacy. We'll close by briefly addressing the role of classical logic in our approach to indeterminacy.

1. Intelligibility

We argue that metaphysical indeterminacy – whether or not there is any such thing – is at least *intelligible* (contra some ardent skeptics). This is a relatively weak claim, but it's also a hard one to establish. As David Lewis points out: 'any competent philosopher who does not understand something will take care not to understand anything else whereby it might be explained.'²

Eklund agrees that metaphysical indeterminacy is intelligible, but doesn't think our argument to this effect are successful. He raises three interrelated objections: that it relies on a generic concept of indeterminacy, that it requires us to distinguish between indeterminacy and indefiniteness, and that analogous arguments would vindicate the dubious notion of 'metaphysical ambiguity'. We will consider each of these objections in turn.

Our case for intelligibility relies heavily on there being a generic concept on indeterminacy. And, says Eklund, if indeterminacy really is a varied phenomenon – if there is epistemic indeterminacy, semantic indeterminacy, etc – then we'd have to admit that there's a generic concept unifying these various forms. But it's controversial whether epistemic indeterminacy is genuine indeterminacy. And thus it's controversial whether there is more than one kind of indeterminacy (leaving metaphysical indeterminacy to the side, to avoid question-begging). So the case for a generic concept is weak.

We think the direction of explanation goes the other way. It's not that we have specific theories of indeterminacy – epistemicism, supervaluationism, etc – and then use those theories to abstract to a generic concept of indeterminacy. Rather, we have the generic concept and then use that concept to develop the more specific theories. The generic concept is *pre-theoretic*, while the specific theories are *post-theoretic*. So even if it turned out that, in fact, all indeterminacy is semantic indecision, we'd still have a generic *concept* of indeterminacy. We'd have this generic concept unless it turned out that it's *analytic* of indeterminacy that all indeterminacy is semantic indecision. That

¹ For very helpful comments and discussion we are grateful to Ross Cameron, Jason Turner, and especially Matti Eklund.

² Lewis (1986)

indeterminacy is *analytically* semantic seems much less plausible than the (still controversial) claim that all indeterminacy is semantic.³

Nevertheless, philosophers do vary greatly in what they're willing to let fall under the term 'indeterminacy'. Some are adamant that the phenomenon discussed by epistemicists isn't 'real' indeterminacy. It's for precisely this reason that we introduced a terminological distinction between *indeterminacy* and *indefiniteness*. On more permissive views of indeterminacy, the distinction is unimportant – the two terms co-refer. But we wanted those who don't think epistemicists are taking about indeterminacy to still be able to engage with our project, and for this reason (and only for this reason) we introduced a term that would bypass this dispute. Eklund worries that in doing so we're committing ourselves to a conceptual distinction between indeterminacy and indefiniteness, and a generic concept of each. Both commitments look problematic

As we make plain the text, our reasons for incorporating the distinction are purely pragmatic terminological ones.⁴ Are you happy to call epistemic indeterminacy 'indeterminacy'? If yes, then the generic concept we have in mind should be called 'indeterminacy', and it breaks down into different forms (epistemic, semantic, metaphysical). If no, then the generic concept we have in mind should be called 'indefiniteness' and it breaks down into different forms, only some of which get the label 'indeterminacy' (epistemic indefiniteness, metaphysical indeterminacy, semantic indeterminacy). In either case, it's the same generic concept. And in either case there's only one generic concept. The question is simply what to call that concept. We don't think that by complicating terminology we've thereby complicated conceptual space.

As should be clear, we think that motivating a generic concept of indeterminacy is relatively straightforward. But part of Eklund's worry is that the motivations we give are *too* straightforward. If it's that simple to motivate a generic concept of indeterminacy, and thereby vindicate the coherence of metaphysical indeterminacy, why couldn't you give an analogous argument for other concepts? Why, for example, couldn't you argue for a generic concept of ambiguity, and then claim to be able to make sense of metaphysical ambiguity? But surely if our defense allows you to make sense of metaphysical ambiguity then something's gone wrong.

The cases of ambiguity and indeterminacy seem importantly disanalogous to us. We relied, after all, on that the assumption that semantic notions are not built in to our very concept of indeterminacy – that's it's not analytic that all indeterminacy is semantic indeterminacy. That assumption is reasonably denied for ambiguity---in which case there'd be no case for there being a generic concept of ambiguity.⁵

³ And the burden of proof lies with the person who wants to make this ultra-strong claim: why think, e.g., semantic indecision is somehow built in to our very concept of indeterminacy? That indeterminacy isn't obviously semantic doesn't *rule out* it's being analytically semantic (assuming that there can be non-obvious necessities), but an argument is required for why we should posit such non-obvious analyticity.

⁴ See Barnes and Williams (this volume), pg. [n], note 2.

⁵ This might be too quick. Notice there's a *trivial* sense in which ambiguity seems "linguistic" in character--it's normally thought of as a *property of linguistic entities* (names, predicates, and sentences are its most paradigmatic exemplars). That's rather different from the claim that the *nature of the phenomenon* is semantic. Some might think, for example, that lexical ambiguity arises when we have two homophonic words in our lexicon; others might say there is a single word standing in multiple semantic relations. The latter might be called "semantic" ambiguity --- it's not clear that the former is happily so called. Indeed, if one's theory of ambiguity rests on an account of the individuation conditions of words (cf. Kaplan 1990),

Certainly the most paradigmatic usage of ‘ambiguity’ has a linguistic subject matter: it’s predicated of names and sentences. But consider usages like ‘x is ambiguously Φ ’. It’s not at all clear what such usage is picking up on (it may just be stylistic error).⁶ But suppose for the sake of argument that we could force a metaphysical reading of ‘x is ambiguously Φ ’. Were that the case, we could see motivation for accepting metaphysical ambiguity’s intelligibility. But that by itself wouldn’t give us any reason to suppose that ‘metaphysical ambiguity’ picks out a *different* metaphysical primitive than ‘metaphysical indeterminacy’.⁷

It’s worth noting at this point that there are different things you could mean by ‘intelligible’. Eklund argues that the counterfactual definition of metaphysical vagueness from Barnes (forthcoming) could be reformulated to define metaphysical ambiguity: a sentence S is metaphysically ambiguous iff S is ambiguous and were S semantically disambiguated S would still be ambiguous. Eklund is skeptical that this renders metaphysical ambiguity intelligible, and says it certainly doesn’t look like enough to make it ‘kosher’ – though he worries that by our lights it is. We agree that such a definition does *not* make metaphysical ambiguity ‘kosher’ – the definition in Barnes (forthcoming) has a much weaker aim.⁸ Does it make it intelligible? That depends on how much we’re packing into ‘intelligible’. The definitional project of Barnes (forthcoming) is minimal: find an extensionally adequate definition of metaphysical vagueness that even skeptics can agree to. We can develop an analogous definition of ‘metaphysical ambiguity’, but simply because we can so define it doesn’t mean that we can really understand it, or that the notion of a semantically disambiguated ambiguous sentence makes any sense at all. For our project we have in mind this stronger notion of intelligibility. It’s not just that you can grasp an extensionally adequate definition of metaphysical indeterminacy. It’s that, insofar as you understand indeterminacy at all, there’s a robust sense in which you can understand what it would be for (some) indeterminacy to be metaphysical.

2. Indeterminacy and vagueness

Eklund distinguishes sharply between *indeterminacy* and *vagueness*. On his reading of the literature, while metaphysical *vagueness* has been roundly dismissed, metaphysical *indeterminacy* has not been the target of such skepticism. So our defense of the intelligibility of the latter both isn’t much news and doesn’t engage with the really problematic thing: metaphysical *vagueness*.

isn’t there a sense in which one is giving a *metaphysical* theory of ambiguity? Of course, the subject matter (words and their meanings) is still linguistic---but that’s inevitable given the choice of example.

⁶ Though it does seem to report something different from the predicate usage. We don’t say ‘HSBC is ambiguously a bank’, for example.

⁷ That is, ‘x is ambiguously Φ ’, insofar as we can hear a metaphysically-heavy reading of it, just sounds like a stylistic variant of ‘x is indeterminately Φ ’.

⁸ Barnes (forthcoming) is clear that the counterfactual structure only serves to show that you can give an extensionally adequate definition of metaphysical vagueness (contra those who argue that any attempted definition will collapse back into semantic vagueness). The definition isn’t meant to make metaphysical vagueness make sense or render it ‘kosher’ – you can agree that the definition is extensionally adequate while still being strongly skeptical about the very idea of metaphysical vagueness.

We read the literature rather differently---though many relevant passages are rather sketchy, so it's sometimes unclear what's intended. Consider two skeptics: Lewis and Hudson. Eklund points out that Lewis's famous rejection of non-semantic vagueness in *Plurality* never mentions 'indeterminacy'. But in "Reduction of Mind", Lewis uses both terms interchangeably, before dismissing *non-semantic indeterminacy* as impossible, citing his discussion of non-semantic *vagueness* in *Plurality* as support. Hudson, as Eklund notes, similarly uses the terms interchangeably in dismissing "ontic" versions. (It's also worth noting that, as Eklund acknowledges, perhaps the most prominent argument against 'vagueness in the world' -- that due to Gareth Evans -- take the form of a reductio of *it being indeterminate whether $a=b$* .)⁹

Let's suppose we're right that in at least *some* of the literature, metaphysical vagueness and metaphysical indeterminacy are equally subject to skepticism. There's still a significant point that Eklund is raising: perhaps all this is a conflation, and if the two phenomena were distinguished, only metaphysical *vagueness* would be found worrying.

If that's what should be said, then there should be a good distinction between the two notions. What is it? As Eklund notes, vagueness is intimately related to the *sorites series* and paradoxes. Examples of indeterminacy needn't work the same way. Future contingents, theory change in science, partially defined terms, certain chancy conditionals have all been argued to be *indeterminate*, but don't seem to have the soritical character of paradigmatically vague adjectives.

The connection between sorites-infected vagueness and indeterminacy comes when we turn to a *second* puzzling feature of paradigmatically vague predicates. Midway through a sorites series for red, we come across patches for which the question 'is this patch red?' seems to have no decent answer. It's usual to describe these *borderline cases* as examples of indeterminacy. If so, indeterminacy is *one aspect* of vagueness, but not the only one.

In the light of this, one might adopt an 'indeterminacy-first methodology for thinking about vagueness -- first giving an account of borderline cases. Fine (1975) and Field (2003) are two nice examples of this strategy. Of course, you want your story to be *faithful* to the phenomena of sorites-susceptibility -- and so, for example, the account has to give a decent treatment of higher order indeterminacy (borderline cases of borderline cases). And it would be nice if this theory of indeterminacy generated an explanation of the sorites paradox (both an account of the way in which it is unsound or invalid, and an explanation of our initial temptation to endorse it). If a story about vagueness falls out of a theory of the indeterminate cases in this way, you can see why one might end up using the terms interchangeably.

But the indeterminacy-first methodology isn't obligatory. Perhaps the sorites can be defused using resources independent of appeal to 'borderline cases'. And perhaps a story about the peculiar status of borderline cases falls out of this--- in a way that does not generalize to partial definitions, future contingents and other putative examples of 'indeterminacy'. If that's how things play out, then using 'vagueness' and 'indeterminacy' interchangeably will only invite confusion. As examples of approaches of this kind, consider the work of Crispin Wright and Delia Graff Fara's form of contextualism.

⁹ Evan's argument, officially, is formulated in terms of "indefiniteness" rather than "indeterminacy". See earlier discussion of this terminological issue.

If the second methodology is assumed, then it certainly seems like reasons for skepticism over metaphysical vagueness will not generalize. But given the first methodology, it's hard to see much reason for skepticism about this that doesn't route through skepticism about metaphysical *indeterminacy*. Many who say they doubt the intelligibility of metaphysical vagueness seem committed to the first methodology (Lewis is a case in point). So it's not just that theorists like Lewis do in fact express skepticism over metaphysical indeterminacy. Given the relationship between indeterminacy and vagueness they adopt, it would be hard for them to adopt different attitudes to the two cases

3. Logic

Eklund gives two major criticisms against our use of classical logic: that our motivation for a classical and bivalent theory is better suited to vagueness than it is to indeterminacy, and that a non-classical logic would be able to do much of the same work our classical model does.

As discussed above, we don't see the sharp distinction between vagueness and indeterminacy which Eklund does. But it's worth considering whether our conception of 'unsettledness' and our rejection of indeterminacy as a separate status exclusive of truth and falsity is apt in non-soritical cases of indeterminacy. Consider Eklund's example of the open future. One famous way of saying that the future is unsettled is to say that future-directed propositions are neither true nor false.¹⁰ To apply our account of indeterminacy to the open future, we must reject this view. We must say that, for any future-directed P, P is (determinately) either true or false. It's either true or false that there will be a sea-battle tomorrow. It's just *unsettled* which.¹¹

This seems at least *as good* of a way of capturing the basic idea behind the open future. And it has important dialectical advantages. It is more parsimonious. It avoids the worry¹² that a separate ontological status for indeterminacy loses the basic idea of indeterminacy as *unsettledness* between two (exhaustive, exclusive) poles. It avoids the worry that we shouldn't be investing credence in claims known to be *untrue*.¹³ And, importantly, it allows us to retain classical logic in its entirety.

But this brings us to Eklund's second objection: why the emphasis on classical logic (and bivalent semantics)? Surely non-classical logics (and/or gappy semantics) could do much of the same work?

Our reasons for developing a theory of metaphysical indeterminacy around classical logic in the paper are mostly dialectical, and in many cases are largely pragmatic. As we say in the paper, if someone wanted to pair a primitivist metaphysics of indeterminacy with non-classical logic, we see no tension. And we didn't (in the paper) intend to provide arguments for classicism that would stand in their way.

However, we *do* think that the classical starting point is well motivated. Departing from classical logic incurs costs.¹⁴ Avoiding theoretical costs is a good thing! This simple

¹⁰ See, inter alia, Thomason (1970), MacFarlane (2001)

¹¹ In other work, Barnes defends this as an attractive characterization of the open future. See Barnes and Cameron (2009).

¹² Which is not tied to the details of Wright's views on vagueness from which it originates.

¹³ These "cognitive" worries about truth-value gap proposals are explored in Williams (ms).

¹⁴ What are the costs? Well, classical logic and semantics are simple and elegant, relatively expressively powerful, with well understood semantics and proof theory. Furthermore, classical logic seems to be

reasoning leads us to logical conservatism. We're certainly not convinced that classical logic is the only way of doing logic, or the clearly and undoubtedly correct way of doing logic. But if it can be maintained, then it's a pro tanto good thing to maintain it.

In the context of the literature, building our theory around classical logic brings us another major dialectical advantage. Metaphysical indeterminacy has often been associated with non-classical logics.¹⁵ By developing a fully classical theory of indeterminacy, we show that there is *no argument* from classical logic alone against metaphysical indeterminacy.

Eklund also raises important questions about the *kind* of question we're answering when describing a logico-semantic framework for indeterminacy. For example, we emphasize the bivalent character of the setting. But, as Eklund notes, we could *define* a predicate 'T' in terms of truth-at-all-ontic-precisifications. And if we called that predicate 'truth', the setting would be non-bivalent. Eklund asks the good question: is the issue here a verbal one, or does something more substantive hang on it?

If truth were an idler, which we could switch around without impacting wider theory, then perhaps the issue would be merely verbal. But it's reasonable to think that truth is pretty deeply entrenched. It figures in claims such as: logical consequence is guaranteed truth preservation; truth is the aim of belief; truth is a necessary condition for knowledge; for p to be possible is for p to be possibly true. Truth is what plays the truth-role --- and it seems clear that we can have substantive disputes about what plays that role.¹⁶

Eklund sketches a *pluralism* about logical-semantic settings. Grant that language L (with classical logic and semantics) is one way to describe the facts---but perhaps there's a possible language L* (with a Kleene logic or semantics, say) that could describe the 'same facts'.

This idea is intriguing, and deserves more attention than we can give it here. One suspicion is that the plausibility of the proposal might depend on which of the settings one takes as the 'starting point'. For example, it's familiar that one can extract a canonical 'supervaluational-style' model from a given Kleene model.¹⁷ But if we started from a set of precisifications, it's not clear which Kleene model (or set of truths in a Kleene-based language) one would use to encode the same information.¹⁸

presupposed in much applied science and certainly in many areas of philosophy. (The point here is not just that it's popular -- it's that many successful theories presuppose classicism, and thus if we dropped that assumption we'd be committing ourselves to a challenging reconstructive project.

¹⁵ Michael Tye (1994) contrasts the 'conservatism' of epistemicism with the 'shift to the left' to embrace 'the liberal chic of alternative logics' of those who favour a metaphysical account of indeterminacy/vagueness.

¹⁶ In the specific example Eklund gives, maintaining the kind of 'truth role' just mentioned will lead to (i) 'global' supervaluational logic, including revision of classical metarules; (ii) a "rejectionist" account of belief in indeterminate claims (cf. Field (2003)); (iii) a revisionary modal logic, with disjunctions being possible even when both disjuncts are impossible (as described in our paper). None of these consequences can be read off the bivalent setting.

¹⁷ See Fine (1975) for the basic idea of supervaluations over an underlying Kleene model, with the sharpenings 'filling in' gaps between extension and anti-extension of predicates

¹⁸ One issue is over penumbral connections. 'Anything redder than a red thing is red' seems true, but it's notoriously hard to capture this in a Kleene setting. In Fine's setting, these need to be 'put in by hand' in extracting supervaluational semantics from the underlying Kleene model. See Field (2008) for suggestions on similar lines to Eklund's, which are however based on a richer many-valued setting (including crucially a 'strongS' conditional that helps capture penumbral connections).

4. Conclusion

There is much more in Eklund's rich paper which we've been unable to address here. We hope the above remarks serve to clarify both our basic construal of metaphysical indeterminacy, and our methodological approach to the connections between indeterminacy, vagueness and logic.

- E Barnes, “‘Ontic vagueness: a guide for the perplexed’,” *Noûs* (forthcoming).
- E. Barnes and R. Cameron, “The open future: bivalence, determinism and ontology,” *Philosophical Studies* 146, no. 2 (2009): 291–309.
- E Barnes and J. R. G Williams, “‘A theory of metaphysical indeterminacy’,” *Oxford Studies in Metaphysics* (2010).
- G Evans, “‘Can there be vague objects?’,” *Analysis* 38, no. 13 (1978): 208.
- Delia Graff Fara, “‘Shifting Sands: an interest-relative theory of vagueness’,” *Philosophical Topics* 28, no. 1 (2003): 45-81.
- Kit Fine, “‘Vagueness, truth and logic’,” *Synthese* 30 (1975): 265-300.
- H. Field, “The semantic paradoxes and the paradoxes of vagueness,” *Liars and Heaps: New Essays on Paradox* (2003): 262–311.
- H Field, *Saving Truth From Paradox* (OUP Oxford, 2008).
- H Hudson, *A materialist metaphysics of the human person* (Ithaca: Cornell University Press, 2001).
- D Kaplan, “‘Words’,” *Proceedings of the Aristotelian Society* supp LXIV (1990).
- D K Lewis, “‘Reduction of Mind’,” in *A Companion to the Philosophy of Mind*, ed. Samuel Guttenplan (Oxford: Blackwell, 1994), 412-31.
- DK Lewis, *On the Plurality of Worlds* (Oxford: Blackwell, 1986).
- J. MacFarlane, “Future contingents and relative truth,” *The Philosophical Quarterly* 53, no. 212 (2003): 321-336.
- R H Thomason, “‘Indeterminist time and truth-value gaps’,” *Theoria* 3 (1970): 264-281.
- M Tye, “‘Sorites paradoxes and the semantics of vagueness’,” *Philosophical Perspectives* 8 (1994): 189-206.
- C Wright, “‘Vagueness: A fifth column approach’,” in *Liars and Heaps: New essays on paradox*, ed. J. C. Beall (Oxford: Oxford University Press, 2003), 84-105.