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Vagueness in Context

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Abstract

This paper argues that whether an utterance of a vague term makes any contribution to propositional content is context-sensitive and that attention to this fact allows for an attractive solution to the sorites paradox.

Introduction

A predicate is vague if it permits borderline cases such that it's neither clear that the predicate does apply nor that it doesn't.¹ What, for example, is the least number of hairs a man must have in order not to be bald? Vagueness is a pervasive feature of natural languages, but it has proven rather resistant to theoretical delineation. For any attempt to characterize the *semantics* of vague terms (what they *mean*) and their *logic* (what reasoning involving them is *valid*) must yield a compelling dissolution of the ancient sorites paradox, which is no easy matter. Here's a version of the paradox using the predicate 'bald':² Someone with no hairs is bald. But one hair can't make the difference between being bald and not being bald. (That is, for any number n , if someone with n hairs is bald, then someone with $n+1$ hairs is bald.) So, someone with 1,000,000 hairs is bald. Well-nigh unobjectionable premises seem to lead by well-nigh unobjectionable reasoning to an absurd conclusion.³ What has gone wrong?

The enormous literature logicians, philosophers, and semanticists have produced on vague language over the last few decades has

generated a plethora of competing possible positions, each with its own well-known problems.⁴ These discussions have succeeded in shedding much light on the phenomenon but have not generated anything remotely approaching a consensus on the relevant issues. So, let us proceed once more into the breach.

In this paper, I defend an approach to vague language and the associated sorites paradox that emphasizes the context-sensitivity of vague terms. A term is *context-sensitive* if and only if its contribution to propositional content can vary across occasions of use without any change in the term's standing meaning in the language. (Indexical expressions, such as the pronoun 'I', provide standard examples.)⁵ Previous approaches have adverted to context-sensitivity in attempting to defang the sorites,⁶ but they have assumed that vague terms always make *some* contribution to propositional content, whereas I stress how considerations of conversational coherence can affect whether, in a given context, the use of a vague term succeeds in contributing to content at all.

My paper has three parts. I first put forward a necessary condition on the expression of a proposition and suggest that utterances of sentences containing vague predicates only sometimes satisfy it. Then, I argue that, in particular, the consideration of a sorites paradox can result in the violation of this condition. Finally, I briefly indicate some of the virtues embodied in this approach to vagueness.

A Condition on the Expression of a Proposition

¹ This characterization is somewhat rough, but (as it's frequently noted in the literature) it's difficult to characterize vagueness in a non-theory-laden manner.

² It should be assumed throughout that the hairs on the person's head are arranged in a manner optimal for non-baldness.

³ The reasoning used is simply Universal Instantiation and *Modus Ponens*. The latter alone suffices, if one replaces the universally quantified second premise with the appropriate conditionals. Note, in particular, that the principle of mathematical induction is *not* employed, though it (or some other sufficiently strong principle) would indeed be required to reach the conclusion that *no* one is bald.

⁴ Keefe and Smith (1997) is an excellent reader, the editors' introduction providing a valuable survey of the field. Williamson (1994) is an indispensable monograph. The literature on vague *concepts* has been less well-developed and was until recently dominated by degree-theoretic approaches. But see Kamp and Partee (1995).

⁵ This use of the term 'context sensitive'—common in semantics and pragmatics—should not be confused with its use in syntax to describe rules insensitive to surrounding syntactic context.

⁶ See, e.g., Kamp (1981), Bosch (1983), Raffman (1994), and van Deemter (1996).

Suppose a jar contains 100 color chips, spanning red to orange in imperceptible steps, and I ask you to grab a red one for me. Surely, you can satisfy my request; and when you say “Here’s a red one,” you express a true proposition. If so, then it is *not* a necessary condition on the expression of a proposition that

- (1) the uttered predicates, as used, partition the contextually relevant domain of discourse.

For there’s no reason to think that the predicate ‘is red,’ as used on that occasion, partitions the chips in the jar.

But now suppose I ask you to sort the chips according to whether they are red or orange. You hesitate—at least, once you recognize that they form a sorites series.⁷ I call across the room: “I’m curious—is there an even number of red ones?” You are nonplused; you’re not sure what should count here as being red or being orange. Perhaps you request some clarification. If I have none to offer (we can assume I didn’t realize that the jar contained borderline cases), you will be unable to satisfy my request. Likewise, you will be unable to judge whether the sentence ‘The number of red chips is even’ would express something true or false. *Not*, I claim, because you are ignorant of the matter, and unable to rectify your lack—but because in *this* case the lack of partition results in the failure of the predicate to express a property: an utterance of the sentence would thus fail to express a proposition (would fail, that is, to issue in something assessable for truth or falsity).⁸ Of course, as competent speakers of English, we understand the *sentence*, we know its standing meaning in the language—so an utterance of it wouldn’t amount to gibberish; and we would know as well much else relevant to interpreting the utterance, such as which chips were in question. But here sentence-meaning and the available contextual information would not suffice to enable the expression of a proposition. Just as with reference-failure (when a putatively referring expression fails on some occasion of use to refer to anything), property-expression-failure thwarts the expression of a proposition; and the failure to partition can

induce property-expression-failure. Leaving out the connecting step, we have:

- (2) a failure of a predicate to partition the contextually relevant domain of discourse can result in the failure to express a proposition.

No doubt these glosses are prejudicially theory-laden. But I needn’t claim that mundane cases *force* us to accept (1) and (2)—only that they suggest them. It’s *prima facie* reasonable to accept (1) and (2) in light of such cases, and to that extent they are *motivated*. Let’s see where they lead: the proof of the pudding is in the eating.

If we accept (1) and (2), we will want to ask *when* the failure to partition can result in the failure to express a proposition: what distinguishes the case in which I ask you to grab a red chip, from the case in which I ask you to sort all the chips in the jar? A natural thought is that, in the first case, the lack of partition *just doesn’t matter*: we may proceed *as if* ‘red’ partitions the chips, because we may *ignore* the borderline cases as *irrelevant* to our purposes. If something along these lines is correct, then it is a condition on the expression of a proposition that

- (3) the speaker may proceed as if the uttered predicates, as used, partition the contextually relevant domain of discourse.

It is clearly a crucial question whether and to what extent this idea can be clarified. Some light is shed if we recast the condition as a constraint on *pragmatic presupposition*—that is, as a constraint on the propositions presumed mutually taken for granted in a given conversational context.⁹ The idea is that speakers, in using predicates, act as if, or presuppose, that the predicates, as used, partition the domain. When they must also presuppose, however, that a predicate, as used, does *not* partition the domain, when the failure to partition becomes contextually salient, then the resulting set of presuppositions is obviously inconsistent and thus incoherent. The recast condition thus reads:

- (C) It is a coherent presupposition that the predicates, as used, partition the domain.

⁷ I use the phrase ‘sorites series’ for any series from which we can construct a *prima facie* paradoxical sorites argument.

⁸ I am thus assuming that the “epistemic” view of vagueness, according to which borderline cases reflect our often in principle ignorance, is false. Williamson (1994) defends such a position.

⁹ For this conception of context, see Stalnaker (1974) as well as other papers now collected in Stalnaker (1999).

There is obviously much more to be said here, but again this suffices to motivate (C). What I have to say next will exhibit its attractions.

Application to the Sorites

I have been suggesting that *whether* sentences containing vague predicates express propositions is a context-sensitive matter. Many mundane utterances of such sentences succeed in expressing propositions, but some don't—in particular, those entered in contexts in which (C) is violated. What I'll argue now is that contexts in which one considers a would-be sorites argument fall into this latter class—save when one of the argument's premises is false or its conclusion true.

So, consider a standard version of the sorites—supposing the correctness of (C). Say, for example, we have objects numbered 1, 2, 3, ..., 5,000,000 such that each is F-er than its successor, and we are presented with the following would-be argument:

F(1)
For all x, if F(x), then F(x+1)
 F(5,000,000),

an argument which is paradoxical if we're inclined to consider 1 clearly F, 5,000,000 clearly *not* F, and the difference among neighbors too small to make a difference.¹⁰

What can we say on my approach? If we eschew logical deviancy, to attempt to assess the crucial sorites premise is to attempt to assess as well its negation 'There exists an x such that F(x) but not F(x+1).' But, in a setting in which the objects are ordered as above, to consider *that* just is to consider what would be the assertion of a partition: one is asking whether there's a *last* x that to which 'F' applies. Whether there is in fact a partition thus matters here; the lack of one, if such there be, cannot be ignored. Considering a sorites, that is, renders it salient whether there is a partition. So, when there is *not* one, the speaker cannot simply proceed as if there were. The condition on the expression of a proposition is thus violated; attempting to use the offending predicate in this way fails to issue in an argument at all. Indeed, no use of the predicate in this context will contribute to the expression of a proposition.

That's what happens when there's *not* a partition. But what about when there *is* one? Then, of course, one of the premises will be false

or the conclusion true. If either the predicate's extension or its complement is empty, there's trivially a partition: if the former (if *no* x is F), then the first premise is false, and if the latter (if *all* x are F), the conclusion is true. If neither is empty—if it's *not* the case that, for either one side or the other, *everything* in the domain falls in it—there is then a non-trivial partition, but then the sorites premise is false: there *is* an x such that F(x), but not F(x+1).

In sum, when the sorites predicate does *not* partition the domain, sentences containing it cannot express propositions and so no argument is presented; an argument is indeed presented when the predicate *does* partition the domain, but then only one that is straightforwardly unsound. The dissolution of the sorites thus follows fairly directly from acceptance of (C).

Indeed, the dissolution is so neat that one might reasonably wonder whether I can explain the force, however illusory, the paradoxical argument seems to possess. Let me try.

So, if the sorites is correctly dissolved along these lines, why do we nonetheless feel the *force* of the argument? A first point to note is that there is a side to us (or at least to many of us) that does *not* feel the force, at least not always. We are, I suggested, nonplussed in situations where (C) is violated; we feel that something is awry. The thought that vagueness *usually* just doesn't matter—and that the puzzles to which it putatively gives rise somehow fall into the category of "don't-cares"—is quite natural: at least it's certainly one I frequently encounter. This, I think, is an important datum—and it's well-accounted for by the present approach. The view is thus consistent with—and indeed perhaps explains—an aspect of the phenomenology, if you will, of vague language use.

But yet those premises seem true and that reasoning valid. Especially those of us whom the sorites has "intermittently obsessed for years"¹¹ will want to know how a non-argument could have kept us awake so many nights. There are really two facts that need explaining: first, why the sorites seems to have force prior to exposure to my diagnosis, and, second, why this force *persists* even if one does adopt this approach.

Well, the reasoning *is* valid in the following sense: the argument has the syntactic form of a valid inference schema, one such that *if* its premises express true propositions and *if*, in the course of the reasoning, there is no equivocation-inducing context-shift, then the reasoning

¹⁰ I label the second premise the 'sorites' premise and shall refer to 'F' as the 'sorites' predicate.

¹¹ I borrow this excellent description of philosophical pathology from an unpublished paper on scepticism by Rogers Albritton.

preserves truth. But what we have just seen is that there *is no one* context in which the premises express truths and the conclusion a falsehood. If it can seem otherwise, this is in part because, in our attempt charitably to interpret these sentences—to project them into an appropriate context—it is all too easy to conflate the sorites premise, in which the predicate is *used*, and the *meta-linguistic* claim that the predicate fails to partition the domain.¹²

Note further that this urge to construct an appropriate context is to an extent beyond our conscious control. We just can't help trying to make sense of what we perceive as linguistic tokens; we typically exercise our interpretive capacities automatically, almost as a reflex.¹³ In particular, this is true of our ability to track contextual features relevant to the understanding of utterances of context-sensitive sentences. Indeed, this is a necessity imposed by nature's design constraints: we simply would not be able to speak, and cognize generally, with the real-time facility we do possess, if the exercise of the requisite capacities required more conscious reflection. Lacking reflective awareness of the full extent of our reliance on contextual cues, we are nonplussed when our reflexive attempts to project a sentence into an appropriate context founders.¹⁴ And even if we consciously conclude that our inability to identify an appropriate context for the sorites is owing to the absence of such a context, not to our ignorance or inadequacy, this doesn't mean that the would-be argument loses all force, psychologically speaking: again, the automatic nature of our interpretive skills places them to a certain extent beyond our control. We might thus compare the *persistence* of the sorites with that of the Müller-Lyer optical illusion.¹⁵

¹²Further interference is caused by the similarity to the claim that for all x , if $F(x)$, then *there is prima facie reason to believe* that $F(x+1)$. Cf. Travis (1985).

¹³Cf. Fodor (1983)'s dedication.

¹⁴Note that this failure does not so readily flummox us when the dependency upon context is more obvious—as when a deranged person yells at a 'you' who clearly isn't there.

¹⁵The comparison needn't be pushed too far in order to make its point. In particular, I don't mean to imply that there exists something like linguistic experience, analogous to visual or auditory experience—though, of course, the comprehension of what is said by particular utterances requires sensory experience of some sort. Another possible point of disanalogy is that whereas the Müller-Lyer illusion arises from contingent features of our visual system, it is perhaps arguable that the kind of cognitive design constraints that power the sorites are not specific to our species, or even to

Some Virtues of this Approach

We now have a first reason for finding our condition attractive: it yields an attractive solution to the sorites. I'll use the space remaining to indicate briefly a few further virtues of the present approach.

A. It is not uncommon for responses to paradoxes (and not just responses to the sorites) to call forth the complaint that they are unmotivated and unilluminating, mere *ad hoc* tricks tailored to finesse a local problem. The present approach, however, is not open to this charge. I have already claimed that our condition on the expression of a proposition is *motivated*. If this is right, then our response to the sorites is to that extent motivated as well. I have *also* already shown how one can locate our condition in the broader theoretical framework that identifies a context of utterance with a set of pragmatic presuppositions. This effects a unification of otherwise disparate phenomena and enables a perspicuous description of their interaction. I'll now indicate two further ways in which this approach finds place in a more general perspective and hence helps *illuminate* the phenomena in question.

First, the approach readily generalizes to various other, *prima facie* related puzzles. This is because the presence of vagueness is not the only reason why a predicate may fail to partition a domain. There are, for example, predicates whose application may depend upon a contextually varying combination of conditions (with contextually varying weights). Hard cases, in which these conditions of application seem insufficient (is coffee food?), may likewise be seen as violating our condition.¹⁶ What's more, we may see such puzzles as the problem of the many and those surrounding vague identity as involving referential indeterminacy closely correlated to the failure of certain predicates to partition the domain. It seems undeniable, for instance, that a competent speaker can, on some occasion, refer to a desk; but it can seem impossible to say which of the many candidate collections of molecules is, or constitutes, the desk to which she refers. But perhaps this is a bad question: that the predicate 'is a part of the desk' fails to partition the domain, though irrelevant normally, can block the expression of a

those similarly constituted or organized, but rather apply to all (finite) rational agents.

¹⁶ The relevant phenomenon goes by many names. I borrow the coffee example from Sorenson (1991) who labels it 'conflict' vagueness.

proposition in cases where it matters, and this is arguably correlated with, if not explanatory of, 'the desk's' contextually varying ability to refer.¹⁷ Perhaps these brief remarks are insufficient to convince, but they do at least indicate how we may exploit the fact that our condition adverts to matters broader than vagueness to illuminate a variety of puzzling phenomena. The solution to the sorites would thus follow as but one consequence of a more general framework.

Second, recognizing our condition on the expression of a proposition helps illuminate what we might label the *dynamics* of vague language use. I don't have space to go much into these matters here, but the basic point is that the violation of (C) puts pressure on speakers to adjust their use of the relevant predicate so as to *restore* (C)'s satisfaction. Among the more obvious options is to *sharpen* the offending vague predicate. As your boss, for example, I might settle borderline cases by simply *stipulating* that chips shall count as red, for the purposes at hand, only if they exhibit such-and-such precisely characterized reflectance patterns. Now, the *amenability* of vague terms to such sharpening is an aspect of their standing linguistic meaning: vague terms are context-sensitive in that they may express different properties on different occasions of use, depending on the standards of precision in play. (For example, the contextually relevant standards of precision for being too young can shift, expand, and contract depending on whether we're discussing whether she may read from the Torah, drive a car, or stay up to watch the final election returns.) Sentences containing vague predicates are thus not only context-sensitive as to *whether* they express a proposition (as I urge above), they are of course also context-sensitive as to *what* proposition they express, when they express a proposition at all. And these two facets of their context-sensitivity interact, in that it is *because* of the latter that a speaker can *adjust* the context so as to avoid the failure to express a proposition allowed by the former. Adjusting a context to sharpen a predicate is clearly subject not only to semantic constraints but more generally to constraints of reasonableness. Just what these constraints are is a complex matter—but it is only the recognition of (C) as a condition on the expression of a proposition that allows us a purchase here at all.

B. Another common pitfall responses to the sorites must avoid is the problem of higher-order

vagueness. On my proposal, it is the salience of the failure to partition that forces us into an incoherent context: but is there, in a given sorites series, a first object the salience of which effects this context-shift? In effect, we are putting forward a meta-linguistic sorites: consider utterances of the sentences 'One grain does not constitute a heap,' 'Two grains do not constitute a heap,' 'Three grains do not constitute a heap,' . . . —which is the first utterance that fails to express a proposition?

My view, however, yields a natural answer to such questions. The predicate 'expresses a proposition' is itself vague, and so, as with all vague terms, sentences containing it will fail to express propositions when the predicate's failure to partition the domain cannot be ignored. Higher-order vagueness is thus reflected on this approach in the vagueness of the terms used to describe language use generally (and thus used to describe vagueness in particular).

Of course, it should only be expected that there be vagueness here too: why should the language used to describe language be immune to the vagueness that infects practically all empirical terms? Indeed it would be extremely surprising, if things were otherwise; the precision of this one region of language would cry out for explanation. But, in fact, as the meta-linguistic sorites itself demonstrates, there *are* borderline cases of expressing a proposition: a realistic view must therefore find proper place for them, rather than positing answers where none are to be had. Given that this region of language *does* contain vagueness, it is thus a virtue of my view that it covers these cases as part of a uniform treatment. (We also have here a further example of illumination: it is *instructive* to see how first-order vagueness among terms generally is among the sources of that vagueness to which terms used to describe language use in particular are prone.)

C. I have space to mention but one more virtue my approach possesses—viz., the fact that it avoids those offenses to common sense characteristic of much discussion of the sorites.

If we may measure a puzzle's difficulty by the *prima facie* absurdity of the sincerely and ably defended responses it elicits, then it is clear that the sorites ranks frustratingly high among its philosophical peers. Nihilism (the view that vague predicates are empty) provides the most extreme example, but there are also, for instance, the claims that contradictions are half-true, typically endorsed by degree-theoretic approaches; that vagueness is but an epistemic phenomenon, reflecting our (often in principle) ignorance of borderlines; and that vagueness does

¹⁷ For the problem of the many, see Unger (1980). On vague identity, see Evans (1978).

not exist at higher-orders—there is always a sharp line between the clear and gray ranges of a predicate’s application—to which at least simpler versions of supervaluationism are committed.¹⁸ Indeed, it is a common sentiment among writers on vagueness that *any* position will exact a price—so formidable is the puzzle. But the suggestion I have explored, as far as I have been able to determine, is an exception. If I am right that my view better avoids offending common sense than its competitors, it obviously possesses in that respect an enormous advantage.

I hasten to add that I do believe that my approach brings in tow some surprising *theoretical* commitments. One, which is obvious, is that one can express a proposition without the uttered predicates being associated with a determinate extension. So, propositions can’t be what many people take them to be. Another, which I did not have space to discuss here, is that, on my view, the phenomenon of vagueness imposes limits on our ability to survey our semantic competence: it restricts the propositions expressible within any given context and thus the propositions available for the construction of truth-conditions, and it likewise inhibits our ability to isolate, on the one hand, the contribution to content of linguistic meaning, from, on the other, the contribution of context. A desire to avoid these consequences would no doubt constitute a reason to resist my approach. But to question certain highly *theoretical* claims is not to maintain a *prima facie* absurd view. I would thus turn matters around: if it is only those assumptions that sustain the sorites paradox, then we have an argument for why those assumptions have to go. I won’t go so far as to claim this upshot as a further *virtue* of my view, but it certainly adds to its interest.¹⁹

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¹⁸ For details, see the works cited in footnote 1.

¹⁹ I discuss many of the issues raised above at greater length in Gross (1998, chap. IV).