LOCATING VAGUENESS*

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Bertrand Russell says:

> Vagueness and precision alike are characteristics which can only belong to a representation, of which language is an example. They have to do with the relation between a representation and that which it represents. Apart from representation…there can be no such thing as vagueness or precision…[1]

Moreover, David Lewis asserts: "The only intelligible account of vagueness locates it in our thought and language."[2] And most philosophers nowadays agree that all vagueness is a feature of representations, and, in particular, a feature of language or thought.

One could even get the impression that vagueness is supposed to be a feature of language alone. Thus Kit Fine: "Let us say, in a preliminary way, what vagueness is. I take it to be a semantic feature. Very roughly, vagueness is deficiency in meaning."[3] Perhaps only linguistic representations have the relevant sort of meaning. Then Fine's (preliminary and rough) remark implies that vagueness is a feature of language alone. And here is Lewis again:

> …the reason it's vague where the outback begins is not that there's this thing, the outback, with imprecise borders; rather there are many things, with different borders, and nobody has been fool enough to try to enforce a choice of one of

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[1] "Vagueness," *Australasian Journal of Psychology and Philosophy*, I (1923): 84-92, at p. 85.

[2] *On the Plurality of Worlds* (Oxford: Blackwell, 1986), p. 212.

[3] "Vagueness, Truth, and Logic," *Synthese*, XXX, 3/4 (1975): 265-300, at p. 265.

> them as the official referent of the word 'outback'. Vagueness is semantic indecision.[4]

Michael Dummett adds: "the notion that things might actually be vague, as well as being vaguely *described*, is not properly intelligible."[5]

At any rate, the claim that all vagueness is a feature of language or thought is definitely the orthodoxy today.[6] This orthodoxy is a claim about the "location" of vagueness. As we can see in some of the passages quoted above—and as will be emphasized below—that claim is supposed to follow from the "nature" of vagueness. Conversely, the comparative few who reject the orthodoxy about the location of vagueness will also reject the accounts of vagueness's nature defended by the orthodox.

Some of these few will say, for example, that at least some vagueness is not a matter of deficiency in meaning (or semantic indecision or the relation between a representation and that which it represents, and so on), but is instead a matter of metaphysical indeterminacy.[7] Those who say that at least some vagueness is a matter of metaphysical indeterminacy have a substantive disagreement with the orthodox. That is, their disagreement is over more than how to use the word 'vague'. Thus the orthodox do

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[4] *On the Plurality of Worlds*, *op. cit.,* p. 212.

[5] "Wang's Paradox," *Synthese*, XXX, 3/4 (1975): 301-324, at p. 314. Emphasis added.

[6] Cf. Roy Sorensen, "Vagueness," *The Stanford Encyclopedia of Philosophy* (2012). URL=<http://plato.stanford.edu/archives/win2013/entries/vagueness/>.

[7] Defenders of vagueness as a matter of metaphysical indeterminacy include: Ken Akiba ("Vagueness in the World," *Noûs*, XXXVIII, 4 (2004): 407-429), Elizabeth Barnes ("Ontic Vagueness: A Guide for the Perplexed," *Noûs*, XLIV, 4 (2010): 607-27), Elizabeth Barnes and J. R. G. Williams ("A Theory of Metaphysical Indeterminacy," *Oxford Studies in Metaphysics*, VI (2011): 103-48), Ross Cameron ("Vagueness and Naturalness," *Erkenntnis*, LXXII, 2 (2010): 281-293), and Peter van Inwagen (*Material Beings* (Ithaca: Cornell University Press, 1990), p. 231ff.). One nuance that I shall ignore here is that not all alleged instances of metaphysical indeterminacy are supposed to count as vagueness (consider, for example, the "open future").

more than stipulate that the word 'vague' describes only language and thought. Rather, the orthodoxy is that if it is indeterminate whether an entity is a certain way, or if there is a borderline case of an entity's being a certain way, this is somehow ultimately a feature of language or thought.

Supervaluationism is a theory of sentence truth and, relatedly, an approach to logic (or some logics[8]). But supervaluationism also delivers a theory of the nature of vagueness. And those who endorse supervaluationism and its theory of vagueness are typically orthodox. For example, Fine, Lewis, and Dummett all testify to the orthodoxy in works that defend supervaluationism of one sort or another.[9]

Because supervaluationists are typically orthodox, it makes sense to understand their account of the nature of vagueness in a way that implies that all vagueness is located in language or thought. And this is what I shall do. (But see §IV.) So I shall understand the supervaluationist account to say—for example—that its being vague whether an entity is a heap (an entity's being a borderline heap) amounts to something along the lines of both the predicate 'is a heap' having precisifications and also some but not all of those precisifications being satisfied by that entity. The precisifications (or sharpenings) of a vague predicate are what it would mean, were it made precise in one way or another. (I have illustrated the supervaluationist account of the nature of vagueness with an example

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[8] See Achille Varzi, "Supervaluationism and Its Logics," *Mind*, CXVI, 463 (2007): 633–676.

[9] Fine, "Vagueness, Truth, and Logic," *op. cit.*; Lewis, *On the Plurality of Worlds*, *op. cit.* and "Many, but Almost One," in Keith Campbell, John Bacon, and Lloyd Reinhardt (eds.), *Ontology, Causality, and Mind: Essays on the Philosophy of D. M. Armstrong* (Cambridge: Cambridge University Press, 1993), pp. 23-38; Dummett, "Wang's Paradox," *op. cit.*.

involving language, as opposed to thought, because supervaluationists typically focus on vagueness as a feature of language.[10])

Epistemicism is another well-known account of the nature of vagueness. Epistemicism is quite controversial. But it is not the sort of view that Lewis or Dummett would deem unintelligible. For epistemicists can say what the epistemicist Timothy Williamson does say: "Strictly understood, the distinction between vagueness and precision applies only to representations."[11] That is, epistemicism, no less than supervaluationism, can be understood so that it implies the orthodoxy. This is because epistemicism can be taken to be the view that, for example, its being vague whether an entity is a heap (an entity's being a borderline heap) amounts to its being unknowable whether that entity is in the extension of the predicate 'is a heap'.

We can reinforce this point by considering Williamson's two-part explanation of what he takes to be vagueness-constituting ignorance. First, we are irremediably ignorant of the full details regarding a predicate's use. Second, we are irremediably ignorant of exactly how a predicate's extension supervenes on a combination of its use and the relevant non-linguistic facts.[12] (Williamson also explains how he accommodates

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[10] For example, in her influential book that defends a version of supervaluationism, Rosanna Keefe says: "The theories of vagueness of this book are theories of linguistic vagueness." (*Theories of Vagueness* (Cambridge: Cambridge University Press, 2000), p. 16.)

[11] *Vagueness* (London: Routledge, 1994), p. 258.

[12] *ibid.,* pp. 201-09.

vagueness in thought.[13] But, like supervaluationists, epistemicists tend to focus on vagueness as a feature of language, as opposed to vagueness as a feature of thought.[14])

We have just considered two accounts of the nature of vagueness that take vagueness to be some sort of linguistic or mental phenomenon and thereby imply the orthodoxy. Any other account that takes vagueness to be some sort of linguistic or mental phenomenon will likewise thereby imply the orthodoxy. Moreover, I think that if vagueness itself is not a linguistic or mental phenomenon, then the orthodoxy about vagueness's location is false. To see why I think this, consider that no one says—or should say—both that vagueness is metaphysical indeterminacy and also that all vagueness just happens to be located in language or thought alone. After all, if vagueness were a matter of metaphysical indeterminacy, it would be bizarre if vagueness just happened to be a feature of language or thought alone.

More generally, if vagueness were not in some way or other a linguistic or mental phenomenon, it would be bizarre if vagueness just happened to be a feature of language or thought alone. So let us assume—as the orthodox already do assume—that if all vagueness is a feature of language or thought, then one (or more) of the following claims about the nature of vagueness is true: vagueness is deficiency in meaning or is semantic

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[13] *ibid., pp*. 231-32.

[14] In his defense of an epistemic account of vagueness, Richmond Campbell says: "I shall speak of this uncertainty as semantic uncertainty, since the uncertainty is apparently due to the fact that the *meaning* of 'short man' is vague or inexact" ("The Sorites Paradox," *Philosophical Studies*, XXVI, 3 (1974): 175-191, at p. 180). Roy Sorensen introduces his version of epistemicism as a treatment of "blurry predicates" and also explicitly treats the sorites paradox involving a heap as a paradox about the word 'heap' (*Blindspots* (Oxford: Clarendon Press, 1988), pp. 199-215). And Sorensen's later explanation of vagueness-constituting ignorance is itself an explanation of our ignorance of the truth-value of certain sentences (*Vagueness and Contradiction* (Oxford: Clarendon Press, 2001), pp. 176-80). (Sorensen also discusses vagueness in thought; see his "Vagueness Within the Language of Thought," *Philosophical Quarterly*, XVI, 165 (1991): 389-413.)

indecision or has to do with the relation between a representation and that which it represents; the nature of vagueness is captured by either the above version of supervaluationism or the above version of epistemicism; vagueness is, instead, some other linguistic or mental phenomenon.

If vagueness is a linguistic or mental phenomenon, then it is not possible—and perhaps even unintelligible—for there to be vagueness in the absence of language and thought. For example, suppose that vagueness just is irremediable ignorance about the extension of predicates. Such ignorance is not possible in the absence of predicates, and so not possible in the absence of language, and so not possible in the absence of language and thought. Here is another example: Suppose vagueness just is a predicate's having precisifications, some but not all of which are satisfied by an entity. Necessarily, if there is no language or thought, then there are no predicates. And it is not possible that both there are no predicates and also a predicate has precisifications, some but not all of which are satisfied by an entity.

So if all vagueness is a feature of language or thought, then the nature of vagueness makes it impossible for there to be vagueness in the absence of language and thought. Perhaps I have been belaboring the obvious. After all, those who think that all vagueness is a feature of language or thought do not think that this is just how things happened to turn out. Rather, they think that this is how things had to turn out. That is, they think that it is not possible—and perhaps even unintelligible—for there to be vagueness that is not a feature of language of thought.

But—even if belabored and obvious—the following point is important: if all vagueness is a feature of language or thought, then it is not possible for there to be

vagueness in the absence of language and thought. For this point implies that if it is possible for there to be vagueness in the absence of language and thought, then it is false that all vagueness is a feature of language or thought. And much of this paper will defend the conclusion that it is possible for there to be vagueness in the absence of language and thought. As just noted, this conclusion implies that the orthodoxy that all vagueness is a feature of language or thought is false. This paper's main goal is showing that the orthodoxy is false. But, along the way, I shall also present, and uncover ways to motivate, some heretical accounts of the nature of vagueness.

I. Vagueness *at* Possible Worlds without Language or Thought

Here is the Stock Series: There is a single grain of sand on a slab of granite. On another such slab, there are two grains of sand. On another there are three. On another four. And so on, up to and including, on yet another slab of granite, one hundred thousand grains of sand. At each step the grains are as piled up as possible, given their number.

There were many things before there were language users or thinkers, and so before there was language or thought: hydrogen atoms, planets, stars, grains of sand, and so on. So it seems safe to conclude that, possibly, there is a grain of sand but never any language or thought (but see §III). Indeed, it is possible for there to be the whole Stock Series but no language or thought. Thus we have the first premise of this paper's main argument:

(1) Possibly, there is the Stock Series in the absence of language and thought.[15]

The road to the second and final premise of this paper's main argument is quite a bit longer. It begins with the familiar distinction between truth *in* a possible world and truth *at* a possible world. Let a sentence be *true in a possible world* just in case, necessarily, if that possible world were actual, then that sentence would be true. And let a sentence be *true at a possible world* just in case that sentence's actual (this-worldly) truth conditions are satisfied *in* that possible world. That is, a sentence is true *at* a possible world just in case that sentence actually has truth conditions and, necessarily, if that possible world were actual, then those truth conditions would be satisfied.

For example, let S be the sentence 'There are no sentences'. And let W be a possible world such that, necessarily, if it were actual, then there would be no sentences. So, necessarily, if W were actual, then S would not exist. A sentence cannot be any way, not even true, if it does not exist. So, necessarily, if W were actual, then S would not be true. In other words, S is not true *in* W.

But S is true *at* W. For S is true if and only if there are no sentences. So S's actual (this-worldly) truth conditions are satisfied if and only if there are no sentences. Necessarily, if W were actual, then there would be no sentences. So, necessarily, if W were actual, then S's actual (this-worldly) truth conditions would be satisfied. That is, S's actual (this-worldly) truth conditions are satisfied *in* W. In other words, S is true *at* W.

[15] Theists might object that, necessarily, there is divine thought; so nothing is possible in the absence of (divine) thought; so the Stock Series is not possible in the absence of thought; so (1) is false. I shall dodge this objection by restricting any claims about thought in this paper, including in (1), to non-divine thought. I think this is fair, since I think the orthodox typically have non-divine thought in mind. Besides, divine thoughts might well all be precise, and so irrelevant to locating vagueness. (See the end of §II for a reply to the objection that (1) is false because languages exist necessarily.)

With the familiar distinction between truth *in* a possible world and truth *at* a possible world as our model, we can introduce less familiar *in* a world and *at* a world distinctions. Let a predicate *apply to an entity in a possible world* just in case, necessarily, if that possible world were actual, then that predicate would apply to that entity. And let a predicate *apply to an entity at a possible world* just in case, necessarily, if that possible world were actual, then that entity would satisfy the actual (this-worldly) application conditions of that predicate. In other words, a predicate applies to an entity *at* a possible world just in case that entity satisfies that predicate's actual (this-worldly) application conditions *in* that possible world.

For example, consider the predicate 'is a heap'. Let W be a possible world such that, necessarily, if it were actual, then the predicate 'is a heap' would not exist. A predicate cannot apply to anything if that predicate does not exist. So, necessarily, if W were actual, then the predicate 'is a heap' would not apply to anything. In other words, the predicate 'is a heap' does not apply to anything *in* W.

Again, necessarily, if W were actual, then the predicate 'is a heap' would not exist. Now add that, necessarily, if W were actual, then there would be the final step in the Stock Series, that is, an entity composed of one hundred thousand piled-up grains of sand. So, necessarily, if W were actual, then there would be an entity that satisfies the actual (this-worldly) application conditions of the predicate 'is a heap'.[16] In other words, the predicate 'is a heap' applies to that entity *at* W.

[16] The actual application conditions of the predicate 'is a heap' depend on the actual context of use. (Contrast describing a building site with describing an ashtray.) Let us assume throughout this paper a context in which those application conditions are satisfied by, among other things, an entity composed of one hundred thousand piled-up grains of sand.

There is vagueness with regard to the predicate 'is a heap' just in case both that predicate (exists and) has application conditions and also there is a borderline case with regard to satisfying those application conditions.[17] So let us say that there is vagueness with regard to the predicate 'is a heap' *in* a possible world just in case, necessarily, if that possible world were actual, then both the predicate 'is a heap' would (exist and) have application conditions and also there would be a borderline case with regard to satisfying those application conditions.

That is, there is vagueness with regard to the predicate 'is a heap' *in* a possible world just in case, necessarily, if that possible world were actual, then there would be vagueness with regard to the predicate 'is a heap'. More generally, let us say that vagueness is present *in* a possible world just in case, necessarily, if that possible world were actual, then there would be a case of vagueness. The orthodox will of course deny that there is a case of vagueness *in* a possible world that is not itself somehow a feature of language or thought *in* that world. So the orthodox should deny that there is vagueness *in* any language-and-thought-free possible worlds.

On the other hand, the orthodox should say that there is vagueness *at* some language-and-thought-free possible worlds. For vagueness with regard to a predicate *at* a language-and-thought-free possible world is no more mysterious than that predicate's applying to an entity *at* a language-and-thought-free possible world. For example, suppose that, necessarily, if possible world W were actual, then there would be a

[17] Competing accounts of vagueness will deliver competing accounts of what it is for an entity to be a borderline case with regard to satisfying the application conditions of a predicate. For example, supervaluationists will say that an entity is a borderline case of satisfying a predicate's application conditions just in case that predicate has precisifications and that entity satisfies some but not all of those precisifications (see §IV).

borderline case with regard to satisfying the actual (this-worldly) application conditions of the predicate 'is a heap'. Then there is vagueness *at* W with regard to the predicate 'is a heap', regardless of whether there is language or thought *in* W.

If there is vagueness at all, then there can be vagueness with regard to the predicate 'is a heap'. And if there can be vagueness with regard to the predicate 'is a heap', then the Stock Series guarantees—in some way or other—the presence of such vagueness.[18] In fact, our explanation of vagueness with regard to 'is a heap' *at* a possible world, regardless of whether there is language or thought *in* that world, gives us the tools to articulate this guarantee:

> (2) For all possible worlds, if there is the Stock Series *in* a possible world, then there is vagueness with regard to the predicate 'is a heap' *at* that possible world.

(2)'s way of articulating this guarantee does not run afoul of the possibility of there being the Stock Series in the absence of the predicate 'is a heap'. Nor does (2) run afoul of:

> (1) Possibly, there is the Stock Series in the absence of language and thought.

Claims (1) and (2) imply that there are possible worlds *in* which there is no language or thought but *at* which there is vagueness with regard to the predicate 'is a heap'. This implication fits comfortably with the orthodoxy that all vagueness is a feature

[18] Those who deny that there is higher-order vagueness will deny that the Stock Series guarantees the presence of higher-order vagueness. But this does not threaten the idea that the Stock Series guarantees the presence of vagueness. On the contrary, those who reject higher-order vagueness seem to presuppose that all sorites series—of which the Stock Series is just one example—guarantee the presence of vagueness. For example, both Delia Graff Fara and also Crispin Wright argue that the reasons for which a sorites series guarantees the presence of first-order vagueness cannot be generalized so as to imply that that series guarantees the presence of higher-order vagueness; and Diana Raffman complains that the problem with higher-order vagueness is that it reintroduces "sharp cut-offs" in a sorites series, which is inconsistent with the fact that a sorites guarantees the presence of vagueness. (See Fara, "Gap Principles, Penumbral Consequence, and Infinitely Higher-Order Vagueness," in J. C. Beall and Michael Glanzberg, eds., *Liars and Heaps: New Essays on Paradox* (Oxford: Clarendon Press, 2004), pp. 195-222; Wright, "The Illusion of Higher-Order Vagueness," in Richard Dietz and Sebastiano Moruzzi, eds., *Cuts and Clouds: Vagueness, its Nature, and its Logic* (Oxford: Oxford University Press, 2010), pp. 523-549; and Raffman, "Demoting Higher-Order Vagueness," in *Cuts and Clouds*, *op. cit.*, pp. 509-522).

of language or thought. Thus, so far, (1) and (2) make no trouble for the orthodoxy. But trouble is brewing.[19]

II. VAGUENESS *IN* POSSIBLE WORLDS WITHOUT LANGUAGE OR THOUGHT

Consider a possible world W in which there is the Stock Series, but no language or thought. The first step in that series is a single grain of sand (on a slab of granite). Name this single grain of sand 'case 1'. Let 'case 2' name the entity that is composed of the two grains of sand in the second step of the series.[20] And so on. Thus 'case 100K' names the entity composed of one hundred thousand grains of sand at the very end of the Stock Series.

The predicate 'is a heap' applies to case 100K *at* W. This is because case 100K satisfies the actual (this-worldly) application conditions of the predicate 'is a heap', and does so *in* W. Necessarily, an entity satisfies the actual (this-worldly) application conditions of the predicate 'is a heap' if and only if that entity is a heap. So case 100K is a heap *in* W. In other words, if W were actual, case 100K would be a heap.

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[19] Invoking possible worlds makes it easier to present the arguments of this paper. But, for the record, those arguments could be presented without using possible worlds at all. This is most important with regard to (2) above and (2*) below. (2) could be restated as: there are features that make an actual entity a borderline case with regard to satisfying the actual application conditions of the predicate 'is a heap'; and, necessarily, if there were the Stock Series, then something would have those features. And (2*) below could be restated as: necessarily, if there were the Stock Series, then, for some case in that series, it would be vague whether that case is a heap. (For what it is worth, my own view is that there are possible worlds, that possible worlds are propositions of a certain sort, and that a possible world's being actual just is its being true (see *Truth and Ontology* (Oxford: Clarendon Press), pp. 74-80; *Propositions* (Oxford: Clarendon Press), pp. 110-17).)

[20] If those two grains compose no entity at all, then, obviously, they do not compose (an entity that is) a heap. Below, read claims like 'case *n* is not a heap' as meaning that either those *n* grains compose nothing at all or they compose something that is not a heap.

Case 100K is surely not the first heap in the Stock Series *in* W. Suppose that case 1,378 is. Then case 1,378 and—let us add—all the cases that follow it are heaps *in* W. So the predicate 'is a heap' applies to case 1,378 and to each case that follows it *at* W. Similarly, suppose that each case that precedes case 1,378 is not a heap *in* W. Then the predicate 'is a heap' does not apply to any of those cases *at* W. All of this implies that there is no vagueness *at* W, at least not associated with this series and the predicate 'is a heap'. More carefully, this implication holds unless epistemicism is true.[21] But set epistemicism aside for now. (We shall return to it in §V.)

We have supposed that, first, case 1,378 and all the cases that follow it are heaps *in* W, and, second, all the cases that precede case 1,378 are not heaps *in* W. This supposition leads—by way of the above reasoning—to the conclusion that the following is false:

> (2) For all possible worlds, if there is the Stock Series *in* a possible world, then there is vagueness with regard to the predicate 'is a heap' *at* that possible world.

But something has gone wrong. For (2) is true. At least, if there is any such phenomenon as vagueness at all, then there is vagueness with regard to the predicate 'is a heap'. And if there is vagueness with regard to the predicate 'is a heap', then (2) is true.

The above reasoning that led to the conclusion that (2) is false traded on the implausible supposition that case 1,378 and all the cases that follow it are heaps *in* W, and also that all the cases that precede case 1,378 are not heaps *in* W. So defenders of (2)

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[21] Here is why epistemicism undermines this implication. It is vague whether the predicate 'is a heap' applies to an entity *at* W just in case, necessarily, if W were actual, then that entity would be a borderline case with regard to satisfying the actual (this-worldly) application conditions of 'is a heap'. Epistemicists can take this to mean that if W were actual, then it would be unknowable whether that entity satisfies those application conditions. This can be unknowable even if that entity is a case in the Stock Series *in* W, case 1,378 and all the cases that follow it are heaps *in* W, and all the cases that precede case 1,378 are not heaps *in* W.

should deny that supposition. But suppose that case 1,379 (as opposed to case 1,378) and all the cases that follow it are heaps *in* W, and all the cases that precede it are not heaps *in* W. Then we can run the above reasoning against (2) using case 1,379 in place of case 1,378. The moral here is that defenders of (2) must not only deny that case 1,378 is the first such case, they must also deny that case 1,379 is the first such case. And they must deny that case 1,377 is the first such case. And so on, all the way down to case 1 and all the way up to case 100K.

One way to accommodate all these denials—and so to defend (2) from the above reasoning—is to claim the following: all the cases that precede case 1,378 are not heaps *in* W; case 1,378 and all the cases that follow it, except for case 1,411, are heaps *in* W; and case 1,411 is not a heap *in* W. But this claim is implausible, since it seems that, necessarily, if *n* piled-up grains of sand compose a heap, then *n*+1 piled-up grains of sand compose a heap. Besides—and much more importantly for our purposes—while this claim does undermine the above reasoning against (2), it also undermines (2) itself. For if this claim is true, then there is no vagueness *at* W, at least not associated with the Stock Series and the predicate 'is a heap'.

I think that the only way to defend (2) from the above reasoning without thereby undermining (2) is to claim that, for some case in the Stock Series, it is vague *in* W whether that case is a heap. More generally, defenders of (2) must claim that, for all possible worlds, if the Stock Series occurs in a possible world, then, for some case in that series, it is vague *in* that possible world whether that case is a heap.

This claim not only allows one to defend (2) from the above reasoning without thereby undermining (2), it also implies that (2) is true. Here is the argument: for all

possible worlds, if the Stock Series occurs in a possible world, then, for some case in that series, it is vague *in* that possible world whether that case is a heap; so it is vague whether that case satisfies the actual (this-worldly) application conditions of the predicate 'is a heap' *in* that possible world; so it is vague *at* that possible world whether the predicate 'is a heap' applies to that case; so (2) is true.

In light of the above, I conclude that the only (non-epistemicist) way of saving (2) delivers:

> (2*) For all possible worlds, if there is the Stock Series *in* a possible world, then, for some case in that series, it is vague *in* that possible world whether that case is a heap.

But (2*) spells doom for the view that all vagueness is a feature of language or thought. For (2*) is the second and final premise of this paper's main argument:

> (1) Possibly, there is the Stock Series in the absence of language and thought.
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> (2*) For all possible worlds, if there is the Stock Series *in* a possible world, then, for some case in that series, it is vague *in* that possible world whether that case is a heap.
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> Therefore,
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> (3) Possibly, there is vagueness in the absence of language and thought.

And, as we saw in the Introduction, if it is possible for there to be vagueness in the absence of language and thought, then it is false that all vagueness is a feature of language or thought.[22]

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[22] Those who claim that languages exist necessarily will deny premise (1). But I reply that because we users and makers of language exist contingently, English and other languages exist contingently as well. Even linguistic types, despite being abstract, are contingent. (Compare: the unit set of Socrates, despite being abstract, exists only if Socrates does and so is contingent.) Moreover—and just for the sake of argument—let me offer two ways to defend this section's conclusion that presuppose that languages exist necessarily. (These ways are not mutually consistent.)

English and other languages exist necessarily. But English predicates (and so on) do not have their meanings essentially. (Witness semantic drift.) So I suppose that English predicates (and so on) are all

III. Objections Pertaining to the Existence of Heaps

The previous section has argued that the innocuous (2) leads to the orthodoxy-refuting (2*). This argument trades on the claim that case 100K is a heap *in* a language-and-thought-free possible world. Thus this argument trades on the claim that it is possible for there to be heaps in the absence of language and thought.

Some might object that—while of course there are heaps in the actual world—it is false that there are heaps in language-and-thought-free possible worlds. And then they might say that their objection allows them to endorse (2) without ending up committed to (2*), thereby preserving the orthodoxy. They will not want their defense of the orthodoxy to be sidestepped merely by a change of example. So they will also deny that it is possible, in the absence of language and thought, for there to be entities of any sort that would allow us to reproduce the arguments of this paper.

For example, they will deny that it is possible for there to be an asteroid in the absence of language and thought. This is because such a possibility would lead to the possibility, in the absence of language and thought, of a series of cases that starts with a single atom of iron and ends with an asteroid. And that series of cases, filled out in the

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possibly precise. The same goes for predicates (and so on) in other languages. So, possibly, all languages are precise and there is no thought and there is the Stock Series. Add (2*). Then conclude that, possibly, vagueness is not a feature of language or thought. So—recall the Introduction—vagueness is not a feature of language or thought.

Languages, and so predicates, exist necessarily. So, possibly, predicates exist and there are no language users. So, possibly, predicates exist but are never used in a context. The extension of a sorites-susceptible predicate depends on its context of use. So, possibly, predicates have no extension. Possibly, there is the Stock Series in the absence of language users and thought, and so in the absence of predicates with extensions. Add (2*). So, possibly, there is vagueness in the absence of both predicates with extensions and also thought. So, possibly, vagueness is not a feature of language or thought. So—recall the Introduction—vagueness is not a feature of language or thought.

obvious way, would allow us to reproduce the arguments of the previous section, and indeed of this whole paper.

A sorites series that starts with one molecule of silicon dioxide and ends with a grain of sand would also allow us to reproduce this paper's arguments. Thus our objectors will deny that it is possible to have a grain of sand in the absence of language and thought. This shows that the denials in question threaten more than just the previous section's argument for (2*). Those denials also threaten the first premise of this paper's main argument:

(1) Possibly, there is the Stock Series in the absence of language and thought.

Those denials threaten (1) because the Stock Series includes grains of sand.

Our objectors surely do not think that it is a brute modal coincidence that all possible worlds that lack language and thought also lack heaps and asteroids and grains of sand and stars and planets and whatever else would allow us to reproduce this paper's reasoning against the orthodoxy. Rather, they must think that being a heap or being an asteroid (and so on) somehow essentially depends—at least in part—on language or thought.

Something's being an American dollar bill essentially depends, in part, on language or thought. And this explains why it is not possible for something to be an American dollar bill in the absence of language and thought—not even if it is possible for there to be microphysical duplicates of American dollar bills in the absence of language and thought. Similarly, suppose that something's being a heap (and so on) essentially depends on language or thought. Then it is not possible for something to be a heap (and

so on) in the absence of language and thought—not even if it is possible for there to be microphysical duplicates of heaps (and so on) in the absence of language and thought.

I have three comments on the claim that something's being a heap (and so on) essentially depends on language or thought. Here is the first. Almost all analytic philosophers seem to endorse the idea that all vagueness is a feature of language or thought. Very few analytic philosophers defend the view that there are heaps and asteroids and grains of sand and stars and planets only because of our ways of speaking and thinking. It would be surprising if the only way to maintain the apparently sober-minded orthodoxy about vagueness were to endorse a controversial anti-realistic metaphysics along the lines of, for example, Nelson Goodman's *Ways of Worldmaking*.[23] I anticipate few takers among the sober orthodox.

My second comment starts by noting that nothing satisfies the actual (this-worldly) application conditions of the predicate 'is an American dollar bill' *in* possible worlds lacking language and thought—not even if microphysical duplicates of American dollar bills exist *in* some of those possible worlds. This is because the actual (this-worldly) application conditions of 'is an American dollar bill' include not only having certain physical features, but also being appropriately related to the language or thought on which being an American dollar bill depends.

Similarly, if something's being a heap essentially depends on language or thought, then the actual (this-worldly) application conditions of the predicate 'is a heap' include not only being composed of a certain number of piled-up objects that themselves have the relevant physical features, but also being appropriately related to the language or

[23] Indianapolis, IN: Hackett Publishing Co., 1978.

thought on which being a heap depends. This implies that nothing satisfies the actual (this-worldly) application conditions of 'is a heap' *in* a possible world lacking language and thought. And this implies that the predicate 'is a heap' fails to apply to any entity *at* any language-and-thought-free possible world.

Suppose that the predicate 'is a heap' fails to apply to any entity *at* any language-and-thought free possible world. Then there is no vagueness with regard to that predicate *at* any language-and-thought-free possible world. (Compare: There is no vagueness with regard to the predicate 'is an American dollar bill' *at* any language-and-thought free possible world.) This is inconsistent with:

> (2) For all possible worlds, if there is the Stock Series *in* a possible world, then there is vagueness with regard to the predicate 'is a heap' *at* that possible world.[24]

But, again, if there is any such phenomenon as vagueness at all, then there is vagueness with regard to the predicate 'is a heap'. And, again, if there is vagueness with regard to that predicate, then (2) is true. So I conclude that it is false that something's being a heap essentially depends on language or thought.[25] This completes my second comment.

Maybe those who think that being a heap essentially depends on language or thought are willing to say that (2) is false. This brings me to my third comment. My third comment is that this paper's arguments can be run in a way that entirely sidesteps the

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[24] Suppose that being a heap essentially depends on language and thought. Then, arguably, being a grain of sand essentially depends on language and thought. Then the Stock Series exists *in* no language-and-thought-free possible worlds. But this does not save (2). For (2) is undermined if there are possible worlds in which there are grains of sand (and so, given our supposition, some language and thought) but not heaps (and so not all of our language and thought).

[25] And recall that the claim that an entity's being a heap essentially depends on language or thought was introduced above in the hopes of providing a way to endorse (2) without thereby being committed to (2*). But, as we have just seen, it turns out that that claim implies that we should reject (2).

idea that something's being a heap—or, for that matter, a grain of sand—essentially depends on language or thought. Relatedly, this way of running those arguments requires neither (1) nor (2).

To begin to see why I say all of this, note that although something's being an American dollar bill depends, in part, on language or thought, a microphysical duplicate of an American dollar bill can exist in the absence of language and thought. Likewise, even if something's being a grain of sand or being a heap depends, in part, on language and thought, a microphysical duplicate of the Stock Series can exist in the absence of language and thought.

Moreover, even if being a heap depends, in part, on language and thought, having certain physical features will be necessary (but not sufficient) for satisfying the application conditions of 'is a heap'. So consider this predicate: 'having the physical features that are necessary for satisfying the actual (this-worldly) application conditions of the predicate 'is a heap''. There will be vagueness with regard to satisfying that predicate *at* a language-and-thought-free possible world in which there is a microphysical duplicate of the Stock Series. The arguments of the preceding section can easily be extended to show that this will to lead to vagueness with regard to having the relevant physical features *in* that possible world.

The arguments of the preceding section show that, possibly, there is vagueness in the absence of language and thought. And they still show this—at least once extended—even given the truth of the claim that being a heap (and so on) depends on language or thought. So that claim—even if it is true—does not undermine the arguments of this paper against the orthodoxy. Principally for this reason—but also in light of my above

first two comments on that claim—I shall now set that claim aside. That is, I shall proceed in the following sections with the assumption that it is possible for there to be heaps (and so on) in the absence of language and thought.[26]

This section has focused on the objection that—while of course there are heaps (and asteroids, and so on) in the actual world—it is false that there are heaps in language-and-thought free possible worlds. A different objection—call it *eliminativism*—claims that there are no heaps (and no asteroids, and so on) in any possible world, not even in the actual world. Rather, this objection continues, there are only *x*s arranged heapwise (*x*s arranged asteroidwise, and so on).[27] But I reply that eliminativism is no threat to the arguments of this paper. For all those arguments can be recast in eliminativist terms.

For example, if there is any such phenomenon as vagueness at all, then there is vagueness with regard to the plural predicate 'are arranged heapwise'. So, for all possible worlds, if there are *y*s arranged Stock-Serieswise *in* a possible world, then there is vagueness with regard to the plural predicate 'are arranged heapwise' *at* that possible world. This will lead us to conclude, by way of the arguments of Section II, that, for all possible worlds, if there are *y*s arranged Stock-Serieswise *in* a possible world, then, for some case of *x*s arranged-n-grains-of-sandwise in that series, it is vague *in* that possible world whether those *x*s are arranged heapwise. Add that, possibly, there are *y*s arranged Stock-Serieswise in the absence of language and thought. Then conclude that *in* some

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[26] You might be suspicious of my proceeding with this assumption, despite its being inessential to this paper's main argument. Then simply replace the arguments to follow that involve being a heap in language-and-thought-free possible worlds with parallel arguments that involve having the physical features that are necessary for satisfying the actual (this-worldly) application conditions of the predicate 'is a heap' in language-and-thought-free possible worlds.

[27] See, for example, van Inwagen, *Material Beings*, *op. cit.* and Trenton Merricks, *Objects and Persons* (Oxford: Clarendon Press, 2001).

language-and-thought-free possible world it is vague whether some *x*s are arranged heapwise. This conclusion—no less than the conclusion that *in* some language-and-thought-free possible world it is vague whether something is a heap—implies that the orthodoxy is false. (To be honest, I prefer the eliminativist-friendly reformulations of this paper's arguments to the arguments as originally presented.)

Some might combine eliminativism with the sort of objection considered in the bulk of this section. For example, some might charge that—while of course there are *x*s arranged heapwise in the actual world—it is false that there are *x*s arranged heapwise in language-and-thought free possible worlds. Their idea must be that being arranged heapwise somehow essentially depends, in part, on language or thought. My three comments above can be reformulated as comments on this charge. For that reason, I will set this charge aside. Besides, I really do think that being arranged heapwise does not essentially depend on language or thought. For I think that, had we speakers and thinkers never come into existence, there would still would have been *x*s arranged heapwise and *x*s arranged asteroidwise and *x*s arranged grain-of-sandwise and *x*s arranged planetwise and so on.

IV. Supervaluationism

Supervaluationists say that the predicate 'is a heap' has multiple precisifications. Let us assume that each such precisification is a property. And let the following be those

properties: *being* H_1, *being* H_2, *being* H_3…*being* H_n.[28] Then supervaluationism implies the following three claims. An entity satisfies the application conditions of 'is a heap' if and only if that entity exemplifies all of *being* H_1…*being* H_n. An entity fails to satisfy those application conditions if and only if that entity exemplifies none of *being* H_1…*being* H_n. And it is vague whether an entity satisfies those application conditions if and only if that entity exemplifies some but not all of *being* H_1…*being* H_n.[29]

Necessarily, an entity satisfies the actual (this-worldly) application conditions of the predicate 'is a heap' if and only if that entity is a heap. So, given supervaluationism, an entity is a heap just in case—and, indeed, in virtue of—exemplifying all of *being* H_1…*being* H_n. There are heaps in possible worlds without language or thought. So, given supervaluationism, an entity's being a heap in virtue of exemplifying *being* H_1…*being* H_n is not a feature of language or thought. By parity of reason, and given supervaluationism, an entity's failing to be a heap in virtue of exemplifying none of *being* H_1…*being* H_n is not a feature of language and thought. And so I conclude that, given supervaluationism, if an entity exemplifies some but not all of *being* H_1…*being* H_n, then it is vague whether that entity is a heap, and this vagueness is not a feature of language or thought.

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[28] I assume that the precisifications of the predicate 'is a heap' are properties. To do without this simplifying assumption here and below, just replace (for example) "exemplifies some but not all of *being* H_1…*being* H_n" with "satisfies the respective application conditions of some but not all of the ways in which the predicate 'is a heap' could, given its actual (this-worldly) meaning, be made precise."

[29] If there is higher-order vagueness, then there is no determinate list of the precisifications of 'is a heap'. So to say that *being* H_1…*being* H_n are the precisifications of 'is a heap' is to ignore higher-order vagueness. Ignoring higher-order vagueness simplifies the presentation of the arguments of this section. But those arguments can be run without that simplification, just so long as supervaluationists can—as they must—make sense of the following three occurrences: an entity's exemplifying all of the actual precisifications of 'is a heap', an entity's exemplifying none of them, and an entity's exemplifying some but not all them.

There is a second reason to endorse this conclusion. This second reason begins by recalling that it is vague whether the predicate 'is a heap' applies to an entity *at* a possible world just in case that entity is a borderline case with regard to satisfying the actual (this-worldly) application conditions of the predicate 'is a heap' *in* that possible world (§I). Supervaluationism implies that what it is for an entity to be a borderline case with regard to satisfying the actual (this-worldly) application conditions of the predicate 'is a heap' is for that entity to exemplify some but not all of *being* H_1…*being* H_n. So supervaluationism implies that it is vague whether the predicate 'is a heap' applies to an entity *at* a possible world just in case that entity exemplifies some but not all of *being* H_1…*being* H_n *in* that possible world.

One moral of the arguments of Section II is that if it is vague whether the predicate 'is a heap' applies to an entity *at* a possible world, then it is vague whether that entity is a heap *in* that possible world. So, and in light of the previous paragraph, we should conclude that supervaluationism implies that it is vague whether an entity is a heap *in* a language-and-thought-free possible world just in case that entity exemplifies some but not all of *being* H_1…*being* H_n *in* that possible world. So, given supervaluationism, if an entity exemplifies some but not all of *being* H_1…*being* H_n, then it is vague whether that entity is a heap, and this vagueness is not a feature of language or thought.

Supervaluationism has the result that if an entity exemplifies some but not all of *being* H_1...*being* H_n *in* a possible world without language or thought, then it is vague whether that entity is a heap *in* that possible world. So supervaluationism has the result that it is possible for there to be vagueness in the absence of language and thought. But—

as we saw in the Introduction—supervaluationism, being a species of the orthodoxy, has the result that it is not possible for there to be vagueness in the absence of language and thought. So supervaluationism has contradictory results. So supervaluationism is false.

We should not be surprised to see that supervaluationism is false, at least when supervaluationism is understood so as to imply that it is impossible for there to be vagueness in the absence of language and thought. For, as we saw in Section II, it is possible for there to be vagueness in the absence of language and thought. (Epistemicists are allowed to object here.) Thus all views that imply otherwise are false.

We have focused on the properties *being* H_1...*being* H_n only because they are the precisifications of the predicate 'is a heap'. But this does not imply that vaguely being a heap in virtue of exemplifying some but not all of those properties is a feature of language. For if it did, it would also imply that being a heap in virtue of exemplifying all of those properties is a feature of language. But that implication is false. Being a heap is not a feature of language. After all, it is possible for there to be heaps in the absence of language (and thought).

Again, it is only because of the actual meaning of the predicate 'is a heap' that we have focused on the properties *being* H_1…*being* H_n. So it is only because of that predicate's actual meaning that we have focused on something's having some but not all of those properties. So it is only because of that predicate's actual meaning that we are talking about vaguely being a heap. Or being a heap. Or not being a heap. Our actual language allows us to talk about features of reality that we could not talk about without it or some other language; this goes for features like having negative charge or being a quark no less than it goes for features like being a heap or even vaguely being a heap.

But—I hope this is obvious—none of this suggests that those features of reality are themselves features of language.

Let me conclude this section by considering two options for those initially attracted to supervaluationism who, in light of this paper's arguments, end up denying that all vagueness is a feature of language or thought. One of their options is to claim that an object is vaguely a heap in virtue of exemplifying some but not all of *being* H_1…*being* H_n. More generally, this option takes vagueness to be the exemplifying of some but not all of this or that group of properties. (Perhaps this option requires that the properties in such a group be ordered in some particular way.) In an interesting twist, this is both a very deflationary account of vagueness but also an account that locates vagueness "in the world," as opposed to only in language or thought.

Because this account locates vagueness in the world, it is fair to say that this account takes vagueness to be, in some sense, "metaphysical." Yet this account does not imply metaphysical indeterminacy. After all, consider these properties: *being human, being a dog, dwelling on Earth,* and *being made of cheese*. Your exemplifying some but not all of these properties is located "in the world" but, obviously enough, does not imply metaphysical indeterminacy. By the same token, an entity's exemplifying some but not all of *being* H_1…*being* H_n is located "in the world" but does not imply metaphysical indeterminacy.

I suspect that many assume that our only options are vagueness as a matter of metaphysical indeterminacy or instead vagueness as a feature of language or thought. And this assumption—combined with the widespread distaste for metaphysical indeterminacy—may explain much of the attraction of the orthodoxy that all vagueness is

a feature of language or thought. If so, then we have made the orthodoxy less attractive simply by showing that this assumption is false. We showed that it is false by presenting the account of vagueness just considered, an account that not only denies that all vagueness is a feature of language or thought, but also eschews metaphysical indeterminacy. (Another such account will emerge in the following section's discussion of epistemicism.[30])

There could have been predicates other than those that actually exist, including predicates that would have been sorites susceptible. Suppose that the application conditions that some of those predicates would have had, had they existed, are actually vaguely satisfied. Given this supposition, Section II's way of arguing from (2) to (2*) suggests that there are actual cases of vagueness that do not correspond to any actually existing predicates. So there are actual cases of vagueness that we cannot talk about and, presumably, cannot even recognize.

Just for fun, suppose that each actual object is a borderline case with regard to satisfying the application conditions of some possible sorites-susceptible predicate. Then there is vagueness everywhere, although, for the most part, it is hidden from us. This result might seem, at first glance, quite implausible. But this result is not at all implausible if vagueness just is the exemplifying of some but not all of a group of properties. For it is plausible that each actual object exemplifies some but not all of this or that group of properties.

[30] Jessica Wilson defends an account of vagueness in terms of an entity's exemplifying a determinable but none of its determinates ("A Determinable-Based Account of Metaphysical Indeterminacy," *Inquiry*, 4, LVI : 359-385). I would describe Wilson's account as yet another account that locates vagueness "in the world," but does not require metaphysical indeterminacy. (She does not describe her account this way.)

A second option for those initially attracted to supervaluationism is to conclude that there is no vagueness at all. For those initially attracted to supervaluationism might think that if there were vagueness, then—in light of this section's arguments—vagueness would be a matter of exemplifying some but not all of a group of properties. But they might also add that exemplifying some but not all of a group of properties is insufficient for vagueness. So, they might conclude, there is no vagueness. Presumably, they will also conclude that our concept of *vagueness* is somehow incoherent.[31]

We have just considered two ways that those initially attracted to supervaluationism might end up abandoning the view that both there is vagueness and also all vagueness is a feature of language or thought, and so end up abandoning the supervaluationist version of that view. But those who go either of these two ways can still endorse many central features of supervaluationism. For they can still say that some lexical items have precisifications. So they can still endorse the supervaluationist account of sentence truth (falsity) in terms of supertruth (superfalsity). So they can still endorse a supervaluationist logic for complex sentences in which some atomic sentences are not true, but also are not false. These central features of supervaluationism do not imply that there is vagueness and that all vagueness is a feature of language or thought.[32]

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[31] Kit Fine has presented (but not endorsed) a different argument for the conclusion that vagueness is impossible. While his argument's target is not merely vagueness-as-understood-by-supervaluationists, I find it interesting that he says that it "applies with particular force to the standard supervaluational account of vagueness" ("The Impossibility of Vagueness," in John Hawthorne, ed., *Philosophical Perspectives, 22, Philosophy of Language* (Oxford: Blackwell Publishers, 2008), pp. 111-36, at p. 117).

[32] I have just noted that one can have both the supervaluationists' account of sentence truth and also the associated logic while rejecting the supervaluationists' theory of the nature of vagueness. This is the mirror image of the more familiar point—as illustrated by subvaluationism—that one can endorse the supervaluationists' theory of the nature of vagueness while rejecting their account of sentence truth and the associated logic (see, for example, Dominic Hyde and Mark Colyvan, "Paraconsistent Vagueness: Why Not?," *The Australasian Journal of Logic*, VI (2008): 107-121).

So maybe at least some self-described supervaluationists are not really committed to saying both that there is vagueness and also that all vagueness is a feature of language or thought. So maybe some self-described supervaluationists are happy to say that vagueness just is the ubiquitous phenomenon of exemplifying some but not all of a group of properties, or instead that there is no such thing as vagueness. Fair enough. But we should acknowledge just how far their views are from those of Lewis and Dummett and Fine, who are not only prominent defenders of supervaluationism but also champions of the orthodoxy (see Introduction). Recall, for example, this remark from Fine, in what is arguably the most influential early discussion of supervaluationism: "Let us say, in a preliminary way, what vagueness is. I take it to be a semantic feature. Very roughly, vagueness is deficiency in meaning."[33]

V. EPISTEMICISM

As acknowledged in Section II, epistemicists can resist my argument for (2)'s leading to (2*). So epistemicists can resist the arguments given thus far against the orthodoxy.[34] So I shall now argue that epistemicists in particular should reject the orthodoxy. That is, I shall now present two reasons that those initially inclined toward epistemicism ought to conclude that while vagueness is epistemic, it is not a feature of language or thought alone.

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[33] Fine, "Vagueness, Truth, and Logic," *op. cit.*, p. 265.

[34] So this paper has thus far defended the conclusion that non-epistemicist versions of the orthodoxy are false. I defend that same conclusion elsewhere, but for reasons other than those presented here ("Varieties of Vagueness," *Philosophy and Phenomenological Research*, LXII, 1 (2001): 145-157).

Imagine that I come to know that an entity in the next room is a heap as a result of a reliable friend's telling me that the predicate 'is a heap' applies to that entity. This is possible. But it is not typical. Typically, the order of explanation is reversed. That is, one's knowing that the predicate 'is a heap' applies to an entity is typically explained by one's knowing that that entity is a heap, along, of course, with knowing that the predicate 'is a heap' means *is a heap*. And even in the above possible-but-atypical case, my knowing that the predicate 'is a heap' applies to an entity in the next room is ultimately explained by someone—presumably, my reliable friend—knowing that that entity is a heap, along with knowing that the predicate 'is a heap' means *is a heap*.

All of this illustrates that its being knowable whether the predicate 'is a heap' applies to an entity is a result of its being both knowable that 'is a heap' means *is a heap* and also knowable whether that entity is a heap. And this implies that there are only two potential explanations of its being unknowable whether 'is a heap' applies to an entity. The first is that it is unknowable that the predicate 'is a heap' means *is a heap*. The second is that it is unknowable whether that entity is a heap.

The first potential explanation is not the correct explanation. Of course, some do not know that the predicate 'is a heap' means *is a heap*, since some do not know English. But even so, it is not unknowable that the predicate 'is a heap' means *is a heap*. On the contrary, suppose that you—a reader of this (written-in-English) paper—know that a particular entity is a heap; then I bet you also know, as a result, that the predicate 'is a heap' applies to that entity. This shows that you know that 'is a heap' means *is a heap*.

So the second potential explanation must be the correct explanation. That is, its being unknowable whether the predicate 'is a heap' applies to an entity is explained by its

being unknowable whether that entity is a heap. And this explanation makes perfect sense. For suppose that you cannot know whether a certain entity is a heap. This fully explains why—no matter how fluent your English—you cannot know whether 'is a heap' applies to that entity.

Let *orthodox epistemicism* be the sort of epistemicism that implies the orthodoxy about the location of vagueness. (Orthodoxy-implying epistemicism is endorsed by most epistemicists (see Introduction), and thus is doubly orthodox.) Orthodox epistemicism says that its being vague whether an entity is a heap just is its being unknowable whether that entity is in the extension of the predicate 'is a heap'. This is another way of saying that its being vague whether an entity is a heap just is its being unknowable whether the predicate 'is a heap' applies to that entity. Its being unknowable whether 'is a heap' applies to an entity is a comparatively shallow and derivative sort of unknowability. The deeper and more fundamental unknowability here is its being unknowable whether that entity is a heap.

Suppose that vagueness is identified with unknowability of some sort. Then I think it ought not to be identified with a comparatively shallow and derivative sort of unknowability, but rather ought to be identified with a deeper and more fundamental sort of unknowability. And I think that this is especially clear if identifying vagueness with the deeper and more fundamental sort retains the principal benefits of identifying vagueness with the shallower and derivative sort.

Orthodox epistemicism's principal benefits are that it allows every sentence that has a truth-value to have its truth-value determinately, it is consistent with bivalence, and

it requires no revisions of "classical logic" or "classical semantics."[35] These benefits are shared by the view that its being vague whether an entity is a heap (and so on) is a matter of its being unknowable whether that entity is a heap (and so on).[36] So these benefits are shared by a view that identifies vagueness with a deeper and more fundamental sort of unknowability than does orthodox epistemicism. This is my first reason for saying that those initially attracted to orthodox epistemicism should, on reflection, reject orthodox epistemicism and instead adopt the view that its being vague whether an entity is a heap (and so on) is a matter of its being unknowable whether that entity is a heap (and so on).

Above I claimed that there are only two potential explanations of its being unknowable whether the predicate 'is a heap' applies to a particular entity. Neither of these explanations is Williamson's explanation, which is outlined in the Introduction and again below. (Note, in particular, that Williamson would agree that we know that 'is a heap' means *is a heap*.[37]) So I conclude that Williamson's explanation is not correct. And it is worth saying a bit more in defense of this conclusion, since Williamson's explanation is central to his very prominent version of orthodox epistemicism.

We know that certain entities are in the extension of 'is a heap'. As noted above, I think our knowing this is explained by our knowing both that those entities are heaps and also that 'is a heap' means *is a heap*. But according to a competing explanation, our

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[35] Cf. Campbell, "The Sorites Paradox," *op. cit.*; Sorensen, *Blindspots*, *op. cit.*, pp. 219-252; Williamson, *Vagueness*, *op. cit.*, pp. 185-198.

[36] Cf. James Cargile, "The Sorites Paradox," *British Journal for the Philosophy of Science*, XX, 3 (1969): 193-202. You might object that another principal benefit of orthodox epistemicism is that—being a species of the orthodoxy—it is intelligible. But I reply that the following two claims are equally intelligible: its being vague whether an entity is a heap just is its being unknowable whether that entity is a heap; its being vague whether an entity is a heap just is its being unknowable whether that entity is in the extension of 'is a heap'.

[37] *Vagueness*, *op. cit.*, pp. 209-210.

knowing this is explained by our having deduced it from the following two premises. First, the predicate 'is a heap' has been used, and the relevant non-linguistic facts are, as follows: [fill in details of use and the relevant non-linguistic facts]. Second, the semantic laws governing how a predicate's extension supervenes on a combination of its use and the relevant non-linguistic facts are as follows: [describe the semantic laws].

I think this competing explanation is obviously false. That is, I think it is obvious that an everyday case of our knowing that a particular entity is in the extension of 'is a heap' is not a result of our having performed the deduction invoked by this competing explanation.[38] And consider this: to perform that deduction with regard to the entities that we do know are in the extension of 'is a heap', we would have to be able to state the above two premises in considerable (but not perfect) detail. But we cannot state those two premises in the requisite detail. (Hence the square brackets.) So it is false that our knowing those two premises in the requisite detail is what explains our knowing that the relevant entities are in the extension of 'is a heap'.

Because this competing explanation is false, I conclude that it is also false that our inability to know whether a particular entity is in the extension of 'is a heap' is explained by our inability to completely and perfectly fill in the details of the above two premises. So I reject Williamson's explanation of its being unknowable whether the predicate 'is a heap' applies to a particular entity. For recall that his explanation is, first, we do not know the full details regarding that predicate's use, and, second, we cannot know exactly

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[38] The competing explanation's "relevant non-linguistic facts" do not include facts about which entities are heaps and which are not. If they did include this, then our knowledge of use would be play no role in the competing explanation, and the only "semantic law" required would be the very knowable law that all and only heaps are in the extension of 'heap'.

how a predicate's extension supervenes on a combination of its use and the relevant non-linguistic facts.[39]

Of course, if we had complete and perfect knowledge of the use of 'is a heap', of all the relevant non-linguistic facts, and of how that predicate's extension supervenes on that use and those facts, then we could—at least in principle—eliminate our ignorance with respect to what is in the extension of 'is a heap'. But this does not imply that what really explains our ignorance is the lack of such complete and perfect knowledge. Compare: If we had complete and perfect knowledge of the contents of an infallible book that told us exactly which entities were in the extension of the predicate 'is a heap', then we would not be ignorant about whether any particular entity was in that predicate's extension. But this does not imply that what really explains our ignorance is that there is no such book.

Above I presented a first reason for concluding that those initially attracted to orthodox epistemicism should, on reflection, reject orthodox epistemicism and instead adopt the view that its being vague whether an entity is a heap (and so on) is a matter of its being unknowable whether that entity is a heap (and so on). And there is a second reason. Orthodox epistemicism—at least, as I have presented it thus far—says that its being vague whether an entity is a heap amounts to its being unknowable whether the predicate 'is a heap' applies to that entity. Obviously, that predicate is an English

[39] *Vagueness*, *op. cit.*, pp. 201-09.

predicate. But I say that it is false that its being vague whether an entity is a heap is a matter of what cannot be known about an English predicate in particular.[40]

I think it is clear that this is false. But maybe you want an argument. Then consider that the ancient Stoics spoke no English. So they were not able even to consider its being unknowable whether an English predicate applies to an entity. But they were able to consider its being vague whether an entity is a heap. So its being vague whether an entity is a heap is not a matter of its being unknowable whether an English predicate applies to that entity. (Nor, by parity of reason, is it a matter of its being unknowable whether a predicate in some other language applies to that entity.)[41]

Perhaps my presentation thus far of orthodox epistemicism has been oversimple. Perhaps I should have said that orthodox epistemicism takes vagueness to be a matter of what is unknowable with regard to some predicate or other, regardless of language. Then epistemicists do not take its being vague whether an entity is a heap to amount to its being unknowable whether that entity is in the extension of the predicate 'is a heap'. Rather, they take it to amount to its being unknowable whether that entity is in the extension of some predicate or other that means *is a heap*.

But I think that if what is unknowable with respect to English predicates should not be the source of all vagueness, then neither should what is unknowable with respect

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[40] For simplicity's sake, I am ignoring contexts of use. But focusing on contexts of use multiplies the problems here for orthodox epistemicists. For it is objectionable to say that what is unknowable with respect to the English predicate 'is a heap' is the font of vagueness regarding whether something is a heap. And it is even worse to say that what is unknowable about the English predicate 'is a heap' *in context of use C* is the font of vagueness regarding whether something is a heap.

[41] We and the ancient Stoics can all consider its being vague whether an entity is a heap only because we all share the concept *being a heap*. This is one reason that the line of argument started here—which ultimately threatens the idea that all vagueness is located in language (§VI)—cannot be extended to threaten the orthodoxy, which allows vagueness to be also located in thought.

to English or Greek predicates. Or English or Greek or Turkish predicates. And so on. This is because vagueness should not essentially depend on English. Or on English or Greek. Or English or Greek or Turkish. And so on, for each actual language.

Look at it this way. Even those who believe that all vagueness is a feature of language should agree that there could be a borderline heap in a possible world if, in that possible world, there is a language with a predicate that means *is a heap*. But no one should insist that that language, in that possible world, must be one of the languages that exist in the actual world. All this implies that its being vague whether an entity is a heap should not be a matter of what is unknowable about the extensions of actual predicates, not even if we include the predicates from every actual language.

Perhaps orthodox epistemicists will reply that its being vague whether an entity is a heap is a matter of its being unknowable whether that entity would be in the extension of any *possible* predicate that means *is a heap*. But this suggested view abandons the claim that all vagueness is a feature of language. For this suggested view implies that, possibly, there is vagueness in the absence of language. This is because even *in* possible worlds without language it is possible that there be predicates. For example, there are possible worlds without language *in* which it is unknowable whether an entity would be in the extension of the (in that possible world) merely possible predicate 'is a heap', were that predicate to exist.

Besides, I say that if we are going to endorse an epistemicism-inspired view that abandons the claim that all vagueness is a feature of language, there is a better option than the view that vagueness is a matter of what is unknowable with respect to what would be in the extension of merely possible predicates, were they to exist. This better

option, defended above, says that its being vague whether an entity is a heap (and so on) amounts to its being unknowable whether that entity is a heap (and so on).[42] Moreover, this option explains why it is unknowable whether the predicate 'is a heap' applies to that entity. This option also explains why it is unknowable whether synonymous predicates in other actual languages apply to that entity. This option even explains why it is unknowable whether that entity would be in the extension of any possible predicate that means *is a heap*, were such a predicate to exist.

For the reasons defended in this section, those who start out attracted to orthodox epistemicism ought to conclude that its being vague whether an entity is a heap just is its being unknowable whether that entity is a heap. This conclusion preserves the idea that vagueness is epistemic. But it rules out the idea that all vagueness is a feature of language.

This conclusion even rules out the idea that all vagueness is a feature of language *or thought*. At first glance, it might seem contradictory to deny that all vagueness is a feature of thought while also saying that vagueness is epistemic, that is, is a matter of what is unknowable. But this is not contradictory. For the orthodox claim that vagueness is a feature of thought is not the claim that vagueness is a matter of what is unknowable. Rather, it is the claim that vagueness is located in mental representations, or in the way mental representations are related to what they represent (see the Introduction).[43]

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[42] James Cargile ("The Sorites Paradox," *op. cit.*) and Eugene Mills ("Fallibility and the Phenomenal Sorites," *Noûs,* XXXVI, 3: 384-407) defend this option.

[43] Stephen Schiffer claims that x's being a borderline case of F is constituted by the fact that an agent in ideal epistemic circumstances could have a particular attitude toward the claim that x is F. This claim illustrates another way to take vagueness to be epistemic that is consistent with denying the orthodox claim that vagueness is a feature of thought. (See Schiffer's "Vagueness and Partial Belief" in Ernest Sosa and Enrique Villanueva, eds., *Philosophical Issues, 10, Skepticism* (Oxford: Blackwell Publishers, 2000), pp. 220-57.)

A heap's being unknowably a heap is not a matter of that heap's being related to some actual mental representations. Nor is it a matter of actual knowers simply failing to know that that heap is a heap. Nor is it even a matter of actual knowers being unable to know whether that heap is heap; on the contrary, a heap's being unknowably a heap explains why actual knowers are unable to know whether it is a heap. In fact, a heap's being unknowably a heap in the absence of knowers (and thought and language) would even explain why, if there were knowers, they would not be able to know whether it was a heap.

Moreover, suppose that it is unknowable whether a certain entity is a heap. Then that entity has certain features in virtue of which this is unknowable, such as its being constituted by a certain number of piled-up grains of sand. Possibly, there is no language or thought and that entity has those features. So, possibly, there is no language or thought and it is unknowable whether that entity is a heap. Add that its being vague whether an entity is a heap just is its being unknowable whether that entity is a heap. Then we get the result that, possibly, there is no language or thought but it is vague whether that entity is a heap. So—recall the Introduction—it is false that all vagueness is a feature of language or thought.[44]

VI. Conclusion

[44] There could have been sorites-susceptible predicates other than those that actually exist. So this section's heterodox epistemicists should conclude that there are actual cases of vagueness that do not correspond to any actually existing predicates. But given heterodox epistemicism, this is just the plausible conclusion that it is unknowable whether the application conditions that some predicates would have had, had they existed, are actually satisfied in certain cases. This conclusion amounts to (more or less) the claim that there is some property for which we have no predicate and, moreover, cases in which we would not be able to tell, even if we had a predicate for that property, whether an object exemplifies that property.

It is false that an entity's being a borderline heap amounts to its being unknowable whether the English predicate 'is a heap' applies to that entity (§V). Similarly, it is false that it is vague whether an entity is a heap because first, the English predicate 'is a heap' has various properties as precisifications and, second, that entity exemplifies some but not all of those properties. More generally, its being vague whether an entity is a heap is not a matter of that entity's being related in any way to the English predicate 'is a heap' in particular.

English predicates are not the source of vagueness. Neither are English or Greek predicates. Neither are English or Greek or Turkish predicates, and so on, for each actual language (cf. §V). So its being vague whether an entity is a heap is not a matter of that entity's being related to actual predicates. This ultimately implies—for the sorts of reasons given in the preceding section—that it is false that all vagueness is a feature of language.

I have a second reason for denying that all vagueness is a feature of language. This is also a reason to deny the orthodoxy that all vagueness is a feature of language or thought. Here it is:

(1) Possibly, there is the Stock Series in the absence of language and thought.

(2*) For all possible worlds, if there is the Stock Series *in* a possible world, then, for some case in that series, it is vague *in* that possible world whether that case is a heap.

Therefore,

(3) Possibly, there is vagueness in the absence of language or thought.

As we saw in the Introduction, this argument's conclusion implies that it is false that all vagueness is a feature of language or thought.

There is one caveat. Epistemicists can resist my argument for (2*), and so can resist the above argument. But starting with orthodox epistemicism, we are led to an account of vagueness that is epistemic but not linguistic, again undermining the claim that all vagueness is a feature of language, and even the claim that all vagueness is a feature of language or thought (§V).

The claim that all vagueness is a feature of language or thought is a claim about the location of vagueness. This claim follows from various theses about the nature of vagueness, including the following theses. Vagueness is a matter of the relation between a linguistic or mental representation and what it represents. Vagueness is a matter of some but not all of a predicate's precisifications being satisfied. Vagueness is a matter of what is unknowable regarding a predicate's extension. Vagueness is semantic indecision. Vagueness is deficiency in meaning.

These theses about the nature of vagueness imply that all vagueness is a feature of language or thought. But it is false that all vagueness is a feature of language or thought. So the above theses about the nature of vagueness are false as well. And so too is any other thesis that implies that all vagueness is a feature of language or thought. Let us summarize this by saying that it is false that vagueness is a linguistic or mental phenomenon.

Vagueness is not a linguistic or mental phenomenon. Of course, there are cases of vagueness that involve language, and cases that involve thought. For example, suppose that it is vague whether an entity is a heap; this materially implies that it is vague whether

the English predicate 'is a heap' applies to that entity; and this is a case of vagueness involving a particular language. But this does not even suggest that vagueness itself is a linguistic or mental phenomenon, not even in those cases involving a particular language or a given thought. Compare: There are cases of vagueness involving heaps, but this does not even suggest that vagueness itself is a "heap phenomenon," not even in those cases involving heaps.[45]

Vagueness is not a linguistic or mental phenomenon. This tells us what vagueness is not. But it does not tell us what vagueness is. One familiar option, consistent with the arguments of this paper, is that vagueness is a matter of metaphysical indeterminacy. Another such option is that vagueness is the exemplifying of some but not all of a group of properties (§IV). Another is that there really is no such phenomenon as vagueness after all (§IV). Yet another is that vagueness is a kind of unknowability, but not regarding language in particular (§V). And I am sure that there are still further options.

TRENTON MERRICKS

University of Virginia

[45] My point in this paragraph is consistent with Akiba's "Vagueness in the World," *op. cit.* and Cameron's "Vagueness and Naturalness," *op. cit.*, which take every case of vagueness to be an instance of metaphysical indeterminacy, including those cases that involve language. But my point is not consistent with Barnes's "Ontic Vagueness," *op. cit.* or Barnes and Williams's "A Theory of Metaphysical Indeterminacy," *op. cit.*, which reject the orthodoxy but still take some (or even most) vagueness to be of a distinctive kind, namely, linguistic vagueness.