

The Semantics and Metaphysics of Vagueness: A Contextualist Approach

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Abstract. Vagueness is blamed for the Sorites Paradox. But the nature of vagueness is not well understood. Initially characterizing vagueness in terms of Sainsbury's boundary metaphor, I argue that all semantic theories failing to do justice to this boundary metaphor are false. However, it is unclear what kind of semantic theory of vagueness is immune to this charge. I explore the boundary metaphor and find that vague predicates enjoy a peculiar kind of context-sensitivity. This leads to a distinction between m-boundaries and c-boundaries. Vague predicates cannot draw m-boundaries but can draw c-boundaries. This result, along with appreciating the peculiar sense in which vague predicates are context-sensitive, clears the road for a sketch of a solution to the Sorites Paradox: roughly, the conditions for the correct use of vague predicates presuppose c-boundaries, thereby rendering the Sorites Paradox unsound. Finally, the question of whether there is worldly vagueness in addition to representational vagueness is explored. It is found that puzzles purportedly concerning worldly vagueness can be resolved in just the way puzzles involving representational vagueness can.

I. Introduction: Vagueness and the Sorites Paradox

The Sorites Paradox is a class of arguments each leading to the same kind of paradoxical conclusion.¹ The paradox is simple to state and difficult to avoid. Here is one of its formulations:

Base Premise: People with 0 hairs are bald.

Inductive Premise: If people with n hairs are bald, then people with $n+1$ hairs are bald.

Conclusion: For all n , people with n hairs are bald.

We appear to have two true premises and valid reasoning. So the conclusion ought to be true, but it clearly is not. This is the Sorites Paradox.²

Philosophers interested in the paradox generally agree that *vagueness* is to blame; in this case, it is the vagueness of the predicate 'bald'. But predicates are not the only linguistic items capable of being vague. Some singular terms, like 'Mt. Everest' and 'the Australian Outback', are also vague, as are a number of quantifier expressions, like 'many' or 'few'. Many linguistic

items seem capable of exhibiting vagueness, and thus may be subject to variants of the Sorites Paradox.³ For simplicity, I will focus upon vague predicates and assume that analogues of my remarks apply to most of these other linguistic items.

In pursuit of a concept of vagueness, let us consider Bob, who neither has a full head of hair nor is hairless. We know that 'bald' is to apply only to those who lack a substantial amount of hair. But our inability to articulate just what a substantial amount of hair is does not seem to arise from ignorance of certain facts; we may know the exact number of hairs on Bob's head.⁴ Nor does it seem to arise from any sort of linguistic incompetence: we generally classify people under 'bald' correctly and so use 'bald' correctly. Rather, it seems the meaning of 'bald' possesses a peculiar feature: it gives insufficient instruction on how to apply it correctly in Bob's case and in cases like Bob's. It is this peculiar feature which makes the predicate 'bald' vague and thus also makes the sentence 'Bob is bald' derivatively vague.

The nature of this peculiar feature common to vague predicates is brought out well in a metaphor presented by Sainsbury:⁵

Looking carefully, we can discern no boundaries between the different colours: they stand out as clearly different, yet there are no sharp divisions. There are bands, but no bounds. This does nothing to impede the classificatory process: the spectrum is a paradigm of classification.

This *boundary metaphor* applies likewise to the meaning of 'bald'. Just as there is no one wavelength of light that distinguishes red from orange, so too is there no one number of hairs distinguishing bald from non-bald. For if, say, 615 nm will not do as a boundary between red and orange, neither will 615.001 nm and if, say, 1,000 hairs will not do as a boundary between bald and non-bald, neither will 1,001. This is because the meanings of the predicates 'bald' and 'red' are *tolerant* in the sense that their correct application permits "a degree of change too small

to make any difference.”⁶ As Wright implies in the following passage, this kind of tolerance is communicatively useful:⁷

‘Heap’ is essentially a coarse predicate....We should have no use for a precisely demarcated analogue in which the word is typically used. It would for example be absurd to force the question of the execution of the command, ‘Pour out a heap of sand here’, to turn on a count of the grains.

Of course, 0 hairs is a clear case of bald while 500,000 hairs is not, just as light with a wavelength of 700 nm is a clear case of red while light with a wavelength of 20 nm is not. But such clear cases alone obviously fail to establish any transition between *only* bald things and everything else, or *only* red things and everything else. For both a change of one hair and, say, a change of 10^{-3} nm are changes too small to make any difference. And if such a small change makes no difference, it is hard to see at what point—at what boundary—adding up such insignificantly small changes could make any difference. *That* kind of boundary is most elusive with vague predicates. In this sense we might say that such predicates are *boundaryless*. I, along with Sainsbury, take this *boundarylessness*, or something very much like it, to be the hallmark of vagueness.

The boundary metaphor illustrates that the meanings of vague predicates, at least by themselves, fix no sharp transitions in their application. There is no boundary between cases of baldness and non-baldness.⁸ But then there is neither the set of (all and only) bald things nor the set of (all and only) non-bald things, since to fix such sets would require a boundary demarcating them. Applying the boundary metaphor to ‘bald’, the claim is that ‘bald’ is boundaryless in the sense that:

- (B) There is no n such that people with n hairs are bald and people with $n+1$ hairs are not bald.

As such, the boundary metaphor gains plausibility by explaining the link between vagueness and the Sorites Paradox, for (B) is logically equivalent to the negation of the Inductive Premise.⁹ But (B) would be true only if all people were bald (or not bald), and this is simply not the case; there are bald people and there are also non-bald people. The upshot is that the boundarylessness of ‘bald’ as captured in (B) seems to preclude there being an extension or antiextension for ‘bald’.¹⁰ Yet vague predicates like ‘bald’ seem to be boundaryless in just this way. Letting ‘ f ’ stand for predicates, we express the strong intuition that vague predicates are boundaryless in this way as follows:

(Boundaryless) If ‘ f ’ is vague, then ‘ f ’s meaning by itself semantically expresses no property P .

Precise predicates have such boundaries while vague predicates are boundaryless.

Vagueness is ubiquitous in communication. This ubiquity constrains what a reasonable account of the nature of vagueness, as well as what any acceptable solution to the Sorites Paradox, must be like. Namely, it is important to do justice to certain powerful intuitions about the nature of vague predicates. *(Boundaryless)* captures such an intuition. The following examples illustrate another. The sentence ‘Mr. Clean is bald’ is surely true while the sentence ‘The sky is green’ is surely false: both are vague, yet they bear classical truth-values. The upshot of these latter examples is that, despite *(Boundaryless)*, vague predicates can be used correctly or incorrectly, and sentences containing them can be true or false.¹¹ Letting ‘ a ’ stand for singular terms, we have:

(Classify) It is possible for ‘ $f a$ ’ to be true (false) and ‘ f ’ to be vague.

We have seen that both *(Boundaryless)* and *(Classify)* capture strong intuitions about vagueness. I will assume that any theory denying any one of them should be rejected. This assumption will guide my attempt to sketch a semantic theory of vagueness.

II. Toward a Semantic Theory of Vagueness

A common view, the *Classical Picture*,¹² serves as the background for most semantic theories of vagueness. The Classical Picture may be expressed as follows:

(*CP*) For every vague ‘*f*’, ‘*f a*’ cannot be true (false) without ‘*f*’s meaning by itself semantically expressing a property *P*, the extension (antiextension) of which has *a* as a member.¹³

Call (*CP*)’s adherents *Classicists*. Typically, Classicists understand vagueness in terms of the notion of a borderline case. A predicate has borderline cases iff there are things to which the predicate neither truly nor falsely applies. Vague predicates are taken to have borderline cases. The appeal to borderline cases is widespread, manifesting in theories like three-valued logics, degree theories, and supervaluationism.¹⁴

The Classicist’s borderline case strategy is troublesome for several reasons. First, it is doubtful that possessing borderline cases is sufficient for counting a predicate vague. For even if future contingents have classical truth-values, let us consider the conceptual possibility entertained by many philosophers that they do not. Then some predicate in each such future contingent would have borderline cases. But then this mere conceptual possibility proves too much, since it directly implies that all future contingents are vague. Second, it is doubtful that possessing borderline cases is necessary for counting a predicate vague. This claim will be indirectly argued for in this paper by sketching a view which does not require vague predicates to have borderline cases. Though both of these difficulties cast doubt upon the Classical Picture, I do not take them to be decisive. Instead, the third difficulty is decisive: when (*CP*) is coupled with an appeal to borderline cases, conflict with the intuitive characterization of vagueness in terms of (*Boundaryless*) and (*Classify*) results. For one thing, those who focus on the notion of a

borderline case rather than the boundary metaphor when dealing with vagueness are apt to find (*Classify*) unintelligible.¹⁵ This is because if for ‘f’ to be vague it must have borderline cases, then (*Classify*) contradictorily states that ‘f a’ could be true while ‘f a’ is neither true nor false. For another, as Sainsbury argues, (*CP*), (*Boundaryless*), and (*Classify*) are jointly inconsistent.¹⁶ Boundaries divide the borderline from the non-borderline cases. So for the Classicist, if vague predicates classify according to (*CP*), then they draw boundaries. But if so, then (*Boundaryless*) is violated. If the Classicist agrees that vague predicates are boundaryless according to (*Boundaryless*), they cannot classify according to (*CP*). But if so, then (*Classify*) is violated. Either horn leads to trouble. An appeal to higher-order vagueness, cashed out in terms of borderline cases, will not help since the boundaries they draw are as problematic as their lower-order cousins.¹⁷ The Classical Picture, by being inconsistent with the intuitively indispensable theses (*Boundaryless*) and (*Classify*), leads to absurdity. So it should be regarded as false.

I am an *Anticlassicist* and adopt (*CP*)’s negation, the *Anticlassical Picture*:

(*AP*) It is not the case that: For every vague ‘f’, ‘f a’ cannot be true (false) without ‘f’’s meaning by itself semantically expressing a property *P*, the extension (antiextension) of which has *a* as a member.

The Anticlassicist achieves consistency with (*Boundaryless*) and (*Classify*), but at the expense of leaving it unclear how a vague predicate can classify without its meaning by itself semantically expressing a property *P*, the extension of which either includes or fails to include that thing to be classified. This is a serious problem facing the Anticlassicist and an explanation is needed.

I will sketch a view that provides such an explanation. I start with a suggestion from Sainsbury: the meanings of vague predicates never mandate the drawing of a boundary.¹⁸ For if the meaning of a vague predicate mandated a boundary, then (*Boundaryless*) would clearly be

violated. Vagueness as boundarylessness is thus a prohibition on meaning-mandated boundaries, or *m-boundaries*, where:

(MB) ‘f’ has an *m-boundary* iff ‘f’’s meaning by itself semantically expresses a property *P*.

I will argue, however, that the conditions for the correct use of vague predicates often free us to draw boundaries even though none are mandated by meaning alone. Meaning *together with context* provides the conditions for correct use of a vague predicate. So while the meaning of a vague predicate fixes no boundary, its meaning together with context can, and often, does.

Borrowing Sainsbury’s example, a paint shop owner is free to distinguish yellow from red paint without violating the vagueness of ‘yellow’ and ‘red’.¹⁹ This *c-boundary* is appropriate when context permits. Thus:

(CB) ‘f’ has a *c-boundary* iff ‘f’’s meaning by itself never semantically expresses any property *P*, but ‘f’’s meaning with context sometimes does.

It is context-sensitive both whether a vague predicate semantically expresses a property and just which property, if any, is semantically expressed.

The notion of context I employ follows Lewis’, according to which, “A *context* is a location—time, place, and possible world—where a sentence is said. It has countless features, determined by the character of the location.”²⁰ These features might be quite rich, including, among other things, conversational interests and stipulations, background beliefs, and past linguistic use.²¹ Context is the background in front of which communication takes place, though we need not be aware of all of its features. We are, however, not restricted to such a coarse-grained notion of context. When needed, we can ignore the irrelevant aspects and focus on those contextual features peculiar to, e.g., a single conversation, or perhaps even a single conversation as observed by a particular speaker. This allows for the possibility that in one context something

may fall under a vague predicate but not in another. E.g., while one million might be a large number for children, it will not be for number theorists dealing with the fifth Ackermann number—too large “to be written on a universe-size sheet of paper, even using exponential notation”.²² I take this to be a virtue of my view, since it partially explains why children and number theorists disagree about whether one million is large. Vague predicates draw c-boundaries when context, whether understood broadly or narrowly, permits. The paint shop example presented such a context. The property, if any, semantically expressed by a vague predicate ‘f’ depends not merely upon ‘f’'s meaning, but also upon context.

The claim that vague predicates are context-sensitive is neither new nor, I imagine, controversial.²³ What *is* perhaps controversial is my claim that appreciating the context-sensitivity of vague predicates illuminates the nature of vagueness and provides a route to avoiding the Sorites Paradox. Most acknowledge the context-sensitivity of vague predicates, but go on to protest in at least one of two ways. First, it is alleged that a sentence ‘f a’ will not be vague if the context has been fully specified. This objection fails since, according to Contextualism, the semantic features that make ‘f’ vague can be preserved even in cases where the context is fully specified. In such a case, ‘f’ will have c-boundaries. But it is a prohibition of m-boundaries, not c-boundaries, that is a symptom of ‘f’'s vagueness. As will be seen, a prohibition of m-boundaries for ‘f’ is consistent with the possibility of ‘f’'s having c-boundaries. This defense, however, depends upon there being an answer to the second objection: that the same intuitions that suggest m-boundaries are inconsistent with vagueness also suggest that c-boundaries are too.²⁴ In what follows I will argue that this is not the case.

Distinguishing between m-boundaries and c-boundaries offers us a sense in which vague predicates are boundaryless (i.e. m-boundaryless), while allowing that they can be correctly used

in drawing c-boundaries. I propose we make use of this distinction between m-boundaries and c-boundaries by reading *(CP)*, *(AP)*, *(Boundaryless)*, and *(Classify)* as only talking about m-boundaries, not c-boundaries. So the sense in which vague predicates are boundaryless is exhausted by the sense in which they are m-boundaryless, as captured in *(Boundaryless)*. As for *(AP)*, a true or false sentence containing a vague predicate is such that the vague predicate is, in the sense of *(Boundaryless)*, m-boundaryless. Crucially, *(Boundaryless)*, *(Classify)*, and *(AP)* are silent about c-boundaries. The Anticlassicist is thus free to say, first, that while vague predicates are m-boundaryless, they can have c-boundaries and, second, that these c-boundaries are all that is needed in order to maintain *(Classify)*. Thus:

(Consistency) The possession of a c-boundary by ‘f’ is consistent with a prohibition of m-boundaries for ‘f’.

We can now maintain that vague predicates are context-sensitive in that their only boundaries are c-boundaries:

(Context) For every vague ‘f’, if ‘f a’ is true or false, then ‘f’ has only c-boundaries.²⁵

We may now, consistently with *(Boundaryless)* and *(Classify)*, formulate *Contextualism* as the conjunction of *(AP)*, *(Context)*, and *(Consistency)*. In what follows, I will argue that Contextualism provides for the most satisfying semantic theory of vagueness.

III. Vagueness According to Contextualism

In defense of Contextualism, I will offer considerations showing that there are c-boundaries and that they are consistent with vagueness. This, in turn, will illustrate Contextualism’s explanatory utility.

According to Contextualism, all vague predicates exhibit a kind of plasticity in their correct use. I shall illustrate that this plasticity is most naturally explained by appeal to the context-sensitivity of vague predicates and the possibility of their drawing c-boundaries, thus confirming (*Context*) and (*Consistency*). Speakers sometimes stipulate (often somewhat arbitrarily) that something satisfies a given vague predicate. In the paint shop example, this might be done by the owner's placing the 'Red Paint' sign in a particular place on a particular shelf. It is unreasonable to criticize the owner for drawing such a c-boundary between the red and yellow paints. However, a stipulation may become a background belief, thus affecting future classifications under that vague predicate. The fact that the owner divided the red and yellow paints where he did will likely influence later divisions (say, during restocking), though he need not draw the c-boundary always in the same place. The interests of the owner may also play a role in dividing the red paints from the yellow paints.²⁶ Paint shops must after all sell paint, and perhaps the owner has discovered that drawing the c-boundary between the red and yellow paints in one place is better correlated with sales than in another. The owner is beyond reproach if he takes this into account when dividing the red and yellow paints. This is not to say that the owner cannot draw bad c-boundaries. For those leaving too many paints on one shelf and too few on the other open the owner up to criticism. But when this will happen depends on many factors. One is whether his customers agree with the approximate location of the c-boundary he drew. To the extent that such agreement is lacking, the owner is open to criticism and the owner and customers may need to coordinate where the c-boundary is to be drawn. Finally, lack of contextual resources can prevent the drawing of a c-boundary, though with the addition of further contextual resources, such a c-boundary might be drawn. The c-boundaries drawn by the owner in the examples above are not merely pragmatic decisions to which we assent for practical

ends. We generally treat the owner's c-boundaries as correct. We tend to believe we have bought red, not orange, paint if the paint we bought came from the red paint shelf.

The preceding considerations show that the accepted use of vague predicates is context-sensitive and permits c-boundaries. Without input from context there are insufficient resources for a vague predicate to draw m-boundaries. It is in this sense that vague predicates are boundaryless and that (*Boundaryless*) is satisfied. Matters are different with particular uses of vague predicates. These are vague in part because they are m-boundaryless. But their meanings provide the kind of freedom Sainsbury spoke of: boundaries can be drawn when contextually appropriate. Since the meanings alone of vague predicates do not mandate these boundaries, they are not m-boundaries but are rather c-boundaries. The plasticity of the meanings of vague predicates allows the conditions of their correct use to vary across contexts. M-boundaries are inconsistent with vagueness because they violate this plasticity, while c-boundaries are consistent with vagueness because they do not.

It should be kept clear that vagueness is not just context-sensitivity. Rather, the context-sensitivity of vague predicates is somewhat different than that of non-vague context-sensitive predicates. Consider the non-vague predicate 'has that height', which is context-sensitive since it semantically expresses different properties depending upon the precise height indicated.²⁷ The conditions under which 'has that height' is correctly used can roughly be captured in terms of a context-invariant "meaning rule", like "has the indicated height", where *any* indicated quantity measuring height is a live option.²⁸ Consider the vague predicate 'tall', which is also context-sensitive since it semantically expresses different properties depending upon context. Of course, both 'has that height' and 'tall' cannot be correctly used to semantically express a property that has nothing to do with heights. But both predicates importantly differ in at least one respect. In

some contexts, ‘has that height’ might be correctly used to semantically express a property like *height of 1 mm*. But in no context can ‘tall’ correctly be used to semantically express a property like *height of 1 mm* if, in that context, an object satisfying *height of 1 mm* would not be of substantial height. The meaning rule articulating the conditions for the correct use of ‘tall’ differs from that of ‘has that height’ in that not just any property capturing the indicated quantity measuring height can be semantically expressed. Instead, the meaning rule for ‘tall’, unlike that for ‘has that height’, must constrain what height properties can be semantically expressed—namely to those heights that are sufficiently high.²⁹ This meaning rule, or at least the aforementioned constraint, might take the following form: x is tall iff x bears a contextually appropriate relation R^+ to previously characterized or paradigm cases of tall and bears a contextually appropriate relation R^- to previously characterized or paradigm cases of not-tall.³⁰ This in turn accounts for that aspect of the meaning of ‘tall’ which seems to suggest that small changes in tall things do not make a difference. However, just which R^+ and R^- are contextually appropriate is context dependent. Previously characterized or paradigm cases of tall and those of not tall are also context dependent, since they will depend upon the historical linguistic facts regarding the terms ‘tall’ and, e.g., ‘short’. The suggested form of the meaning rule for ‘tall’ depends in a number of ways upon context but still satisfies the semantic constraint that x not be classified as tall unless x bears the contextually appropriate relations to paradigm or previously characterized cases of tall and paradigm or previously characterized cases of not tall. But notice that this is accomplished without the aid of m-boundaries, since the paradigm or previously characterized cases along with R^+ and R^- are supplied by context. Indeed, the drawing of a c-boundary is consistent with this form of meaning rule: c-boundaries will result from contextually appropriate choices for R^+ and R^- that, together with paradigm or previously characterized cases

of ‘tall’, determine a property semantically expressed by ‘tall’ that has both a mutually exclusive extension and antiextension. By dividing the cases to which ‘tall’ applies from those to which it does not, such c-boundaries allow small changes to eventually make a difference. While these cursory remarks hardly provide a full distinction between the vague and non-vague context-sensitive predicates, they are, I suggest, helpful.

The meanings of vague predicates grant freedom to draw c-boundaries. But this freedom is not without responsibility. That aspect of the meaning of vague predicates which allows context to affect its use also allows context to constrain its use, as we saw above with the example of the meaning rule for ‘tall’. Some have seen difficulties with the view that the meaning of a vague predicate semantically constrains the way in which context can affect the application of that predicate.³¹ I believe these difficulties largely disappear when one appreciates that the meaning of a vague predicate largely defers the job of constraint to context. This point is important since it helps explain why the apparent problem of definite satisfiers is really no problem at all. A *definite satisfier* satisfies some vague predicate ‘f’ in all contexts. It appears that there are definite satisfiers and that they are fixed by the meanings of the vague predicates involved. The idea that the meaning of a vague predicate fixes its definite satisfiers (if any) is intended to explain the irrelevance of context as well as the normative force of that predicate with respect to its definite satisfiers. The problem for Contextualism is to explain how a prohibition of m-boundaries for vague predicates is consistent with their possibly having definite satisfiers. Consider the vague predicate ‘small natural number’, which is satisfied in every context by the number 1. This seems so because of the *meaning* of ‘small natural number’. But for this to be inconsistent with (*Context*), the meaning of ‘small natural number’ by itself would have to semantically express a property *P* with an extension to which belonged just the definite

satisfiers of ‘small natural number’. But this condition for inconsistency is not satisfied. For simplicity, consider two contexts C_1 and C_2 . In C_1 x is a small natural number iff $x = 5$, while in C_2 x is a small natural number iff $x = 7$. The number 1 satisfies ‘small natural number’ in both contexts, and so is a definite satisfier of ‘small natural number’. This might be settled by the meaning of ‘small natural number’ alone. But since the extension of ‘small natural number’ varies across C_1 and C_2 , ‘small natural number’ semantically expresses distinct properties, and so draws distinct c-boundaries, in C_1 and C_2 . The meaning of ‘small natural number’ by itself does not settle this; context is needed. This shows that ‘small natural number’ may have definite satisfiers fixed by its meaning without violating (*Context*).

I have argued that vague predicates are context-sensitive in a peculiar way. Though it was not my aim to provide a full account of how their meanings together with context fix c-boundaries, worries about the feasibility of providing such an account might be taken as an objection. The examples of meaning rules presented above capture important aspects of the semantics of context-sensitive terms, vague and non-vague alike. But even in the case of non-vague context-sensitive terms (e.g. singular terms like ‘that man’ or predicates like ‘has that height’), it is hardly clear how to articulate fully such meaning rules in a way that clearly shows for every context just which aspects of context play a semantic role. But this is no obstacle to the correct use of such terms. In this respect, vague and non-vague context-sensitive terms are alike. While competent speakers may be unable fully to articulate the meaning rules of vague predicates, this inability presents no obstacle to the correct use of those vague predicates.

Finally, I shall offer brief remarks on the phenomenon of higher-order vagueness. Following Soames,³² let F name some vague predicate ‘ f ’. We say that F is a first order vague predicate. Now consider the predicate ‘member of F ’s extension’ and call it G . Now, G is a

second order vague since it inherits F 's peculiar semantic features, including its peculiar context-sensitivity. Iterating again, we obtain a third order vague predicate, H , 'member of G 's extension'. This strategy, it would appear, can be iterated indefinitely. What does the Contextualist say about higher-order vagueness? Briefly, though higher-order vague predicates (like G and H) may inherit their vagueness from lower-order vague predicates (like F), both are alike in that they are m-boundaryless yet can draw c-boundaries. So the Contextualist would seem to have a unified treatment of vague predicates of any order.

IV. A Contextualist Solution to the Sorites Paradox

Contextualism offers a promising view of vagueness. By rejecting the Classical Picture and adopting Contextualism, we can maintain both (*Boundaryless*) and (*Classify*), whereas the Classicist had to reject at least one. The distinction between c- and m-boundaries plays a crucial role. The nature of vague predicates prohibits their drawing m-boundaries. But this is consistent with their drawing c-boundaries. So we can keep our intuitions regarding vagueness as captured in (*Boundaryless*) and (*Classify*) while accounting for the fact that vague predicates can be correctly or incorrectly applied. Furthermore, these features can be exploited to sketch a solution to the Sorites Paradox.

I will offer a rough outline of a Contextualist solution of the Sorites Paradox. Consider the following thought experiment.³³ An interrogator places fifty color tiles in front of you, arranged gradually from red to yellow. You must sequentially label each tile either red or not red. In order to use 'red' correctly, the conditions of its correct use must not be paradoxical: a clearly yellow tile cannot be labeled 'red'. So, if you are a competent speaker, you will reach some tile, label it red, and label its successor not red. For if you did not, you would speak

paradoxically and be linguistically incompetent. The tile at which the transition from red to yellow is made varies with context. But there must be such a transition; else a clearly yellow tile would be classified as red. How does the speaker come to make such a transition? Adapting Stalnaker's words without supposing his endorsement of such an adaptation,³⁴ we may respond as follows. Roughly, a speaker presupposes the non-truth of the Inductive Premise—i.e. the existence of a c-boundary for 'red'—in most conversations involving 'red'. This means that the speaker takes the Inductive Premise's non-truth for granted and assumes that others involved in the context do too. The speaker and the audience need not agree on *which* c-boundary is drawn since agreement that *a* c-boundary is drawn suffices.³⁵ This does not imply that the speaker need have any particular mental attitude toward the non-truth of the Inductive Premise, or that the speaker need assume anything about the mental attitudes of others in the context. Nor does it imply that the speaker or his audience need to know (or are ignorant of) where such a c-boundary is drawn.³⁶ Like other presuppositions, the presupposition of the non-truth of the Inductive Premise is probably best viewed as a complex disposition which is manifested in linguistic behavior, e.g. labeling some tile, but not the next one, 'red.' The disposition to draw *some* (but not any particular) c-boundary may be encoded in 'red's meaning: it is a general condition for 'red's correct use and is presupposed by those who competently use 'red.' But the disposition to draw a *particular* c-boundary is not. Context provides for a particular c-boundary.³⁷ One presupposes the non-truth of the Inductive Premise in virtue of the statements one makes, the questions one asks, the commands one issues. The presupposition of the non-truth of the Inductive Premise is implicitly supposed before the relevant linguistic business is transacted. This explains the difficulty in convincing anyone that they, as a result of the Sorites Paradox, have spoken incoherently.³⁸ Context together with the meaning of a vague predicate determines

not only whether a c-boundary is drawn but, if so, where. Generally, competent speakers will draw them. Often it will be somewhat arbitrary where they are drawn. But the meaning of a vague predicate permits arbitrary c-boundaries when contextually appropriate. A disposition to avoid paradox is at least as appropriate as anything else. When such c-boundaries are drawn, the Inductive Premise is not true, and the Sorites Paradox is unsound.

If the Sorites Paradox is thus avoided, why has it seemed so compelling? Generally, when inquiring into the conditions for the correct uses of terms, we tend to focus on their context-invariant meaning rules and thus where their m-boundaries are drawn. We seem to overlook any particular context, including the one we are in. As a result, when looking at vague predicates, their m-boundarylessness is especially striking. Moreover, in considering these vague predicates in abstraction from any particular context, no appeal to context can be made to help draw c-boundaries. For these reasons, the Inductive Premise seems true; small changes never make a difference. But as I have argued, we find that context aids in classifying with vague predicates. The c-boundaries that get drawn in such cases suffice for avoiding the Sorites Paradox; small changes eventually can make a difference. But the Sorites Paradox remains compelling since our tendency to focus on matters of meaning and thus m-boundaries renders the m-boundarylessness of vague predicates more salient than their potential for drawing c-boundaries and, thereby, avoiding the Sorites Paradox.

The Contextualist's sketch of a solution to the Sorites Paradox enjoys three further advantages. First, some believe that for some things it is indeterminate, or there is no fact of the matter, whether a vague predicate applies to them; thus bivalence is to be rejected. On my view, while the lack of an m-boundary permits the drawing of a c-boundary, there is no privileged context and thus no privileged c-boundary. So for those increasingly unclear cases of, say, 'red',

it is only in an increasingly attenuated sense that there is any fact of the matter of whether ‘red’ applies to them. Exploiting these points might go far in explaining the feeling of indeterminacy. Whether or not it does, it is an advantage of my view that it requires no particular stance on bivalence. Second, Contextualism need not reject truth-functionality. This is because Contextualism is a view about how atomic (vague) sentences come to have the truth-values they do. This allows the truth-value of any non-atomic sentence still to be a function of the truth-values of its constituent atomic sentences. Third, by claiming the Sorites Paradox is valid but unsound, Contextualism does not forfeit any widely accepted (sound) principles of inference, e.g. induction, modus ponens, and so on. Most other solutions to the Sorites Paradox (e.g. degree theories, supervaluationism, and three-valued logics) must give up at least one of bivalence, truth-functionality, or some principle of inference. The Contextualist solution need not. So it is to be favored.

V. **Representational vs. Worldly Vagueness**

So far, I have implicitly focused upon vagueness as it occurs in language. But language is but one form of representation—concepts and thoughts, for instance, are other kinds of representations that may be vague. I suggest that the theses and remarks on the vagueness of linguistic items can be translated into more general theses and remarks about the vagueness of representations—or *representational vagueness*.

No one denies that there is representational vagueness. There are, however, a few philosophers who in addition claim that there is *worldly vagueness*—vagueness in non-representational concrete objects.³⁹ This latter claim is both controversial and hard to understand.⁴⁰ We have some intuitions on what is characteristic of representational vagueness, as

captured in theses like (*Boundaryless*) and (*Classify*). But it is not clear that they have analogues for characterizing worldly vagueness. What does the Contextualist have to say about worldly vagueness?

To begin, let us explore why one might think there is worldly vagueness. Let us say that *Monists (about vagueness)* believe in one kind of vagueness—representational, while *Dualists (about vagueness)* believe in two kinds—representational and worldly. It seems there are three (perhaps interdependent) reasons motivating the Dualist. First, one might be persuaded by “common sense” intuitions, as is Michael Tye:⁴¹

I believe that there are vague objects. This view apparently is not shared by very many other philosophers. It is often said that the world itself is perfectly precise and that vagueness resides only in language. On the face of it, this is a deeply puzzling position; for common sense has it that the world contains countries, mountains, deserts, and islands, for example, and these items certainly do not seem to be perfectly precise.... Consider, for example, the statements ‘There are mountains in California’ and ‘Some mountains are easier to climb than others’. These statements are surely true. Moreover their truth certainly appears to require that there be vague objects, namely mountains and the state of California. Admittedly grammatical form is sometimes misleading. Still it is very hard to see how the above statements can be reconstructed so as to avoid quantification over mountains and, in the former case, reference to California.

The world strikes us as vague, and so “common sense” says it *is* just as it strikes us. But whereas Tye is not disturbed by the fact that grammatical form can mislead, I think in this case— involving the strange notion of worldly vagueness—we should be.

Second, one might believe in worldly vagueness as a result of adhering to a particular answer to the following question posed by Sainsbury:⁴²

[W]e get closer to the heart of the issue when we see the [Dualist] as wishing to use vagueness in the world to explain vagueness in language...is it, at bottom, the vagueness of the objects and properties that explains the vagueness in thought and language, or does the explanation flow in the other direction?

Presumably, one might motivate a belief in worldly vagueness as a result of believing that the easiest, best, or perhaps only, way of explaining representational vagueness is in terms of worldly vagueness. So, as Sainsbury articulates it, the thought runs:⁴³

[T]he world is a certain way before we find it. Our job is to fashion concepts to mirror it. Because it contains vague objects, we find vague objects, and fashion vague concepts to match.

If these explanatory considerations are to motivate the Dualist, the notion of worldly vagueness must be clearer, or at least more available, than representational vagueness. But this is almost universally denied. Nothing seems to recommend the suggested direction of explanation over its converse: that we fashion our vague concepts onto the world and that the *appearance* of worldly vagueness is to be explained in terms of representational vagueness. Later, I will attempt to sketch such a converse explanation.

Third, certain philosophical puzzles might be used to motivate belief in worldly vagueness. For example, Unger's *Problem of the Many* is a puzzle about material constitution.⁴⁴ But it may also be put to another use: to motivate the thesis that the world is vague.⁴⁵ To see this, let us borrow heavily from Lewis' exposition of the Problem of the Many.⁴⁶ It is spring. Cat Tibbles sits alone on the mat shedding. When a cat sheds, the hairs loosen slightly, then more, then finally they fall off—but only gradually. At the beginning of the shedding process of some particular hair h , h is a part of Tibbles. At the end of said process, h is not a part of Tibbles. In between, it is unclear whether h is part of Tibbles or not. There seems to be no boundary separating h 's being part of Tibbles and h 's not being part of Tibbles. Suppose, if we may, that there are a number of hairs, $h_1, h_2, \dots, h_{1000}$, neither parts of Tibbles nor not. Let c be Tibbles and all of these hairs. Let c_i , for $i \in \mathbf{N}$ and $1 \leq i \leq 1000$, be c , minus hair h_i . But of $c, c_1, c_2, \dots, c_{1000}$, as well as unions of these sets like $c_1 \cup c_5$, each has an equal claim to *being* Tibbles.

Unless one is singled out, there would apparently be a great many more cats on the mat than we had supposed. Yet surely there is just one, Tibbles. But how can we say so? It seems we must deny the claim that any particular c_i has to being a cat. This is absurd, since no h_i can make the difference between a cat and a non-cat. Are all candidate cats Tibbles? Or are no cats on the mat?⁴⁷ This is the Problem of the Many.

The Problem of the Many arises for Monists and Dualists alike. However, Dualists can pursue a strategy unavailable to the Monist. Dualists may take the Problem of the Many as evidence for there being vague objects. Against the Monist, who must attempt to explain away the appearance of Tibbles' vagueness in solely representational terms, the Dualist can point out that the kind of vagueness involved in the Problem of the Many does not appear to be merely representational. Rather, it involves hairs and molecules and so forth, all of which exist independently of any representations of them. The Dualist then might conclude that Tibbles is a bona fide vague object: a "metaphysically tolerant" entity, as it were, that survives the loss of insignificant parts, like a shedding hair. Presumably, the Dualist motivated by the Problem of the Many will hope to exploit some feature of vague objects to explain how there can be just one Tibbles on the mat. How this can be done, however, is not yet clear. If such a response is to be plausible, an account of the nature of vague objects is needed.

VI. In Search of Worldly Vagueness

Most often, philosophers attempt to cash out the notion of a vague object by appealing to the notion of indeterminate identity. For instance, one might say:⁴⁸

(Identity) If ' $x = y$ ' is indeterminate (or neither true nor false), then x or y is a vague object.

There is reason to doubt, however, whether (*Identity*) captures anything deep about vagueness. For there appear to be many indeterminate identity statements that are not vague. For example, let us name the Greek ship in the harbor ‘Alice’ and let us name the first Greek ship sunk in tomorrow’s sea battle ‘Bob’. It is at least a conceptual possibility that the future contingent ‘Alice = Bob’ is—at least today—neither true nor false, though Alice and Bob, we may suppose, are both perfectly precise. So the indeterminacy of an identity statement is not a sufficient condition for worldly vagueness. But neither will it be a necessary condition, since if x is vague, then surely ‘ $x = x$ ’ will not be indeterminate. Therefore, (*Identity*), and so the most prevalent way of explicating worldly vagueness is, at best, incomplete.⁴⁹

Another suggestion for explicating the notion of a vague object involves the *part of* relation.⁵⁰ One might ask whether the *part of* relation is, in any sense, a vague relation. It might be, one might suggest, if there are things neither parts of nor not parts of some set of parts (or *fusion*). Tibbles provides a case in point. This suggests:

(*Parthood*) Fusion F is a vague object iff there exists an x such that x is neither part of F nor is x not part of F .

So, Tibbles seems to be a vague object since there exists a hair such that it is neither part of nor not part of Tibbles. But this attempt to cash out the notion of a vague object fails. For why is it that only $h_1, h_2, \dots, h_{1000}$ are such that they are neither parts of nor not parts of Tibbles? We might say that we have a fusion $H = \{h_1, h_2, \dots, h_{1000}\}$ such that for each $h_i \in H$, h_i is neither part of nor not part of Tibbles. Then (*Parthood*) says that the existence of H is sufficient for Tibbles being a vague object. But for reasons analogous to the reasons we had for rejecting the Classical Picture and its borderline case strategy, so too should we reject (*Parthood*). For there is then a boundary between Tibbles’ parts and H , as well as between H and things not parts of Tibbles. Unlike in the case involving vague predicates, an appeal to context, and so a distinction between,

as it were, “metaphysical” m-boundaries and c-boundaries, is unavailable since surely whether a part belongs to a fusion is in no way context-sensitive. So (*Parthood*) fails.

For another suggestion for a notion of a vague object, we may try to find a metaphysical analogue of the boundaries metaphor. Speculatively, one might conceive of vague objects as follows. Think of the universe as filled in a very few places with a great many simples. Among these regions of simples are areas more densely populated than others. Some simples stand in certain relationships that others do not. In particular, there is a certain relatively dense region of simples standing in a complex of relations in a Tibbles-like way. This Tibbles-like region is vaguely defined. If we include too many or too few simples in the region, then the region is no longer Tibbles-like. As far as the simples are concerned, there is no privileged boundary around the dense region of simples related in a Tibbles-like way—no one collection of such simples that just composes Tibbles. The suggestion is that this “worldly boundarylessness” is constitutive of vague objects. But without any worldly boundaries, how is Tibbles differentiated from anything, or even everything, else? Surely, it is not in terms of the simples that compose it. One might suggest that Tibbles is differentiated from everything else in that Tibbles possesses a unique property, a *haecceity*. But this suggestion is undesirable, since it is no clearer how a property, as opposed to an object, could be vague. Were one to cash out the vagueness of this haecceity analogously to the way we have done so for Tibbles, then there would be no one collection of simples to which it applied. But with no boundaries on its application, it seems there is nothing differentiating this property from applying to all, or no, simples.⁵¹ No improvement has been made, so this speculative suggestion also fails.

A final speculative suggestion might be that Tibbles is a vague collection of causal powers: a vague *causal unity*.⁵² Building upon the previous suggestion, suppose that causal

powers supervene upon simples. In virtue of the natures of these simples and their relations, a sort of causal unity that supervenes on them is formed, and is identified with Tibbles. A difference between Tibbles and another object arises only when their causal powers differ. The worldly vagueness of Tibbles is given by the fact that the causal unity that is Tibbles is “metaphysically tolerant” in the sense that the loss of a simple will (typically) not alter any of its causal powers. However, I think the present proposal fails because it succumbs to a causal variant of the Problem of the Many.⁵³ Suppose Tibbles is a vague causal unity U consisting, vaguely, of a number of causal powers. Let $U' = U - p_1$ be the causal unity formed by stripping away the causal power p_1 from U . It might be that p_1 is the causal power to chase mice (Tibbles might be very old or three-legged). Still, U' would seem to be Tibbles just as much as U . Iterate this process too many times and we are left with an empty causal unity identical with Tibbles, a clearly absurd result. Of course, some will object that Tibbles has essential properties (or essential causal powers) the loss of which Tibbles cannot survive. But this haecceitist move equally suffers the difficulties faced by the haecceitist move discussed in the preceding paragraph. So the present suggestion is equally inadequate.

VII. Vagueness as a Representational Phenomenon

We have had no luck in finding an intelligible concept of a vague object. Ultimately, I suspect that any such notion is ultimately incoherent, and so never truly applies to anything in this, or any other, world. Vagueness is solely a representational phenomenon. But without worldly vagueness, how is the Contextualist to (i) explain away the appearance of worldly vagueness, and (ii) avoid the Problem of the Many?

For (i), the Contextualist might, somewhat speculatively, borrow part of the Dualist's notion of a causal unity. So Tibbles is a vague causal unity, but vague since Tibbles qua causal unity depends upon vague representations. Let a *representational context* be a context in which representations are used: where words are used, thoughts are thought, or concepts are conceived. Then, independently of any representations or representational contexts, there exist collections of simples so related as to result in various causal powers. But that any of these collections unify as Tibbles *does* requires representational contexts. This is because just which causal powers unify to form Tibbles depends upon input from context. Similarly, the Pacific Ocean emitted a certain wavelength of light before there were any representational contexts, but the Pacific Ocean only satisfied 'is blue' once the concept *blue* was supplemented by elements of representational contexts sufficient for drawing c-boundaries. In that sense, we as creatures making use of vague representations in our thoughts, concepts, and language play an important role in determining what these representations represent. In saying this, the Contextualist need not claim that we—as competent speakers, conceivers, and thinkers belonging to larger communities of speakers, conceivers, and thinkers—can fashion our words, concepts, or thoughts willy-nilly to pick out just any collection of matter as Tibbles, or any interval of wavelengths of light as *blue*. For there are intense linguistic, conceptual, evolutionary, physiological, psychological, and social constraints on just how to represent such things.⁵⁴ With that said, Tibbles itself *seems* vague because there are no worldly boundaries around it. But since Tibbles qua causal unity depends upon vague representations, the *appearance* of Tibbles' worldly vagueness is explained away in terms of representational vagueness.

As for (ii), even if there is no worldly vagueness, the vague representations upon which Tibbles qua causal unity depend still invites the causal variant of the Problem of the Many. How

should the Contextualist respond? Basically, in the same way as the Contextualist responded to the Sorites Paradox. Which causal unity *is* Tibbles depends upon representational contexts. For reasons analogous to those provided in the Contextualist's solution to the Sorites Paradox, the vague representations involved in these representational contexts draw (representational analogues of) c-boundaries sufficient for avoiding the casual variant of the Problem of the Many.

VIII. Conclusion

To summarize, the Classical Picture conflicts with our intuitions on vagueness. The Anticlassical Picture is to be preferred. Adopting Contextualism allows distinguishing m-boundaries from c-boundaries. Vagueness is inconsistent with m-boundaries, but not c-boundaries. So the Contextualist can use c-boundaries to explain the nature of vagueness and how vague predicates classify without drawing m-boundaries. This allows us to sketch a solution to the Sorites Paradox: the conditions for the correct use of vague predicates require c-boundaries, thus rendering the Sorites Paradox unsound. These results were brought to bear on the question of whether the world is vague; it appears that only representations, and not the world itself, are vague.⁵⁵

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¹ For information on the origin and history of the Sorites Paradox see Williamson 1994, Chapter 1.

² This is an inductive form of the Sorites Paradox. Other forms do not appeal to induction (e.g. they may consist in a long list of conditionals and repeated applications of modus ponens); yet they still give rise to paradox. What I have to say in this paper should apply directly, or with slight modification, to other forms of the Sorites Paradox.

³ Soames 1999, Chapter 7, claims that while all predicates giving rise to the Sorites Paradox are vague, not all vague predicates give rise to the Sorites Paradox. Presumably, this claim is also intended to hold for linguistic items besides predicates. For my purposes, however, let me use 'vague' and its cognates artfully to apply to just those linguistic items that give rise to the Sorites Paradox (or its variants).

⁴ *Epistemicism* is the view that vagueness just is a kind of ignorance: e.g., we simply do not and cannot know whether or not 'bald' correctly applies to Bob (though some epistemicists would say that an omniscient being could know). Though I along with most philosophers find this view to be irredeemably implausible, recent vigorous defenses by Williamson 1994 and Sorensen 2001 have shown that it is a mistake to reject epistemicism outright. For reasons of space, I must commit this mistake. In my defense, I hope to show that other more plausible approaches toward semantic theories of vagueness have not yet been exhausted.

⁵ Sainsbury 1990, p. 258.

⁶ Wright 1976, p. 156.

⁷ Wright 1975, p. 335.

⁸ See both Wright 1987 and Sainsbury 1990.

⁹ Wright 1987, § 5.

¹⁰ It may be the case that the extension and antiextension for a vague predicate are not mutually exhaustive but are mutually exclusive. I wish to remain neutral on this matter. More on this later.

¹¹ Hovda 2001, p. 100, stresses the importance of what I take to be this same point.

¹² The name of this view comes from Sainsbury 1990.

¹³ The claim is neither that the truth of 'f a' consists in a's membership in 'f' 's extension nor the converse. Rather, 'f a' is true just when a is a member of 'f' 's extension.

¹⁴ Keefe & Smith 1997, pp. 23—49, survey three-valued logics, degree theories, and supervaluationism. See Edgington 1997 for an interesting version of a degree theory, and see Fine 1975 for the *locus classicus* of supervaluationism.

¹⁵ Or at least, they are apt to find (*Classify*) surprising and mysterious, as Hovda 2001 does, though Hovda believes coming to terms with (*Classify*) is necessary for understanding the nature and logic of vagueness.

¹⁶ See Sainsbury 1990. Sainsbury does not formulate the argument exactly as I do, nor does he name the sentences constituting the inconsistent triad as I have. Nevertheless, I think I more or less accurately report his argument in what follows.

¹⁷ See Sainsbury 1990. Wright 1987 raises, and Sainsbury 1991, Edgington 1993, and Heck 1993 respond to, a problem for higher-order vagueness. See also Wright 1992. Williamson 1999 explores the logic of higher-order vagueness, as does Hovda 2001. Williamson 1994 takes considerations of higher-order vagueness to defeat many theories of vagueness. Later I will say more on higher-order vagueness.

¹⁸ Sainsbury 1990, pp. 259—60. I do not claim that any of the views I develop hereafter are Sainsbury’s.

¹⁹ Sainsbury 1990, pp. 259—60.

²⁰ Lewis 1998, p. 21.

²¹ For an example of a similarly rich notion of context (though put to a different use), see Wettstein 1984. Note that my use of ‘context’ is somewhat broader than Wettstein’s, who often uses phrases like ‘extracontextual cues’ to describe what I consider to be elements of (my broader notion of) context.

²² This claim is made by Richard E. Crandall in “The Challenge of Large Numbers”, *Scientific American*, February 1997, Vol. 276, No. 2.

²³ For instance, Tappenden 1993, Raffman 1994 and 1996, Soames 1999, and Graff 2000 all agree that vague predicates are context-sensitive in some sense or other. Tappenden, Raffman, and Soames hold that the c-boundaries for a vague predicate ‘f’ always shift across uses of ‘f’. This is taken to explain the difficulty in finding sharp cut-offs in a context between ‘f’’s extension and its borderline cases. Stanley 2003 objects that this view fails to account for cases involving Verb Phrase ellipsis. Since Graff and I do not hold the view Stanley’s objection depends upon, we avoid Stanley’s objection. Stanley, however, raises further difficulties for Graff’s view.

²⁴ Indeed, Sainsbury 1990, p. 260, seems to express something like this sentiment.

²⁵ It is worth drawing attention to the fact that, as I have formulated (*Context*), I do not make it a sufficient condition for ‘f a’ being true or false that ‘f’ has only c-boundaries. I do this to leave it open whether bivalence should be maintained. I will discuss this point later.

²⁶ See Graff 2000 for an interest-relative theory of vagueness.

²⁷ This example is inspired by Heal 1997, in which examples of indexical predicates like ‘has this property’, ‘sits on this’, and ‘is present’ are provided. I am inclined to think that the last example, but not the first two, are vague.

²⁸ I loosely borrow and extend this “meaning rule” terminology from Kaplan 1989, p. 505. For Kaplan, a meaning rule, or *character*, is a function from contexts to semantic contents.

²⁹ An analogous distinction seems to hold for indexical referring terms: ‘That volume of space’ and ‘Here’ in the sentences ‘That volume of space is home’ and ‘Here is home’ may both be (awkwardly) used by George W. Bush to express the proposition that the White House is home. But ‘That volume of space’ can do so in cases in which ‘Here’ cannot: namely, in cases where George W. Bush is not in the White House. Note that ‘Here’ is vague while ‘That volume of space’ is not.

³⁰ This suggestion is inspired by Soames 1999.

³¹ See Sainsbury 1990, p. 262, and Robertson 2000, the latter being an objection to Soames 1999.

³² Soames 1999, pp. 219—21.

³³ This thought experiment is partially inspired by both the so-called Forced-March variant of the Sorites Paradox found in Horgan 1994 and also from remarks found in Raffman 1994. Horgan uses the Forced-March for different aims than I do. My own aims are more closely related to Raffman’s.

³⁴ Stalnaker 1999, p. 38.

³⁵ I do not merely maintain that speakers need not agree on which c-boundary is drawn for inductive variants of the Sorites Paradox. Strictly speaking, all that is needed to avoid the Sorites Paradox is that *some* c-boundary is drawn—even for non-inductive variants—and speakers need not agree on which one.

³⁶ It is worth recalling that the owner in the paint shop example seemed to know just which c-boundaries were drawn in the various cases. So Contextualism is clearly not some sort of Epistemicism.

³⁷ As a criticism of Soames’ 2002 second response to Robertson 2000, it should be noted that my view, unlike Soames’, avoids the *ad hoc* and unsatisfying solution to the Sorites Paradox which states that ‘red’’s meaning itself prevents it from being used paradoxically, in which case it is mysterious why the Sorites Paradox seems at all compelling.

³⁸ It is no accident that what I say here bears resemblance to Lewis’ Rule of Accommodation, specifically as applied to vague predicates (see Lewis 1983, chapter 11). Though I cannot discuss it further here, I agree with much of what Lewis says, but disagree, for the same reasons I provided against the Classical Picture and its borderline case strategy, with his adoption of a supervaluationist framework.

³⁹ Among them are Tye 1990, Van Inwagen 1990, Zemach 1991, and Hovda 2002.

⁴⁰ Among the many who doubt there is worldly vagueness, Russell 1923, Lewis 1986, and Dummett 1975 have been particularly vocal about the dim prospects of the intelligibility of worldly vagueness.

⁴¹ Tye 1990, p. 535 and p. 540.

⁴² Sainsbury 1994, pp. 78—9.

⁴³ Sainsbury 1994, p. 79. It should be noted that Sainsbury is no Dualist.

⁴⁴ Unger 1979.

⁴⁵ Zemach 1991 offers a similar argument from considerations of reference to conclude that there are vague objects. For reasons I cannot go into here for lack of space, I find Zemach's argument unpersuasive.

⁴⁶ Lewis 1993, pp. 166—7.

⁴⁷ This is Unger's (reluctant?) solution. See Unger 1979.

⁴⁸ As Van Inwagen 1988, p. 255, apparently does. Even many of those who doubt that there is worldly vagueness believe the notion of a vague object is in part illuminated by theses like (*Identity*). For instance, see Garrett 1991, Lewis 1988, Sainsbury 1994, Tye 1990, Van Inwagen 1988, and Zemach 1991.

⁴⁹ Evans 1978 contains a famous argument that purports to show that if there are indeterminate identity statements, contradiction results. There is enormous controversy over the import of this argument. See Lewis 1988, Tye 1990, Garrett 1991, and Zemach 1991. Though I cannot further discuss the matter here, for the same reason that I doubt that indeterminate identity statements capture a deep feature of vague objects, I doubt that Evans' argument has any crucial bearing on the issue of worldly vagueness.

⁵⁰ As Van Inwagen 1990 has observed, there may seem to be several closely related *part of* relations: one applying to the trombone part of a symphony, one applying to a word in a poem, one applying to an earlier part of you, and so on. For our purposes, whether these examples showcase the same *part of* relation or very similar *part of* relations is no matter; their close similarity suffices for the work at hand.

⁵¹ Sainsbury 1994 contains a brief discussion of vague properties.

⁵² Hovda 2002 suggests something like this view.

⁵³ I owe thanks to Steven Arkonovich and Mark Hinchliff from whom I borrow this objection as it was put to Hovda at the presentation of Hovda 2002.

⁵⁴ Johnston 1992, pp. 103—4, expresses a similar view. However, Johnston (personal conversation) has since abandoned the more heavily representational tone of his earlier work. The role we play in referring to objects is less a representational matter and more an artifact of our evolved tendencies to perceive and act the way we do. On this point, I think Johnston and I are in agreement.

⁵⁵ This paper is a distillation and revision of my senior thesis, *A Study on Vagueness*, written during the 2001-2002 academic year at Reed College under the supervision of Mark Hinchliff. For helpful comments, conversation, and criticism, I should like to thank especially Mark Hinchliff, as well as Carl Anderson, Steven Arkonovich, Tim Doyle, Ephraim Glick, Paul Hovda, Hud Hudson, Doug Patterson, Ryan Robinson, Scott Soames, Jason Stanley, and Tim Sundell. An earlier version of this paper was presented at the Northwest Student Philosophy Conference at Western Washington University, May 2003. Thanks to the audience and my commentator Brian King. Finally, thanks to the editors and reviewers of *The Dualist* for their helpful comments.