DECONSTRUCTING ONTOLOGICAL VAGUENESS[*]

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I will here present a number of problems concerning the idea that there is ontological vagueness, and the related claim that appeal to this idea can help solve some vagueness-related problems. A theme underlying the discussion will be the distinction between vagueness specifically and indeterminacy more generally (and, relatedly, the distinction between ontological vagueness and ontological indeterminacy). Even if the world is somehow ontologically indeterminate it by no means follows that it is, properly speaking, ontologically vague.[1]

I. VAGUENESS AND INDETERMINACY

The debate which I will focus on here concerns the nature of the indeterminacy with which vagueness is associated. Some – presumably most – hold that vagueness is a matter of *semantic* indeterminacy. These people would hold that if, say, a singular term is vague, then there exist several objects such that the term is indeterminate in reference as between these objects.[2] Call these objects *candidate-referents* of the term. Others would regard vagueness as, at least sometimes, a matter of *ontological* indeterminacy. These people hold that (sometimes) if a singular term is vague, then it refers to an object that is itself vague. Vague singular terms are "indeterminate in reference", not in that it is indeterminate exactly what they refer to, but in that the objects they refer to are themselves indeterminate.[3] It is worth keeping in mind that even given an answer to the question of what type of indeterminacy vagueness is associated with, many other questions in the vicinity are left unanswered.

A preliminary point is this. There are many varieties of semantic indeterminacy and many varieties of ontological indeterminacy. If vagueness is associated with semantic indeterminacy, there is the further question of what kind of semantic indeterminacy it is associated with. If vagueness is associated with ontological indeterminacy, there is the further question of what kind of ontological indeterminacy it is associated with.

Consider first some varieties of semantic indeterminacy. (i) Quinean inscrutability of reference: the sort of indeterminacy of reference purportedly established by Quinean 'gavagai' arguments – see Quine's famous (1960). The facts that determine reference fail to determine whether 'gavagai' is true of rabbits, or undetached rabbit parts, or timeslices of rabbits, or… (ii) We know from modern

physics that nothing satisfies all the claims that Newtonian physics makes about 'mass'. Instead there exist two different possible referents of Newtonian 'mass', *proper mass* and *relativistic mass*, both of which approximately satisfy the claims Newtonian physics makes about 'mass'. It seems wrong to say that 'mass' as it occurs in Newtonian physics does not refer. Rather, 'mass' as used in Newton is indeterminate in reference as between proper mass and relativistic mass.[4] (iii) Third, something for which we can use the label *semantic indecision* or the label *incompleteness of meaning*. (Both labels have been used. Maybe the former label is preferable since it carries less theoretical baggage.) Consider a predicate 'nice$_1$' introduced by incomplete stipulations

n is not nice$_1$ if n<13

n is nice$_1$ if n>15. (Fine, 1975, 120)

The predicate 'nice$_1$' is partially defined. We have been somewhat semantically indecisive w.r.t. 'nice$_1$'. Maybe it is right to say that its meaning is incomplete. (iv) It is possible to hold that the semantic indeterminacy associated with vagueness is *sui generis*.

Given that vagueness is associated with some kind of semantic indeterminacy, one can hold either that it is a sui generis kind of semantic indeterminacy, or that it is one instance of a more general semantic indeterminacy phenomenon. Some theorists of vagueness would want to say that vagueness just is semantic indeterminacy. Some theorists would want to say that vagueness is an instance of semantic indecision.

In distinguishing between (i) through (iv), I do not mean to assert that these are in the end different varieties of semantic indeterminacy. Maybe some collapse into each other. But prima facie they are distinct. The reason that 'nice$_1$' is semantically indeterminate (partial definition) is different from the reason that 'mass' is semantically indeterminate ('mass' gets its reference determined by a false theory). Intuitively, we have not said enough to ensure that 'nice' determinately refers; by contrast, the reason 'mass' does not determinately refer is that the world doesn't help out. Turning to Quinean indeterminacy, this seems *additional*. If Quinean indeterminacy obtains then even the otherwise most semantically determinate expressions of our language (perhaps with the exception of the logical expressions) are Quine-indeterminate, but this should not obliterate the fact that there is another distinction along which expressions can differ in semantic determinacy. Let me explain. The Quinean thesis is that there is a multitude of translation manuals – or, better, meaning theories[5] – that all equally well capture the semantic facts about a given language. The Quinean semantic indeterminacy of an expression consists in its being assigned a different meaning or reference by different manuals. By contrast, it appears that the semantic indeterminacy of an expression like 'mass' – or, for that matter, of a vague expression – must be taken account of *within* a given meaning theory:

any given meaning theory must, in order to be acceptable, mark the difference between 'mass' on the one hand and a term which is not in the same way semantically indeterminate on the other.[6] Turning to vagueness, vagueness is prima facie different from the other forms of semantic indeterminacy in that vagueness is associated also with higher-order indeterminacy. Not only is "Harry is bald" indeterminate for borderline case Harry: it also seems indeterminate what is the borderline between truth and indeterminacy (how haired a man's head has to be in order for it to be true rather than indeterminate that he is bald). This has no analogue in the case of Quinean indeterminacy, or 'mass'-style cases, or paradigmatic cases of partial definition. Prescinding from the details, the important point is that there is prima facie reason to distinguish between kinds of semantic indeterminacy.[7]

Next, consider some varieties of ontological indeterminacy. (i) There is the type of ontological indeterminacy that is said to be shown by quantum physics to obtain. (ii) There are issues like that of the 'open future', and the type of ontological indeterminacy associated with that. (iii) Some statements of set theory, prominently the continuum hypothesis, are such that both they and their negations are consistent with the currently accepted axioms of set theory; and there are no obvious additions to the axioms that settle the continuum hypothesis, or so the standard account goes. A dividing line between realism and (prominent types of) antirealism about sets concerns whether the continuum hypothesis anyway has a determinate truth-value. The realist says yes, and the antirealist says no. The antirealist appears to postulate some sort of ontological indeterminacy in mathematical reality. Metaphorically put, the antirealist's idea is that somehow we construct mathematical reality, and where our constructions do not yield an answer mathematical reality is indeterminate. (iv) Those who hold that vagueness is associated with ontological indeterminacy might hold that vagueness is a sui generis kind of ontological indeterminacy. This strategy seems more clearly appropriate in this case than in the semantic indeterminacy case. For the previous examples of ontological indeterminacy seem quite clearly not to be cases of vagueness.

In the case of ontological indeterminacy it seems clear that there is no question but that we are here dealing with different forms of indeterminacy. What is more controversial is, in each case, whether this type of indeterminacy obtains at all. By contrast, in the case of semantic indeterminacy, it seems relatively uncontroversial that 'mass'-type cases and partial definitions introduce semantic indeterminacy; and although few would agree that Quinean indeterminacy is as widespread as Quine thought it was, a fair number of theorists would agree that the relevant phenomenon does obtain to some extent (the relevant facts do not determine between *all* different theories of meaning).[8]

The main point I want to make in drawing these distinctions is that merely answering the question of whether vagueness is associated with semantic or ontological indeterminacy does not provide a full answer to the question of what kind of indeterminacy vagueness is associated with. The considerations brought up also show why it is proper to talk about what type of indeterminacy

vagueness is *associated with*, rather than what type of indeterminacy vagueness *is*. If there is semantic indeterminacy which is not vagueness, it is potentially misleading to say that vagueness *is* semantic indeterminacy.

These preliminary remarks on the relation between vagueness and indeterminacy will provide important background for the rest of our discussion. In section II, I will highlight the explanatory impotence of ontological vagueness (of saying that vagueness is associated with ontological indeterminacy): contrary to what is sometimes argued, ontological vagueness cannot be appealed to in order to solve the problem of the many. This point, even if correct, does not show that there is no ontological vagueness. In section III, I argue that – in a way different from what has been urged in the present section – simple talk of semantic and ontological indeterminacy is *too* simple. Further distinctions are much needed. In section IV, I attend further to the distinction between indeterminacy and vagueness and present and discuss a argument against the idea that there is ontological vagueness, based on the idea that vagueness is a unitary phenomenon.

II. HOW NOT TO SOLVE THE PROBLEM OF THE MANY

There are a number of ways to state the problem of the many. Here is one (from Weatherson (2003a)):

M1. For some j, o_j is a cloud.
M2. If o_j is a cloud and o_k – where o_k differs from o_j only in certain minute details – is not, then there must be something that makes it the case that o_j is a cloud and o_k is not.
M3. There is nothing that could make it the case that o_j is a cloud and o_k is not.
M4. o_k is a cloud.

Given that there are many o_ks like this, there will be a multitude of clouds where, intuitively, there is only one. As goes without saying, if this is a genuine problem when it comes to clouds, the same kind of problem will arise with respect to all sorts of material objects.

What I will do in this section is to introduce one natural kind of solution to the problem of the many and indicate how it is bound up with the claim that there is ontological vagueness. Then I will lay out how the claim that there is ontological vagueness in fact turns out not to be very central.

For the problem of the many to get off the ground there will have to exist o_ks as described. Why should we accept that all these o_ks exist? On standard presentations of the problem of the many, the reader is asked to consider things like "o_j minus one droplet". This way of setting out the problem relies on significant ontological presuppositions: it is not beyond dispute that objects like

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that which "o_j minus one droplet" purports to refer to really do exist. Hence one way to avert paradox is to reject this ontological presupposition.

Here is one common way of arguing that these objects exist, and hence that the problem of the many can get off the ground. Suppose we start out with the individual water droplets (or individual molecules or what have you). Then, given standard axioms of mereology, including the principle of unrestricted composition, there exist many mereological sums or fusions of these basic entities. And if o_j is one of them, then o_j-minus-s, where s is one droplet, exists too. We have the existence of our o_ks. [9]

But it may still seem easy to avert paradox. On natural assumptions about the nature of mereological fusions, clouds are not plausibly identified as such entities. For fusions have their parts essentially – they cannot survive the loss of parts – but clouds are not like that. (This claim about the modal properties of fusions can reasonably be resisted. But at least for argument's sake, I will accept it.) Rather, clouds are *constituted by* such fusions (and since clouds but not fusions can change parts a cloud may be constituted by different fusions at different times). For the existence of the o_ks that drive the problem there will have to be many distinct cloud-like *constituees*: and the existence of those is not so easy to argue for as the existence of the fusions. One might hold that there exist many clouds constituted by these different fusions, but this ontological stance does not seem forced upon us: and it may seem like an attractive solution to the problem of the many to say that there is only one cloud-like thing around, although there are many fusions of droplets.

What the remarks in the last few paragraphs serve to do is in effect to motivate one popular way to get around the problem of the many: appeal to the distinction between constitution and identity. (See especially Johnson (1992).) Now let me explain how ontological vagueness is supposed to enter in. The way around the problem of the many that has here been sketched is often combined with an ontological vagueness thesis. To accommodate the intuition that it is somehow vague where the boundaries of the cloud are, theorists say that the cloud is, in and of itself, a *vague object*, for example in that it is vague where its boundaries are or vague what is part of it, or vague what it is constituted by (or all of the above).[10]

In discussions of this type of view, the focus is on the claim that there are vague objects. But as should be clear from the present discussion, it is an assumption of ontological sparseness that does much of the work. Notice in particular that *even if there are vague objects*, the problem of the many is still with us *if there are too many of them*: for then there can be vague cloud-candidates such that nothing determines one of them but not the other to be a cloud. Even if the paradox-mongerer, seeking to bring home that the problem of the many is a serious problem, maybe has not made good on her assumption that all the cloud-candidates exist, we may still wonder what justifies the assumption that there is at most one cloud-candidate.

Moreover, it appears that one can plausibly argue that, if indeed there are vague objects at all, there are many vague cloud-candidates. For consider the following train of reasoning. Our usage of the sortal predicate 'cloud' could have been slightly different. In particular, our use could have been such that although the sortal would still have been a vague expression, it would not have been vague in the exact same way in which it now is vague. Certain droplets such that we now would be inclined to say that they are borderline cases of being part of the cloud could be such that, given this counterfactual usage of the sortal, we would regard them as definitely part of or definitely not part of the cloud. Now consider 'cloud' as used in the counterfactual scenario. Are there things that this sortal is true of or not? (Call these would-be things $clouds_{C[ounterfactual]}$; and what is in the extension of our actual sortal 'cloud' $clouds_{A[ctual]}$.) It seems to me that there could be no good reason to deny that there are things that counterfactual 'cloud' is true of, given that there are things that 'cloud' as we actually use it is true of.

The strategy of introducing new predicates to make ontological points is found in many places. Here, to take just one example from the literature, is Carl Ginet:

> But is it incoherent to suppose a type of *material* thing whose constitutive matter could completely change from one time to another in a nonpiecemeal fashion? Could I not introduce such a type of material thing by definition? I might stipulate that a *monewment* is a material object performing the same sort of function as a monument (commemorating something) and such that monewment x at t_2 is the same monewment as monewment y at t_1, if the matter constituting y at t_1 were subsequently destroyed all at once and thereafter new matter of pretty much the same sort and shape were put in the same place in order to restore the commemorating in the same fashion of whatever it was that monewment y at t_1 commemorated. (Ginet, 1985, 220)

Although Ginet talks about introducing a material thing by definition, what he is plausibly taken to mean is that given the definition of 'monewment' together with well-known empirical facts (that there are monument) it is trivially the case that there are monewments. And since monewments would be material, there are then material things of the kind indicated.

Now, I myself am happy to accept this strategy quite generally, and so to accept the existence of Ginet's monewments. But many would find examples like this objectionable, and for reasons that are not obviously bad. What stipulations like Ginet's can do is only to provide conditions for something to be a monewment: there is a substantive metaphysical issue of whether there really are things satisfying these conditions. And one can hold that these would-be monewments are somehow weirder or more unnatural than ordinary objects; lack the cohesion of ordinary objects; lack the 'thinginess' of ordinary objects, so to speak.[11] I actually think this is not so

obvious, but let it pass. For even if these doubts are justified when it comes to monewments, they seem very clearly to be beside the point as far as the present issue is concerned. For the putative satisfiers of 'cloud' as counterfactually used, i.e. clouds$_C$, are sufficiently similar to the putative satisfiers of 'cloud' as actually used that what is alleged to set monewments apart from ordinary objects cannot be appealed to here to rule out the existence of clouds$_C$. It looks then as if appeal to ontological vagueness does not get around the problem of the many: the needed ontological sparseness assumption does not hold.

The ontological indeterminacy theorist of vagueness has yet another comeback. Even if both clouds$_A$ and clouds$_C$ exist, the problem of the many still need not have been revived. For so long as the clouds$_C$ are definitely distinct from the clouds$_A$, they are disqualified as clouds$_A$ for obvious reason. Moreover, given the way I have introduced the notion of clouds$_C$, it is clear that clouds$_C$ are definitely distinct from clouds$_A$.

However, paradox can still be reinstated, as I will now explain. Suppose the entities in the extension of sortal predicate F ('cloud' as it may be) are vague objects. Ask now: does the vagueness in these objects correspond exactly to the intuitive vagueness in the terms? If *no*, several of the vague objects that by our reasoning exist may come equally close to matching the intuitive vagueness in our vague term, and may be such that it seems incontrovertible that if one of them is a cloud, they all are. So it seems the ontological indeterminacy theorist would have to say *yes* to our question. But first, this seems Panglossian. What reason is there to believe that the vagueness in the object Kilimanjaro exactly corresponds to the intuitive vagueness in the term 'Kilimanjaro'? It would appear that – except on views where objects are somehow created or carved out by us – there is little to justify such an assumption. Suppose however that the assumption can be made. Is the ontological indeterminacy theorist out of the woods? Here is a reason to think not. Start with the counterfactual conception of clouds to which clouds$_C$ correspond, and then consider conceptions of clouds progressively more similar to the actual conception of clouds. By the reasoning rehearsed, the cloud-like entities considered will be more and more similar to clouds$_A$. Eventually we will get to cases where it is not clear whether these entities are clouds$_A$ or not. These entities will provide the cloud-candidates needed for the problem of the many to get off the ground.

The point I have made about the non-helpfulness of appeal to ontological vagueness may be somewhat similar to a point David Lewis made in his (1993).[12] Lewis argues that appeal to ontological vagueness does not get around the problem of the many, for all the precise candidate-referents are still candidate-referents, even if there is also is an ontologically vague candidate-referent. Lewis' reasoning here is not obviously persuasive. Consider the following model of reference-determination, a conception Lewis himself likes: a term *t* refers to what comes closest to satisfying the conception associated with the term. Given this model of reference-determination, it is fairly

natural to say that if there are no vague objects, a precise object might be a candidate-referent of t, for t a vague term, but if there is an otherwise suitable vague object, this object is a determinately better satisfier of the relevant conception. These considerations provide the materials for a response to Lewis. Naturally the speculation about reference-determination may be denied. Even so, the present argument against the helpfulness of appeal to ontological vagueness is an improvement over Lewis' argument, for Lewis's argument allows one significant escape route for the ontological vagueness theorist which the present argument does not leave open.[13]

III. SOME DISTINCTIONS

What we have seen so far is that appeal to ontological vagueness does not help with the problem of the many. What does the main work in the solution associated with appeal to ontological vagueness is a kind of ontological sparseness claim. Moreover, this ontological sparseness claim appears not to be well-founded. I will now go on to present other critical considerations concerning ontological vagueness. Though my topic will be vagueness generally, I will for now focus on the nature of the vagueness of singular terms, as many discussions of ontological vagueness do.

Everyone agrees that some words of our language are vague. And everyone appears to agree also that we can know that these words are vague already in virtue of our competence with them; or perhaps, in virtue of our competence plus knowledge of straightforward empirical facts (I will turn to this complication later). Most – though not all – would further agree that for a word to be vague is for it to be in some sense indeterminate in reference or extension. But there is disagreement concerning what this indeterminacy in reference consists in. As mentioned above, some hold that vagueness is associated with semantic indeterminacy and others hold that it is associated with ontological indeterminacy.

Now, both the semantic indeterminacy theorist of vagueness and the ontological indeterminacy theorist of vagueness rely on far from obvious ontological claims. The ontological indeterminacy theorist relies on the idea that the world is in and of itself vague. The semantic indeterminacy theorist relies, as we saw in the previous section, on the idea that the world contains candidate referents in sufficient abundance.

Consider in this connection Gareth Evans' (1978) well-known argument against vague objects. Here, *very* briefly (and not uncontroversially), is how the argument goes. Suppose we have a true sentence "it is indeterminate whether a and b are identical". If this sentence really ascribes indeterminate identity to the objects denoted by these names (instead of being true on account of semantic indeterminacy in either of these names) then we can conclude from it that b has the property of being indeterminately identical with a. But a surely does not have this property, but rather has the property of being determinately identical with a. But then a and b have different properties.

But then they are not identical. Hence, determinately, they are not identical. But if they are, determinately, not identical, then – contrary to what was assumed – their identity is not an indeterminate matter.[14]

This argument purports to show, on broadly logical grounds, that there could be no vague objects. The semantic indeterminacy theorist uses this argument in support of her position. Evans' argument shows – its proponents claim – that the indeterminacy that vagueness gives rise to is not ontological. The only other sensible suggestion, many would hold, is that it is semantic.

Now step back a bit and consider the overall dialectical situation with respect to the issue of whether vagueness is associated with semantic or ontological indeterminacy. There is a feature of it that should strike us as odd. Many of us are convinced that vague terms are in some sense indeterminate in reference, and that this is something we can be assured of simply in virtue of our linguistic competence together with knowledge of ordinary empirical facts, and this conviction is in no way hostage to metaphysics. To convince someone that 'Kilimanjaro' is vague, we say, e.g., "Suppose Sparky is a molecule right at the boundary between where Kilimanjaro ends and the surrounding plain begins. 'Kilimanjaro' is vague because it is not determinate whether Sparky is part of Kilimanjaro or not." But then it turns out, apparently, that it is only if one of two highly non-obvious ontological claims is true that we really are right and 'Kilimanjaro' is vague. For 'Kilimanjaro' to be vague either several candidate-referents must exist, or there must be a vague object there.

Accordingly, let us look for a more reasonable framework for the discussion of vagueness and indeterminacy. Let us use the phrase "our thoughts and practices" to cover whatever it is that fixes the reference of our terms.[15] The phrase is supposed to be so understood so as to accommodate the truth of externalism. In other words, it is because of our "thoughts and practices" that 'water' refers to H_2O. (The idea behind the terminology would be that it is in virtue of our practices, including how we engage with the external environment, that 'water' refers to H_2O.) Consider then the following definitions. Let an expression be *semantically indeterminate with respect to meaning* (*SM-indeterminate*) iff, for all that is determined by our thoughts and practices, there could be several candidate-referents of the expression. An expression is *semantically indeterminate with respect to reference* (*SR-indeterminate*) iff there actually are several candidate-referents for the expression. Let an expression be *ontologically indeterminate with respect to meaning* (*OM-indeterminate*) iff, provided there are indeterminate objects, the expression refers to an indeterminate object (alternatively: iff the term purports to refer to an indeterminate object). An expression is *ontologically indeterminate with respect to reference* (*OR-indeterminate*) iff it actually refers to an indeterminate object. Let us say further that an expression is *referentially indeterminate* just in case it is either OR-indeterminate or SR-indeterminate; and let us say that an expression is *meaning indeterminate* just in case it is either OM-indeterminate or SM-indeterminate.[16]

'Kilimanjaro' is in my view – though this is nothing I shall argue at any length (I present the view only to illustrate the notions introduced) – very plausibly SM-indeterminate. It seems that whether or not this term actually has several candidate-referents, it would have several candidate-referents provided the world was sufficiently rich in objects: our thoughts and practices are not sufficiently fine-grained to determine between minutely distinct would-be objects having roughly the properties we would ascribe to Kilimanjaro. If the world in fact is thus rich in objects, so that 'Kilimanjaro' actually has a multitude of candidate-referents, 'Kilimanjaro' is also SR-indeterminate. Perhaps it can also with some plausibility be argued that 'Kilimanjaro' is OM-indeterminate. Suppose that there are many objects with roughly the boundaries of Kilimanjaro. If some of them are ontologically determinate and some are ontologically indeterminate, then, one may suspect, the latter are – all else equal – better candidate referents of 'Kilimanjaro'. That, anyway, is how an argument for OM-indeterminacy would go. For 'Kilimanjaro' also to be OR-indeterminate, indeterminate objects of the kind described will have to actually exist.

I should perhaps pause to stress how the characterization of SM-indeterminacy is and is not to be understood. 'Kilimanjaro' is SM-indeterminate if and only if for all that is determined by our thoughts and practices, there could be several candidate-referents of the expression. This characterization must be clarified in two ways. (i) For all that is determined by our thoughts and practices, Tanzanian geography could be different, so there are in fact two peaks where now there is only one. Then, perhaps, 'Kilimanjaro' would have several candidate-referents. But this is not necessarily relevant to the vagueness of 'Kilimanjaro'. A preferable way to understand the characterization of SM-indeterminacy is to understand it as including the qualification "…provided the contingent empirical facts are what they are" – in this case, provided the physical base facts about Tanzania's geography are what they are. (ii) On a sufficiently 'sparse' metaphysics, it will be a necessary truth that, for K a kind of material object, Ks never massively overlap. So it is metaphysically necessary that 'Kilimanjaro' will not have a multitude of candidate-referents. Yet the intention behind the characterization of SM-indeterminacy is that even given this metaphysics, 'Kilimanjaro' is SM-indeterminate. This is a complication. But I presume that whatever is the correct metaphysics, we are perfectly capable of entertaining the supposition that a promiscuous metaphysics is true, and that we are perfectly capable of evaluating claims about what would be the case given a promiscuous metaphysics. Saying that 'Kilimanjaro' is SM-indeterminate comes to: given a sufficiently promiscuous metaphysics, 'Kilimanjaro' is SR-indeterminate.

What we can figure out already from our competence with an expression is, at most, its SM-indeterminacy and its OM-indeterminacy. SM-indeterminacy is not sufficient for SR-indeterminacy, for the world must supply the candidate-referents necessary in order for an expression also to be SR-indeterminate. OM-indeterminacy is similarly not sufficient for OR-indeterminacy. I might stipulate

that a certain term is to refer to an indeterminate object: "Let 'Nosey' refer to the indeterminate object all things considered most similar to my nose (and let 'Nosey' refer to my nose itself, should my nose itself be an indeterminate object)". 'Nosey' is an OM-indeterminate expression. The possible existence of OM-indeterminate expressions should not be controversial. What is controversial is whether there could be any indeterminate objects (hence whether any terms can be OR-indeterminate), and whether ordinary vague terms are among the OM-indeterminate expressions.

Having introduced and motivated the distinction between meaning indeterminacy and referential indeterminacy, let me now turn to some complications.

First, I said that SM- and OM-indeterminacy was what, *at most*, we can know of already in virtue of competence. A few words on the 'at most' are in order. Given the truth of externalism, we must take "our thoughts and practices" to include external elements. I do not know that 'water' refers to H_2O solely by virtue of my competence with water. By Putnam's well-known argument, in a linguistic community exactly like ours except that it is in an environment where the watery stuff is not H_2O but XYZ, 'water' is true of exactly XYZ. This might be held to constitute a problem for how I have attempted to set things up. For the distinction between meaning indeterminacy and referential indeterminacy was introduced to explain the putative datum that the vagueness of an expression is something we can know about already by virtue of competence. But it is not a deep problem, whatever in the end to say about it. I said earlier that properly I should not simply talk here of competence but rather competence plus knowledge of straightforward empirical facts. Attention to externalism provides one reason why the appeal to empirical facts is needed.

Second, it deserves stressing that there is an important limitation to what the proposed distinction can do for us. Appeal to meaning indeterminacy does nothing to explain indeterminacy in truth-value of ordinary extensional sentences. For if a vague expression is merely meaning indeterminate then it still has a unique referent, and the truth-values of extensional sentences in which the expression occurs will be determined by properties of this unique referent. For take an intuitively vague sentence 'F(*a*)' (which may also be an identity sentence '*a*=*b*'), seemingly vague due to vagueness in the name '*a*'. If there is no referential indeterminacy, then '*a*' refers to a unique object and this object is perfectly ontologically determinate. But then there is no vagueness-related reason not to take 'F(*a*)' to have a determinate truth-value.

Our intuitions about vagueness very arguably centrally include such intuitions about indeterminacy in truth-value. These intuitions moreover seem to be based only on semantic competence and ordinary empirical facts. Someone who wants to use the distinction between referential indeterminacy and meaning indeterminacy in the way I have suggested will have to take the line that these intuitions are mistaken.

Third, one view that some theorists of vagueness hold – see e.g. Brian Weatherson (2003b) and Ryan Wasserman (2004) – complicates the distinction I wish to draw between SR- and SM-indeterminate expressions. Lewis (1983, 1984) argued that some entities in the world are intrinsically more natural, and, relatedly, are intrinsically more eligible for reference, than are others. This means that in some cases of putative semantic indeterminacy, there is no semantic indeterminacy due to the fact that one of the candidate semantic values of the expression is determinately more natural than are the others, and so this candidate semantic value is, determinately, the semantic value of the expression. What theorists like Weatherson and Wasserman hold is that vagueness results when facts about which candidate semantic values are more natural do not resolve putative semantic indeterminacies. Thus, Weatherson says, "Vagueness happens when things don't go well. Sometimes our verbal dispositions are indiscriminate between several different contents, and no one of these is more natural than all the rest" (2003b, 484f). The most straightforward way to accommodate the possibility of this view in the framework I have sketched is to say that expressions which would be indeterminate in reference were it not for naturalness facts are SM-indeterminate but not SR-indeterminate.[17]

Given the taxonomy outlined, certain questions of vagueness and indeterminacy take on a different form. Let me illustrate this in a few different ways.

First, the question of what vagueness is need not to be understood as a question of whether vagueness is SR-indeterminacy or OR-indeterminacy (or perhaps neither). It can now instead be understood as a question of whether vagueness is SM-indeterminacy or OM-indeterminacy (or perhaps neither – although this third option should seem less attractive than its analogue in the case of referential indeterminacy). Vagueness is in and of itself neither a matter of SR-indeterminacy nor of OR-indeterminacy, even if one or both of these phenomena actually does obtain: as far as the nature of vagueness itself goes, the ontological claims necessary for there to be either SR-indeterminacy or OR-indeterminacy could be false. This is important, for instance because it is clear now clear that even if vagueness is not always associated with SR-indeterminacy, and even if it is plausible that vague expressions are OM-indeterminate, this still need not make it plausible that vagueness is associated with OR-indeterminacy.

Second, take Evans's argument against vague objects. If sound, this argument tells against OR-indeterminacy. But it could not speak against associating vagueness with OM-indeterminacy. The one thing the argument can show is that if vague terms are OM-indeterminate, then the conceptions associated with such terms are not satisfiable. (If from this we could conclude that vague terms are empty, we could plausibly do a modus tollens and conclude that vague terms are not OM-indeterminate. But arguably vague terms can have referents even if there is nothing that perfectly satisfies the conceptions associated with them.)

Third, epistemicists about vagueness, defending classical logic and bivalence in the face of vagueness, have thought that given their thesis they must deny that vague expressions are SM-indeterminate, something we seem to be able to be confident of already in virtue of our competence.[18] However, now a different route opens up for them: they can say that although we can know in virtue of our competence that vague terms are SM- or OM-indeterminate, vague terms are, because of the ontological facts, neither SR- nor OR-indeterminate. The idea is that the defender of bivalence can agree, say, that if there were two or more particular Kilimanjaro-like objects only minutely distinct from each other in modal properties or in actual spatio-temporal boundaries, both these objects would be candidate-referents of 'Kilimanjaro': for our use of 'Kilimanjaro' would not determine between these objects which one is the referent of 'Kilimanjaro'. And she could further concede that if there were a vague object with the right (perhaps vague) spatiotemporal boundaries and the right (perhaps vague) modal properties, this object would be the referent of 'Kilimanjaro'. For she can say that there exists only one candidate-referent, and she can say that there exist no vague objects.[19]

While it can, perhaps, be plausibly argued that with respect to some or many apparent cases of indeterminate reference the ontological facts help out in the way indicated, we do not have a fully general solution to the problem of the many unless it can be made plausible that *all* relevant cases are of this kind: and the chances are slim. However, even if the prospects of appealing to sparse ontology to defend epistemicism across the board are slim, more limited claims can be made. First there is what we can call *local epistemicism* (about a particular expression *e*): local epistemicism is true of *e*, if *e* is vague but neither SR-indeterminate nor OR-indeterminate. Second there is what we can call *semi-epistemicism*: this is the view that *many* vague expressions are neither SR-indeterminate nor OR-indeterminate.[20]

IV. *INDETERMINATE* OR *VAGUE* OBJECTS?

I will next go on to raise an argument against ontological vagueness: an argument I will call the *unity argument*. However, as I will make clear, the distinctions made in the previous section, although in some ways they pose problems for the ontological indeterminacy theorist, show that the most straightforward way of making the argument will not work. Toward the end of the section I will consider whether some modified version of the argument will work.

First, the unity argument in its basic form. It seems intuitively – and I will return below to properly discuss this assumption – that vagueness somehow is a *unitary* phenomenon. It seems that it be cannot be that vagueness sometimes is associated with semantic indeterminacy and somewhere is associated with ontological indeterminacy. It seems that it cannot be that supervaluationism, or a fuzzy logic view, is true with respect to some vagueness but not all. Vagueness appears to be the

same everywhere. Suppose we can indeed assume that vagueness is unitary. Then it is sufficient to refute a particular account of vagueness to show that there are some vague expressions this account cannot apply to. One might argue thatt we can do this to refute the claim that vagueness is ontological indeterminacy. Consider again Gareth Evans' argument against vague objects. Evans' argument can (if sound to begin with – and the soundness of this argument is a matter I will not discuss here) be deployed as follows: *Surely there are some vague identity statements. Here, given Evans' argument, the relevant vagueness cannot be ontological. Since vagueness is always the same kind of phenomenon, vagueness is never ontological.*

Incidentally, it seems this is how David Lewis (1988) conceives of the relevance of Evans' argument. On Lewis' interpretation, Evans departs from the premise that there are vague identity statements and assumes that here at least the indeterminacy in question cannot be ontological. In order for this to amount to a general argument against taking vagueness to be a matter of ontological indeterminacy, it must be assumed that vagueness must everywhere be the same kind of thing. (Some theorists defending ontological vagueness take Evans' argument to be beside the point, since one can coherently believe in ontological vagueness without taking there to be ontologically indeterminate identities. The present considerations show that this facile response to Evans is too quick.[21])

Here, then, is the unity argument against ontological vagueness as schematically presented. (i) Vagueness is unitary: it is the same kind of phenomenon everywhere. (ii) But the indeterminacy with which vagueness is associated cannot everywhere be ontological. (iii) So, the indeterminacy with which vagueness is associated is nowhere ontological.

It might seem that the unity argument, even if perhaps sound, lacks philosophical significance. Perhaps, it may be thought, the considerations up to this point show that we should not say that there are *vague* objects. Perhaps the label *indeterminate* would be better, for the reasons adduced by the author. But surely that is no big deal. It is just a terminological matter. Before turning to more substantive responses to the unity argument, let me defend the argument's potential significance.

As already discussed, some theorists who argue that there is ontological vagueness motivate their thesis by appeal to the *problem of the many*. One such theorist is Michael Morreau (2002). Consider the vague name 'Tibbles'. The indeterminacy with which this name is associated is either ontological or semantic. But it cannot, Morreau argues, reasonably be taken to be semantic. For

> [I]f vagueness is all a matter of representation, there is no vague cat. There are just the many
> precise cat candidates that differ around the edges by the odd whisker or hair. Since there is a cat,
> Tibbles, and since orthodoxy leaves nothing for her to be, one of these cat candidates must then

be a cat. But if any is a cat, then also the next one must be a cat, so small are the differences between them. So *all* the cat candidates must be cats. (2002, 335)

There are some well-known responses to this problem in the literature, and Morreau discusses them. But he finds none so convincing as to make defending the view that vagueness is a matter of representation worth the trouble.

But if this is supposed to motivate Morreau's ontological thesis, then it is important that this thesis should be understood as a thesis about vagueness, rather than about some other type of indeterminacy. For if Morreau were to grant that *vagueness* is not ontological, then obviously he would not get around this problem of the much too many cats. For we were supposed to get around the problem of the many by abandoning the view that vagueness, in for example the name 'Tibbles', is a matter of representation in favor of the view that vagueness is ontological. If vagueness of an expression were a matter of there being several different candidate-referents such that the expression is indeterminate in reference as between these candidate-referents, then adding that there is ontological indeterminacy in the world does not help. So the distinction between ontological indeterminacy and ontological vagueness turns out to be potentially significant.[22]

Turn now to the question: is the unity argument, as presented, compelling?

Let me first dispose of a reason to think not. One may think that it is anyway clear that those who advocate ontological vagueness anyway typically talk about vague objects; the ontological relata of singular terms. So they anyway do not attempt to provide a unitary account of vagueness. So they would simply reject the first assumption of the unity argument, that vagueness is unitary.

But rejecting the first assumption seems unsatisfactory. First, some ontological vagueness theorists – see perhaps especially Michael Tye (1990 and 1994) – use their discussions of ontological vagueness to attempt to solve the sorites paradox.[23] But then they are committed to holding that in every version of the sorites paradox (and vague singular terms are not employed in all versions of the sorites paradox) the key to the solution is ontological vagueness. But then there must always be an ontologically vague relatum of some expression crucially employed in the sorites argument.

Ontological vagueness theorists can in principle simply reject any claim to the effect that ontological vagueness provides the key to the sorites paradox. It may be useful to distinguish between two different views of this general kind. One is that ontological vagueness still holds the key to some versions of the sorites paradox (those that arise because of some ontologically vague term). Another is that ontological vagueness does not have to do with the sorites paradox at all, but the sorites paradox is a different problem, orthogonal to that of the metaphysical status of vagueness.

The first alternative view is unsatisfactory for the reason that all variants of the sorites paradox should receive the same kind of solution: for the sorites paradox is, in all its variants, the

same sort of problem.[24] Consider then instead the second alternative view. The sorites paradox is, uncontroversially, due to vagueness. The distinction between indeterminacy and vagueness is relevant here. Even if the ontological relata of some expressions are somehow *indeterminate*, why call these relata *vague* if their indeterminacy is not in any way what accounts for the sorites paradox? This point can perhaps be dismissed as terminological. But there is a substantive point underlying the terminological one. Even if there is ontological indeterminacy, this phenomenon is of no help with the problems characteristic of vagueness, if the third option is the option that should be adopted.[25]

Turn, then, to a different and potentially better response to the unity argument. Given the considerations of the previous section we must distinguish between two theses linking vagueness and ontological indeterminacy. One is that vagueness is OM-indeterminacy; another is that vagueness is OR-indeterminacy. What Evans' argument promises to show is that vagueness cannot always be associated with OR-indeterminacy. A theorist who says that vagueness is OM-indeterminacy can remain quite unperturbed by this. This theorist can say that vagueness is unitary all right: but what unites all instances of vagueness is not that they are instances of one and the same form of *referential* indeterminacy: what unites them is that they are instances of one and the same form of *meaning* indeterminacy. (She can say: in some cases but not all there is also referential indeterminacy.)

It is not obvious that this move is effective against the deployment of Evans' argument.[26] But never mind. A different, simpler way to employ the assumption that vagueness is a unitary phenomenon against the ontological indeterminacy theorist is to stress that this theorist is strongly committed to what Gilbert Ryle (1949) called a 'Fido'-Fido theory of meaning. (The label "'Fido'-Fido theory" has been used rather broadly, but on Ryle's original usage such a theory posits entities for each type of expression to denote; and thus treats all expressions on the model of proper names.) The reason the ontological indeterminacy theorist is committed to such a theory is simple. If vagueness is a unitary phenomenon, vagueness is everywhere the same kind of thing. But then go beyond the case of vague singular terms – what has been our focus so far – and consider the vagueness of expressions that do not denote objects: to pick one particular example, consider vague quantifier expressions ('few', 'many'). The ontological indeterminacy theorist will have to say that also those sentences that are vague because the quantifier expression is vague are so because of vagueness in the world: hence it appears this theorist must say that vague quantifiers somehow stand for vague entities, and that the vagueness in these expressions results from the ontological vagueness in the entities they stand for. But first, it is far from uncontroversial that quantifiers refer. Second, even if they do refer, it is hard to see how it could plausibly be argued that the vagueness in the quantifiers is best explained by appeal to ontological indeterminacy in what the quantifiers refer to. (If quantifiers do not refer, it might appear that vague quantifiers pose a problem also for the semantic indeterminacy theorist. But the semantic indeterminacy theorist has a natural response. Even if

quantifiers do not refer, quantifiers have semantic values; they make distinctive contributions to truth conditions. Generalizing the story she tells about vague referring expressions, the semantic indeterminacy theorist can say that the vagueness of a vague quantifier consists in indeterminacy concerning which one of several candidate semantic values is the semantic value of the expression.)

An appeal to the distinction between OM-indeterminacy and OR-indeterminacy may seem attractive for the ontological indeterminacy theorist when we focus merely on the upshot of Evans' argument. But when we shift our focus from Evans' argument against ontological indeterminacy, focusing on identity sentences, to the case of vague quantifier expressions, things start looking worse still for the ontological indeterminacy theorist of vagueness: for while the indeterminacy of identity sentences can plausibly be argued to have to do with the OM-indeterminacy of the constituent terms, it is hard to see how vague quantifier expressions could plausibly be argued to be OM-indeterminate.

V. CONCLUSION

I have here in different ways criticized the idea of ontological vagueness. In section II, I argued that appeal to ontological vagueness does not help solve the problem of the many, contrary to what many defenders of the idea of ontological vagueness presume. Section III was devoted to some much needed distinctions. The perhaps most important upshot for our purposes was that even if vagueness is not always plausibly associated with SR-indeterminacy, and even if it is plausibly associated with OM-indeterminacy, this does not make it plausible that it is associated with OR-indeterminacy. Neither of these first two arguments would show, even if correct as far as they go, that ontological vagueness does not obtain. The unity argument, described in section IV, indicates that even if there may be ontological indeterminacy, vagueness certainly is not ontological.

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[1] Some of the many defenders of the idea of ontological vagueness are Morreau (2002), Smith (2005), Tye (e.g. 1990), van Inwagen (e.g. 1990), and Zemach (1991).

[2] For much of the discussion I will focus exclusively the vagueness of singular terms. The considerations generalize to expressions of other categories. Toward the end I will discuss this.

[3] Perhaps, on the ontological indeterminacy view, one ought not to say that it is the singular term that is vague, but rather that the term is precise and it is the world that is vague. I will however say that even in this case the term is vague. It is derivatively vague. This is a purely terminological decision.

[4] To explain, briefly, how Field argues: Two central tenets of Newtonian mechanics is (a) that momentum equals mass times velocity and (b) that for any two frames of reference, mass is the same with respect to both frames. Relativity theory shows that both tenets cannot be correct, for the momentum of a particle divided by its velocity has different values in different frames of reference. But this does not mean that a particular Newtonian tenet has been refuted. For relativity theory posits one thing that satisfies (a) – relativistic mass (total energy divided by the square of the speed of light) – and another thing that satisfies (b) – proper mass (nonkinetic energy divided by the square of the speed of light). Relativity theory would have refuted a particular tenet of Newtonian physics if Newton's 'mass' determinately referred to either relativistic mass or proper mass (or determinately referred to neither). But Field's claim is that precisely because relativistic mass and proper mass approximately satisfy the claims Newton made about 'mass', Newton's term 'mass' is indeterminate in reference as between these two possible referents. See Field (1973), pp. 466-7.

[5] Evans (1972) argues convincingly that to establish the kind of indeterminacy that he wants to establish, it is not enough for Quine to show that there are equally acceptable translation manuals. He must bring home that there are equally acceptable meaning theories, something which is harder to establish.

[6] I am merely laying out how things should *seem*. In fact, my own view is that vagueness is like Quinean indeterminacy in the respect discussed.

[7] 'Prima facie': One might hold that what we have here are different sources of indeterminacy rather than different kinds of indeterminacy – especially if one holds that a supervaluational framework is the best for representing all these forms of indeterminacy. Field (1974) uses supervaluationism to represent Quinean indeterminacy; Field (1973) uses supervaluationism to represent the indeterminacy exhibited by 'mass'; Fine

(1975) uses supervaluational framework to represent partially defined expressions; and this latter article, and many others, uses a supervaluational framework to represent vague expressions.

[8] Theorists like Williamson (1994) do however seem to want to argue that there is no semantic indeterminacy at all.

[9] Avoiding the explicit reliance on principles of mereology one might say that there certainly is a multitude of collections of molecules – whether or not mereological principles provide the correct theory of the nature of these collections – and that this is enough to get the problem off the ground.

[10] Johnston appeals here to the vagueness of constitution.

[11] Though note one potential problem in using naturalness, in some sense, as the criterion by means of which to rule out seemingly weird objects: it is not obvious that "ordinary objects" would satisfy the relevant naturalness criterion.

[12] Compare also the discussion in Hudson (2001) and in section 8 of Weatherson (2003a).

[13] The attempt to solve the problem of the many by appeal to ontological vagueness that I have here discussed invokes a distinction between constitution and identity. But this distinction, although it might help make the proposal more attractive, is really inessential. Suppose a theorist suggests that clouds are vague objects without coupling this with the proposal that constitution is not identity. The above considerations still apply. What guarantee is there that there will not exist too many vague objects?

[14] There are now many important critical discussions of Evans' argument. See e.g. Heck (1998) and McGee (1997).

[15] I take the phrase "thoughts and practices" from McGee (1993).

[16] In (1975), Kit Fine distinguishes between extensional vagueness and intensional vagueness. A predicate like 'bald' is extensionally vague iff there actually are borderline cases of baldness; it is intensionally vague iff it is possible for there to be borderline cases of baldness.[16] It may sound as if my distinction is just Fine's, with the added twist of a distinction between whether vagueness has to do with semantic or ontological indeterminacy. However, the distinctions are different. A friend of ontological sparseness can hold that it is metaphysically impossible for there to actually to be many candidate-referents for 'Kilimanjaro' given that the base facts, the physical facts, are what they are; the enemy of ontological indeterminacy is likely to hold that it is metaphysically impossible for there to be ontologically indeterminate objects. Let us say that an expression is

semantically indeterminate with respect to intension (*SI-indeterminate*) iff at some possible world there are several candidate-referents for the expression. Let us say that an expression is *ontologically indeterminate with respect to intension* (*OI-indeterminate*) iff at some possible world it refers to an indeterminate object. Let us call SI-indeterminacy and OI-indeterminacy *intensional indeterminacy*. It is then plain that intensional indeterminacy in principle is intermediate between referential indeterminacy and meaning indeterminacy.

[17] Note that these theorists identify vagueness as SR-indeterminacy, whereas I have been suggesting the view that vagueness is more closely associated with SM-indeterminacy.

It is worth noting that while Weatherson and Wasserman take vagueness to arise when appeal to Lewisian naturalness facts, together with facts about use, do not determine a unique semantic value, Hawthorne (2006) (tentatively) defends a version of epistemicism about vagueness in effect through suggesting that Lewisian naturalness facts always will, together with facts about use, determine unique semantic values even for vague expressions.

[18] See the discussion in ch. 7 of Williamson (1994) of how meaning is determined by use.

[19] This suggestion in effect came up also earlier on, when it was noted that appeal to the supposed fact that constitution is not identity together with the assumption that there not exist "too many" mountain-like constituees where intuitively there exist only one mountain does not by itself foist upon us the thesis that there are vague objects.

[20] Compare again the view of Hawthorne (2006), described in footnote 17 above. The same remarks apply to that view. Even if one finds it unreasonably optimistic to think that Lewisian naturalness facts can help vindicate epistemicism across the board, one may think that they can vindicate local epistemicism or semi-epistemicism.

[21] One theorist who gives this response is Morreau (2002), pp. 337-9.

[22] I have brought up problems with the stated motivation for appeal to ontological vagueness. For one thing, I have argued that the ontological indeterminacy theorist also needs an ontological sparseness assumption to get around the problem of the many, and this ontological sparseness assumption is unjustified, and arguably false. For another, the would-be semantic indeterminacy theorist convinced of the ontological sparseness assumption can say that 'Tibbles' is SM-indeterminate without being in any way referentially indeterminate. But regardless

of what problems there are with the motivation, this is how appeal to ontological vagueness is in fact motivated.

[23] See especially Tye (1990), pp. 543ff.

[24] This is just an application of the principle of uniform solution, familiar from discussions of the semantic and the set-theoretic paradoxes. The principle is that similar paradoxes should receive similar solutions. Its application, for instance when it comes to purported solutions to the semantics and set-theoretic paradoxes, is unclear, for it isn't clear when two paradoxes are (sufficiently) similar. But can it really be in doubt that all variants of the sorites paradox are illustrations of one and the same problem?

[25] Compare too Gideon Rosen and Nicholas Smith (2004) who argue that the view that fuzzy logic is the logic of vagueness is bound up with taking vagueness to be an ontological matter. They can hold one of three views on the sorites. One is that a fuzzy solution to the sorites is the right one across the board, which would commit them to saying that vagueness is ontological across the board. Another is that a fuzzy solution is right for some but not all versions of the sorites (namely for exactly those versions which arise due to ontological vagueness). A third is that the adoption of fuzzy logic is somehow orthogonal to solving the sorites. The first of these options does seem the most natural. (Incidentally, I doubt that taking fuzzy logic as the logic of vagueness and taking vagueness to be ontological go together in the way they hold; but that is a different matter.)

[26] One potential problem is that the relevant identity statements seem indeterminate in truth-value, and mere appeal to some form of meaning indeterminacy does not explain this indeterminacy in truth-value. (Notice however that this type of problem arises also with my attempt to appeal to a distinction between referential indeterminacy and meaning indeterminacy.)