

Three Objections to Smith on Vagueness*

Brian Weatherson, June 27 2004

Nicholas Smith ([forthcoming](#): all references to this paper unless stated otherwise) has recently defended (something like) the following definition of vagueness.

A predicate F is vague iff it satisfies the following definition:

Closeness If a and b are very similar in F -relevant respects, then Fa and Fb are very similar in respect of truth (7)

F -relevant respects are never precisely defined, but the intuitive idea is clear enough. *Smart*-relevant respects are mental abilities, *Philosopher*-relevant respects presumably include where one is employed, what kinds of things one writes, etc, and, most importantly for this paper, the only *Tall*-relevant respect is height.

One thing to worry about with the definition is that it appeals to conceptual resources that not all theorists accept. In particular, it in effect appeals to the notion of degrees of truth. As Smith notes, it is a consequence of the definition that if epistemicism is true of words like *smart*, *philosopher* and *tall* then these words are not vague. As he says, on this view epistemicism is a form of error theory. But I won't push that point here for I think even if we accept Smith's presuppositions there are still problems.

1. *Vagueness without Boundaries*

I said Smith defended something like the above definition because it turns out a caveat is needed. To see the caveat, and why it doesn't go far enough, consider the following family of predicates, each of them defined over the class of adult women. (So the relevant comparison class for *tall* in each case is adult women.)

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F_{150} : x is F_{150} iff x is tall or x is shorter than 150cm
 F_{151} : x is F_{151} iff x is tall or x is shorter than 151cm
 ...
 F_{170} : x is F_{170} iff x is tall or x is shorter than 170cm
 ...
 F_{200} : x is F_{200} iff x is tall or x is shorter than 200cm

Intuitively F_{150} is vague while F_{200} is not. While F_{200} determinately denotes its entire domain of application (i.e. the class of adult women) F_{150} denotes the union of two subsets of that domain. The first subset, those women shorter than 150cm, is (relatively) precisely defined, but the second, the tall women, is not. And since these subsets are exclusive, their union is vague.¹

The initial problem is that F_{150} does not satisfy Closeness. A woman who is 149.9cm tall satisfies the predicate (to degree 1) and a woman who is 150.1cm tall does not (also to degree 1). Smith is aware of this problem and offers the following adjustment to his theory. A predicate is *in part* vague iff there is a subset of its domain of application over which it non-vacuously satisfies Closeness (9). I'm not entirely sure what Smith means by 'non-vacuously', but I assume it means that there is a Sorites series from F s to non- F s in the subdomain, where adjacent members of the series are very similar in F -relevant respects. (If this is not the case it is too easy for terms to satisfy Closeness. For instance, unless we accept the definition in terms of Sorites susceptibility it isn't easy to say why *shorter than 155cm* doesn't 'non-vacuously' satisfy Closeness over the domain of women who are not between 150cm and 160cm in height.)

Now there is a Sorites series over one part of the domain of F_{150} , a Sorites that runs from the tall to the not-tall-but-taller-than-150cm. So F_{150} is vague, as required. But consider what happens when we replace 150cm in the example by a height such that a woman of that height is tall but not definitely tall. Anyone who thinks that vagueness doesn't threaten classical logic and that it is possible to be tall without being definitely tall will agree that such a height exists. (And it would

¹ Three caveats are needed here. First, I assume that a predicate does not get to be vague just because it has a vague domain of application. The identity predicate defined over a vaguely specified domain is precise, for instance, not vague. So vagueness in the class of adult women will be ignored here. Second, I also ignore vagueness in heights. The example is only really intended as illustration so this is harmless. Third, there is an argument (due to Ted Sider in conversation) that F_{200} is vague. Assume that whenever *Definitely* F is vague then F is vague. And assume that for some number of iterations of *definitely*, *Definitely definitely ... definitely* F_{200} is vague. Both assumptions are plausible and imply that F_{200} is vague. I will ignore this here, because if F_{200} is vague it would make it even harder to defend Smith's position.

be a poor definition of vagueness that *required* we abandon classical logic.²) For concreteness I'll say that 170cm is such a height, though in the nature of the case I can't be certain that I'm thereby saying something true. But it's easier to work with concrete numbers sometimes so I'll run that risk.

On that assumption, F_{170} has some very odd properties. First, it denotes its entire domain of application. If a woman 170cm tall is tall, then any woman is either tall or shorter than 170cm tall. So it won't be possible to run a Sorites from the F_{170} to the non- F_{170} since no one in the domain is not F_{170} . On the other hand, F_{170} is intuitively vague. It is just vague whether a woman who is 170.1cm tall is F_{170} . By hypothesis she is F_{170} , but that doesn't mean she is definitely F_{170} , and in fact she is not. So she's a borderline case of being F_{170} . Now some people, including Smith, have argued that merely having borderline cases is insufficient for vagueness. The thought is that the borderline cases have to meld into the clear cases in the right kind of way for a predicate to be vague, and this does not always happen with terms that have borderline cases. But here the borderline cases *do* meld into the clear cases in *exactly* the same way that the borderline cases of *tall* at the top end of its penumbra meld into the clear cases. So that's no reason for saying F_{170} is not vague.

Here's a more schematic way of putting the objection. A definition in terms of Closeness in effect defines predicate vagueness in terms of vague extension (or possibly intension) boundaries. This is made more explicit by Smith's response to the problem raised by F_{150} , but it was implicit all along. When we look at the family of predicates F_n listed above, they cease having any boundaries at all, and hence vague boundaries, as soon as n goes above the height that it takes for a woman to be tall. However they only cease being vague when n goes above the height that it takes for a woman to be definitely tall. Hence in some cases we have vagueness without vague boundaries, so a definition of vagueness in terms of Closeness must fail.

2. *Lumpy Boundaries*

Artificial predicates like F_{170} pose problems for Smith's definition. But it is worth noting that more natural predicates can pose problems as well, as long as they don't quite behave like the paradigms of vagueness. In particular, predicates whose boundaries are 'lumpy' in a sense to be

² Some may think I'm begging some questions here since Smith explicitly appeals to degrees of truth. But it is possible to have degrees of truth in a perfectly classical theory. See Weatherson (forthcoming) for an example of such a theory.

illustrated also violate Closeness without being other than vague. This is easiest to illustrate with an example.

The Lunch

–You’re late, she said.

We had arranged to meet for lunch shortly after our classes finished at midday. This was a fairly common arrangement, and normally each of us arrived between five and ten past, depending on how many students wanted to chat after class and (in my case) how much I dawdled on the way to lunch. There were no precise boundaries as to when it was late for lunch, but given the shortness of the lunch hour, it seemed clear that arriving at twenty past twelve was late.

–Fashionably late, I suggested.

–No, just late, she replied.

I was more interested in the semantics of ‘late’ than points of etiquette, but it didn’t seem that asking detailed questions about what it took to be late would help here. Fortunately I got to question one of the waiter’s about how she had looked while waiting for me to arrive.

–Well, at first she just said you’d be arriving shortly, said the waiter. But she always had an eye on the clock. After ten past she said you *should* be arriving shortly. Then when it ticked to quarter past she became noticeably more irritated. When I went over to check whether she was indeed having someone join her for lunch, she said that you were late.

I want to focus on the predicate used in my friend’s first utterance here: *late*. Given that we didn’t have a precise time for lunch arranged, it seems this is a vague predicate. And indeed it seems that my friend was treating it as a predicate with borderline cases. After quarter past I was definitely late, but after *ten* past I was not definitely not late. What’s important here is that these are sharp boundaries. If she is treating *late* as vague, it is vague without being higher-order vague.

What matters most here is not this particular reaction, though I think that is interesting, but the general kind of reaction. I think many people will treat vague time predicates, like *late* here, as being rather sensitive to important markings on the clock. Maybe they won’t think that quarter past is a sharp boundary between the penumbra and the clear cases of lateness. But they easily could, if we analyse their thoughts in terms of degrees of truth, think that the truth value of *He’s*

late jumps from, say, 0.6 to 0.8 exactly as the clock strikes quarter past. I take it this is a common reaction when waiting for someone who is late-ish for a vague appointment – the difference between 14¾ minutes past and 15¼ minutes past makes a bigger difference to your attitudes than the difference between 12½ minutes past and 13 minutes past.

All of these attitudes are incompatible with thinking the relevant predicates satisfy Closeness. If *He's late* is true to degree 0.6 just before quarter past, and degree 0.8 just after, that's clearly a violation of Closeness. But this seems perfectly compatible with the predicate being vague. The philosophical point is that a predicate can be vague even if there are some 'jumps' in its penumbra, i.e. points where the degree of satisfaction suddenly rises. When the *F*-relevant features are readily measured by something that has conventionally salient divisions, e.g. time, this will be the standard case. I say such predicates define 'lumpy' boundaries, and they pose a serious problem for definitions of vagueness in terms of Closeness.

3. Generality

So far we have seen two examples of predicates that are vague without satisfying Closeness. These seem to pose problems for the details of Smith's definition. I think they are not problems that can easily be patched, but maybe that is incorrect. But the final problem is much more general, and much harder I think to patch. Smith sets out, he tells us, to provide a definition of vagueness. But all he tells us is what it is for a *predicate* to be vague. This would be good enough if it were constitutive of vagueness that only predicates were vague. But this is clearly *not* true. Even if we accept (as I do) that vagueness is fundamentally a semantic phenomenon, it isn't the case that only predicates are vague. At least the following kinds of terms are all *prima facie* candidates for being vague.

Predicate Modifiers: e.g. *very*, *extremely* etc.

Determiners: e.g. *most*, *many* etc.

Noun Phrases: e.g. *Kilimanjaro*, *the Outback*, etc.

Connectives: e.g. *if*

Most of these should be clear, though the last may be controversial. The inspiration is the suggestion by Lewis (1973) that the counterfactual conditional is vague, and hence it is allowable that his analysis of it in terms of a vague similarity relation is acceptable. I don't want to take sides on the question of whether Lewis is right, but it is surely not true that he is wrong by

definition because only predicates are vague and *if* is not a predicate. Nor do I want to argue that none of the terms on this list are best analysed as predicates. It is a hard question in many cases whether a particular part of language is a predicate or not. (See, for example, Graff 2002 for a strong argument that descriptions are predicates.) But it would be *extremely* surprising if *all* of the kinds of vagueness presented on this list could be analysed as predicate vagueness.

Moreover, even if all vagueness is semantic, it does not follow that all vagueness is linguistic. This is a point made by Russell (1923). Some non-linguistic representations, e.g. maps and pictures, can be vague in the sense that it is indeterminate just which states of the world are such that if the world is like that, the representation is accurate. But non-linguistic representations don't contain predicates, or any other parts of language, so their vagueness cannot be analysed in terms of a theory of what makes a predicate vague.

This isn't just a nitpicking point. It is really quite hard to see how to generalise Smith's definition in a way that lets us meaningfully ask whether *very* or *if* are vague. It perhaps isn't so hard to generalise for the determiners or perhaps the noun phrases, but I don't know what an analog of Closeness for predicate modifiers would be. It won't do, for instance, to say that for some *F* the predicate *very F* must satisfy Closeness, because that could be true even if *very* were precise if *F* were vague. Nor will it do to say that *very F* must satisfy Closeness for every *F*, because it might be that *very F* is only well-formed in cases where *F* is vague, so this property might still be satisfied when *very* is precise. A definition of vagueness must be more general than a definition of predicate vagueness, or at least generalisable beyond this case, and it isn't clear Smith's definition can be so generalized.

References

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