Change theory of linguistic structure to theory of semantic structure

Williamson’s Epistemicism and Properties Accounts of Predicates

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Abstract

If the semantic value of predicates are, as Williamson assumes, properties, then epistemicism is immediate. Epistemicism fails, so also this properties view of predicates. I use examination of Williamsons position as a foil, showing that his two positive arguments for bivalence fail, and that his efforts to rescue epistemicism from obvious problems fail to the point of incoherence. In Part II I argue that, despite the properties view’s problems, it has an important role to play in combinatorial semantics. We may separate the problem of how smallest parts of language get attached to the world from the problem of how those parts combine to form complex semantic values. For the latter problem we idealize and treat the smallest semantic values as properties (and referents). So doing functions to put to one side how the smallest parts get worldly attachment, a problem that would just get in the way of understanding the combinatorics. Attachment to the world has to be studied separately, and I review some of the options. As a bonus we see why, mostly, higher order vagueness is an artifact of taking properties as semantic values literally instead of as a simplifying idealization.

Introduction

 So many have expressed incredulity towards Williamson’s (1994a) epistemic account of vagueness, why another examination? The interest is a simple, attractive, and widely held presumption about the meaning of predicates. This presumption is most often expressed, as Williamson does, by assuming that predicates express properties (always understood one or many place).

 We can’t take the meaning of a predicate to be its extension - then the predicate could not have different extensions in different (actual or counterfactual) contexts. A predicate must have some intermediary that will function to pick out its variable extension. The intermediary could be ‘properties’ ‘characteristics’ ‘truth conditions’, ‘rules of application’…; there are many possible candidates. My target will be accounts that take such intermediaries to determine exact extensions for predicates, that is extensions that are sets or like sets in that for every entity[[1]](#footnote-1) either the entity is in the extension or is in the counter-extension. Such an intermediary could be a property in the minimal sense of an intension, that is a function from possible worlds (or sufficiently detailed circumstances) to sets of entities in that world, understood as the property’s extension in that world. Or one might take properties to be some sort of ontologically more robust category, as long as each member of that category determines a property in the minimal intensional sense.[[2]](#footnote-2) It will be the exact extensions that engender the problems, so by ‘property’ readers should understand the minimal intensional notion of a function from worlds to sets, or any stronger notion that entails the minimal notion of properties. By “a properties account of predicates” I will understand any account that takes the meaning of predicates to be properties understood as just explained. I take such an understanding of the meaning of a predicate to be very widely held, though often only tacitly.

 By design, no predicate characterized by a properties account can be vague in any but the epistemic way. Since most - some will say outside of mathematics all – predicates are vague, any properties account of predicates must address this tension with vagueness.

 In Part I I deploy critique of Williamson on vagueness as an extended argument against any properties account of predicates.[[3]](#footnote-3) Williamson offers two positive arguments for bivalence, which would immediately imply epistemicism. I show that these arguments fail. Epistemicism suffers insuperable difficulties, which Williamson’s detailed exposition attempts to address. I extensively supplement arguments already in the literature which, together, show that Williamson’s efforts fail to the point of incoherence. Any properties view immediately entails epistemicism. Having shown that epistemicism is indefensible, we conclude that we are in need of one, or more, alternatives.

 Part II discusses prospects for alternatives. I first provide a way of thinking of the role of properties accounts that shows, despite the difficulties, how they can usefully function in semantic theory. Thinking of a property account’s role in the suggested way also provides a reconciliation between combinatorial semantics and so-called ‘use’ accounts of meaning. I briefly explain how predicates can function in language even though they have no extensions, followed by a short survey of some of the ways, mostly familiar, in which the proposed approach to predicates might be filled out. We get as a bonus why higher order vagueness is, mostly, an artifact of properties views of predicates.

Part I

 1. **Thumbnail sketch of Williamson’s account.** According to Williamson vague statements are all bivalent, that is either true or false, very much including unclear borderline cases, both actual and counterfactual. Removing grains of sand from a heap, there is a last one which, when removed, leaves no heap behind. For each individual, there is a fact of the matter whether or not they are bald. Vagueness is not denied. Rather it is claimed to be an epistemic, not a semantic phenomenon. In unclear cases there is always a truth of the matter, but it is out of human reach to know just what that truth is. Epistemicism is the claim that any statement that says something to be the case is bivalent – is either truth or false – conjoined with the claim that the phenomenon of vagueness is epistemic, that is that the truth value of borderline cases is out of human reach

 Williamson presents two positive arguments for bivalence. Insisting on bivalence, Williamson claims, is the only approach to vagueness that does not require that we give up some part of classical logic. He then submits a proof that assumption of any counterexample to bivalence leads to a contradiction. The rest of Williamson’s material attempts to counter arguments against epistemicism, and especially to counter epistemicism’s manifest implausibility. A major part of Williamsons response to the implausibility of epistemicism is ‘margin of error principles: ‘[M]argin of error principles explain both the ignorance postulated by the epistemic view and the apparent intuitions that run counter to that view.’ (1994a, 234) There are several extensive critical examinations of Williamson’s appeal to margin of error principles.[[4]](#footnote-4) As I take these critiques to be sufficient, I will focus on his prior, and in some ways more basic, efforts to accommodate epistemicism’s manifest implausibility.

 **2. Williamson’s first argument: The claimed need to preserve classical logic.** Williamson argues that

If one abandons bivalence for vague utterances, one pays a high price. One can no longer apply classical truth-conditional semantics to them, and probably not even classical logic. Yet classical semantics and logic are vastly superior to the alternatives in simplicity, power, past success, and integration with theories in other domains. (1994a, 186)

Williamson takes this consideration to be far from conclusive, but still, as above, ‘a high price’.(1994a, 186)

 Williamson’s statement of the alleged problem is crucially unclear: Is the claimed inapplicability to vague utterances in all cases, or only in unclear cases? If in unclear cases only there is no problem. And if what was intended was to all cases, the claim is wrong. There are two points that insure my last two claims.[[5]](#footnote-5)

 First, classical logic presupposes bivalence. So whether or not one embraces epistemicism, classical logic carries on where it does apply, that is where bivalence can safely be assumed.[[6]](#footnote-6) As Schiffer puts it, ‘In most cases we can harmlessly assume the premises in an argument have truth-values and then apply classical logic with assurance of truth preservation.’ (1999, 501) If philosophers and logicians should conclusively conclude that we need some alternative logic for borderline statements, nothing would be compromised about classical logic’s ‘simplicity, power, past success and integration with theories in other domains’ (1994a, 186) where we can assume bivalence, the only place where classical logic ever did apply.

 The second point: Even if one adopts epistemicism’s bivalence for borderline statements, that would not in any important way enable application of classical logic to such statements. Williamson is at pains to argue that, although borderline statements are always either true or false, we can never know what their truth values are. But when we don’t know the truth value of a statement, we are ill advised to use it as a premise in an argument intended to generate reasons for believing its conclusions. Tautologies and contradictions aside, if we don’t know whether the components of a compound statement are true or false, classical truth conditional semantics also won’t tell us whether the compound is true or false. So virtually all useful application of classical logic would still fail, where it always has, for borderline statements.

 4. **The argument that supposition of bivalence failure ‘leads to a contradiction.’**[[7]](#footnote-7) Williamson sets out to argue for bivalence characterized as

(B) If u says that P, then either u is true or u is false.

where he has stipulated that “ ‘u’ is to be replaced by a name of an utterance and ‘P’ by a declarative sentence whose inscription says that something is the case.” He wants to show that ‘The supposition of a counterexample to bivalence [(B)] leads to a contradiction.’ Williamson’s premises are

(T) If u says that P, then u is true if and only if P.

(F) If u says that P, then u is false if and only if not P.

 Suppose we had a counter example to (B). That would be a u that says that something, P, is the case,

(0) u says that P.

But for which the consequent of (B) fails, that is,

(1) Not: either u is true or u is false

Using (0) we detach the consequents of (T) and (F):

(2a) u is true if and only if P.

(2b) u is false if and only if not P.

Williamson continues: ‘Now (2a) and (2b) allow us to substitute their right-hand sides for their left-hand sides in (1), giving’

(3) Not: either P or not P.

Finally, applying a de Morgan’s law, we get

(4) Not P and not not P

the promised contradiction. I will show that Williamson’s argument begs the question against at least one way in which bivalence can fail, the supervaluationist account. The supervaluationist account provides a model for bivalence failure. Williamson’s cannot use the foregoing argument to show that the supervaluationist version of bivalence failure has to be rejected because the argument uses premises and inference principles that fail for supervaluationists. In the present dispute, whether or not supervaluationism should on other grounds be rejected as an account of vagueness is not to the point. Should Williamson’s arguments against supervaluationism as an account of vagueness and truth (1994a, ch 5) be successful, supervaluationism would nonetheless function as a model illustrating the fallacies in Williamson’s argument.

 Here are the relevant features of supervaluationism. (Fine, 1975; Keefe, 2000 ch. 7) Supervaluationism considers all the admissible ways in which a vague term such as ‘tall’ could be made precise. These are called ‘admissible precisifications’. Henceforth the ‘admissible’ will be taken for granted. On each precisification any relevant statement is taken to be classically true or false - bivalence holds relative to each precisification. A statement is said to be super-true just in case it is true on all precisifications, super-false if false on all precisifications. Supervaluationists then identify truth with super-truth, falsity with super-falsity. As a reminder, when referring to truth and falsity as understood on a supervaluationist account I will sometimes write ‘(super)truth’ and ‘(super)falsity’. On the supervaluationist account failures of bivalence are the cases in which a statement is (classically) true on some precisifications, (classically) false on others.

 First to note: Any P that is truth valueless for supervaluationists and any u that says that P provide a supervaluationist counter-example to the validity of Williamson’s argument. Any such u and P provide a supervaluationist counter example to (B). But (3) (and (4)) are supervaluationist contradictions. With P truth-valueless, P is true on some precisifications, false on others. But where P is false, not P is true, and where not P is false, P is true. So P or not P is true on all precisifications and so is (super)true and its negation (super)false. Williamson himself acknowledges, as we will see below, that supervaluationism provides a counterexample to his argument. What is the fallacy in the argument? There are several.

 Williamson justifies the first step in his argument with: ‘…the inference from (1), (2a), and (2b) to (3) should not be controversial when the biconditionals in (2a) and (2b) are read as equating their two sides in semantic value.’ That is, Williamson is justifying the move from (1) and (2a,b) by assuming truth functionality. But for a supervaluationist scheme truth functionality fails![[8]](#footnote-8) More specifically, it fails precisely when P is truth-valueless: Where P is truth-valueless (1) is true but (3), resulting from (1) by appeal to (2a,b) and truth-functionality, is a supervaluationist contradiction. [[9]](#footnote-9)

 Next, Williamson might be said to beg the question with his premises (T) and (F). Since the Tarski biconditionals so immediately fail in the supervaluationist account, simply assuming them begs the question against the supervaluationist account of bivalence failure. I will examine this supposition below. But for the moment the issue can be sidestepped. As Williamson himself notes (1994a, 162-3. See also Keefe’s discussion, 2000, 214-217) instead of (2a,b) we can adopt four new rules of inference. I will abbreviate ‘u is true’ and ‘u is false’ with ‘true(u)’ and ‘false(u)’. Since on a supervaluationist account

 true(u) ⊨ P,
 P ⊨ true(u)
 false(u) ⊨ ¬P,
 ¬P ⊨ false(u)

are valid, supervaluationists can adopt the new rules of inference,

 (T\*) true(u) ⊢ P,
 P ⊢ true(u),
 false(u) ⊢ ¬P,
 ¬P ⊢ false(u)[[10]](#footnote-10)

Williamson rejects T\* as an adequate replacement for (2a,b) (1994a, 162-3) But what is at issue here is T\*’s validity on a supervaluationists' account, which Williamson does not dispute. For the next stage of the discussion I will drop the controversial (2a,b) and use T\*.

 We can derive (3) from (1) using T\* instead of (2a,b), for example with

1) ¬[(true(u) v false(u) ] Premise

2) P v ¬P Assumption for ¬I

3) P Assumption for vE

4) true(u) 3, T\*

5) true(u) v false(u) 4, vI

6) ¬P Assumption for vE

7) false(u) 6, T\*

8) true(u) v false(u) 7, vI

9) true(u) v false(u) 2, 3-5, 6-8, vE

10) ¬(P v ¬P) 1, 2, 9, ¬I

This proof crucially uses or elimination (argument by cases) and negation introduction (reduction ad absurdum) that fail for supervaluationist logic, for precisely the kind of case in question, as Williamson himself observes. (1994a, 151)

 To see most clearly what is going on, look at the lines of the proof from 2 through 9. This looks to be a direct proof of bivalence. P v ¬P is valid on the supervaluationist account. So 2-9) yields (the consequent of – see note 21 below) Williamson’s (B), true(u) v false(u). But the use of disjunction elimination is invalid on the supervaluationist account: If P s a borderline case it will be true on some precisifications, false on others, and the same for ¬P. But when ‘true’ and ‘false’ are read as (super)true (true on all precisifications) and (super)false (false on all precisifications), line 9 fails. In fact this is precisely the counterexample that Williamson himself gives for the invalidity of argument by cases on the supervaluationist account.[[11]](#footnote-11)(1994a 152)

 I have examined only one derivation. But prospects for patching it up or finding an alternative to the argument are hopeless. To derive ¬(P v ¬P) One will have either to use the supervaluationistically invalid negation introduction, or to apply the supervaluationistically invalid conditional proof (1994a, 151) to get a sentence of the form X -> ¬(P v ¬P).

 Williamson in fact acknowledges supervaluationism and its super-truth as at least an apparent counterexample to his argument. Williamson’s argument for bivalence also appears in his (1992, 145-146). In note 7, p. 148 he writes: ‘The supervaluational treatment of vagueness…may seem an obvious counterexample to the argument.’ [[12]](#footnote-12) Williamson counters that: ‘Where the present approach differs is in its claim that the ordinary notion of truth is subject to the Tarskian schema and is therefore not to be defined [as super-truth].’ (1992, 148) The most charitable way to expand this brief remark would be to say that Williamson tacitly acknowledges that bivalence fails for (super)truth, but, (super)truth isn’t *truth*. A mark of real truth is satisfaction of the Tarski biconditionals. Again, not to beg the question, Williamson must offer an independent argument for the Tarski biconditionals. The next task is to examine the one such argument that he provides.[[13]](#footnote-13)

 5. **Williamson’s argument for the Tarski biconditionals and properties views of predicates.[[14]](#footnote-14)** Here is Williamson’s entire argument for the Tarski biconditionals:

The rationale for the disquotational character of truth is simple. Given that an utterance says that TW is thin, what it takes for it to be true is just for TW to be thin, and what it takes for it to be false is for TW not to be thin. No more and no less is required. (1994a, 190 )[[15]](#footnote-15)

Williamson considers the repost:

It might be replied that if u says that P and is neither true nor false, then ‘u is true’ is false while P is neither true nor false, so that the two sides of (2a) do not match in semantic value….The trouble with this objection is that it does nothing to meet the rationale for (T) and (F) [and through them for (2a) and (2b)]. It gives no hint, when u says that TW is thin, of any way in which u could fail to be true, other than by TW failing to be thin,.…” (1994a, 190)

 What is this argument? Williamson is applying a

Default Principle: If a u (assumed to say that something is the case) fails to be true, then, by default, it counts as false.

In the example in which u says that TW is thin, if u fails to be true then TW fails to be thin, in which case u counts as false. Second, Williamson’s ‘does nothing to meet the rationale…’ seeks to shift the burden of proof: It’s not good enough simply to comment that u could be neither true nor false. The Tarski biconditionals command such prima facie plausibility that to reject them one must, at the very least, show how they could fail. I will show that the default principle begs the question. Part II address the burden of proof by illuminating what is involved in a contentfull statement being neither truth nor false and by exploring a range of accounts that provide substance to the failure of the Tarski biconditionals.[[16]](#footnote-16)

 Let’s examine a passage where Williamson explicitly spells out application of his default principle:

To determine which property 'bald' refers to, the reference-determining factors must determine of each thing x, time t and possible world w whether x at t in w is to have the property, in other words, whether the ordered triple (x, t, w) is to belong to the intension of 'bald’. Nothing more is needed… All sides agree that whatever facts there are about the reference of 'bald' are determined by the reference-determining factors (such as use and the environment); the disagreement concerns what facts there are to be determined. Thus if there are not enough facts about use and the environment to determine (x, t, w) to belong to the intension of 'bald', then that very shortfall is enough to determine it not to belong, and is itself determined by the facts about use and the environment. Reference can go by default. The worry that there might not be enough facts about use and the environment to do the determining in every case is misconceived. (1999, 509)

In other places Williamson more briefly appeals to his default principle, for example (1994a, 208, 213-214; 1997a, 224-227)

 Many readers will find, as I did, a lot of plausibility in the default principle. But consider: To apply the default principle there must already be, in a given possible world or circumstance, an extension in opposition to which it applies. (In the immediately following ‘In a given possible world or circumstance’ will be understood.) To apply the default principle to an x requires that x *not* be one such that “the reference-determining factors” have determined it to be in the extension of the predicate in question. But if an extension – a set or collection with strict membership – has been assumed, the jig is already up: If an extension has been assumed, so also its complement, the counterextension.[[17]](#footnote-17)

 How a counterextension might be split up isn’t what matters here. Supervaluationists might urge that a counterextension should be divided between the (super) false and the others. What matters is whether the extension and counter-extension are sets or like sets in having completely specific membership. If there are three sets, the extension and two further sets the union of which is the counter-extension, vagueness is gone just as much as if there are only two sets.[[18]](#footnote-18) [[19]](#footnote-19)

 The villain of the piece is any properties view of predicates according to which the semantic value of a predicate either is or is something that determines an intension, a function from possible worlds to extensions and counter-extensions for the predicates in those worlds. In many, many places, Williamson talks of being thin as a property, and likewise being a heap, being bald, being mountainous…. A particularly explicit example: ‘On the epistemic view of vagueness, vague predicates stand for properties that each thing has or lacks.’ (1996, 333).[[20]](#footnote-20) In reading Williamson I am increasingly gripped by the impression that he simply does not see how a meaningful predicate could fail to have an extension and counter-extension, a thought that many readers may well share and that I will address in Part II.

 Throughout his writing’s on vagueness Williamson appears simply to assume a properties view. In another passage Williamson attempts to argue for such a claim. At (1992, 147; see also 1994a, 196-197) he compares the possibility of bivalence failure in the case of vagueness with bivalence failure in the case of reference failure. When ‘this dagger’ has no referent, bivalence plausibly fails for ‘This dagger is sharp. ’ But this is because “‘This dagger is sharp’ says nothing that could have been true or false….” (1992, 147)[[21]](#footnote-21)

 Williamson dismisses any such way in which bivalence could fail in the case of borderline statements. (1992, 149; See also 1994a, 196-197). He considers “a skeptical view” according to which

[V]agueness is itself a kind of reference failure. Adjectives refer, if at all, to sharply defined properties, but [on this skeptical view] a vague one like ‘thin’ fails to single out such a property and so fails to refer; sentences of the form ‘a is thin’ say, strictly, nothing, whether or not a is a borderline case.

(Note how in this passage Williamson so clearly seems to presuppose that “referring “ to a property or being empty are the only alternatives.)

 Here is Williamson’s response to this “skeptical view” (1992,149): ‘Since almost all our utterances involve vague terms, this view makes almost all of them mere noise.’ Consequently

To deny bivalence for vague sentences while continuing to use them is to adopt an unstable position…. Rapid alternation between perspectives inside and outside the practice [of treating statements as more than mere noise] can disguise, but not avoid, this hypocrisy…

In short, for utterances to function as more than mere noise the predicates used in these utterances must refer to ‘sharply defined properties.’ On any such assumed properties view of predicates not only are the Tarski biconditionals uncontroversial, epistemicism itself is immediate.

 **6. Williamson’s argument for epistemicism revisited.** I have considered and found wanting Williamson’s arguments from the claimed need to preserve classical logic and the claimed demonstration that failure of bivalence ‘leads to a contradiction’. Along the way we have discovered that Williamson has an underlying commitment to a properties account of predicates. Without any doubt, *assuming a properties account*, the only way an utterance, u, can be true/fail to be true is for the referent picked out by the referring term in u to be in the extension/counter-extension of the property assumed to be the semantic value of the predicate in u, which is what Williamson takes it to be for u to be true/false: bivalence. From bivalence epistemicism is immediate. The only kind of vagueness that is possible, at least for predicates, is epistemic. The only problem that there can be with the truth value of u in a borderline case is being out of human reach to know what that value is.

 Except for the question begging appeals to the default principle and the claim that otherwise much of speech would be ‘mere noise’ Williamson offers no argument for a properties account. Many will say that no argument is required as the account is such a basic part of much thinking about semantics. What is really useful about Williamson’s work is that it has called our attention to the circumstance that the consequences are astonishing: Epistemicism. Epistemicism is, on its face, preposterous. In the next section I will detail ways in which the consequences are more astonishing (yet) than anyone appears to have spelled out.

 Williamson’s second service has been to show how far one must reach in attempting to defend epistemicism. I will show how these efforts fail to the point of incoherence.

 Any predicates/properties account is fatally flawed. Give up such an account of the meaning of predicates and many candidate alternatives will leap to mind. In Part II I will explain how predicates can work without extensions, give a simple reason why some have been too hasty in dismissing such alternatives, and briefly remind readers how such alternatives might do the needed work.

 But first, to complete the argument of Part I I will provide substance to epistemicism’s felt absurdity and critically review Williamson’s efforts to meet its obvious problems.[[22]](#footnote-22)

 **7. Difficulties with Epistemicism.[[23]](#footnote-23)** Many have cited ‘the incredulous stare’ and otherwise expressed astonishment at epistemicism.[[24]](#footnote-24) In this section I will press just how wildly implausible it is to suppose, as Williamson insists, that use fixes properties, and through them completely precise extensions and counter-extensions.[[25]](#footnote-25) The difficulties leap to clearest relief when we press whether a predicate’s meaning fixes, for every actual and counterfactual context of use, a completely precise extension.

 For meaning to determine the exact extension of ‘bald’ meaning will somehow have to take into account not only the number of hairs, but hair thickness, scalp-distribution, and doubtless much more. Similarly for ‘heap’, meaning-determining mechanisms must take into account size and shape of constituent parts and overall organization (or lack of it) of the collection: The number of constituents needed to make a heap will vary enormously among sand, pebbles, bricks, firewood…as will the arrangement. I can transform my disorganized heap of firewood into a well-organized stack. If it will be difficult for meaning-determining mechanisms to fix an exact extension for ‘bald’ and ‘heap’ relative to a context think how difficult this will be for terms such as ‘funny’ and ‘suspicious’.

 Let’s look at an easier case than ‘funny’ or ‘suspicious’, ‘flat’. Following Unger (1971. passim.), if ‘flat’ is understood as perfectly, geometrically flat, nothing is flat. Williamson will not want to say that all our (positive) uses of ‘flat’ are false. How, then, is ‘flat’ to be understood? We often use ‘flat’ comparatively. Just how flat is that table? Is this table flatter than that one? What is involved when one says, simply, that something is flat is to be understood as ‘flat enough’ for current concerns; specifically, that the differences between geometrically flat and the current case are negligible relative to our current interests and our standards for satisfying those interests. For meaning determining considerations to fix precise extensions for uses of ‘flat’, the meaning-determining mechanisms must provide a function from each individual or group’s interests, standards and other contextual considerations, in all actual and counterfactual circumstances, to the exact extension of ‘flat’ for those contextual considerations. That’s a lot to expect.[[26]](#footnote-26)

 There is a particularly virulent version of the kind of complaint in question that has been widely made in the literature. Williamson has offered a response. Let’s look at both. [[27]](#footnote-27)

 How could meaning-determining mechanisms somehow fix the exact boundaries for things that are indicated in a very open-ended way, such as: ‘It’s raining here’ (Schiffer 1997, 942),'Betty was standing roughly there', ‘I worked for a little while yesterday’ (Schiffer 1999,488, 493);“particles like: ‘approximately’, ‘roughly’, ‘almost’, ‘not quite’, and so on.” (Wright (1994a, 153,154) In (1997a, p 953) Williamson attempts to address cases such as Jane’s saying, ‘It’s raining here’:

Schiffer objects that when one uses the demonstrative 'here' with ordinary vagueness, one has no way of identifying or picking out the sharply demarcated region to which one is referring, on the epistemic view… . It would be unreasonable to require… the speaker [to] know how to trace its boundaries in practice (consider 'this galaxy'). We should like an answer to the question 'Why does the demonstrative refer to x?'. Presumably, a central part of the answer will often be that the speaker is perceptually attending to x. But Schiffer gives no reason to suppose that one can perceptually attend to x only if one can locate the exact boundaries of x…. . I can perceptually attend to the region with exact boundaries b even if no one is in a position to know that I am perceptually attending to the region with exact boundaries b; what I know is that I am looking at this region here.

 This does not address Schiffer’s point. What Schiffer wrote was that, broadly, for demonstrative reference to work, ‘I must… have some way of identifying my referent.’ (1997, 943) Williamson then responds by distinguishing between what one’s perceptual system can attend to and what the agent can explicitly demarcate, claiming, with no argument, that the former can be a ‘region with exact boundaries b’ even though the agent can’t explicitly say just what those boundaries are. But Schiffer’s point was, obviously, that if the referent of the use of ‘here’ is some completely precise area, the speaker *or* the speaker’s perceptual system, *or* *something* going on in the act of demonstration has to identify that referent, has to pick out the area demonstrated from the uncountably many alternatives. We are owed an account of how that could possibly happen. In the passage under consideration, Williamson completely sidesteps that question.

 In his (1999) Williamson again attempts to respond to Schiffer’s version of the problem of how use of open-ended expressions could fix a place, time, or the like from the uncountably many alternatives. At (1999, 513) Williamson gives no more specific answer to this question than that, in cases like the ones under discussion, reference is fixed by speakers’ intentions, going on to explain why this claim is not undermined by the fact that use can vary between speaker and hearer and that a hearer may take reference to be determined by deferring to the speaker’s intentions. In other words, instead of responding to the challenge, Williamson changes the topic. In this passage Williamson also claims that the cases in question pose no special problem for epistemicism:

But it is a mistake to suppose that epistemicism multiplies the candidates more than other theories of vagueness do. For example, if reference can somehow be indeterminate, many candidates will differ slightly from each other in their areas of indeterminacy. (1999, 513)

Williamson has interpreted ‘reference is indeterminate’ as reference is to something indeterminate. Then, if specific candidates for reference are indeterminate, many candidates will ‘differ slightly from each other in their areas of indeterminacy.’ Williamson concludes that any other coherent account of vague reference must take there to be as many distinct but “indeterminate” candidate referents as epistemicism’s candidate determinate referents.[[28]](#footnote-28) In Part II we will see many ways in which ‘reference can be indeterminate’ other than reference being (determinately) to something indeterminate.

 I submit that, at least in the passages I have considered, Williamson completely fails to address the problem raised by open-ended use of demonstratives and particles such as ‘approximately’, ‘roughly’, ‘almost’,….

 Next I discuss difficulties with Williamson’s efforts to assuage worries about how completely precise extensions could be fixed. I will not go over all of these but focus on ones that I believe are most important.

 The burning question: How could meaning be set so exquisitely so as to determine, in all actual and counterfactual borderline cases, exactly who counts as bald, what counts as funny…. Williamson’s answer: Meaning is determined by use.[[29]](#footnote-29) To track Williamson’s response I divide the question into two parts: How does use determine meaning, and why should we think that the meaning so determined is so precise that it delimits completely precise extensions? Williamson responds to the second question by offering an answer to the first.

 Here is how this conflation unfolds. Williamson has presupposed that ‘Words mean what they do because we use them as we do.’ (1994, 205) The argument that I am examining is framed as a response to the objection that

...if nature does not draw a line for us [as is plausible in the case of natural kinds], then a line is drawn only if we draw it ourselves, by our use. So (it is held) there is no line, for our use leaves not a line but a smear.’ (1994, 206)

Here is Williamson’s response

… ‘drawing’ is just a metaphor for ‘determining’. To say that use determines meaning is just to say that meaning supervenes on use…. More formally

(#) If an expression e is used in a possible situation s in the same way as an expression f is used in a possible situation t, then e has the same meaning in s as f has in t.

 What is the argument? The challenge was: How can use determine meanings *so precisely* as to determine all extensions exactly? The answer we are given is: To say that use determines meaning comes to saying that meaning supervenes on use which is a response to the question, how does use determine meaning, but no response to the question, why should we think that the meaning so determined does better than ‘leaving a smear’. Keefe (2000, 80-1) puts the problem this way: ‘The fact that there can be no difference in meaning without a difference in use does not fix the boundaries of extensions any more than a pass-fail divide is fixed by the requirement that qualitatively identical exam scripts should receive the same mark.[[30]](#footnote-30)

 Williamson continues his discussion of the changed question, how or in what way does meaning supervene on use:

Although meaning may supervene on use, there is no algorithm for calculating the former from the latter’ (1994a, 206, cf also 209)

and

The inability of the epistemic view of vagueness to provide a successful recipe [for calculating meaning from its supervenience base of use] is an inability it shares with all its rivals. Nor is there any reason to suppose that such a recipe must exist.’ (1994a 207)

But, just as before, the question was not, is there any recipe for getting from use to meaning, but is the meaning claimed to supervene on use one that will fix extensions exactly or a meaning that will leave ‘not a line but a smear’?

 So far we have seen that no reason is so much as supposed for thinking that the meaning determined by use should have the claimed precision. A further worry is:What is the mechanism through which use fixes one meaning as opposed to some other? Why isn’t it just an accident that meanings come out one way as opposed to another, especially when it comes to the details of precise extensions? The response was that, here, ‘determined by’ is to be understood as ‘supervene on’*.* The new worry is that the ‘determined’ of ‘supervenience’ is the wrong kind of determination*.* A subvening domain determines the supervening domain only in the sense that there is no variation in the latter without some variation in the former. But that’s consistent with there being no interesting sense in which the subvening ‘makes’ the supervening be what it is as opposed to something else. If use determines meaning, we expect that there be some way, something about the situation, that results in the postulated exact extensions coming out one way rather than another. Appeal to no more than supervenience leaves this all a complete mystery.

 In a way Williamson concedes the last complaint. He writes that ‘Meaning may supervene on use in an unsurveyably chaotic way. (1994a, 209) But if ‘chaotic,’ supervenience could not have its needed counterfactual force. And if humanly ‘unsurveyable’, people could not use meaningful language for communication.

 Another twist in this tangle:One can agree that (in the weak duplication sense) meaning supervenes on use. But when it comes to how things turn out, meaning guides use at least as much as use guides meaning. We use words the way we do in large part because of the meaning we take them to have. In the sense of ‘determine’ of interest here, if anything, meaning determines use more than use determines meaning.[[31]](#footnote-31)

 Turning to yet one more general problem with Williamson’s account: For a given term and time, which uses – that is, what dispositions to use a term – are relevant in fixing its meaning? At (1994a, 211) Williamson puts the issue in terms of communities of language users. Williamson is addressing the worry that epistemicism is the view that each vague term nonetheless has (given relevant contextual considerations) an exactly determined extension. But since, for an unclear case, we don’t know whether the case is in the extension that is set by the meaning of a term, it might seem that epistemicism ‘prevents us from knowing what we mean’ (209) Williamson’s response: ‘On the epistemic view, our understanding of vague terms is not partial. The measure of full understanding is…complete induction into a practice.’ (1994a, 211) Leaving aside perplexities about how to understand “complete induction into a practice,” clearly Williamson intends (1994a, 211) that such a practice is the practice of a linguistic community. That is, it will be the use in such a community that sets the meaning that, in turn, sets the completely exact extensions of vague terms.

 Not only is it left free-floating just which vocalizations count as meaning-fixing uses,[[32]](#footnote-32) just what community is relevant?[[33]](#footnote-33) At (1994a, 211-12) Williamson explicitly declines to rule out cases where one individual can count as the relevant community. For larger communities it will often be arbitrary exactly who gets included. There is no specification of which communities are relevant, and so no specification of which uses fix the extensions. This is particularly problematic since, in (1994a, Ch 8) Williamson so clearly commits himself to the claim that very small changes in use will result in small changes in meaning and so, usually, in the relevant extensions. To be clear, the complaint is not that Williamson has not given a detailed account of what the communities are. The problem is that we have no idea how to start on such a project, what could possibly exactly fix the communities. The communities are, at least in details of membership, arbitrary.

 In (1997a) Williamson appears to try to address this worry. At (1997a, 952) he acknowledges that ‘The notion of a speech community is itself vague.’ Consequently ‘A sorites paradox threatens.’ Immediately following he discusses the point that not all changes in dispositions need count as changes that affect meaning – for example changes in my dispositions who to label as bald that result from changes in my mood. He then concludes:

The sorites paradox does not arise, because in a given context not all slight differences in use imply sameness [did he here mean differences?] in speech community: the implication holds only for some slight differences that are salient in that context.

Even if we change the ‘sameness’ to what must have been intended, ‘differences’, Williamson has again answered a different question than the one he set out to address. The problem was that ‘the notion of a speech community is itself vague.’ What then determines what the relevant speech community should be? The issue was not shifts in use dispositions, due to things like changes in mood, that do not shift meaning. The issue was the threat of indefiniteness in meaning, and so extension, due to indefiniteness in the total relevant configuration of use, in turn due to indefiniteness in just who gets counted as members of the relevant speech community.

 I conclude: Not only do we have no idea how use could possibly fix the exact extensions from uncountably many alternatives and in innumerable different possible contexts. In addition just which uses are relevant for a given term is open-ended. I submit that there is here no coherent account.

Part II: Prolegomena to an alternative system

 In my discussion of Williamson’s (2a, b) I argued that Williamson is presupposing some properties account of predicates, which makes his view inevitable. That is, predicates attach to, correspond to, or express properties. A property, understood in the minimal intensional, or any more robust sense, is a thing such that for every circumstance, actual or counterfactual, the property determines an exact extension and counter-extension. Assuming that this is the way all meaningful predicates work, including ‘bald’, heap’, ‘thin’, flat’ ‘funny’, ‘strange’…. bivalence, and so epistemicism, follow immediately. Most of Williamson’s discussions are efforts to accommodate the insuperable consequences, efforts that I and others have argued fail completely.

 What I take epistemicism's insuperable difficulties to show is that epistemicism's underlying assumption must be replaced. What is involved in this replacement, and why, will become clear by placing the assumption in its frequently used setting, compositional semantics. We will see why taking predicates to express some kinds of properties has seemed so natural, why alternatives have been rejected by many, and how, despite being a disaster when it comes to understanding vagueness, a properties account of predicates nonetheless has a useful role to play in semantic theory. The role of a properties account in this setting will, in turn, point to a range of candidate alternatives. Many of these candidates are well known and widely discussed, and also by many dismissed out of hand. The foregoing analysis will illuminate such criticism and make clear why, in important respects, dismissal has been over hasty.

 **8. Theory of Attachment of Language to the World and Theory of Linguistic Structure**. The point of departure is the commonly used notion of compositional semantics. The meaning of expressions are build up following the structure of the syntax of a sentence. One starts with root meanings or “semantic values” for root syntactic units, the units that get their semantic interpretation through our methods for applying language to the world.[[34]](#footnote-34) These root values then combine following syntactic structure to form more complex semantic values, issuing in the semantic values for whole sentences, in the case of declarative sentences often called (structured) propositions. The present point focuses on the contrast between the compositional aspect and attachment to the world. The smallest, root values have to be attached to the world – treated by what I will call a ‘theory of attachment’. The compositional structure then combines the root semantic values – treated by what I will call a ‘theory of linguistic structure’.

 I want to emphasize that two distinguishable theoretical topics are in question. We can in many ways separate them, and there is much to be gained by doing so. To separate the theoretical problems we put in idealized placeholders for the root semantic values. Treating the root semantic values as referents and properties then functions as a way of bracketing the problem of ultimate attachment to the world. Talk of referents and properties work as placeholders for much more complex ways in which ultimate attachment to the world takes place, to be addressed on another day or by another discipline. Details of how attachment occurs are generally not relevant to compositional structure.

 It is easy mistakenly to take these idealized placeholders literally. Instead of treating them as idealized placeholders, often, and often in ways not explicitly expressed, the root semantic values for referring terms and predicates are taken to be ‘things in the world’,[[35]](#footnote-35) referents and properties (again, always understood to include relations). There is a unique thing, the Eifel tower, that gets attached as the referent of ‘Eifel tower’. There are precise properties, such as the color red and being mountainous (Williamson, 1994a, 268) that get attached to the terms ‘red’ and ‘mountainous’. (I use these two as examples because, when one stops to think about it, these obviously do not attach to specific properties under any reasonable reading of ‘properties’.) Williamson very explicitly takes ‘bald’, ‘thin’, ‘heap’… to attach to properties of baldness, thinness, being a heap….This is where, I submit, things go off the rails. This is like what would be happening if philosophers tried to make sense of physicists’ use of the idea of a point particle for a certain class of problems by asking, if these objects are point particles how can we explain why they look to be so very much extended!

 I will urge a two-part thesis. First, vagueness arises as a characteristic of the root semantic attachments to the world, what I will call ‘lexical vagueness’.[[36]](#footnote-36) Is lexical vagueness the only kind of vagueness there is? All the familiar examples fall under this category, and I am not aware of any other kind of vagueness.[[37]](#footnote-37) Should some kind of vagueness, or any similar phenomenon, arise in the process of composition, that will be a separate subject for study. The first thesis is that lexical vagueness can be studied separately from combinatorial considerations. Such separation could, of course turn out to be a simplification, but I take the survey material to follow abundantly to demonstrate that there is a great deal that we can learn by investigating lexical vagueness as a phenomenon treated as completely separated from combinatorial considerations.[[38]](#footnote-38)

The second part of my thesis is that when we separate the issue of attachment to the world from questions about combinatorial structure, a wealth of attractive options quickly become apparent. I do not aim here to develop or chose any one of these but to review some options, to show how the problems of vagueness can be sensible addressed by using one, or more than one, of them or others that do the same kind of work. The options that I will catalogue are familiar: prototype and exemplar accounts, determination according to function, sensory responses, emotional reactions, very broadly so called ‘use’ theories or accounts.

 Problems can arise when “use” theorists, seeing that their ideas look promising for the point of attachment to the world jump to the conclusion that this kind of theorizing will suffice for a full understanding of language, including the parts that have to be understood in terms of combinatorial considerations. In opposition, opponents of “use” accounts, seeing that use approaches won’t suffice for a complete understanding, conclude that the ideas have no application.[[39]](#footnote-39)

 **9.** **The Approach of Ludwig and Rey.** Ludwig and Rey (to appear) provide a prior proposal that agrees in many respects with the view that I am developing. I will cite extensively parts that develop the kind of approach I have in mind.

 According to Ludwig and Rey terms in a language come with ‘rules of application’:

A predicate is semantically complete only if its [complete] rules of application (positively) determine whether it is true of, [or] false of,….anything or n-tuple to which it is applied. (Preprint, 6-7)[[40]](#footnote-40)

A predicate has an extension and counterextension iff it has complete rules of application. (Preprint, 9-10) So the extension and counter extension of a term, if it has an extension and counterextension, are precise: everything falls in to exactly one of these.[[41]](#footnote-41)

 Ludwig and Rey then press sorites arguments into an argument for the conclusion that

…‘bald’, and similarly for any vague expression, does not have an extension and counterextension because it does not have complete rules of application, that in turn comes to it not having a ‘complete meaning’ (Preprint,9, 10)

Saying that ‘bald’, and with it vague predicates generally, have no extension, at first blush seems absurd. But keep your eye fixed on the fact that here ‘extension’ is understood in the technical sense from compositional semantics. It is theoretically required to be a set or collection with well determined membership, not an extension in any informal, pretheoretical sense. In the next section I will discuss how predicates can function without extensions.

 What, then, do Ludwig and Rey make of vague terms having no extensions?

[A] meaning introducing intention [may] not specify a plan for its use that suffices to fix an extension, and, hence, it does not suffice to fix a meaning (or a complete meaning, if you like). Still, it can induce a practice in the use of the expression. And we can, if we like, pretend that, or act as if, the practice has been filled in, because we have an idea about where safe areas of operation are because we know at least roughly what [are] the intentions for the term left unspecified. (Preprint, 10)

So we

Ordinarily operate under the pretense that our terms are semantically complete, and since we are not unaware of where our practices give out, this usually gives us no trouble. (Preprint, 12)

Communication is then

highly pragmatic, but this seems, in fact, exactly right. [Things go smoothly when] a use is well within the standard practice, that is in turn characterized in part by when it is not safe to use terms in application to objects or a range of objects because the practice doesn’t give us much guidance in how to use them. (Preprint, 15)

 I will restate what I take to be the same or very similar ideas in the terms that I have introduced and will use in the remainder of the paper. We use terms with inexact (Ludwig and Rey – incomplete) methods of application. Learning to use these methods involves learning where they apply safely, not so safely, and very badly. When we reliably discern that the context allows safe application we harmlessly engage in the idealization (Ludwig and Ray – pretense) that the methods are precise, that they work by specifying specific referents and properties as treated in our highly idealized theory of linguistic structure.[[42]](#footnote-42)

 One upshot is that statements using vague terms are *never* either true or false, that is, not true or false in the idealized sense that is in question in semantic theory, and tacitly in much of philosophy. In this idealized sense of truth, predicating a property of a referent is true just in case the referent has the property. But these properties are, one and all, idealized creatures.[[43]](#footnote-43) Instead, treating the phenomena of vagueness requires recognizing that these idealizations of semantic theory are the wrong theoretical tools for that job. The vagueness of terms is the linguistic face of the inexactness of the methods that govern their inexact application. Consequently, the right place to look to understand vagueness are the incomplete or inexact methods that govern the application of vague terms. We need to understand how such methods work. Or perhaps better, understand the human face of imperfect use of imperfect methods.

 The point that I want to emphasize: That we need other theoretical tools to understand the function of root semantic values does not impugn the compositional part of compositional semantics! Nor the theoretical appropriateness of idealizing the root semantic values as precise referents and properties when their imprecision is not relevant to an analysis.

 Williamson rejects “usefulness” and “pretense” accounts, arguing that it is absurd to substitute ‘useful’ for ‘true’: ‘Some nihilists might try to mitigate the implausibly of their doctrine by saying that common sense beliefs are useful, if not true’ (1994a, 169)
But, claims Williamson, ‘Common sense belief’ and ‘useful’ are vague, and so on the nihilist own account the statements they want to make are not just not true, they aren’t even meaningful. (1994a, 169)

 This position is presupposing that some properties view is the only way in which a simple predicate can count as meaningful. On a use account we drop truth in the exacting sense Williamson has been supposing. Either we drop evaluation in terms of truth and falsity altogether in favor of other standards such as ones having the form: Have the inexact and incomplete methods of application been followed well enough to insure reliable communication and to satisfy community standards? Such standards are inexact and open ended. But it no more follows that they are not real standards than it follows that laws governing our behavior are not real laws because they often require judges to interpret them. Or we fashion a more open ended and flexible notion of truth that functions similarly to the forgoing and that more faithfully characterizes ‘true’ as we use it in everyday life.[[44]](#footnote-44)

 Williamson likewise dismisses any suggestion that “[w]e are to pretend that our words have precise meanings although there are no precise meanings that we are to pretend that they have.’ (1994a, 170) He advances the same kinds of objections advanced against the “useful” move, to which there are similar responses. He also comments: ‘It is idle to pretend merely that a word has some precise meaning or other; what is needed is the pretense of some particular kind of precise meaning…. But for the nihilist the words with which such a kind might be delineated are empty.’ (1994a, 170-171)

 The fundamental complaints here is that on their own terms, nihilists can’t delineate a pretense because, according to them, the words they would use are empty. But this would be right only if, again, expressing a precise property were the only way in which a predicate could be meaningful. Once one refrains from begging the question and allows other kinds of ways in which a term could be meaningful, it is easy to explain the kind of precise meaning that is pretended. The pretense is that, counter to fact, the word in question stands for a sharp property which is exactly the way I have suggested that we think of root semantic values where I used the term ‘idealization’ rather than ‘pretense’.

  **10. Meaningful predicates without extensions.** Ludwig and Ray say that predicates with no “complete meaning” don’t have extensions or counter extensions. How could that be? I will address this in more detail in another paper. But here is the general idea:
 Following Frege, the idea of the meaning of a term is of that which determines to what the term applies. Conventionally we think of such as some objective property, something independent of us, something “out there in the world.” And, on pain of some kind of ontological vagueness, such will have a completely determinate extension and counter-extension

 Taking predicate meanings as objective extension-determining properties is not yet a full account of language use. Speakers have to make judgements as to what a predicate should be taken to apply. On any view according to which it is some kind of property that intervenes to determine whether something goes into an extension, speakers would, at least in effect, be making judgements about whether a referent has the property in question or not. In judging whether ‘red’ applies to a barn a speaker would, on such conventional accounts, be judging whether the barn has the property of being red.

 On conventional views such an intervening property is functioning as a middleman between a speaker’s method of application and the things to which a predicate is applied. It has been the burden of Part I that postulating such middlemen leads to the absurdity of epistemicism. Any such middlemen must be rejected. In other places (2018a, 2018b) I have independently argued that attachment to such middlemen can never occur simply because the world is too complicated. As I have urged above, thinking in terms of these intervening properties is a simplification, an idealization, often extremely useful when not mistakenly taken literally.

 We are left then with the methods that speakers use to apply predicates, Ludwig and Ray’s “practices”, as what functions as predicate meanings. But, again, because the world is too complicated, these humanly applicable methods of predicate application are always, at least to some extent, open ended. Explicitly stated rules of application have to be interpreted. No finitely stateable rule can be designed to operate consistently for absolutely every case. In marginal cases speakers must use their discretion, which will be influenced by current interests and all manner of varying contextual considerations. So, for marginal cases, speakers may faultlessly disagree. One may judge that the barn is red. Another that it is a kind of reddish orange. And a third that it’s too in between to judge either way. As long as such disagreements occur infrequently, language still operates smoothly.

 Consequently, these open-ended rules of application don’t determine extensions, sets or set-like in having completely determinate membership*.* The open-ended rules of application for a predicate leave some cases for which there is no fact of the matter whether the predicate correctly applies or not. Nor can there be a collection of cases for which the rules of application always yield the same determination. Any elusive boundary between when the rule determines application and when it doesn’t “moves around” with changing circumstances of application resulting in varying interpretations of the rule. This is especially so for the counterfactual cases for which the question of application of predicate does not actually come up. [[45]](#footnote-45) [[46]](#footnote-46)

 **11. Towards a Methods Oriented Study of Vagueness.** I have argued that the theory of linguistic structure, addressed to very different issues than a theory of attachment, will treat the root semantic values as idealized referents and properties. Vagueness cannot be understood within the idealizations of conventional semantic theory. Instead vagueness has to be understood by studying the inexactness of the rules or methods with which we apply terms to the world. I will not propose any one specific theory of attachment or add detail to the many accounts that already have a foothold. Rather I will canvass some options with a few comments on how they might provide insight.

 A caveat: We must not expect one uniquely correct account! Most broadly, theories of attachment work out how we classify things. Things in different domains may need very different methods of classification, as will become clear with the examples below. So we should expect that these complex phenomena will be addressed by a range of accounts that complement one another. Different domains of application may proceed in quite different ways. Each account is to be evaluated for its strengths and weaknesses, keeping only those that do well for a robust range of phenomena.

 The most obvious candidates are prototype and exemplar theories, accounts that work by applying a similarity metric to prototypes or exemplars, to be include here also cluster concept accounts that work by applying a cluster of concepts that may be weighted and where the language user is allowed some leeway in what components to include and how to weigh them.

 We often classify things by the roles they play in our lives. These might be alternatives to prototypical characterizations, or they might be combined with some prototype account as a guide to what characteristics should go into the relevant prototype. Things are often classified functionally: knife, chair, sled, nurse… Classification may be by the function an object serves but also by the way that function is achieved. For example consider the difference between a sled and a toboggan. There is a nice lesson from the case of ‘nurse’. Twenty years ago and before, the example of ‘nurse’ appeared in the literature critical of prototype approaches. At that time we expected nurses to be women. Consequently, it was suggested, on a prototype account the expression ‘male nurse’ seemed problematic. The problem was that analysts conflated the basis for classification – I suggest in such cases it should be function – with practical means of identifying instances. Often we can make a good distinction between a basis for classification – a characterization or “definition” – and epistemic means of identifying instances.

 Insofar as a term heads a category that is characterized functionally, the term will unavoidably be vague. One ineliminable source of indefiniteness, and so vagueness, is the that function has to be played “sufficiently well”, which is amorphously context dependent, and ultimately up to speaker and hearer to decide whether the role is played sufficiently well to support communication and other interests in that context. This idea will reoccur in the further examples.

 Things are also classified in terms of the sensations they cause: colors, sounds, tastes textures…. There is no need or basis for supposing that there must be uniquely correct conditions for application of such terms. It suffices to suppose that speakers and hearers have guidelines - Ludwig and Rey’s ‘practices’ – but use their contextually guided discretion where to draw lines. As above the test will be whether the needs of communication and other interests are sufficiently satisfied.

 We classify things in terms of the emotions or other mental attitudes that they tend to bring about: funny, exciting, frightening. ‘Beautiful’ is an instructive example. Ultimately its use is guided by the tendency to elicit one or another aesthetic response. But in ways that are highly variable. The actors must judge whether the relevant responses are appropriate for the people and context that is in question.

 All of these examples can be seen as falling under so called “use” accounts. Expositions of use accounts are often distressingly unspecific – sometimes even less specific than my brief remarks just above! But all these methods, or practices, or rules, or guidelines are susceptible to empirical investigation. One thing should be clear. Since such methods are always in support of communication and other interests, it will always be up to actors whether they count the methods in question as satisfying their standards and preferences. The variability of these standards and preferences are a major source of the open-endedness – and so vagueness – of methods of attachment of language to the world.

 **12. Use Accounts and Truth**. On properties accounts of predicates a simple predication, ‘Pa’, is true if a has P, false if a does not. On use accounts simple predications are neither true nor false, at least not in this traditional, and in my view idealized, way of thinking about truth. This is also the conclusion of Braun and Sider (2007), Ludwig and Rey (2002, to appear) and Teller (2017). Instead terms have open-ended methods or standards of application. A method, when explicitly formulated to guide application, can’t cover every eventuality. The world is too complicated! In addition there is the matter of meeting variable preferences and standards, as discussed above. Instead, methods of application are open-ended, whether or not they have been explicitly formulated.

 How then, are we to make sense of ordinary attributions of truth and falsity to ordinary claims using vague terms? The larger position needs a different way of thinking about truth. In a one line summary, a way of thinking of attributions of truth is along the lines of attributions of being “true enough”. These ideas are developed in Elgin (2017) and in Teller (2017) in which latter account the idealized and traditional notion of truth still plays a prominent role. More broadly, and in the spirit of Ludwig and Rey, when things are sufficiently clear cut, we can idealize predicates as expressing properties, and in the same way idealize statements as expressing truths in the traditional sense. When circumstances are sufficiently clear cut so that we won’t get into trouble by neglecting that there are also problematic cases, simple predications are taken to be true or false as conventionally conceived and provide traditionally conceived input truth values for the calculation of truth values for more complex propositions.

 This last consideration clears away possible worries about logic. When circumstances are sufficiently clear cut to allow simple predicates to be treated as having determinate truth values, use of classical logic will not mislead. For borderline cases one is ill advised to apply classical logic anyway.[[47]](#footnote-47)

 13. **Higher-Order Vagueness**. The foregoing considerations now apply to show that higher order vagueness is, in almost every respect, an artifact of thinking in terms of predicates with exact extensions. The conclusions about higher order vagueness require their own detailed development. I can here only suggest the general approach.

 Why does higher order vagueness seem forced on us? For example suppose that ‘short’ had no second order vagueness. Then there would be only (clearly) short people, (clearly) not short people, and the unclear cases. But then we can say that all people are either short, or unclear, or not short. Whether or not we revise ‘not short’ to include those previously classified as unclear cases, vagueness is gone. Since ‘short’ *is* vague, there must be second order vagueness for short. The pattern of argument now reapplies to generate all higher orders of vagueness.[[48]](#footnote-48)

 This argument is fallacious. It assumes that if there is no second order vagueness, there is a set – a determinate collection – of instances that count as unclear cases.. This is right if predicates express properties but need not be right on method accounts. On method accounts just who gets counted as short “moves around”. In “close calls” whether or not someone gets classified as short will depend on fine details of the circumstances, in sufficiently close cases, a choice may be arbitrary. All this in agreement with the open-ended methods governing the application of ‘short’ that accord discretion to language users. It is the contextual open-endedness of a term such as ‘short’ that does the work mistakenly attributed to higher order vagueness.

 One might be tempted by a counter argument according to which, for a fixed reference class, there will at least be a shortest height so that no matter what the counterfactual circumstances, any one with that height or less would, in those circumstances, get counted as short. This counter argument makes the same kind of mistake. It assumes a clear delineation of what counterfactual circumstances are in question. But when the counterfactual circumstances become too extreme, the whole function of the methods for applying ‘short’ begin to break down. So, just as with the original argument for higher order vagueness, this rescue presupposes a determinate set of cases where there is none

 **14. Conclusion and moral for this tale.** A two sentence summary of the thesis of this paper: The intractability of vagueness is an artifact of all or nothing thinking. In particular, that the world is to be understood in terms of properties, some kind of characteristics that are completely sharp or, more broadly, by treating idealizations as if they were exactly correct accounts. Correcting this mistake does not thereby answer detailed questions about vagueness, but transforms them into real, broadly tractable empirical questions about application of language to the world.

 There is also a moral to the tale: Thinking that there is always one right answer to any question is an endemic characteristic of western intellectual thought. Such thinking deflects us from appreciating that, often, there is a range of worthy approaches, different ones working well for different kinds of problems or cases.

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1. I will follow Williamson and this literature generally and ignore any complications arising from sortals, so that everything will count as a candidate. Bringing in sortals would needlessly complicate exposition while making no difference in the end to what will be at stake.

 [↑](#footnote-ref-1)
2. For example, one might want to distinguish necessarily equivalent properties such as that of being triangular and being trilateral. [↑](#footnote-ref-2)
3. Elsewhere (2017) I have provided entirely different arguments against any properties account,(though not under that name). In “Vague so Untrue” (2007) Braun and Sider also reject properties accounts, providing (p. 135) a one sentence summary of the kinds of considerations that I develop in the articles just mentioned. Ludwig and Ray, (2002, to appear), provide yet another argument. [↑](#footnote-ref-3)
4. Keefe, (2000, 64-70), Ray (2004), Mahtani (2004 and 2008), Machina and Deutsch (2002, 35-45), Wright (1994, 148-152). [↑](#footnote-ref-4)
5. Several comments in the literature are along the lines of what immediately follows: Schiffer (1999, 501), McGee and McLaughlin (1998, 225), Machina and Deutsch, (2002, 29) Ludwig and Rey (2002, 429-431; 2017, Preprint, 6). [↑](#footnote-ref-5)
6. ‘Can safely be assumed’ can be heard in two ways: ‘Bivalence can safely be assumed to hold for the case in question’, or ‘One can safely assume that any departure from bivalence will make no difference to what is currently in question.’ For the moment I want to leave both readings on the table. [↑](#footnote-ref-6)
7. In the immediately following, all numbered, off-set, and quoted material are from Williamson (1994a, 187-9). [↑](#footnote-ref-7)
8. McGee and McLaughlin (1998, 226) remark that opponents of bivalence can reject truth functionality. Williamson himself (1994a, 146) notes the failure of truth functionality on the supervaluationists’ setup. [↑](#footnote-ref-8)
9. I gloss over the step of detaching the antecedents of (T) and (F) to get (2a,b). If P is truth-valueless, might u not say that P? That move would be a nonstarter for borderline attributions of things like baldness and being red. And any such claim would come down to saying that we can’t use truth valueless utterances to say that something is the case, begging the question. [↑](#footnote-ref-9)
10. ‘T\*’ is Keefe’s notation – see her (2000, 214) for argument and other details. Keefe proposes T\* instead of her T (corresponding to (2a,b) ) not as a problem for Williamson’s argument for bivalence but in the context of rejecting Williamson’s claim that super-truth ‘is not disquotational.’ (1994a, 162) McGee and McLaughlin (1998, 224) claim that if bivalence isn’t presupposed, T\* (their T and F introduction) are not valid but they give no argument. What they do argue is that, where bivalence fails, *no* ‘truth preserving rule of inference can be validly employed within conditional proofs.’ As far as I can see, their argument begs the question, but should they be right, so much the worse for the attempted rescue below. Richard (2000) also provides considerations relevant to this discussion.
 [↑](#footnote-ref-10)
11. My statement above agrees with Williamson’s (c), (1994a, 152) because, as Williamson acknowledges, the supervaluationists’ “operator ‘definitely’ [expresses] super-truth in the object language.” (1994a, 149*)* [↑](#footnote-ref-11)
12. The supervaluationist model is not a counterexample to the argument since the premises (T) and (F) fail in the supervaluationist model. However, the supervaluationist model is a counter example to the argument as reformulated with the inference principles T\* as these are valid in the supervaluationist account. [↑](#footnote-ref-12)
13. At (1994a, 162-163) Williamson inveighs against (super)truth, but the argument there is to insist, several times over, that real truth must satisfy the Tarski biconditionals. (Super) truth doesn’t. But without an independent argument for the Tarski biconditionals, the question is, yet one more time, begged. [↑](#footnote-ref-13)
14. Torrago (1998, 638) explores the further option of taking the truth predicate itself to be vague, which would save the Tarski biconditionals in a way what won’t help epistemicists. This option can be developed by reworking the concept of truth along the lines of “true enough”. See Teller (2017) and Elgin (2017). [↑](#footnote-ref-14)
15. Williamson repeats this argument (1997a, 217). [↑](#footnote-ref-15)
16. Sainsbury (1999, 259) describes what amounts to the default principle as central to what he calls the “classical picture”, essentially the family of properties accounts. [↑](#footnote-ref-16)
17. See section 10 for more detailed discussion of how predicates can function without strict extensions. [↑](#footnote-ref-17)
18. How then is the suervaluationst account an account of vagueness? The vagueness is smuggled in in the vague qualification that the precisifications be “appropriate” so that no robust understanding of vagueness has been provided. I will address this lacquna in Part II [↑](#footnote-ref-18)
19. And thus the perceived need for higher order vagueness. When we see in Part II how we can understand this material with no appeal at all to sets the perceived need for higher order vagueness will dissipate. [↑](#footnote-ref-19)
20. See also the discussion below. [↑](#footnote-ref-20)
21. It is to rule such cases out of consideration that Williamson embeds the Tarski biconditions inside the condition, u says that P. [↑](#footnote-ref-21)
22. Footnote: Again, leaving critical discussion of Williamson’s margin for error principles to prior work of others. [↑](#footnote-ref-22)
23. Machina and Deutsch (202, 27) briefly mention a few of the considerations in this section. [↑](#footnote-ref-23)
24. ( Caie, (2014, 59); Schiffer (1999, 492, 493, 497); Keefe (2000, 64); Keefe and Smith (1997, 18, 21); Burgess (2001, 507); Machina and Deutsch (2002, 27,35); Ludwig and Rey (2002, 440-441; 2017, MS 14) Field (2000, 6); Wright (1995, 156), Tye (1997, 248-249), Magidor (Preprint, 9). Papers listed in the references not otherwise mentioned ithe text are included because they contain further valuable critical examination of Williamson’epistemicism. [↑](#footnote-ref-24)
25. See MacFarlane (2016, p. 278) [↑](#footnote-ref-25)
26. One commentator asked whether Williamson could appeal to reference magnetism (The idea goes back to Lewis, but see Sider, 2011). I do not here have space to defend my skepticism about this idea. In any case it is a notion that has been suggested for natural kind terms only and would fail completely for the problem we consider next. [↑](#footnote-ref-26)
27. Strictly speaking, above I have only argued that epistemicism for predicates is the inevitable consequence of any properties account of the meaning of predicates. The problem cases to follow all involve reference. There is much to fill in here, but it will be clear enough that for the kinds of cases here in question, the issues will be parallel. In my (2018b, section 3) I argue that the problems for reference are also ubiquitous . [↑](#footnote-ref-27)
28. Readers will note the parallel with Williamson’s assumptions about predicates. [↑](#footnote-ref-28)
29. By “use” Williamson understands dispositions for use of a term, not, or not just, the way the term has actually been used. (1994a, 205, 206, …) Williamson also specifies that the environment can be a ‘constitutive factor in meaning.’ He cites as an example the ways in which environmental facts about natural kinds can interact with use in determining meaning for natural kind terms. (1994a, 205-6) It would be natural to include environmental factors that fill in otherwise free parameters in statements (time, place, reference class…). Williamson gives no other specification of what kinds of environmental factors might be relevant. If just anything can count, the thesis is in danger of being trivialized. So I will assume that the only environmental factors to be included are ones that function in picking out natural kinds and the fixing of parameters in statements. Inclusion of a limited number of further environmental considerations will not affect what follows. [↑](#footnote-ref-29)
30. Cf also Keefe and Smith (1999,22), Keefe (1995, 394). Keefe (2000, 75-84) gives a general discussion of the problems with Williamson’s views on use determining meaning and exact extensions [↑](#footnote-ref-30)
31. There is yet another difficult that would take us too far afield to more than mention. In his (1996, 330), Williamson is very explicit that “semantic truths supervene on non-semantic truths” But ‘use’ is already a semantic notion. That a particular vocalization (‘use’) counts as attributing some specific property to a thing, already presupposes many facts about meaning. More broadly, semantic notions are already presupposed in supposing that a vocalization counts as a speech act at all. This is a general issue with any “use” account that claims to naturalize intentionality by extracting semantic from non-semantic facts. [↑](#footnote-ref-31)
32. The only response that I have found to this worry is that the relevant uses are the ones that are ‘are salient in that context.’ (1997a, 952) See just below. [↑](#footnote-ref-32)
33. Morton (1995 p. 275) briefly makes a similar point.
 [↑](#footnote-ref-33)
34. These smallest units will, at least often, be smaller than lexical entries that themselves can have structure with semantic content: gender, case, mass vs count nouns and many other features for which lexical entries are marked that have both semantic content and syntactic effects. See note 36 for further comment. [↑](#footnote-ref-34)
35. E.g., see Fodor and Lepore (1996, p. 255). [↑](#footnote-ref-35)
36. ”’lexical vagueness’, strictly speaking is not the right term to use. See note 34. But ‘lexical’ most clearly conveys the point that the issue concerns how root semantic values attach to the world. [↑](#footnote-ref-36)
37. Of course vagueness has to be sharply distinguished from the entirely different phenomenon of ambiguity. See Bromberger (2012)
 [↑](#footnote-ref-37)
38. One commentator insisted that nothing short of a fully integrated account is acceptable. This would be like rejecting a physicist’s use of Newton’s second law, F = ma, unless accompanied will a full account of how forces arise. Not only is a fully unified account generally not available, the details often obscure more than they illuminate. [↑](#footnote-ref-38)
39. Fodor and LePore (1995) provide a good example of this mistake. Kamp and Partee(1995) illustrate the kinds of contortions that occur if one insists on treating attachment and combinatorics together. [↑](#footnote-ref-39)
40. At the ellipsis I have omitted their third condition, “or neither true nor false of”.  Ludwig and Rey have explained to me (personal communication) that in their exposition this condition needs to be included because they want the rules of application of a semantically complete predicate to cover cases of bivalence failure when sortal requirements are not satisfied.  I omit this condition because, following Williamson, I am putting to one side complications of sortals as they do not importantly bear on the issues pertaining to this discussion. [↑](#footnote-ref-40)
41. Again, I streamline by putting aside complications induced by sortals. [↑](#footnote-ref-41)
42. It is extremely misleading to label such idealized use, or “pretense” as “fictional”. That a representation is not completely accurate does not automatically make it fictional! In Winsburg’s example (2008, 180), if a biography is found to have some mistakes in it, we do not then put it on the fiction shelves of a book store. Winsberg explains that what determines whether inaccurate representations are appropriately classified as fictional or faithful, though imperfectly so, turns on their intended use. (2008, 180-1) [↑](#footnote-ref-42)
43. In my (2017) I have argued that there are no properties attached to ‘red’, ‘funny’…. In my (2018a) I show that attachment to physical properties and quantities even fails in physics. Consequently the puzzles of vagueness in principle cannot be solved using the idealized tools of semantic theory, or anything like them. [↑](#footnote-ref-43)
44. See Teller (2017) and Elgin (2017). [↑](#footnote-ref-44)
45. In many cases it will be easy to specify strict semantic relations between meanings given as open-ended rules of application. For example, with converse relations, such as *south o*f and *north o*f there would be two specification of the same open-ended rule of application with switched variables. [↑](#footnote-ref-45)
46. The approach briefly summarized here has much in commom with Sainsbery’s (1991, 178-182) more detailed sketch. See section 13 for repercussions for higher order vagueness.
 [↑](#footnote-ref-46)
47. Which is to opt for the second reading left open in note 6.
 [↑](#footnote-ref-47)
48. This argument is the same as, or at least very similar to, one given by Strawson (1991, 167-170 and 1999, 253-5). Strawson then points out that when we collect all finite orders of higher order vagugueness for a term, we are right back where we started. [↑](#footnote-ref-48)