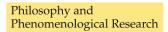
ORIGINAL ARTICLE



The Metaphysics of gender is (Relatively) substantial

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Abstract

According to Sider, a question is metaphysically substantive just in case it has a single most natural answer. Recently, Barnes and Mikkola have argued that, given this notion of substantivity, many of the central questions in the metaphysics of gender are nonsubstantive. Specifically, it is plausible that gender pluralism—the view that there are multiple, equally natural gender kinds—is true, but this view seems incompatible with the substantivity of gender. The goal of this paper is to argue that the notion of substantivity can be understood in a way that accommodates gender pluralism. First, I claim that gender terms (at least as used in the ontology room) are referentially indeterminate, where referential indeterminacy holds in virtue of the way the world is. Second, I propose a degree-theoretic (or scalar) account of metaphysical substantivity; genders are substantial to the degree that they are determinate. I conclude that gender is relatively, although not absolutely, substantial.

KEYWORDS

indeterminacy, metaphysics, naturalness, social ontology

1 | INTRODUCTION

According to Sider (2011), a metaphysical question is *nonsubstantive* if it has multiple, equally metaphysical natural answers, where some of those answers conflict. For example, the question "Do electrons repel one another?" is substantive because there is a most natural candidate answer,

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one that carves nature at its joints. In contrast, the question, "Is a water glass a cup?" is non-substantive because there are multiple, equally natural meanings of "water glass," where these meanings disagree on the answer to the question.

In light of Sider's definition of substantivity, Barnes (2014b, 2017) and Mikkola (2017) argue that the naturalness framework cannot accommodate the substantivity of gender. Consider the question: "Is Charla a woman?" Given the existence of multiple gender kinds, it is plausible that this question has multiple, equally natural answers. Yes, Charla is a woman $_1$. No, Charla is not a woman $_2$. If such answers exist, then the question "Is Charla a woman?" is nonsubstantive. Barnes and Mikkola take this result to generalize: the definition of substantivity entails that the metaphysics of gender, in general, is nonsubstantive.

Sider (2017) rejects this generalization. While he denies the substantivity of some questions involving multiple, equally natural gender kinds, he nonetheless argues that many questions in the metaphysics of gender can be substantive. For example, the question, "Is gender distinct from sex?" is a substantive question because it (presumably) has a most natural candidate answer.

I believe Sider is correct in thinking the notion of substantivity can be fruitfully applied to the metaphysics of gender, but I believe his definition of substantivity is too strict. Many social metaphysicians are gender pluralists, where pluralism implies there are multiple kinds of (for instance) female gender kinds: biological (*chomosome-woman*, *gonad-woman*), intersectional (*Black-woman*, *white-woman*), cultural (*American-woman*, *British-woman*), and political (*dominant-woman*, *resistant-woman*) (Spelman, 1988; Stoljar, 1995; Fausto-Sterling, 2000; Haslanger, 2012b; Bettcher, 2013; Ásta, 2018; Dembroff, 2018; Bernstein, 2020). If pluralism is true, it is likely that many important questions about the gender *woman* will be nonsubstantive, but such questions seem metaphysically substantive.

The goal of this paper is to show that the naturalness framework can be understood in a way that accommodates gender pluralism. I argue for two specific claims.

First, I argue that, in cases of gender pluralism, gender is indeterminate in the sense that: gender terms (at least as used in the ontology room) are referentially indeterminate, where referential indeterminacy holds in virtue of the way the world is. There will be some gender kinds $woman_1$ and $woman_2$ that are equally natural because, as far as nature is concerned, they are equally good ways of carving up the world. Because there is no way to break the tie between such kinds, I conclude that we should take the term "woman" to exhibit indeterminacy.

Second, I argue that substantivity is compatible with the existence of indeterminacy. Against Sider's absolutist conception of substantivity, I claim that substantivity comes in degrees; a metaphysical question is nonsubstantive to the degree that its candidate answers disagree. With a degree-theoretic (or scalar) notion of substantivity, we can then say that the metaphysics of gender is relatively, but not perfectly, substantial. Just as "is a woman" is a relatively natural predicate, "Is Charla a woman?" is a relatively substantial question.

I proceed as follows. I start by summarizing the debate between Barnes, Mikkola, and Sider on the substantivity of gender (§2). Then I argue that, despite Sider's response, the notion of substantivity conflicts with common forms of gender pluralism (§3). I end by giving my degree-theoretic account of substantivity, one that is compatible with gender pluralism; I also show that the account generally illuminates the metaphysics and epistemology of gender (§4).

¹ My account relies on degree-theoretic accounts of supervaluationism. See Lewis 1970; Kamp 1975, 1995; Edgington 1997; Williams 2011; Decock and Douven 2014; Douven and Decock 2017.

2 | THE NONSUBSTANTIVITY OF GENDER

Contemporary metaphysicians use a battery of different notions to do metaphysics: grounding, essence, real definition, naturalness, etc. I will focus on one notion—metaphysical naturalness—that appears to give trouble for the metaphysics of gender.

The notion of metaphysical naturalness was originally introduced by Lewis (1983). The basic idea is that there are some ways of classifying the world that more perspicuously represent its structure. Consider the properties of *being an electron* and *being blue or an electron*. If we compare these properties, it would seem that the first property better represents the world's structure than the second. Skies and electrons are similar in virtue of being blue or an electron, but this similarity is not metaphysically deep, at least relative to the property of being an electron. The property *being blue or an electron* is disjunctive or gerrymandered, while the property *being an electron* is not. Naturalness comes in degrees, from the most unnatural properties to the perfectly natural.

The naturalness framework requires some commitment to *reference magnetism*, the idea that the world's structure plays a role in determining which entities our words refer to. So the world makes our words likely to pick out the property *being an electron* rather than *being blue or an electron*. A similar story goes for the contents of our thoughts. We say that natural properties are *more eligible* to figure into the contents of our thoughts and meanings. On the standard account, the content of a linguistic expression is jointly determined by its eligibility and its conventional use (Lewis, 1983, 1984; Williams, 2007; Dorr and Hawthorne, 2013; Weatherson, 2013).

There is more theoretical work that naturalness has been thought to perform, but I have described the work—objective similarity and reference magnetism—that is relevant for our purposes. Sider (2011) takes the naturalness framework and generalizes it beyond the category of properties. On his view, reality has an intrinsic structure, and a perspicuous metaphysical language will "carve nature at its joints." We are asked to imagine a language that is used for metaphysical purposes, one designed to describe the structure of reality. Suppose we have two predicates B (being an electron) and B-or-E (being blue or an electron). These predicates may correspond to different metaphysical entities—properties, universals, tropes, etc—but the general claim is that E better represents the world's structure than B-or-E.

Sider applies the notion of naturalness in various ways, but the relevant application in this context concerns substantivity. Intuitively, the question "Do electrons repel one another?" is metaphysically substantive (deep, objective, worldly) while the question "Is a water glass a cup?" is nonsubstantive (shallow, conventional, terminological). Alternatively, "Electrons repel one another" is a metaphysically substantive statement while "A water glass is a cup" is not.

After considering a few problematic ways to cash out nonsubstantivity, Sider settles on the idea that "questions are nonsubstantive because their answers turn on which of a range of equally good available meanings we choose for the words in those questions" (Sider, 2011, p. 46). Recall the question "Is a water glass a cup?" Suppose we center our attention on the noun "cup." We know this term is unlikely to be a perfectly natural carving of the world; cups are not metaphysically fundamental. This alone is not enough to make the question about water glasses nonsubstantive, however. What would make the question nonsubstantive, Sider thinks, is if there were multiple, equally natural referents for the term "cup," according to which some things were cup₁s but not cup₂s. In that case, the answer to the question would not directly turn on worldly matters; it would be closer to a terminological or verbal dispute.

Here is the official definition of nonsubstantivity.

[A] question (construed as the set of sentences that are its possible answers) is nonsubstantive iff the candidates of some expression are equistructural and each answer comes out true under some candidate; a sentence is nonsubstantive iff the candidates of some expression are equistructural and both the sentence and its negation come out true under some candidate. (Sider, 2011, pp. 47–48)

(Equistructural means: equally natural.) So if "cup" has three equally natural meanings, and those meanings disagree about whether a water glass is a cup, then the question, "Is a water glass a cup?" and sentence, "Water glasses are cups" will both be nonsubstantive. A question or sentence is substantive just in case it is not nonsubstantive.

It is important to note that the existence of multiple candidate meanings is not simply due to the ambiguity of our language. The issue is not that we (language users) have failed to be clear. The issue is that the world takes the kinds cup_1 and cup_2 to be equally good ways of carving its structure.

Barnes (2014b, 2017) and Mikkola (2017) argue that, given the Siderean notion of substantivity, many important questions in the metaphysics of gender will count as nonsubstantive. They raise several objections. One objection is that gender and other kinds are subjective and conventional, but the definition of substantivity appears to rule out substantive questions about such kinds. Another objection is that feminist metaphysics is a self-consciously value-laden enterprise, but substantive metaphysics is defined in a way that makes it value-free.

While these issues around objectivity and methodology are interesting in their own right, I am particularly interested in an objection about equistructurality. Barnes (2017, p. 2428) writes:

Let's imagine two candidates for Haslanger's functional definitions of the gender role woman. The first is the one Haslanger herself provides, the second is a slight modification - instead of singling out a class of people who are typically observed or imagined to have biological features associated with a female's role in biological reproduction, we instead single out a class of people who *actually have* features associated with a female's role in biological reproduction....Haslanger does not think these two candidates are equally good. She thinks the former is a better, more explanatory account of gender than the latter. But it's hard to see how the advantage of the former could be explicated via a difference in degree of joint carving.

Barnes imagines two candidate meanings of "woman": actual biological (w_a) and imagined biological (w_i) . These meanings will clearly conflict in some circumstance; there will be people who are imagined to have biological features that they actually do not have. Imaginary Haslanger takes w_i to be better than w_a , but not because w_i is more joint-carving than w_a . Perhaps w_i is better relative to Haslanger's explanatory interests. Metaphysically speaking, however, w_a and w_i are equally joint-carving. But this implies that questions like "Is Charla a woman?" are nonsubstantive.

In response to Barnes and Mikkola, Sider (2017) concedes that there will be nonsubstantivity in cases like the one Barnes describes. However, he softens the blow of the nonsubstantivity of such questions by noting that there is nonetheless a plethora of substantive questions in the metaphysics of gender. Sider (2017, p. 2471–2) writes:

In social theory (and other higher-level domains), there is presumably the potential for some nonsubstantive questions. Concepts of social theory no doubt admit

indeterminacy, for instance, which leads to some nonsubstantive questions of classification (the question of where exactly to locate the borderline of being a woman, perhaps). But saying this does not require saying that the central questions of interest about gender are nonsubstantive.

For example, Sider claims that statements like, "Gender is distinct from sex" and "Women are systematically oppressed because they are women" can be substantive because they may be true on all their candidate meanings. He can also claim that statements about specific gender kinds like "Chromosome-women are such-and-such" can be substantive. Sider is only committed to the nonsubstantivity of Barnes-type cases.

To summarize: while Barnes and Mikkola think the notion of metaphysical substantivity generally fails to apply to important questions within the metaphysics of gender, Sider thinks the notion has broader applicability. According to him, the central questions of the metaphysics of gender will be substantive even if many peripheral questions are not.

3 | GENDER PLURALISM

Sider is correct in thinking that, in principle, his notion of substantivity is compatible with the substantivity of the metaphysics of gender (or at least most of it). However, there is reason to believe that Barnes-type cases are more common and more central than Sider thinks. Specifically, I argue that many metaphysicians are committed to a type of gender pluralism that would rule out the substantivity of many intuitively substantial questions about gender.

What is gender pluralism, exactly? A naive answer to this question would be: gender pluralism is the view that there are multiple genders. This answer trivializes gender pluralism, as most people recognize that there are multiple gender kinds man, man, man, man, and so on. An interesting version of gender pluralism would say, for instance, that there is a class of male gender kinds that includes man_1 , man_2 , and so on. I will focus on the interesting version of gender pluralism.

Some terminological conventions are in order. I will call *man*, *woman*, and *non-binary* gender *classes*. These classes may or may not correspond or constitute kinds or universals. And I will take gender *kinds* to be members of gender classes. When I talk of "multiple gender kinds," I am generally referring to gender kinds within the same gender class.

Let us start with the motivation for positing multiple gender kinds. For many, gender pluralism is simply a consequence of the socially constructed nature of gender. Spelman (1988, p. 175) writes:

If we can say with de Beauvoir that societies create women out of females (making gender out of sex) and that different societies do this differently, indeed in part define their differences by how they do this, we can say in an important sense that there is a variety of genders ... gender is constructed and defined in conjunction with elements of identity such as race, class, ethnicity and nationality rather than separable from them.

Due to the socially constructed nature of gender kinds, there are various ways in which gender kinds are individuated. Stoljar (1995, p. 282) expands on this idea, writing:

If Spelman is right, the term 'woman' refers to a range of different properties: For middle-class Asian-American women, it refers to womanness*; for poor

Euro-American women, it attributes womanness ** ; for middle-class Afro-American women, it attributes womanness *** , etc.

The second major motivation for gender pluralism stems from semantic observations. It seems like we use gender class terms to refer to different gender kinds. For example, Saul (2012) suggests that gender terms like "woman" are used in two different ways. In some contexts, gender terms refer to biological kinds; there will be a biological or physical property $woman_b$ that is picked out by gender language. In other cases, "woman" will be used to refer to a social or socially constructed property $woman_s$. While theorists disagree about the semantic details of Saul's account, there is consensus among social philosophers of language that multiple gender kinds (within the same class) are picked out by gender terms (Bettcher, 2013; Díaz-León, 2016; Dembroff, 2018).

I have described two motivations for gender pluralism. The first motivation is that gender classes, like *woman*, seem heterogeneous. The second motivation is that the use of gender terms seems to pick out different gender kinds (even within the same gender class). There is more to say about the justification of gender pluralism, but the thesis is sufficiently popular to take it as a starting point.

Gender kinds are individuated in a number of ways. To start, gender kinds are individuated biologically. (I use the term "gender" broadly, here.) Within the class of biological gender kinds, Fausto-Sterling (2000) has argued that there are at least five sexes. Similarly, Dreger (1998) identifies ways that the medical world individuates sexes. There are various possibilities here: chromosome sex (XX and XY), gonadic sex (testes, ovaries), internal morphological sex (seminal vesicles and Fallopian tubes), external morphological sex (genitals), hormonal sex (testosterone, estrogen), and phenotype sex (facial hair, breasts).

Setting aside biological gender kinds, the most common versions of gender pluralism focus on social gender kinds. Social gender kinds can be intersectional, individuated by a combination of race, class, and sexuality kinds. Grillo (1995, p. 19) says, "Race and class can never be just 'subtracted' because they are in ways inextricable from gender ... For a Black woman, race and gender are not separate, but neither are they for white women." Given a metaphysical gloss, this means there are gender kinds like *Black-woman*, *white-man*, *middle-class-white-woman*, and so on. You may think intersectional kinds like *Black-woman* are more metaphysically basic than their apparent constituent kinds *Black* and *woman* (Bernstein, 2020).

More generally, you make think social gender kinds are context-dependent, where the contextual parameters can be historical, cultural, geographical, etc. Witt (2011, p. 59) writes:

Being a woman or being a man is a social position, and whether an individual is a woman or a man is determined by which engendering function that individual is recognized by others to have. But there are many, many other social positions, and there is wide variation of social positions across cultures and in different historical periods.

Similarly, Ásta (2018, p. 74) says:

[My] own suggestion as to how gender is conferred makes gender be highly context dependent, and the base property or properties vary with context. On this view, not only is gender deeply context dependent when it comes to historical periods and geographical locations, but the same geographical location and time period can allow for radically different contexts, so that a person may count as of a certain gender in some contexts and not others.

So there may be kinds like *American-woman*, *British-woman-in-1954*, and *Brazilian-man-in-particular-context-C*.

Lastly, gender kinds can be individuated by political considerations. For example, there may be gender kinds that, by their nature, are politically oppressive. Consider Haslanger (2012a, p. 230) definition of *woman*:

S is a woman iff $_{df}$ S is systematically subordinated along some dimension (economic, political, legal, social, etc.), and S is "marked" as a target for this treatment by observed or imagined bodily features presumed to be evidence of a female's biological role in reproduction.

For Haslanger, many individuals currently count as women. But given this definition, it's a bad thing to be a woman, because being a woman means being subordinated in a certain way. Bettcher (2013) and Dembroff (2018) identify oppressive gender kinds, what they call *dominant kinds*, where these kinds are oppressive because (for instance) they exclude trans people from their definition. In addition to thinking there are oppressive gender kinds, they also think there are gender kinds that are socially just. They call these *resistant* gender kinds and claim that such kinds are typically constructed by marginalized communities. While dominant kinds oppress trans people, resistant gender kinds liberate them.

I have described various ways to individuate gender kinds. Gender kinds can be biological (biological or physical traits), intersectional (combinations of class, race, and gender), contextual (history, culture, location), and political (dominant, resistant). These classifications obviously overlap, and there may be more natural classifications. My goal has only been to represent some of the main currents within gender pluralism. Now I will argue that many questions about gender will not be substantive, given gender pluralism.

Suppose gender kinds are individuated by facts about culture. Then there will plausibly be gender kinds like *American-woman* and *British-woman*. Which kind is more natural than the other? The only thing that could make one gender kind more natural than the other would be something about being American or British. Is being American more fundamental than being British? Perhaps Americans would think so, but good metaphysicians will check their biases. Other things being equal, the two culturally-determined gender kinds are equally natural. Note that this conclusion is not avoided by going more fine-grained. There are likely multiple, equally natural kinds that fall under *American-woman*, where those kinds conflict with respect to specific individuals. Perhaps if we get *really* fine-grained, the gender kinds will be substantive, but it will be less plausible that such kinds are the most natural.

Consider two biological kinds *chromosome-woman* and *gonad-woman*. Is one way of carving up the biological world more natural than the other? Not really. Of course, some medical contexts will identify biological kinds that are more *useful* to have in mind. But the usefulness of a kind in a context is not necessarily an indicator of its metaphysical priority. There are simply some contexts in which chromosomes are relevant and others in which gonads are relevant. Once we step back from what is practically relevant—for medical treatment, in this case—we find that the world does not distinguish between a metaphysically privileged kind.

For each gender class, it appears there will be a subclass of equally most natural gender kinds. Gender kinds are individuated along some property: cultural, biological, etc. But if this is so, then it is plausible that no particular kind individuated by this property will be most natural. Let *gender pluralism* to be the thesis that, given some gender class, (a) there are multiple gender kinds and (b) there is no single most natural gender kind. Many metaphysicians of gender appear to accept

gender pluralism. But if gender pluralism is true, many important questions about gender will be nonsubstantive.

Of course, you might think that gender pluralism is false, in which case the substantivity of gender remains safe (from pluralism). But even if pluralism is actually false, the *possibility* of pluralism does not clearly rule out the substantivity of questions like, "Is Charla a woman?" If gender pluralism ruled out the substantivity of gender, we would expect gender pluralists to regard, "Is Charla a woman?" as a nonsubstantive or merely verbal question. But they do not. In the metaphysics of gender, many people attempt to answer these questions while still entertaining the possibility of gender pluralism. It would appear that the substantivity of gender does not (fully) depend on the falsity of gender pluralism.

I have argued that, given the standard definition of substantivity, gender pluralism rules out the substantivity of central questions about gender. But you may wonder: why does it matter whether gender is metaphysically substantive? You might simply think there is nothing in the external world that decides between two equally natural meanings of "woman"; rather, we (theorists and language users) make decisions about how to use these terms in a context, where our decisions are guided by considerations of practical utility. So you might say: gender is not metaphysically substantive but practically substantive, and practical substantivity is good enough.

I disagree. Here are three reasons why it matters whether or not gender is metaphysically substantive.

Reason one: whether a question is metaphysically substantive determines, to a large extent, whether or not the question is properly metaphysical. If all or most of the questions featuring gender expressions are nonsubstantive, then it would appear that the metaphysics of gender rests on a mistake, as there would be no question about what genders *really are* or whether they *really exist*; rather, the only questions would concern what we mean (or should mean) when we use gender terms. But the latter are questions of semantics and conceptual engineering, not metaphysics. While feminist metaphysicians like Haslanger (2012b) believe there is an important relationship between the the metaphysics of gender and conceptual engineering, even they do not accept a view that takes questions about the metaphysics of gender to be purely a matter of conceptual engineering.

Reason two: the nonsubstantivity of gender derives entirely from pluralism, not from the assumption of feminist methodology or theoretical interests. In the debate with Sider, Barnes and Mikkola mainly consider the ways in which *feminist* metaphysics conflicts with the structural framework. However, I have shown that the nonsubstantivity of gender follows from gender pluralism, a thesis that is strictly independent from feminism or feminist metaphysics. Perhaps you can accept the conclusion that feminist metaphysics is metaphysically nonsubstantive, given the political nature of feminist metaphysics. But it seems much more surprising, and contentious, to think that the metaphysics of gender—when somehow free from political influence—is metaphysically nonsubstantive.

Reason three: if the metaphysics of gender is nonsubstantive, it would appear that the Siderean structuralist approach is more limited than previously thought. Although the primary notion of metaphysical structure concerns absolute joint-carving, the structural framework is thought to nonetheless yield fruit when applied to the relatively fundamental level. But if the notion of metaphysical structure cannot handle gender, we should begin to doubt its applicability to other social kinds and the social world more generally.

Accepting the metaphysical nonsubstantivity of gender tracks with a kind of anti-realism or deflationism about gender metaphysics. On such views, many putatively metaphysical questions about gender are not actually about the metaphysics of gender. This is a non-trivial and

far-from-obviously-correct consequence.² Although we can avoid such conclusions if we give an alternative account of metaphysical substantivity. In the next section, I give such an account.

4 | RELATIVE SUBSTANTIVITY

If two equally natural meanings m_1 and m_2 disagree about whether some object o is m, we say that it is *indeterminate* whether o satisfies m. Sider's criterion of substantivity rules out the substantivity of questions and statements involving indeterminacy. I argue that the ban on indeterminacy should be lifted, because there is a perfectly intelligible sense in which these issues are substantive.

How does Lewis and Sider address the question of (relatively natural) indeterminacy? In a discussion of Putnam (1977, 1980)'s argument for radical indeterminacy, David Lewis acknowledges the possibility of a more moderate kind of indeterminacy. Concerning the phrase, "Jack the Ripper," Lewis (1984, p. 223) says:

There might be two candidates that both fit perfectly; more likely, there might be two imperfect candidates with little to choose between them and no stronger candidate to beat them both. If so, we end up with indeterminate reference...: the new term refers equally to both candidates.

Lewis acknowledges the possibility of local indeterminacy but doesn't have much more to say about it.³

Meanwhile, Sider rejects the possibility of fundamental indeterminacy. Sider (2011, p. 137) writes:

[No] special-purpose vocabulary that is distinctive of indeterminacy—such as a determinacy operator or a predicate for supertruth—carves at the joints...This is not to deny the value of determinacy-theoretic vocabulary, or supervaluationism, or nonclassical logic; it is just to deny them a place at the fundamental level.

Sider (2001) gives an argument against fundamental indeterminacy. But even if there is no fundamental indeterminacy operator, there could still be a *non*-fundamental indeterminacy operator. And since the metaphysics of gender concerns the non-fundamental, such an operator is all we need.

Where P is a sentence, let $\triangle(P)$ mean: it is determinate that P. Suppose $\triangle(P)$ is true just in case P is true on every candidate meaning of P. Let $\nabla(P)$ mean: it is indeterminate whether P. And suppose $\nabla(P)$ holds just in case (a) the candidate meanings of P are equally natural and (b) there are some meanings p_1 and p_2 such that p_1 is true while p_2 is not true. So $\nabla(Charla$ is a woman is true because the candidate meanings of, "Charla is a woman" give conflicting verdicts.

² See Haslanger (2012b), Epstein (2015), and Mallon (2016) for examples of realists about social kinds, including gender kinds.

³ Note that Lewis flatly rejects the idea of worldly vagueness but nonetheless accepts local indeterminacy with respect to, for example, mental content. This is clearest in Lewis (1986b). My interpretation is that he takes naturalness-theoretic indeterminacy to be at least partially semantic, so it differs from worldly vagueness in the usual sense.

⁴ This is the standard supervaluationist treatment of determinacy (Fine, 1975; Keefe, 2000), as applied to a joint-carving language.

I claim that ∇ , as defined, captures both semantic and metaphysical indeterminacy. ∇ captures semantic indeterminacy because it depends on the existence of equally natural *meanings*; it is not directly about the world. However, it also represents metaphysical indeterminacy because the world provides the candidate meanings. Broadly construed, indeterminacy is metaphysical (or worldly) if it has its source in the way the world is. There are multiple candidate meanings of "woman" because there are multiple equally natural kinds; "woman" exhibits referential indeterminacy because of the world's objective structure. I will call this type of metaphysical indeterminacy *structural indeterminacy*, to distinguish it from alternative ways in which metaphysical indeterminacy might arise—like the open future, quantum mechanics, or Sorites-style vagueness. One might say: structural indeterminacy is *determined by* the world, while other forms of metaphysical indeterminacy are *in* the world.

Despite these differences, structural indeterminacy can largely be modeled in the same way as existing accounts of metaphysical indeterminacy. And there are lots of such accounts (Parsons, 2000; Hawley, 2002; Morreau, 2002; Akiba, 2004; Rosen and Smith, 2004; Williams, 2008; Barnes and Williams, 2011; Wilson, 2013, 2016; Calosi and Wilson, 2019, 2021). One popular view is that indeterminacy is worldly unsettledness (Barnes and Williams, 2011). For it to be indeterminate whether P is for the states of affairs represented by P to be unsettled. Indeterminacy is not the presence of an indeterminate state of affairs (á la Wilson (2013)); it is the failure of a state of affairs to be settled, one way or the other. I will adopt this broad view.

Now recall the Siderean notion of nonsubstantivity: a sentence is nonsubstantive iff its candidate meanings are equally natural and both the sentence and its negation come out true under some candidate. If a sentence is structurally indeterminate, then it follows that it is nonsubstantive. But it is unclear what, intuitively, makes structurally indeterminate sentences nonsubstantive.

One suggestion is that structurally indeterminate sentences are nonsubstantive because they crucially depend on terminological issues rather than worldly ones. Since the determinate truth or falsity of, "Charla is a woman" can only be resolved if we hold fixed a particular candidate meaning, it would appear that the issue is not a substantive one.

This line of reasoning is misleading at best. All sentences of a metaphysically perspicuous language depend on their meanings. Some determinate sentences have multiple, equally natural candidate meanings, so these sentences depend on multiple meanings. The nonsubstantivity of indeterminate sentences is located in the fact that they cannot be determinately true or false unless there is a unique meaning or all their meanings agreed. But the issue of determinate truth and falsity is orthogonal to the worldliness of the sentence. "Is Charla a woman?" is a worldly matter, even if it is indeterminate whether Charla is a woman, because the world is what gives us multiple, equally natural meanings that disagree. So long as the world is what supplies equally natural meanings, it is unclear what makes structurally indeterminate questions and sentences nonsubstantive, save a prejudice against indeterminacy.

That said, if we admit that all descriptive sentences are worldly, then all descriptive sentences will be substantive. If we revise the notion of substantivity so that indeterminate questions and sentences can be substantive, it would appear that the paradigm cases of nonsubstantive questions—like, "Is a water glass a cup?"—will count as substantive. We lose the distinction between the substantive and the nonsubstantive.

The challenge is to preserve the substantive/nonsubstantive distinction without ruling out the substantivity of indeterminate questions and sentences. I claim that we can meet this challenge by adopting a notion of relative substantivity. I define such a notion, in four steps.

Step one. Construct a degree-theoretic notion of determinacy. Specifically, I will appeal to broadly degree-theoretic accounts of supervaluationism (Lewis, 1970; Kamp, 1975, 1995; Edgington, 1997; Williams, 2011; Decock and Douven, 2014; Douven and Decock, 2017); though my discussion mainly relies on Williams (2011). Suppose P has three candidate meanings such that p_1 , p_2 , and p_3 are true while p_4 is false. Intuitively, P is determinate (or determinately true) to degree 0.75 and undeterminate (or determinately false) to degree 0.25. Let $\Delta_d(P)$ mean: P is determinate to degree d. And $\triangle_d(P)$ holds just in case: P is true in n out of k candidate meanings of P and $d = \frac{n}{k}$. Intuitively, the degree of determinacy of P is the proportion of candidate meanings of P that are true. Having a notion of degree-theoretic determinacy allows us to compare the determinacy of expressions. So if $\triangle_{0.75}(P)$ and $\triangle_{0.5}(Q)$, then P is more determinate than Q. For example, P might be the sentence, "Women are oppressed," where three out of the four candidate meanings of "woman" hold that women are oppressed. In cases where multiple subsentential expressions are sources of indeterminacy, we can still measure total determinacy. We collect sentence meanings that consider all possible combinations of word meanings. For example, if "women" and "oppressed" each have ten candidate meanings, we evaluate the determinacy of, "Women are oppressed" by considering one hundred candidate meanings.

Step two. Acknowledge that substantivity comes in degrees. Here is my new definition: a question/sentence is substantive to the degree that its candidate answers/meanings agree. More precisely, the substantivity of P is the maximum of its degree of determinacy and undeterminacy. So if $\triangle_{0.75}(P)$ and $\triangle_{0.25}(\neg P)$, then P is substantive to degree 0.75. If the degrees of determinacy and undeterminacy were reversed— $\triangle_{0.25}(P)$ and $\triangle_{0.75}(\neg P)$ —the degree of substantivity would remain the same: 0.75. Degrees 1 and 0.5 represent absolute substantivity and nonsubstantivity, respectively; 0.5 represents absolute nonsubstantivity because it means that a sentence is just as close to full determinacy as it is to full undeterminacy. Once we have the notion of degrees of substantivity, we can compare the substantivity of questions which are not fully substantive. Genders, homes, toothbrushes, martinis—these may not be full substantive, but it does not follow that they are all equally nonsubstantive.

Step three. Define a notion of relative substantivity. Given a subject matter, the questions and statements about that subject matter should be as substantive as the subject matter generally allows. There may be some subject matters—perhaps physics—that generally admit of fully substantive questions.⁸ But this may not be true of other subject matters, particularly those involving the social world. Nonetheless, we can make distinctions in substantivity. "Charla is a woman" is relatively substantial compared to "Charla is a strong woman." Part of the reason philosophers and social theorists focus on "woman" rather than "strong woman" is that there is more consensus among the candidate meanings of the former than those of the latter. The questions of the metaphysics of gender are generally not fully substantial, but relatively substantial, where the

⁵ The main alternative approach degree-theoretic approach is truth-functional (or fuzzy); instead of degrees of determinacy being determined by possible candidate meanings, they are directly assigned degrees of determinacy. See Smith (2008) for an paradigm example of this view. I appeal to the supervaluationist view because it is simpler and less controversial.

⁶ For the sake of simplicity, I ignore cases in which there are an infinity of candidate meanings. But there are proposed ways to deal with the infinite case. Williams (2011) proposes that the measure of determinacy could reflect some notion of objective probability. Decock and Douven (2014) and Douven and Decock (2017) provide the most detailed account of the infinite case, however; they define a precise measure of relative proportion over geometric spaces.

⁷ Williams (2011) invokes the same notion except he calls it absolute indeterminacy.

⁸ Though you may reject this claim if you believe in quantum indeterminacy (Torza, 2020; Calosi and Mariani, 2020; Calosi and Wilson, 2021) or fundamental indeterminacy (Barnes, 2014a).

degree threshold for relatively substantial depends on the subject matter at hand. Just as naturalness comes in degrees and some things are relatively natural, substantivity comes in degrees and some things are relatively substantial.

Step four. Take relative substantivity to concern the extent to which there is a fact of the matter about a question or statement. Recall the questions, "Is Charla a woman?" and, "Do electrons repel one another?" Given the old criterion of substantivity, we are encouraged to think that the former question is nonsubstantive in virtue of being terminological or conventional in some way. Against this view, I think the two questions are equally worldly in some sense; in both cases, their answers are determined, or fail to be determined, by what the world is like. Nonetheless, the gender question is less substantive because there is less of a fact of the matter about it than the electron question. Put it another way: the absence of fact is not necessarily the presence of convention, linguistic or otherwise.

If you take the steps outlined, you reach the following conclusion. Questions in the metaphysics of gender, particularly given the truth of gender pluralism, will often fail to be fully substantive, but they can still be relatively substantial or substantial to a non-zero degree; and these questions are substantial to the degree that there is a fact of the matter about them. The benefit of this approach to substantivity is that it acknowledges the substantivity of questions about structurally indeterminate gender questions while preserving the sense in which such questions are not fully substantive.

To further illustrate the value of the relative substantivity framework, I will now show how the relative substantivity of gender illuminates the relationship between the metaphysics and epistemology of gender. I claim that the notion of relative substantivity—with its underlying degree-theoretic supervaluationist semantics—allows us to capture a different dimension of the stability of social kinds. For Mallon (2016, p. 163), stability consists in the worldly robustness of social kinds, their capacity "to ground our inductive, predictive, and practical success in the social world." I will consider three ways in which the relative substantivity framework, as opposed to the absolute substantivity framework, better explains the connection between the metaphysics and epistemology of gender.

To start, relative substantivity better explains the fact that we can have successful beliefs and assertions about indeterminate subject matters. Suppose, "Charla is a woman" is indeterminate. What attitude should we take toward such statements? The framework of absolute substantivity is silent about what attitude we should have, but there is an obvious alternative course of action: we should seek out determinate gender kinds to have attitudes toward, instead. The problem is that there is no guarantee that we can always single out specific determinate kinds. We want to be able to talk about women, in general, even if there are a plurality of determinate female gender kinds.

The relative substantivity framework makes sense of this. If, "Charla is a woman" is determinate to degree 0.9, we are safe in taking it to be nearly determinately true. The partial substantivity of, "Charla is a woman" explains why, despite the existence of multiple gender kinds, our inquiry often goes smoothly when we talk and reason as if there is a single most natural kind. Williams (2011) discusses what he calls the cognitive role of indeterminacy; he proposes that we should have n credence in sentences that are true to degree n. We need not adopt this specific proposal, but it does reflect the fact our confidence varies depending on the amount of indeterminacy we take there to be. So our confidence in gender assertions, and our confidence in inquiry about gender kinds, will be tempered by the presence of indeterminacy.

⁹ See Smith (2008, p. 233-246) and Smith (2009) for more detailed accounts of the relationship between partial belief and partially true propositions.

Not only can our beliefs and assertions be successful despite gender indeterminacy, we can also successfully *reason* about gender despite its indeterminacy. Suppose there are five equally natural kinds of women, but only three of the kinds imply that women are subordinated. Now consider the conditional: "If Charla is a woman, Charla is subordinated." What should we say about such a sentence? Without degrees of determinacy, your best bet is to search for a fully determinate female gender kind in the vicinity. But if we have degrees of determinacy, we can appeal to a notion of entailment that preserves degrees of determinacy rather than absolutely determinate truth.

A sentence P classically entails Q just in case it is impossible for P to be true and Q to be false. We cannot move from truth to falsity. A sentence P degree-theoretically entails Q just in case it is impossible for P to be determinate to degree n and Q to be determinate to some degree less than n; or more simply: P will never be more determinate than Q. Suppose P is, "Charla is a woman" and Q is, "Charla is subordinated." If P is determinate to degree 0.6, then P degree-theoretically entails Q just in case Q is at least determinate to degree 0.6. Of course, our reasoning will necessarily fall short of certainty, and this notion of entailment ultimately may not be the correct one. My point is that the degree-theoretic framework at least makes it possible to perspicuously represent reasoning in the face of gender indeterminacy.

A quick note about the psychological reality of degrees: even though degrees are a way of representing indeterminacy, it does not follow that we consciously represent indeterminacy in terms of degrees. Just as I can think it will probably rain without consciously imagining a precise probability of it raining, I can think some person is a woman to a high degree. Degrees of determinacy are formally equivalent to probabilities, so our epistemic grasp of degrees of determinacy will be similar to our epistemic grasp of degrees of belief (or credences). For example, you can understand the psychological grasp of probabilities in terms of comparative support (Hawthorne, 2016), or you can reject precise probabilities in favor of imprecise or indeterminate probabilities (Levi, 1985, 2000).

Lastly, the relative substantivity framework can explain the fact that our predictions and explanations about the social world can misfire through no fault of our own. There will be cases where it seems difficult or impossible to know whether an individual is a woman. Sometimes the impossibility of knowledge stems from our epistemic limitations. For example, Mikkola (2016) and Antony (2020) distinguish between thin (e.g., woman, non-binary) and thick (e.g., chromosome-woman, subordinated-woman) gender kinds. They claim that thin kinds exist but are unanalyzable. Because Mikkola and Antony do not explicitly discuss indeterminacy, I do not know their stance on it. But one interpretation of their view is as follows: we (theorists) struggle to know the fully determinate definition of "woman", but such a definition exists nonetheless. Against this view, it is also possible that our lack of knowledge sometimes stems from worldly indeterminacy. We cannot know whether someone is a woman because there is simply no fact of the matter about whether that individual is a woman. The indeterminacy-friendly version of the unanalyzability view would hold that the meaning of "woman" is unanalyzable but less than fully determinate. Given a notion of candidate meanings of P, we can define a gappy proposition $\langle P \rangle$ that is true when all the candidate meanings of P are true, false when all the candidate meanings of P are false, and neither true nor false otherwise (Rohrs, 2017). The resulting view is that we sometimes assert a single gappy proposition that we cannot—for epistemic and worldly reasons—characterize using informative necessary and sufficient conditions.

To avoid misunderstanding, I should note that gender indeterminacy remains even if gender terms are context-sensitive. On many views, gender terms are context-sensitive; so the term "woman" will pick out $woman_1$ in one context and $woman_2$ in another (Saul, 2012; Bettcher, 2013; Díaz-León, 2016; Dembroff, 2018). While I have discussed my view as if there is a single

context-insensitive use of "woman," it is nonetheless compatible with gender contextualism, for two reasons. First, my theory is not about natural language gender terms, so gender contextualism could be true of the use of ordinary gender terms even if it is false of a metaphysically perspicuous use of gender terms; in comparison: ordinary causal-talk is plausibly context-sensitive because only certain causes are relevant in a context, but you might nonetheless think the metaphysically perspicuous meaning of "cause" is context-insensitive (Lewis, 1986a). Second, gender indeterminacy could even affect more fine-grained gender kinds. Suppose term "woman" has two general uses: social and biological. And suppose, at some context, the social use is relevant. There could still be equally natural candidate social meanings of "woman" that disagree on some particular individual. Context-sensitivity does not guarantee full determinacy.

So relative substantivity helps make sense of the relative stability of gender, but what does it say about politics? In the metaphysics of gender, one's metaphysical theory is often given political theoretical desiderata and motivation. For example, the feminist metaphysician aims to characterize the nature of gender—and the social world, more generally—in a way that benefits the broadly feminist political project of liberating women and abolishing patriarchy. While I cannot give a specific account of how relative substantivity can further feminist metaphysics, I can claim that my notion of relative substantivity is compatible with feminist metaphysics. Or at least, my view avoids feminist criticisms thrown at Sider's conception of substantivity. Sider (2011, p. 57) says that a statement can be nonsubstantive in virtue of being *subjective*, where this means: there are equally natural meanings which disagree with respect to some case, but we choose the actual meaning we do because of facts about us. As Barnes (2014b, 2017) and Mikkola (2017) point out: this suggests that feminist metaphysics will inevitably be subjective and nonsubstantive, given the role that feminist values play when selecting a candidate meaning. My view sidesteps this criticism entirely, as nonsubstantivity does not depend on how or whether we select from a set of equally natural meanings.

To summarize: the relative substantivity framework not only accounts for the substantivity of gender, but it also accounts for successful (and unsuccessful) belief, assertion, and reasoning in cases of gender indeterminacy. Collectively, these benefits suggest that the relative substantivity framework gives us a more perspicuous account of the metaphysics of gender.

5 | CONCLUSION

While I have focused on gender kinds, the notion of relative substantivity can be applied to the rest of the social world. Races, sexual orientations, social identities, institutions—as long as pluralism about some social subject matter is plausible, the notion of relative substantivity has applicability. If you are a true believer in indeterminacy, you may even apply the notion of relative substantivity to the *non*-social world, as well. My goal has been more modest: reconcile the notion of metaphysical substantivity with the metaphysics of gender. Though I hope this paper will serve as a prelude to further inquiries into the relatively substantial.

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