Sex, Vagueness, and the Olympics

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Our traditional sex categories, male and female, are indeterminate. That is, some people do not fit neatly into, or out of, either category, and so cannot readily be classified as male, female, or other. Athletic competitions, however, usually organize participants by sex, so for decades the International Olympic Committee (IOC) has made efforts to stipulate who may compete as a woman, most recently in 2012. Judgments about who “counts” as a woman, even made for a limited purpose, are contentious; significant debate followed the 2012 decision. Noteworthy for my purposes is that an implicit assumption was shared by all parties to that debate: the criteria for the sex-categorization of athletes are not fixed by physical and semantic facts—they are chosen.<1>

That assumption reveals two significant features of vague (and otherwise indeterminate) terms. First, people resolve linguistic indeterminacy in a variety of contexts by choosing how to further specify what they mean. Second, thinking of indeterminate terms as a locus of choice is necessary for some important kinds of moral reasoning about language use.

Each of those features, I will argue, suggests a challenge to epistemicism, the view that vagueness results from ignorance. According to epistemicism, vague words (like ‘bald’ or ‘tall’) *appear* to lack precise extensions, but their vagueness is really just our ignorance about where to draw the line. That is, there is one hair that makes the difference between bald and not bald, but we do not know which it is. If vagueness is often resolved by further stipulation, however, then epistemicism seems to misrepresent how it functions as part of natural languages. Call that the Descriptive Problem. Furthermore, if some kinds of moral reasoning require that we think of indeterminate terms as a locus of choice, and if epistemicism rejects that way of thinking of them, then epistemicism stands in the way of such moral reasoning. Let us call that the Normative Problem.

Both problems are grounded in a particular take on what a theory of vagueness is for. Like epistemicists, I expect a theory of vagueness to explain how vague locutions in natural languages can be translated into a truth-functional formal language. However, I also expect it to explain what vagueness is and how it works as a useful part of natural languages. I give some reasons to adopt that more comprehensive standard in Sections III and IV.

I. The International Olympic Committee’s 2012 Ruling

Over the past decade, the press has reported growing public indignation over the treatment of female athletes when their sex is called into question.<2> So the IOC has been under pressure to revisit its regulations regarding competition in women’s Olympic events. “Sex verification” tests of the early 1960s took the form of physical inspections of naked athletes; in the later 60s sex chromosome tests were performed using buccal smears, obtained through cheek swabs (Karkazis et al. 2012, 6). The 2012 ruling, by contrast, does not suggest that the IOC should “verify” the sex of a person, and eligibility for competition in female events is now based on a person’s functional testosterone level, measured through a blood test.<3>

If, in the opinion of the Expert Panel, the investigated athlete has female hyperandrogenism that confers a competitive advantage (because it is functional and the androgen level is in the male range), the investigated athlete may be declared ineligible to compete in the 2012 OG [Olympic Games] Competitions by the IOC Executive Board, based upon the opinion of the Expert Panel and the recommendation of the Chairman. (IOC Regulations on Female Hyperandrogenism 2012, bracketed phrase mine)

In short, a person is declared ineligible to compete in a female event category in the Olympics if her functional testosterone level is found to be in the “male range.”

Why use that criterion rather than an earlier one? After all, physical appearance is our ordinary way of distinguishing men from women, and chromosomes are often taken to reveal the “essence” of a person, so those criteria both seem sensible. The IOC’s rationale for the 2012 criterion is that the competitive advantage of men in many athletic events is due to their higher testosterone levels.<4> “Androgenic hormones have performance-enhancing effects, particularly on strength, power and speed, which may provide a competitive advantage in sports” (IOC 2012). So if a woman’s functional testosterone level is within the range of ordinary male testosterone levels, she might be expected to have the same competitive advantage as men. In that case, it would seem fairer for her to compete in men’s events. The use of testosterone as the sole criterion is controversial, in part, because of the complex interrelations among human sex characteristics; many seem relevant, but they can point in different directions. A person’s sex characteristics may not all align with the *same* sex or may not align with *either* sex.

First consider the case of a person whose sex characteristics do each align with one sex or other, but not all with the same sex. A person who would qualify as a woman according to the IOC’s physical inspections of the early 1960s might not qualify by the chromosome test or the blood test (or vice versa). For example, people with androgen insensitivity may be born with male (XY) sex chromosomes and have male levels of testosterone, but still appear female because the androgens in their bodies are unable to play their usual role in the development of male characteristics. A person with congenital adrenal hyperplasia (CAH), on the other hand, may be born with female (XX) sex chromosomes and female internal organs, but with apparently male genitals. Later in life, such a person may develop typically male secondary sex characteristics.

Now consider the added complication that sex characteristics need not align with a sex category at all. For example, people with CAH are often born with what are called “ambiguous” genitalia, such as a phallus that is longer than a typical clitoris but shorter than a typical penis. Sex hormones also need not align with a sex category. The IOC ruling depends upon the fact that most women have testosterone levels ranging from 15-70 ng/dL (nanograms per deciliter) of blood while most men have testosterone levels ranging from 300-1000 ng/dL (Topiwala 2012). Some people, however, have testosterone levels in the “gap” between typical male levels and typical female levels. Those testosterone levels are borderline cases between male and female levels: they do not align with one sex or the other. As it happens, no human sex characteristic reliably aligns with a sex category at all. That is, for every sex characteristic, there are some people for whom it does not clearly indicate either maleness or femaleness.<5>

Given so much complexity, the IOC’s choice of testosterone as the single measure of a person’s sex may seem simplistic or arbitrary: testosterone is not solely responsible for the differences in athletic abilities between men and women, and a person’s testosterone level is not a static property—it continuously changes with external factors like time of day, menstrual cycle, athletic training, and stress. One might go further and challenge sex-testing of any sort. It is a disempowering and disorienting experience for a person to have her sex questioned and possibly overruled by an external authority. It also seems unfair that only female-identified athletes are subject to this disturbing experience.<6> On the other hand, athletic competitions for women are an important way to celebrate the excellence of female athletes. Because top male athletes routinely out-compete women in many sports, keeping athletic competitions genuinely open to women seems to require separate events, and so regulation of who may compete in women’s events (Vilain 2012).

The details of that controversy are well worth exploring, but beyond the scope of this essay. Focus instead on what the parties to the debate have *in common*. Their disagreement is over these central questions: Should we define sex categories, even for limited purposes? If so, then what criteria should we use? And given some agreed-upon criteria, where should we draw the line(s)? My contention is that the acceptance of those questions as a starting point demonstrates implicit acceptance of the following assumption: Whether and how we define sex categories is a choice we make, based upon practical considerations.

II. Vagueness and Indeterminacy

The philosophical discussion of vagueness has largely focused on a specific puzzle: the sorites paradox. Many philosophers take the “borderline cases” at the heart of that paradox to be definitive of vagueness.<7> For example, ‘night’ is vague because there are borderline cases between those times when it is night and later times when it has become day (not night). Terms like ‘night’, those that have borderline cases, can be used to construct a sorites argument:

1. One second cannot make a difference between night and not night.
2. Consider a particular series of times from midnight to noon, each of which is one second later than the previous time in the series.
3. The first time in the series (midnight) is at night.
4. Because the first time in the series is at night, and one second cannot make a difference, the second time in the series is also at night.

[… many similar steps in the argument…]

n. Therefore the last time in the series (noon) is at night.

The argument is paradoxical because its false conclusion seems to follow deductively from apparently true premises.

That the broad term ‘vague’ is often narrowed by philosophers to mean “those terms that can be used to create a sorites argument” may perhaps be explained by the serious threat the sorites paradox poses to widely-accepted logical systems. It is not obvious how to escape it short of abandoning either an apparently true premise or an intuitive form of reasoning like *modus ponens.* However it arose, though, this narrow understanding of ‘vagueness’ excludes many of the phenomena commonly called ‘vagueness’ outside of philosophy. For example, I take the following sentences to be acceptable ordinary uses of the word ‘vague’:

She dismissed the blog as fatuous while vaguely gesturing at the computer.

He had a vague feeling that something was wrong but could not say why.

The question, “Which mountain is the tallest on Earth?” is vague; it has different answers depending upon how the question is further specified.

None of them could be expressed as a sorites argument, so they do not meet the narrow, philosophical definition of ‘vague’.

To eliminate this ambiguity about the word ‘vague’, let us reserve it for the narrower phenomenon discussed in philosophical contexts. The broader phenomenon can be called by the more general term ‘indeterminacy’, the lack of a fully determinate meaning. The examples I listed above can all be understood as indeterminate: A “vague gesture” is meaningful, but has only an indeterminate meaning. A “vague feeling” cannot be described with even an ordinary degree of clarity or lacks a determinate object. The “vague question” about the tallest mountain is indeterminate because each competing interpretation is a viable way of understanding the question’s meaning.

 The IOC’s ruling treats sex categories as vague, in the narrow sense, but they are probably better understood as indeterminate in a variety of ways. According to the ruling, a person’s testosterone level alone determines whether he or she may compete as a woman. We can imagine a series of people, lined up in order of testosterone level. On the left are the clear cases of women, with low levels of testosterone. On the right are the clear cases of men, with high levels of testosterone. In the middle are those whose testosterone levels are borderline cases, “falling in the gap” between the typical female and male ranges. As in any sorites series, there is something uncomfortable about drawing a sharp line: a barely detectable difference in testosterone level is irrelevant to a person’s athletic abilities and to a person’s sex. But the IOC needs a sharp line. In effect, its rule draws a line between two people in the series whose testosterone levels are barely different and says that those on the left may compete as women, but those on the right are eligible only to compete as men.

 A more nuanced description of sex categories would consider many criteria. If we even consider other sex hormones, a single linear series already seems inadequate to capture the indeterminacy: There is no one right way to order on a single series, for example, people who have both high estrogen and high testosterone levels relative to those who have low levels of both. A single linear series fails even more obviously when we consider some of the other features that are relevant to sex categorization: sex chromosomes, genital appearance, and secondary sex characteristics like body hair and musculature. In addition to the problem that the criteria may pull in different directions, sex chromosomes are not gradable. That is, sex chromosomes do not differ from person to person by degrees. It is nonsensical to ask where on the “continuum” of female to male we ought to place a person with sex chromosomes XXY. The answer is that there is not a simple, continuous series between female and male with respect to sex chromosomes; *a fortiori* there is no such series from female to male.

Sex categorization is not simply vague; it is vague along multiple dimensions and ambiguous along some others. Thus ‘male’ and ‘female’ are better described as indeterminate terms than as narrowly vague ones. In the next sections I apply Scott Soames’ (2012) argument for a semantic approach to *vagueness* to the broader phenomenon of *indeterminacy*, using sex as my example. That application of his argument illustrates the Descriptive Problem with epistemicism.

III. Two Theoretical Approaches to Vagueness

Epistemicism is an elegant solution to the sorites paradox. In response to the sorites argument above, the epistemicist would deny premise one: “One second cannot make a difference between night and not night.” According to epistemicism, there *is* one second that makes the difference.<8> ‘Night’ is vague only because we do not and perhaps cannot know which second is the last second of night, and so we are unable to classify each second in the series reliably. Our ignorance of the full meaning of ‘night’ makes premise one seem attractive, but epistemicism claims that it is false, nevertheless. After all, it leads to a false conclusion, using relatively uncontroversial reasoning.<9>

Semantic theories of vagueness, on the other hand, deny the central epistemicist claim that vague words have precise meanings. That is, they say the meaning of ‘night’ does not fully determine which seconds are at night and which are not. There is little agreement among semantic theorists of vagueness about how to resolve the sorites paradox, but there are many proposals.<10> To what extent the various proposals are viable as solutions to the sorites paradox is the primary concern of most philosophical essays on vagueness. Here, instead, consider how well these general theoretical approaches to vagueness—epistemic and semantic—explain the ordinary uses of vagueness in natural language. An account of vagueness that tells us how to translate vague expressions from a natural language into a formal language without stopping to explain what vagueness is, or what role it plays in natural language, would be missing a key part. So let us examine how well each approach accounts for the function and value of vagueness in natural language.

Soames (2012) argued that instances of vagueness in the law provide the basis for an argument against epistemicism and in favor of his own semantic theory of vagueness. Laws often depend heavily upon vagueness for their proper functioning, so vague laws make a good test case for judging the practical implications of different theoretical approaches to vagueness. One of Soames’ central examples is drawn from H.L.A. Hart (1958). It goes roughly like this: Suppose there is a sign in a city park that reads “no vehicles.” The word ‘vehicle’ is vague. Paradigmatically, it includes cars and trucks, but there are many non-paradigmatic cases we might encounter, like wheelchairs, strollers, skateboards, bicycles, horses, and so on. To enforce the law, we must determine which of those are vehicles.

Epistemicism maintains that there is a fact of the matter about the meaning of ‘vehicle’ which would decide the question, if it were knowable and known. Because that fact is unknown (and perhaps unknowable), though, it is not obvious how epistemicists might recommend adjudicating the application of the law. I think there are two general strategies open to epistemicists: First, because they believe there is a single, correct classification of all objects as vehicles or non-vehicles, they might recommend resolving the question by finding or approximating the correct classification. Second, because many epistemicists believe that facts about the precise meanings of vague words are unknowable, they might deny that legal questions have anything to do with the actual meanings of vague terms. That is, how to interpret the law would be taken as outside the scope of an epistemic theory of vagueness. Let us consider each possibility in turn.

Suppose the epistemicist tries to find or approximate the correct application of the term ‘vehicle’.She might, for example, consider the objects in order from least “vehicle-like” to most “vehicle-like” and note where a particular borderline case falls in the series. If it is closer in the series to those things that are clearly vehicles than to those that are clearly not, then it is probably a vehicle.That would be a satisfyingly simple solution, but of course it is not obvious whether a skateboard is more vehicle-like than a horse. It is hard to see how to order those things into a linear series.<11>

One possibility for ordering is that we might poll fluent speakers of English to see how likely they are to count each of the contested objects as a vehicle. If more people say that a skateboard is a vehicle than say that a horse is a vehicle, then a skateboard is more vehicle-like than a horse. Such a poll might also help us to determine where to “draw the line” in the midst of the borderline cases. We might decide that if, say, at least 50% of fluent English speakers call a horse a vehicle, then horses *are* vehicles, to the best of our knowledge, and so are not permitted in the park.<12>

Soames takes epistemicism to be committed to some such method for interpreting the law: “[S]ince the content of the statute already determines the legal status of every borderline case, the first duty of the downstream authorities is to assign the borderline cases that come before them the legal status those items most probably already have” (2012, 106). But that mischaracterizes the law: vague language is often used there with the express intention that future cases should be left open for decision in light of future circumstances. Soames contends that because epistemicists take vague words to have precise meanings, they are committed to the belief that future city council members would be wrong to interpret the law in light of the needs of park users. There is a fact about whether each borderline case really is a vehicle; the council must try to get it right, using the best evidence they have. That strategy is contrary to good practice.

Consider the other strategy: Although epistemicists do accept that there is a fully determinate meaning of ‘vehicle’, they need not think that meaning is relevant when deciding how to treat borderline cases. If the city council intentionally exploited vagueness in order to leave the law open-ended, then an epistemicist might reasonably recommend using our best judgment about the needs of park users when interpreting ‘vehicle’ in that context. Although the term ‘vehicle’ has precise application conditions, they are unknowable and so irrelevant. We should not expect a theory of vagueness to address this sort of practical question.

That strategy is also problematic, though, in that it limits the role of epistemicism so sharply. Practical guidance about navigating the use of vague language is just the sort of thing one would expect a philosophical theory of vagueness to offer, but this version of epistemicism aims only to resolve the sorites paradox. That leaves most of the interesting and difficult questions about vagueness unanswered. It is like explaining the medical effects of ether by reference to a “dormitive principle;” it is no real explanation at all. Perhaps epistemicism is consistent with a plausible account of how vague expressions function in natural language. Until it has been demonstrated, though, we cannot be sure.

Soames addresses the problem of vagueness in the law by means of a semantic theory of vagueness. He argues that vagueness is not caused by simple ignorance about the (fully determinate, but unknown) meanings of words, but rather by the fact that the extensions of many words are only “partially determined.” That partial determination leaves open the possibility of further determining the reference of a word, either in a single context or across contexts. Using Soames’ approach, we consider the purpose of the “no vehicles” law and then decide which of the non-paradigmatic vehicles should be excluded from the park. For example, if the point of the law is to prevent excessive noise, we might count only motorized “vehicles” as vehicles. If the point is, instead, to prevent pedestrians from being crowded, we might also count horses and bicycles. The vagueness of ‘vehicle’, on Soames’ view, gives the law some needed flexibility: we may further decide how to use ‘vehicle’, in the context of a law, in keeping with its purpose. Epistemicists cannot make use of vagueness in that way because it is not a source of flexibility or a locus for decision-making for them, merely an indication of ignorance.

IV. Sex and the Descriptive Problem

Categorizing athletes by sex is a more powerful example than Soames’ “no vehicles” case for two main reasons. First, it demonstrates the breadth of the practical problem by showing that such issues arise outside of the law, and in cases of indeterminacy (rather than only in cases of vagueness narrowly construed). Second, and more importantly, the example of sex categorization of athletes illustrates the moral importance of understanding and using indeterminacy well.

 As with ‘vehicle’, if we approach the indeterminacy of ‘female’ as epistemicists, we must choose between explaining the indeterminacy badly or not at all. Suppose we attempt the first strategy we used for ‘vehicle’. We attempt to remedy our ignorance about borderline cases of ‘female’ as best we can. We might poll fluent English speakers, declaring a person to be female just in case at least half of the respondents would classify her that way. Or we might ask our polling group to rank the importance of various sex characteristics in determining whether a person can be properly described by the word ‘female’, and then use that data to create a more precise definition. For example, suppose we found that English speakers usually rank “genitals appear typical of a female person” to be more central to their notion of ‘female’ than “has sex chromosomes XX.” In that case, we might take ourselves to have discovered that a person who has sex chromosomes XX, but “ambiguous genitalia” is less female than a person with XY chromosomes and female-typical genitals. That strategy is no more promising in the case of ‘sex’ than it was in the case of ‘vehicle’.

 Alternatively, epistemicists could say that every person is correctly classifiable as ‘female’ or ‘not female’, but that our ignorance of the full meaning of ‘female’ prevents us from using it to classify some people. That has the advantage of allowing the use of some unrelated decision procedure to address the question of who may compete in women’s Olympic events, relieving epistemicism of the responsibility. If there were a good decision procedure that fit well with epistemicism, such a combined theory might be a useful and explanatorily powerful approach to indeterminacy.

 Semantic approaches to indeterminacy are already there. If we attribute indeterminacy not to our *ignorance* of determinate meanings, but to the *absence* of determinate meanings, answering the IOC’s question would require us to consider why the meaning of ‘female’ needs to be further specified and to tailor our definition to that need. That is just what the IOC did in its 2012 ruling, and what both the supporters and opponents of the ruling think ought to have been done. Disagreement arose about whether further specification was really necessary and whether the IOC’s definition was well-tailored to its purpose; it did not arise about whether we are correctly applying the already fully determinate word ‘female’.

I take the IOC’s 2012 decision and the ensuing disagreement to be data about how indeterminacy is used in natural language. Those data are better explained by a semantic approach than an epistemic one. If we set our standards high, asking that a theory of indeterminacy should account for actual usage of indeterminate terms in natural languages, epistemic approaches compare unfavorably to semantic ones.<13>

V. Sex and the Normative Problem

Epistemicism lacks a key descriptive element because it does not explain how indeterminate expressions function as a useful part of natural language (the Descriptive Problem). It also has problematic moral consequences. The Normative Problem rests on the simple fact that speech is a kind of action, and people are morally responsible for their actions. I divide the Normative Problem into two related concerns.

 First, epistemicism is apt to reinforce the traditional binary sex categorization of people, what Bem (1995, 330) calls the “two-and-only-two” conception. Before I explain why I think that is so, let me say a bit about why that categorization of people is morally problematic, focusing on just one particularly compelling case: the treatment of infants whose sex characteristics are not uniformly typical of one sex or the other.<14> It is standard medical practice in the contemporary developed world for physicians to “assign” such infants a sex as early as possible (Karkazis 2008, 3-7). Such an assignment usually involves a series of painful, debilitating childhood surgeries, beginning within the first two months of life, as well as a permanent dependence upon hormone treatments.<15> Although most “intersex” conditions do not require medical intervention for the physical health of the infant, doctors and parents often believe that a person’s psychological health requires either a male or a female gender identity from infancy.<16> To the extent that that is true, it is a consequence of social pressure to conform to expectations about gender. The social importance of binary sex categories thus contributes to the prevalence of medically unnecessary, traumatic surgeries performed on people incapable of consent.

Epistemicism contributes to that problem by encouraging simplistic thinking about conceptual categories. *Male* is a precise category for epistemicists: each person simply is male or is not. Likewise, each person simply is female or not. Though we do not know just which people belong in each category, we know that there is a right answer about each person. So it is *prima facie* reasonable to attempt to categorize each person as either male or not male, and as either female or not female. Nothing about epistemicism requires that *male* and *female* are mutually exclusive and jointly exhaustive, but neither does it give us any grounds to question our culture’s pre-theoretic notions of sex. To the extent that epistemicism encourages the reification of words generally, it may lead to bad habits in doing metaphysics, such as assuming there must be an object or class to correspond to each noun; in the case of words like ‘female’, that bad habit can also have dangerous real-world consequences.<17>

Now let me qualify that criticism. Suppose we agree that binary sex categorization is morally problematic. How culpable is epistemicism for reinforcing it? While epistemicism does accept that every term has a well-defined extension and anti-extension, it denies that we know (or can know) exactly how things are divided up. Because of that ignorance, epistemicists can deny any connection between the determinacy of a term’s extension and the practice of categorization using that term. So although each person really is either male or not male, ignorance prevents determinate categorization of every person. In that way, epistemicism could avoid entanglement in the practice of categorizing people as male or not male.

In further defense of epistemicism, note that nothing commits the theory to accepting only two sex categories. An epistemicist could grant that some people are neither male nor female, while maintaining that the words ‘male’ and ‘female’ each have a determinate extension. Such an epistemicist would add another (also fully determinate) category “between” *male* and *female*. That third category might include people with testosterone levels in the “gap” between typical female and male levels, as well as infants born with a phallus longer than a typical clitoris but shorter than a typical penis.

Adding that intermediate third category may seem to resolve the difficulty, but like the categories *male* and *female*, “the category *intersex* blurs as soon as one attempts to draw its borders […]” (Karkazis 2008, 18-9). Because some people are borderline cases between *intersex* and *male*, the reasons to have more than two categories also militate for more than three.<18> Such a view would not be as dangerous as the default gender binary, but the proposal is unwieldy. Suppose there are many perfectly precise sex categories, each with unknowable borders. That concept of gender categories would be unhelpful as a classificatory strategy since the unknowable borders of the categories would prevent us from placing people in them, and the multitude of categories would be too complicated and too unlike our ordinary notions of sex for widespread adoption.<19>

My criticism, then, is not that epistemicists are compelled to categorize people by sex in a simple, binary way. It is rather that the epistemicist preference for precision encourages the bad habit of reification, even in sensitive contexts. That is, although epistemicism does not *enforce* a simplistic understanding of categories, it leads us down the garden path. In the case of sex categories, that tendency is dangerous to infants and other vulnerable people.

My second concern about the normative consequences of epistemicism is that I believe proponents of the view have no ready way to make use of, or even to make sense of, some important kinds of moral considerations. Typically, we become aware of the indeterminacy of a term when we are confronted with borderline cases that prevent us from achieving some practical goal. I want to put away the laundry correctly, but do undershirts count as T-shirts? They might or they might not, depending not upon the true meaning of ‘T-shirt’, but rather upon the organizational principle at work in the closet. In the case of the Olympics, borderline cases of ‘female’ make it difficult for the IOC to achieve the goal of permitting only female people to compete in women’s events. They stipulated a more determinate meaning of the word ‘female’ within the context of the Olympics, used it to sort borderline cases in a principled way, and so achieved their goal. Many stipulations could have done that job, but theirs was chosen with sensitivity to the purpose of the new definition and to its implications. Evidence of that sensitivity is in the careful justification they gave for the definition, and in the attempt to “quarantine” it by indicating that the ruling is not meant to settle questions about sex or gender outside the context of the Olympics.

Many semantic approaches to vagueness recommend just that sort of stipulation, demonstrating their compatibility with taking a certain kind of moral action.<20> Roughly, I think the process works like this: First, you recognize that the meaning of a word is indeterminate and so may be further determined by participants in a particular conversation or practice. Second, you note that such stipulations about meaning can have significant practical consequences. Third, you consider the practical consequences of each stipulation under consideration, for example, how well it would fulfill the purpose at hand, and what benefits or harms it might cause. And finally, you choose how to use the indeterminate word in light of those practical considerations. Because semantic approaches to vagueness often explicitly acknowledge the element of *choice* and focus on the practical side of vagueness, taking on such an approach may reveal the moral weight of those linguistic choices.

Epistemicism, by contrast, denies that we can legitimately choose how to further specify the meanings of vague words, since their meanings are already fully determinate. Because we are ignorant of those meanings, it may be possible for us to make some choices about the application of vague words, but those choices are always subject to the external standard of the word’s true meaning. Denying our agency in that way ends the process of responsibly choosing how to use a vague word at the very first stage. If something is outside of your control, you do not have moral responsibility for it. In this case, epistemicism denies that we have control, and so also that we have moral responsibility, in a situation where we appear to have significant moral responsibility. It obstructs reflection about the purpose of a definition, the moral values it expresses, and its practical effects. Even if epistemicism is right that all meanings are fully determinate, we nevertheless should act as if they are not when faced with morally weighty questions about how to use an indeterminate word. That is, epistemicism must adopt the practical resources of a semantic approach to vagueness in order to acknowledge our responsibility for choosing how we use vague words. Alone, it effectively forecloses the possibility of considering questions like: Is our definition of ‘female’ useful? Is it harmful? Who stands to gain or to lose as a result of this definition? To take such questions seriously, even to notice the important moral considerations involved in language use, we must believe that we sometimes have a genuine choice about what we mean by a word. According to epistemicism, the meanings of words are fully determined by factors outside of our control. You can choose *whether* to use a word but not *how* to use it, or what you mean by it.

Epistemicism faces the same dilemma here as it did with respect to the Descriptive Problem. Namely, it is either irrelevant to “real-life” instances of vagueness and indeterminacy—those times when a theory of vagueness is most needed to shed light on something of broad importance—or it is relevant but it offers poor guidance.<21> Taking a semantic approach highlights the complexity of indeterminate terms and allows us to recognize and take responsibility for the moral consequences of our linguistic choices. There is one key difference between the problems, though: The Descriptive Problem begins with data about how indeterminate expressions are used, and shows that epistemicism appears inconsistent with those data. The Normative Problem begins with *prima facie* moral commitments, and shows that epistemicism appears to stand in the way of meeting them. While epistemicists are unlikely to deny linguistic data, they might deny the moral responsibility I have proposed.

A more fundamental concern is whether moral considerations are even relevant to the adoption of a theory in the philosophy of language. Language use is a practice and so, like any practice, is susceptible to moral praise or blame. A philosophical theory about language, on the other hand, may seem outside the scope of moral judgment, even when it affects linguistic practice, as in the present case. A theory about some feature of the world can be *incorrect*, but is not ordinarily thought to be morally good or bad. It seems absurd, for example, to reject heliocentrism on the grounds that it makes human actions seem insignificant, and thereby leads to moral apathy. So then, when are moral consequences relevant to one’s choice of theory? The issue is too complex for me to fully address here, but I can mention some suggestive lines of thought. First, the distinction between theory and practice is not as sharp as it may seem. <22> That makes it difficult to exempt anything entirely from moral praise or blame. And second, moral considerations are particularly likely to be relevant when: (1) there are multiple theoretically adequate explanations of the phenomena at issue, (2) those competing explanations have practical consequences, and (3) some of those consequences are preferable to others. Obviously, much more needs to be said. My Normative Problem for epistemicism, however, cannot simply be dismissed as irrelevant.

VI. Summary

 I have proposed two general arguments for a semantic approach to indeterminacy (and thus vagueness) over an epistemic approach: the Descriptive Problem and the Normative Problem. Epistemicism cannot explain how practical problems of indeterminacy are resolved, and so it fails as an adequate description of ordinary natural language use. In addition, the acceptance of epistemicism inhibits our moral reasoning: it obscures the complexity of morally significant concepts and it denies our moral responsibility for the practical consequences of our definitions. Those are powerful practical reasons to prefer a semantic approach over an epistemic approach to indeterminacy.

Notes

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1. Major public participants in the debate, all of whom share this assumption, include: Dreger (2011), Jordan-Young and Karkazis (2012), Karkazis et al. (2012), O’Connor and Dasgupta (2012), Vilain (2012), and Wahlert and Fiester (2012).

2. The treatment of South African runner Caster Semenya, after her victory in a 2009 International Association of Athletics Federation (IAAF) race, was particularly decried. Semenya was perceived as insufficiently feminine, triggering a series of sex tests. Not yet legally an adult, Semenya was also not told that her sex was being tested, and so she was doubly unable to consent. She was then humiliated by an unnecessary public announcement that she could not compete due to questions about her sex. Although she has since competed successfully in international athletic competitions for women, other top female runners are still quick to dismiss her skill as a result of her perceived masculinity (Clarey 2010).

3. They specify *functional* testosterone because people with complete androgen insensitivity syndrome may have a high level of testosterone without its typical physiological effects.

4. It is worth considering to what extent women’s inferior performance is due to sport preferences. There are athletic activities at which women tend to surpass men, but those are not the “important” sports. (Thanks to Susan Ashley for this observation.)

5. An obvious issue I have not mentioned is that *gender* does not depend only upon measurable, objective, physical facts. Our understanding of physical sex characteristics, and the ways we use them to create our binary sex categories, heavily influence (and are influenced by) our ideas about gender. Because of the interplay between gender and sex, there is sometimes thought to be no clear line between them (see Friedman’s (1991)). Nevertheless, in order to make a strong case for the indeterminacy of sex categories, I will continue to focus only on measurable sex characteristics. If even “physical sex” categories are indeterminate, then obviously the same is true for more nuanced notions of gender.

6. These arguments appear in (Jordan-Young and Karkazis 2012) and in (Karkazis et al. 2012, 8 ff.).

7. See the *Stanford Encyclopedia of Philosophy* definition of ‘vagueness’ in (Sorenson 2013).

8. In fact, there must be a millisecond that makes the difference, and a nanosecond. For epistemicists, ‘night’ is perfectly precise.

9. Not every epistemic approach to vagueness must be epistemicism, and not every version of epistemicism works in the same way. The view I describe here has the general features of the most popular versions of epistemicism, (Williamson 1994) and (Sorenson 2001), and epistemicism is by far the most popular epistemic theory of vagueness. There is even greater variety and less agreement among semantic theories of vagueness, but many of them have the general features of Soames’ theory that I will highlight. I mean to be agnostic here about which specific theory is best, while providing evidence for one general theoretical approach over another.

10. Two of the most widely defended types of semantic solutions are supervaluationism/subvaluationism (Fine 1975), (Hyde and Colyvan 2008), (Cobreros 2011) and contextualism (Raffman 1996), (Fara 2000), (Shapiro 2006), and arguably (Horgan 1994). Each of those theories has as many versions as proponents. (Soames 2012) may be thought of as a kind of contextualism.

11. Williamson rejects such attempts to order things in his (1996), where he denies the possibility of our discovering further facts about the meaning of a vague word. In his (1999), however, he claims that “Even if the only disposition of speakers in some borderline case is to shrug their shoulders, the reference-determining factors can still determine whether it belongs to the intension of the vague term. If they do not do enough to determine it to belong, they thereby do enough to determine it not to belong” (510). That is, he seems to recommend deciding every borderline case in the negative. If a horse is a borderline case of ‘vehicle’, because the reference-determining factors do not determine it to belong to the intension of ‘vehicle’, then the horse is not a vehicle. That suggests he *is* open to the possibility of discovering further facts about the meanings of vague terms.

12. If you tried to put either of those methods for ordering into practice, however, you would immediately encounter difficulties. See Raffman (2010) for a superb discussion of ordering and line-drawing complications, particularly in the context of higher-order vagueness.

13. An epistemicist might object that my argument begs the question. They could say the IOC and subsequent parties to the debate are wrong to believe they can stipulate the meanings of indeterminate expressions. Epistemicists need not account for such mistaken usage; their view is a corrective to it. I disagree because I think indeterminacy is a naturally occurring linguistic phenomenon to be studied and described—a valuable part of how we communicate. Natural language is not something to be fixed by philosophers.

14. Many reasons to reject binary conceptions of sex and/or gender are worth consideration, but the issue is too complex for even a cursory survey here. Some foundational academic sources on the subject are (Bem 1995), (Fausto-Sterling 2000), and (Witt 2011). Interesting arguments are also widespread in online public discourse.

15. The main reason for surgery is to create “normal looking” genitals. This usually involves removing all or part of a baby’s clitoris because it is “too large,” or removing a baby’s penis and testicles, replacing them with a surgically-constructed vagina, because the penis is “too small.” Multiple surgeries may be necessary as the child grows. Such surgeries can be debilitating in many serious ways; one common result is that when those children become adults they find sexual intercourse unpleasant or even painful. See Karkazis (2008) and Quinn (2013) for general overviews of those worrisome surgical practices and their consequences, and see Crouch et al. (2004) for extended discussion of a specific disorder of sexual development, congenital adrenal hyperplasia, and its treatment.

16. From the beginning of surgery as a profession in the Western world, intersex genitals have been an object of surgical concern. Genital surgery on *infants*, however, is a relatively new phenomenon. (DeVun, forthcoming)

17. I refer to the kind of reification of words that Russell circumvented in his (1905) and that Quine later rejected explicitly in his (1948).

18. See (Raffman 2010) for problems with the proliferation of intermediate categories.

19. To further complicate matters, recall that a person may be male by one criterion and female by another (as I described in Section II). There is no principled way to order people along a single continuum between *male* and *female*, and so no number of additional categories along such a continuum gets the facts right. Epistemicism is not committed to treating sex as a single continuum; it is consistent for an epistemicist to hold that sex categories are not properly vague (on the narrow definition) and so do not fall within the scope of their theory. The trouble with such an answer is that most paradigmatically vague terms are similarly complex. What *does* fall within the scope of epistemicism?

20. Again, I think this is common among contextualist, supervaluationist, and subvaluationist accounts of vagueness.

21. An epistemicist could take up this gantlet, giving an account of how indeterminacy functions in natural language that works comfortably with epistemicism. Until that account is developed, however, I claim greater explanatory power for semantic accounts of indeterminacy.

22. This issue has been under discussion for some time already in the philosophy of science. (Longino 2015) and (Machamer and Wolters 2004) are good introductions to that conversation.

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