Truth-Functional and Penumbral Intuitions*

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ABSTRACT: Two of the main intuitions that underlie the phenomenon of vagueness are the truth-functional and the penumbral intuitions. After presenting and contrasting them, I will put forward Tappenden's gappy approach to vagueness (which takes into account the truth-functional intuition). I will contrast Tappenden's view with another of the theories of vagueness that see it as a semantic phenomenon: Supervaluationism (which takes into account the penumbral intuition). Then I will analyze some objections to Tappenden's approach and some objections to Supervaluationism. Finally, I will present my own worries about Tappenden's account.

Keywords: vagueness, Tappenden, supervaluationism, essentially vague predicates, truth-functionality, penumbral sentences.

I

Imagine that you do not know what to say in front of the sentences 'John is tall' and 'Joe is tall' due to the fact that John and Joe are two borderline cases of being tall. You can say, then, that these sentences are gappy[1]; neither true nor false. Imagine now that you are confronted with the sentence 'if John is tall, then Joe is'. As far as you know, and having in mind the truth value of its constituents, you would be unable to assign any truth value to this second sentence. Hence, it would be also neither true nor false. Now imagine that you know that Joe is taller than John. Then, it seems that you would say that the previous sentence, 'if John is tall, then Joe is', should be true. So, which is its truth value?

There are two intuitions underlying cases like these. The first one is the truth-functional intuition: we tend to see sentential connectives as truth functions; the truth value of a sentence with a sentential connective should depend on the truth value of its parts and this value should be uniform in the sense that, if sentences S_1 and S_2 have the same form and their sentential constituents have the same truth values, then S_1 and S_2 should share the same truth value.

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[1] Maybe it would be more natural to call them 'indeterminate' but since Tappenden uses this term, as we will see, in a non-standard way I prefer to use the expression 'gappy' to refer to sentences that are neither true nor false. Moreover, since the term 'indefinite' is frequently used interchangeably with 'indeterminate', the use of the former would be also inappropriate.

The second intuition is the penumbral intuition: there are sentences that seem almost analytic to us and we are strongly inclined to assign truth to them, although, according to the truth-functional intuition, they should not have any truth value. One of the main authors that has defended explicitly (and elegantly) one approach to vagueness that takes into account the truth-functional intuition in front of the penumbral one is Jamie Tappenden. Tappenden (1993), following Fine (1975), calls 'penumbral sentences' sentences like 'if Joe is taller than John, then, if John is tall, Joe is'. In order to see how Tappenden defines the concept of penumbral sentences, we need to see first what, according to him, is a pre-analytic sentence.

One of the features of vague predicates is that their extensions can vary according to circumstances: we can increase in precision a vague predicate (that is, reduce the amount of gappiness) if it is necessary in a determinate context. These increases in precision are, on the one hand, arbitrary for, usually, when a certain context demands sharper boundaries, we can choose them among a certain set of possibilities. But, on the other hand, not all increases in precision are equally valid. Tappenden proposes one example that will serve as an illustration of that. Suppose we introduce into English the predicate '*x* is tung' whose use is governed only by these rules:

(i) '*x* is tung' applies to anything of mass greater than 200 Kg.

(ii) '*x* is tung' does not apply to anything of mass less than 100 Kg.

If we compare this predicate with '*x* is heavy' we can see, first, that both behave in certain respects in the same way but, second, that they differ in a crucial one; the idea is that, provided that all our understanding of '*x* is tung' is given by (i) and (ii), we can increase its precision in such a way that, given two objects *a* and *b*, *b* heavier than *a* and both unsettled with respect to the predicate, *b* counts as non tung while *a* counts as tung. We cannot increase the precision of '*x* is heavy' in this way; if *b* is heavier than *a*, then our understanding of the predicate imply that, if *a* is heavy, so is *b*. We can say, then, that a precisification (a way of precisifying a predicate) is admissible if the sharper boundaries drawn are acceptable according to the meaning of the predicate.

Now, taking into account that constraints on increases in precisions can be seen as assignments of truth values to sentences, the latter example suggests that one of the collections of constraints in precision is one whose members can be formulated thus:

> Never make words w_1, ..., w_n more precise in such a way that sentence *S* become false.

Sentences like *S* in the example are called 'pre-analytic' by Tappenden. Hence, if a sentence *S* is pre-analytic then anyone who understands *S* knows not to draw more precise boundaries to any expressions in *S* in such a way that *S* would be false in any circumstances. An example of a pre-analytic sentence is 'if Joe is taller than John, then, if John is tall, Joe is'. Notice that pre-analytic sentences are never false but, depending on the semantic frame, they do not need to be always true. Moreover, Tappenden considers the notion of pre-analytic sentence as basic and the notion of admissible precisification as derived.

Now, what Tappenden calls 'penumbral sentences' are pre-analytic sentences that, relative to some assignment respecting the truth-functional intuitions are considered neither true nor false, but we are strongly inclined to regard as true. It is this tendency to consider penumbral sentences as true what underlies the penumbral intuition.

II

We will present, now, Tappenden's gap theory. We will do that in contrast with Supervaluationism; as we will see, the former tries to capture the truth-functional intuition while the latter elaborates the penumbral one.

Tappenden uses a partial model, called the 'pre-assignment', that assigns to any predicate *P* an extension, that is, a set of objects to which the predicate clearly applies, and an anti-extension, that is a set of objects to which the predicate clearly fails to apply.

Tappenden defines satisfaction and falsification of formulas in the pre-assignment using the Strong Kleene scheme (that implies that conjunctions, disjunctions and conditionals with gappy constituents are also gappy). A sentence, then, is true if it is true in the pre-assignment and false if it is false in the pre-assignment. It can be seen now that in an account of vagueness such as this one, the truth-functional intuition plays a central role.

Supervaluationism bases truth valuation, not upon the pre-assignment, but upon the set of admissible ways of precisifying vague predicates in the pre-assignment. Such precisifications must be admissible and complete. A precisification is complete when it behaves classically; that is, when there are no unsettled cases of the predicates. On the other hand, a precisification is admissible when it does not make any member of the set of penumbral sentences false; that is, it does not conflict with our intuitions about the meaning of the predicates. The supervaluationist claims, then, that a sentence is true if, and only if, it is true on all complete admissible precisifications and it is false if, and only if, it is false in all complete admissible precisifications.

We can see now that penumbral sentences are true under this framework, for they are true on all complete admissible precisifications. Thus, in a supervaluationist account of vagueness the penumbral intuition is fully respected.

Now, returning to Tappenden and in order to finish the presentation of his approach, it is important to notice that, as a matter of fact, it can be seen as a position between the truth-functional and the penumbral intuitions. Let's see why.

First, it has to be said that Tappenden uses the supervaluationist machinery we have just seen in order to solve the fact that his framework cannot distinguish between predicates like '*x* is tung' and '*x* is heavy'; that is, it cannot express how constraints on increases in precision are embodied in the meaning of predicates. After all, if *a* and *b* are borderline cases of the predicates '*x* is tung' and '*x* is heavy', and both predicates have the same extension and anti-extension, the sentence 'if *a* is tung so is *b*' has the same status as the sentence 'if *a* is heavy so is *b*' (that is, both are neither true nor false). But then, how can we express the intuitive difference in meaning between the predicates '*x* is tung' and '*x* is heavy'? The idea seems to be that, when we say that two predicates behave in the same way, we do not only mean that they have the same extension and anti-extension, but also that it is necessary that, in case they need to be sharpened, must be sharpened in the same ways. But that means that, if we want to show that two predicates with the same extension and anti-extension behave in different ways, we need to show that they can be sharpened in different ways.

Here Tappenden wants to save one of the motivations for Supervaluationism: the regimentation of the notion of constraint on increases of precision. He uses then the supervaluationist machinery in order to define indeterminate sentences, which are those that are true and false depending on the precisification. That means that penumbral sentences are not indeterminate, but have a very special status; they are never appropriately called false, they are never false in any precisification[2]. Nevertheless, both penumbral and indeterminate sentences are neither true nor false (I called them 'gappy').

That is why it can be said that Tappenden follows a position that can be located between the truth-functional and the penumbral intuitions; he concedes to the latter the special status of the penumbral sentences:

> [Penumbral sentences] are never appropriately called false. But contra the penumbral intuition, they are not always correctly called true. (Tappenden 1993, p. 569)

Thus, the general idea that Tappenden seems to have in mind is the following one. Sentences can have two truth values; they can be true (that is, true in the pre-assignment) or false (false in the pre-assignment). On the other hand, they can lack truth value, so that they are neither correctly called true nor correctly called false. Now, among sentences that lack truth value we can distinguish indeterminate sentences (if there is an admissible complete precisification where they are true and an admissible complete precisification where they are false) and penumbral sentences (they are a subset of the pre-analytic sentences and are never false in any complete admissible precisification). Although Tappenden's terminology is rather confusing, I think this is the best way to make sense of his account. It is important to notice that the use of the supervaluationist machinery is necessary if we want to incorporate somehow the penumbral intuition.

III

Tappenden has to answer an immediate criticism: his approach does not fully respect the penumbral intuition. In his account, as we have seen, a sentence like 'the blob is not both red and orange', where the blob in question is a borderline case of being red and being orange, has to lack truth value, even if we are strongly inclined to regard it as true. The same happens with our first example; a sentence like 'if Joe is taller than John, then, if John is tall, Joe is' lacks truth value when Joe and John are borderline cases of being tall. Thus, we have to answer the question about the reason why we have such a strong intuition.

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[2] Actually, they are always true in any complete precisification and, since complete precisifications are classical, they are never false. As a matter of fact, supposing now that there is higher order vagueness and generalizing the quantifiers, we could maybe define other kinds of sentences, like for example sentences that are true in most of the precisifications (e.g. sentences like '*a* is a borderline case of being bald or *a* is not a borderline case of being bald').

Tappenden offers the following answer. The use of a language in a given population is a very complex phenomenon. Hence, it is easy that it degenerates in a confusion of tongues. That explains the necessity of maintaining the stability of the conventions of a language by correcting the linguistic mistakes of other people. And those corrections can be made, precisely, using pre-analytic sentences. The idea is that, if you hear somebody that, knowing Joe is taller than John, utters 'John is tall and Joe is not', then you, in order to show her that she has not correctly grasp the use of the word 'tall' and correct her mistake, will utter 'look, if Joe is taller that John, then if John is tall Joe is'. According to Tappenden, the general pattern of this activity is the following one:

> [W]e utter a declarative sentence S in order to induce the withdrawal of a mistaken utterance of $\neg S$, [...] by indicating that $\neg S$ is never correctly assertable. (Tappenden 1993, p. 570).

Now, since (i) a condition of correctness for a literal assertion of a sentence S is that S must be true and (ii) S is false when $\neg S$ is true and, consequently, $\neg S$ is not true when S is not false, we can conclude that it is sufficient to show that S is not false in order to show the incorrectness of the assertion of $\neg S$. When a sentence S is used in this way to correct a mistaken utterance of $\neg S$, we say that S has been articulated, not asserted. The main difference is that, while assertion implies truth, articulation only implies non falsity. Now the idea is that penumbral sentences are typically articulated and, therefore, do not need to be true, but only non false. If we sometimes mistakenly judge that they can assert something and, hence, that they need to be true, is because we are confused about assertion and articulation due to the fact that the behavior by which its goals are attained (that is, to say something about the world, and to correct a linguistic mistake) is the same; but it is the same by a happy coincidence. So using a special speech act, namely articulation, Tappenden can explain the existence of the penumbral intuition.[3]

Let's see now two possible objections to Tappenden's view, one of Rosanna Keefe and another one of Delia Graff Fara, which I think are not successful.

Rosanna Keefe wonders why we could not pragmatically justify a false sentence *in the same way* as Tappenden does. And she continues:

> If I am interested only in preventing assertion or acceptance of false q, and the best way to communicate this is via p because it has the implicature that $\neg q$, then p could be a suitable thing to assert whatever its truth-value. (Keefe 2000, p. 184, n. 15)

Remember, though, that the kind of process that Tappenden seems to have in mind is that, provided that if S is not false, $\neg S$ is not true, it is sufficient that S be non false to accept that $\neg S$ is not correctly assertable (for a literal assertion of S needs S to be true). That is why the sentence used to correct a linguistic mistake in articulation must be not false in order to imply that its negation is not true (and, then, make its as-

[3] It is not clear, though, if there is really room for such confusion in our actual linguistic practice. I will not pursue this issue here, though.

sertion incorrect). There is no implicature in Tappenden's process; Keefe is describing something that is not articulation.[4]

Moreover, when Grice (1975) characterizes the notion of conversational implicature, one of its main features, apart from (i) the presupposition of the observance by the speaker of the conversational maxims and (ii) the fact that only the implicature makes sense of a supposed blatant failure of a maxim, is that the speaker thinks and the hearer is supposed to think that the speaker thinks, that the hearer can be aware of the requirement of (ii). Now, in the case that Keefe seems to think of, since the maxim to be failed to fulfil is the quality maxim of trying to make the contribution to the conversation one that is true, the speaker utters a false sentence and, then, the hearer must recognize it to be false and must be capable of being aware of a kind of requirement like the one described in (ii) and, only then, an implicature may appear. But in Tappenden's account, we do not only fail to recognize that the articulated pre-analytic sentences should not be called true (and even less we work out condition (ii)); we mistakenly judge them to be true, without realizing that they only need to be not correctly called false in order to succeed[5]. We can see, hence, that it is false that the articulation of a false sentence could be equally pragmatically justified in the same way as Tappenden's.

Delia Graff Fara proposes, in Fara (2000, p. 50), some questions that must be answered in front of the *Sorites* paradox. Let's see, first, one example of this paradox:

> First premise: a man with no hairs on his head is bald.
>
> Second premise: if a man with n hairs on his head is bald then a man with n+1 heads on his head is bald.
>
> Conclusion: therefore, a man with a million hairs on his head is bald.

The conclusion is clearly false while the premises seem reasonable and, hence, we have a paradox. In Tappenden's account, the inference is not correct because the second conditional premise lacks truth value (Tappenden 1993, p. 574) (notice that, within the supervaluationist account, this premise is false, for every complete admissible precisification has a sharp limit and, hence, the inference is also incorrect).

According to Fara (2000, p. 79, n. 24) Tappenden cannot answer one of the questions that this paradox originates, the 'epistemic question': if the conditional premise of the paradox $\forall xy((Fx \wedge Rxy) \rightarrow Fy)$ cannot be true, then we should be capable of saying which instances are not true; since it seems that we cannot, an explanation is required. Tappenden, though, can give an answer to this question for, according to him, the instances that are not true are those which lack truth value; that is, the ones where either 'Fx' or 'Fy' lack truth value and that, according to strong Kleene scheme,

[4] Maybe I could articulate something that implies S in order to withdraw something equivalent to $\neg S$, but it is not still the same thing that Keefe is talking about. On the other hand, Tappenden could accept that because he is not claiming that articulation is the only possible way to maintain the stability of languages.

[5] Even more; one of the main features of conversational implicatures is that they can be cancelled but, can anything be cancelled in Tappenden's story?

the result is neither true nor false; that is, the ones where *x* or *y* are borderline cases of *F* (simplifying a bit and supposing that *R* is not vague)[6]. But we can know that (at least accepting, for simplicity, that there is not higher-order vagueness). So we can know which instances are not true: the ones that, due to the lack of truth value of some of its constituents, lack truth value. Thus, if we can know which things are borderline cases of a given predicate (our own response in front of them tells us that) and we can know the semantic rules that govern logical connectives (we know that), we can know which instances of the conditional premise are not true[7]. Hence, we can see that Tappenden can answer Fara's epistemic question.

IV

Tappenden, on the other hand, criticizes the supervaluationist approach and, indirectly, the necessity of embracing the penumbral intuition. One of the problems for the supervaluationist approach is that, in claiming that the conditional premise of the *Sorites* paradox is false, it is committed to the truth of the claim that there is an *n* such that *n* has a certain property and its successor does not. But there is no such *n*. And a similar thing happens with disjunctions; a disjunction can be true while we are incapable of saying which disjunct is true.

This is one of the main criticisms that Supervaluationism has to face. As Keefe (2000) states:

> One striking departure from classical semantics is the way that there are, in Fine's phrase, 'truth-value shifts', where a disjunction is true though there is no answer to which disjunct is true because the true disjunct shifts from one to another on different specifications[8], or similarly where the true instance of an existentially quantified statement shifts. (Keefe 2000, p.181)

It seems, though, that Supervaluationism can face, at least up to a point, this problem. First, since these truth-value shifts do not appear when we remain within clear cases, and since we already knew that we had to accept something counter-intuitive (the *Sorites* paradox shows that), we can accept this disadvantage because of its role in the whole supervaluationist theory.[9]

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[6] To be more precise, according to strong Kleene, the conditional premise will lack truth value (i) when *x* is a clear case and *y* a borderline case of *F*, (ii) when *x* is a borderline case and *y* a clear counter-case or (iii) when both are borderline cases (always supposing that *Rxy* is not vague and true).

[7] I am ignoring higher-order vagueness throughout the paper. I think that, in general, it is not essential to the points that I am discussing. Nevertheless, maybe it is important here; if there were higher-order vagueness we could not be capable of deciding whether some objects are borderline cases. But even in this situation we would be able to point out most of the non true instances of the conditional premise.

[8] Here we say 'precisifications'.

[9] It is interesting to consider an argument of Dummett (1975) that is aimed to show, independently of the supervaluationist machinery, that the law of excluded middle is true even if its components are neither true nor false. Suppose we have a vague predicate *P* and an object *a* which is a borderline case of *P*. According to Dummett, it seems plausible to accept that we can find a predicate *Q* such that it is incompatible with *P* and such that the sentence '*a* is either *P* or *Q*' is true. Now, since *P* and *Q* are incompatible, *Q* implies not *P* and, hence, whenever '*a* is either *P* or *Q*' is true, '*a* is either *P* or not *P*' is

Second, Supervaluationism can distinguish between the truth of the negation of the conditional premise of the *Sorites* paradox (that is, that there is an *n* that has a certain property and its successor does not) and its having a true instance. That can explain, claims Keefe, our mistaken intuitions.

The idea is that when we accept the negation of the conditional premise we are not actually accepting the existence of a sharp boundary. The problem is that we get confused between the claim that (i) it is true that, for some *n*, *n* has a property and n+1 does not, and the claim that (ii) for some *n*, it is true that *n* has a property and it is false that n+1 does. These two claims do not need to have the same truth value; the second can be false while the first is true. The confusion is a confusion of the scope of the truth predicate; when it appears outside the existential quantifier, the resulting sentence can be true without an instance making it true. Now we can see that in stating the above objection we are confusing (i) and (ii).

To sum up, the supervaluationist strategy seems to be something like that: we already knew that weird things were going to happen and, moreover (having in mind arguments like Dummett's or Keefe's) maybe they are not so weird after all.

The problems for the supervaluationist, though, do not end here. We have seen that the precisifications over which she quantifies in order to evaluate sentences must be complete; that means that it is necessary to draw sharp boundaries between the extension and the anti-extension of vague predicates. Tappenden claims that there are a certain kind of predicates, the essentially vague ones, whose understanding implies the impossibility of drawing such sharp boundaries. He defines essentially vague predicates in the following way:

> Call a predicate *P* essentially vague if there is a sequence a_1, a_2, ..., a_n, and a relation *Q*, such that a_1 is a clear case of *P*, a_n is a clear counter-case, for each $i < n+1$, Qa_ia_{i+1} is true, and each instance of 'If Qa_ia_{i+1} then (Pa_i if and only if Pa_{i+1})' is a local consistency rule.

Where a local consistency rule is a pre-analytic sentence, that is, according to Tappenden,

> [A] sentence which anyone who understands [it] knows not to draw more precise boundaries [to *P* (supposing that *Q* is not vague)] in such a way that [the sentence] would be false in any circumstances. (Tappenden 1993, p. 557)

That means that there are predicates (essentially vague predicates like '*x* is roughly heavy', '*x* is roughly within walking distance of Barcelona' or '*x* is roughly a handful of sand') which do not accept complete precisifications in virtue of its meaning.[10]

also true. Using this idea Dummett claims that it is reasonable to say that, for any sentence *A* involving vague expressions, and independently of its truth value, the sentence of the form '*A* or not *A*' may be seen as true. That is why he says: 'when vague statements are involved, then, we may legitimately assert a disjunctive statement without allowing that there is any determinate answer to the question which of the disjuncts is true' (Dummett 1975, p. 107) Moreover, this argument could prompt the suspicion that sentences involving vague predicates behave classically and, hence, it could be seen as a reason in favor of any approach (like Supervaluationism) that tries to respect classical logic.

[10] Other authors like, for example, Matti Eklund in Eklund (2001), propose similar predicates.

This criticism is very close to one presented by Dummett. He claims that, although vagueness somehow invests language with intrinsic incoherence, it is also an essential feature of language. Then, the problem with Supervaluationism is that it regards vagueness as if it were eliminable and, thus, it does not take vagueness seriously enough; it could seem that, according to Supervaluationism, the fact that our language is vague is just due to our laziness to make it precise.

The supervaluationist can respond that, after all, her theory is a semantic account that quantifies over precisifications and that it is this quantification what tries to capture the meaning of vague predicates, not the individual precisifications. That means that it does not matter if it is impossible to use in practice one of the precisifications (for example, due to the fact that our language is essentially vague).

Nevertheless, the criticism involving essentially vague predicates seems more worrying for Supervaluationism. After all, we need to precisify vague predicates in order to evaluate vague sentences; we may do that without committing ourselves to the entities over which we quantify, but we cannot do that if we are not able to give the rules that constraint such precisifications. And that is what happens with predicates whose meaning entails a consistency rule; the very meaning of the predicate prevents us from drawing sharp boundaries. That means that the set of all complete admissible precisifications is empty and that, consequently, we cannot evaluate any vague sentence (according to the supervaluationist definitions, all of them would be true and false).

In more detail, the worry is the following one. When we are in front of an essentially vague predicate, we have sentences (local consistency rules) of the form $\forall xy(Rxy \rightarrow (Px \leftrightarrow Py))$ that, in virtue of the meaning of the predicate P cannot be false; that is, they are pre-analytic according to Tappenden. Suppose P is 'x is tall' (so that the predicate is not essentially vague) and that Rxy if and only if y is one millimeter taller than x. Then, one of the directions of the biconditional, namely (i) $\forall xy(Rxy \rightarrow (Px \rightarrow Py))$, is clearly pre-analytic. But the other direction, (ii) $\forall xy(Rxy \rightarrow (Py \rightarrow Px))$ is not (that is why it can be false within supervaluationist frame). The latter is pre-analytic, though, if P is 'x is roughly tall'; that is, (ii) is not false in virtue of the very meaning of P.

Notice that (ii) is the conditional premise of the *Sorites* paradox[11]. And we are strongly inclined to consider it as true (if we were not, we would not have a paradox).

[11] Here we can notice another feature of Tappenden's account. We saw what Fara claimed was the psychological question in front of the *Sorites* Paradox: why are we so inclined to accept the conditional premise $\forall xy((Fx \wedge Rxy) \rightarrow Fy)$ if it is not true? And we saw that articulation allowed Tappenden to solve this question; we are confused about articulation (that needs only non falsity) and assertion (that needs truth). Now it can be seen that this proposal works only in the case of essentially vague predicates, where the conditional premise is a pre-analytic sentence. That means that Tappenden has to offer another explanation for the case of non essentially vague predicates, where the conditional premise is indeterminate and, hence, is false under some precisifications; as a matter of fact, he claims that, since in most contexts we do not want to draw boundaries sharply enough for the sentence to be false, it seems true to us. That is to say, since the sentence is usually not false, it seems true. This seems a poor response to me (and even more provided that most of the vague predicates used in our language are non essentially vague). Anyway, Tappenden cannot offer a unified account of the Sorites paradox.

Why? Well, supposing *P* is a non essentially vague predicate like '*x* is tall' we would say that the very meaning of the predicate *P* seems to suggest that it is true. But, is not precisely that what happens with (ii) when *P* is an essentially vague predicate like '*x* is roughly tall'? The predicates '*x* is tall' and '*x* is roughly tall' are certainly different but they seem to provide (ii) with the same semantic status; both seem true in virtue of the expressions that conform them.

What I mean is that, when you look more closely, intuitions are not as strong and clear as Tappenden seems to suppose; it is not clear at all in what could consist the difference between essentially and non essentially vague predicates and in what sense their supposed differences in meaning could prevent sharp boundaries from being drawn in the former case and not in the latter. That means that, in the end, Tappenden's criticism collapses into Dummett's one; and we have seen that Supervaluationism can respond reasonably to it.

Now the supervaluationist must say that (ii) is false even when the predicate is essentially vague; I do not see why that is so hard to accept or, at least, why it is harder to accept than the cases where the predicate is non essentially vague; denying (ii) is equally weird (if it's weird at all) independently of the degree of vagueness of the predicate.

I do not see, besides, that the situation changes if we consider precisifications as primitive; after all, if we can stipulate, within a great amount of arbitrariness, sharp boundaries for the predicate '*x* is tall' it is not clear why we cannot do the same with the predicate '*x* is roughly tall' (recall that the supervaluationist does not need to commit herself to the use in practice of any of the precisifications). Thus, finally, supervaluationists can defend that there are not essentially vague predicates and that Tappenden's local consistency rules are not only non pre-analytic, but false.[12]

Hence, if we do not accept the existence of essentially vague predicates, Tappenden's view turns out to be a less reasonable theory of vagueness than Supervaluationism; the latter can explain vagueness within classical logic while the former cannot. On the other hand, it turns out to be that, if we accept the existence of essentially vague predicates, not only the supervaluationist has to face a serious problem, but also has Tappenden.

Recall that the supervaluationist machinery was essential to Tappenden's approach. So if it is true that the set of complete admissible precisifications is empty, Tappenden also has a problem for how can he distinguish between the predicates '*x* is roughly tung' and '*x* is roughly heavy'? They behave in very similar ways but, without the supervaluationist machinery, it seems difficult to express the ways in which they differ.

[12] Take, for example, the predicate '*x* is roughly tall', why cannot we precisify this predicate saying that it increases the extension of the predicate '*x* is tall' in, say, three centimeters? The idea is, then, that there will be a set of admissible precisifications of the first predicate that will extent the extension of the second predicate. That means, of course, that somebody of two meters will be roughly tall; that could sound weird, but it does not seem very difficult to give a plausible pragmatic story capable of explaining such a weirdness: as Matti Eklund proposes, when we say that Goliath is roughly tall, we are flouting the gricean maxim 'Be specific', but we are not saying anything untrue (Eklund 2001, p. 366).

Now Tappenden cannot use the set of complete admissible precisifications in order to differentiate indeterminate sentences from penumbral sentences and then, how can he distinguish them? They are sentences with exactly the same status: neither true nor false. Thus Tappenden, in accepting the existence of essentially vague predicates, is refuting his own point of view, or at least he is weakening it.

Hence, even if we suppose that there are predicates that cannot be sharpened, Tappenden's view is, at least, as problematic as Supervaluationism.

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