

**Trans Women, Cis Women, Alien Women, and Robot Women Are Women:
They Are All (Simply) Adults Gendered Female**

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Abstract

Alex Byrne contends that women are (simply) adult human females, claiming that this thesis has considerably greater initial appeal than the justified true belief (JTB) theory of knowledge. This paper refutes Byrne's thesis in the same way the JTB theory of knowledge is widely thought to have been refuted: through simple counterexamples. Lessons are drawn. One lesson is that women need not be human. A second lesson is that biology and physical phenotypes are both irrelevant to whether someone is a woman, and indeed, female in a gendered sense. A third lesson is that trans women, cis women, alien women, and robot women are all women because to be a woman is to be an *adult gendered female*. This paper does not purport to settle complex normative questions of ethics or justice, including whether the ordinary meaning of "woman" ought to be retained or changed—though I do note plausible implications for these debates. This paper does purport to settle what the ordinary meaning of "woman" is, and in that regard contribute to important conceptual ground-clearing regarding what constitutes an ameliorative or revisionary definition of "woman."

Alex Byrne (2020) contends that women are (simply) adult human females (calling this thesis "AHF"; see also Stock 2021, chap. 5). While Byrne's argument has already been responded to at length (Dembroff 2020a; Heartsilver 2021), it can be refuted much more straightforwardly, and in a manner that establishes several important broader philosophical lessons. Byrne's argument for AHF is simple. He argues that AHF conforms to the dictionary definition of "woman"; that

one would expect English to have a word that picks out the category of adult human female, and “woman” is the only candidate; that AHF best explains how we know that an individual is a woman; that AHF predicts the right verdicts in gender role reversals; and that “woman” and “female” are used interchangeably, even in hyperintensional contexts (Byrne 2020, sec. 2). After arguing this, Byrne concludes, “The foregoing makes a strong cumulative case, and AHF is of considerably greater initial appeal than the JTB analysis of knowledge” (3891). This is ironic in two ways: (1) the JTB theory of knowledge is widely thought to have been refuted; and (2) AHF can be refuted in the same way: through simple counterexamples.

This paper shows that on ordinary usage, the literal meaning of “female” is ambiguous, having both a biological interpretation (classifying individuals by reproductive biology) and a gendered interpretation, referring to individuals who satisfy socially constructed gender norms (such as norms for gendered traits and performance, as well as self-identification). In the process, I also show that “adult” is similarly ambiguous between a biological reading and social interpretation—as an individual can be “fully grown” in a biological sense (viz., biological age) *or* in a social sense (viz., satisfying phenotypic and psycho-social norms for being “grown up” and socially classified as an adult). I then use these findings to provide clear counterexamples to AHF and to variants of AHF that Byrne might propose in response. In each case, my counterexamples show the same thing: that according to ordinary literal usage, “woman” is not interchangeable with any variation of “adult female” except when “adult female” is specifically disambiguated in a *gendered* sense. Thus, AHF is false. Women are not simply adult (human) females. Women are adults who are *gendered female*. Lessons are then drawn, among them that vastly more types of individuals—including trans women, alien women, robot women, and beyond—are women than Byrne allows.

In their article replying to Byrne, Dembroff (2020a, sec. 2.2.) rightly notes (among other things) that Byrne bases his argument on cherry-picked examples. As Dembroff points out, there are “entire linguistic communities where ‘woman’ is explicitly not used to mean ‘adult human female’” (7)—at least not as Byrne interprets “adult human female,” which is in a reductive biological sense (see Byrne 2020, 3785, 3787–8, and sec. 3). However, things are actually much worse for Byrne than Dembroff contends. *No competent user* of English uses “woman” to refer (simply) to adult human females, and there are clear counterexamples to AHF. How do I know this? For one thing, Byrne (sec. 2.6) himself notes that “woman” and “female” are normally used interchangeably simpliciter when used to refer to adults, neglecting here the “human” component of AHF. Moreover, this aspect of AHF is plainly incorrect. As any *Star Trek* fan knows, in the *Star Trek* universe, there are many planetary species of women: human women, Klingon women, Vulcan women, Cardassian women, and many other species of women besides. Further, if one Googles “Cardassian women,” picture after picture of Cardassian women appear in the search results. So, according to everyday English language usage, Cardassian women are women—though they are clearly not human. So, AHF is false. “Woman” does not mean “adult human female.” If it did, then the sentence “Cardassian women have bony facial protrusions”—a sentence that not only makes sense, but is demonstrably true—would assert the nonsensical proposition that *Cardassian adult female humans* have bony facial protrusions. But no competent user of the English language would take the aforementioned sentence to mean this. Women need not be *human* to be women.

Byrne might say that he misrepresented his real position here, claiming that he really meant to say that women are (simply) adult females *of any humanoid species*. Call this thesis AFHS. Alas, AFHS is false too. How do I know this? Well, in the extended *Star Wars* universe,

there are adult female members of the Hutt species—a species of giant slug-like creatures (Star Wars Fandom n.d.). These Hutts are clearly *women* Hutts. So, something need not be an adult humanoid female to be a woman. To this, Byrne might say that women are *simply adult females* (i.e., of any species). Call this thesis SAF. Alas, SAF is not clearly true. Adult female dung beetles clearly exist—though it is highly doubtful that they are *women*. Why? The most natural answer, of course, is that they are not members of an advanced species with complex and well-developed *gender* norms dictating who is a woman—and indeed, who is *gendered female*—and who is not. Indeed, we can see how plausible this answer is, first, by considering that although no one would normally think it linguistically appropriate or accurate to talk about “women dung beetles,” there is *one* context in which we would think it appropriate: in cartoons where dung beetles are *gendered female* in a social sense of broadly conforming to feminine gender norms. For example, in the 1998 animated film, *Antz*, one of the main characters, Azteca, is clearly identifiable as a woman ant—indeed, as the girlfriend of the male ant, Z. We wouldn’t identify actual adult female ants as women, but we do in cartoons. Why? The answer is plain: women ants in cartoons are *gendered female*, in the sense that they satisfy feminine gender norms.

In a recent response to Byrne, Heartsilver makes a similar point: that there is a non-reproductive sense of “female” according to which to be female is not to be a member of the female biological sex, but rather to be socially and/or legally *classified* as female, where this is a non-biological classification (Heartsilver 2021, 6–7). And indeed, given that Byrne invokes dictionary definitions, it is worth noting here that the Merriam-Webster (2020a) dictionary gives the following literal definition for “female”:

1a(1): of, relating to, or being the sex that typically has the capacity to bear young or produce eggs.

...

b: having a gender identity that is the opposite of male.

As we will see throughout this paper, this multiple definition clearly corresponds to the ordinary literal usage, as competent speakers standardly use the term in both ways, and in ways that relate in crucial ways to the meaning of “woman.” To begin to see how, consider the fact that, later in his article, Byrne makes it clear that he means to deny that trans women are women because he thinks they are not female (sec. 3.3). Indeed, he asserts that the proposition that trans women are not female is “no doubt true” (3800). Now, Byrne is certainly right that trans women are not female in sense 1(a)(1): trans women do not (ordinarily) have bodies that produce eggs—though it is worth noting that this could plausibly change with future scientific advances (Maron 2016). But, in any case, as we have already seen in the cases of dung beetles and cartoon characters, this is just not the sense of “female” relevant to whether someone is a woman. “Woman” refers to adults who are female in sense 1(b): adults who are *gendered female*. But, in this sense, Byrne’s claim that trans women are not female is clearly false: trans women *are* gendered female. How do I know this? Because *robot women* are gendered female. If one Googles “robot women,” the following kinds of results appear: “Why female sex robots are more dangerous than you think” (Gee 2017), “Meet Sophia, the female humanoid robot and newest SXSW celebrity” (Raymundo 2016), and “Gynoids are humanoid robots that are gendered feminine. They appear widely in science fiction film and art. They are also known as female androids” (Wikipedia n.d.). And indeed, it’s usually easy to identify female gendered androids, at least once one finds out that they are robots: Dolores in the HBO series *Westworld* is one; so is Ava in the 2014 film *Ex Machina*.

Are robot women like these *biologically* female? Well, they are definitely not in the reductive sense that (some) biologists understand this notion, which is in terms of how species “package their DNA into ‘gametes’” (Griffiths 2020), and/or in terms of more complex biological features (such as “sex chromosomes”, etc.; see Bachtrog et al. 2014). Neither of the robot women who I just referred to are depicted as having DNA, let alone gamete-producing organs. But, for all that, they are female. How do I know this? For one thing, if you were to ask any competent user of the English language who happens to also be a fan of *Westworld*, “Who is the lead female android in the series?”, they would respond, “Delores” (okay, maybe they would say “Maeve,” and they wouldn’t be far off). Further, if you were to point out that Delores and Maeve are not *biologically* female (they are robots!), any competent English speaker would presumably agree with that qualification. But notice: it *is* a qualification. It is, in line with the literal ambiguity of “female” reflected in the above dictionary definition and ordinary ways of speaking, *informative* if you tell me you are talking about women who are “biologically female” (such as cis human or Cardassian women), as compared to women who are *non*-biological females (such as women robots).

Byrne might respond that although women robots in *Westworld* are not biologically female, they are nevertheless physically or “phenotypically” female in having stereotypically female bodies (viz., “secondary sex characteristics”; see Richards and Hawley 2011, chap. 9). Further, Byrne might maintain that these phenotypic traits are essential to someone being a woman, or being female, on both interpretations of “female” discussed herein (i.e., the biological and gendered interpretations). However, this proposal is plainly false. Stereotypically physical features have nothing to do with being female in the *gendered* sense of “female” relevant to whether someone is a woman. How do I know this? In several ways. First, there are clear cases

of girl and women robots and AI who lack anything like a stereotypically female body. For example, in the 2008 Disney film *WALL-E*, the eponymous protagonist falls in love with a girl robot, Eve. If you were to ask anyone (any adult or child) who has seen *WALL-E*, “Who is the female robot that WALL-E falls in love with in the movie?”, they would surely say “Eve.” And indeed, character descriptions of Eve clearly identify her as female—as “she” (Corliss 2008). Yet, Eve has nothing like a stereotypically female body. She is a mostly featureless white oval. Viewers identify her as female—as a girl robot—instead in virtue of her *feminine gender* features (i.e., her name, ways of talking and behaving, etc., viz., social norms and expectations for identifying girls and women). Similarly, consider the female AI in the 2004 film *I, Robot*, named “VIKI.” As with Eve, any viewer of the film would surely identify her as a female AI (her name is VIKI (!), her voice is feminine, etc.). And indeed, like Eve, VIKI is universally recognized as female, that is, as “she” (Fandom n.d.). Yet, VIKI has no physical “body” at all. She is a *disembodied neural network* who has, at most, a vaguely feminine-looking digital “face”—and, even before the viewer ever sees her “face,” one can already readily identify her as a female AI. Finally, in Season 3 of *Westworld*, Delores uploads a copy of her mind—that is, *herself*—into a copy of Martin Connells’s body. Yet, despite now existing in a stereotypically male body, upon learning that it is *Delores* in Connells’s body, the viewer surely still recognizes *Delores herself* as female. Delores—a woman AI—has merely made it such that she now *occupies* a stereotypically male body. So, one can be (simply) female—in the gendered sense relevant to being a girl or woman—without having anything remotely like a stereotypically female body. What this shows is that, in contrast to how “female” is used to (biologically) identify female dung beetles (which, again, are very doubtfully women!), “female” as it is used to identify girls and women is a *social category*—one that tracks the socially-constructed notion of *being*

gendered female: a property that cis human women, trans women, alien women, robot women, and disembodied-AI women all share.

Are women robots like Delores and Maeve *adult* females? Well, again, not in a biological sense. However, if you were to ask any competent language user to distinguish child robots from adult robots (or young girl robots from women ones), they easily would pick out Delores and Maeve as the latter—because they are obviously *women* robots. By a similar token, fans of the television series *My Life as a Teenage Robot* readily recognize its protagonist, Jenny Wakeman (also known as “XJ-9”), as a *teenage robot girl* (Teenage Robot n.d.). So, being an *adult* female, in the sense relevant to being a woman, isn’t biological either: it is a social category that, among other things, enables us to distinguish women robots like Maeve from child robots. And indeed, this ambiguity is latent in standard dictionary definitions of “adult.” First, the Merriam-Webster dictionary (2021b) defines “adult” as “fully grown and developed.” Yet, as we see in adult humans and adult robots, there are clearly *different ways* that a being can be “fully grown and developed.” One can be fully grown and developed in a purely biological sense (viz., having developed biologically from a child), but also (or alternatively) in a social sense. Delores and Maeve, for example, are clearly fully grown and developed in the sense of having stereotypically adult bodies and socio-psychological profiles—and they are both *very* different in these respects than child robots or human children. Second, the Merriam-Webster definition of “adult” implicitly recognizes these complexities, adding on the one hand that adults can be understood as “a human being after an age (such as 21) specified by law,” but also, alternatively, in terms of being “mature and sensible; not childish” and “of, relating to, intended for, or befitting adults”—the latter two of which are clearly *social* classifications. Finally, as further evidence of this,

Merriam-Webster (2021c) gives “grown up” as a *synonym* for “adult,” defining “grown up” in turn as “not childish or immature”—which is a social (rather than biological) category.

But now if adult Cardassian females are women, and adult robot females (like Maeve and Delores) are women, then trans women are women. How do I know this? Because there is nothing that Cardassian women or robot women have relevant to being girls or women that trans girls and women don’t have, and vice versa: they are all (simply) adults who are gendered female. First, as the case of robot women shows, biology and bodily phenotypes have nothing essential to do with being (simply) female, at least viz., how this concept is understood in relation to womanhood. Indeed, as Delores uploading herself into Martin Connells’s body clearly shows, a *female person* (a woman!) can come to inhabit a body assigned the sex and gender-categories “male” at birth. Second, as all of these cases show together, “female” and “woman” are *social* categories that can be qualified in all kinds of ways (viz. race, hair color, cis, trans, carbon-based, silicon-based, etc.)—despite members of each identifiable subset ultimately being (simply) women. Third, although there clearly are *some* differences between trans women and the other kinds of women enumerated above—among them, that trans women were once assigned the sex and gender “male” at birth, whereas cisgender women were not—it is nevertheless the case that trans women are now gendered female: that is what makes them *trans women*. Finally, of course, when one chooses to identify subclasses of women in these ways—focusing, in particular, on treating some women fundamentally differently than others (such as whether we should treat black women differently than white women, or trans women differently than cis women)—we can then ask what those categories are, whether they too are social constructions, and finally, the normative moral question of whether we should focus on those categories and understand them in one way rather than another. But these are all broader issues,

far above and beyond Byrne's avowed focus, which is to determine what makes someone a woman. And the relevant points here are these: Byrne's AHF is false. Cis women, robot women, Cardassian women, and trans women are all (simply) women because they are all (simply) *adults who are gendered female*.

I foresee a number of potential objections. First, Byrne might contend that my argument runs into a fatal dilemma: namely, that my claim that women are adults who are gendered female is either unintelligible or uninformative. If, on the one hand, we treat "female" as referring to biological sex (a natural kind) and "woman" as a socially constructed gender category, then my thesis "women are adult gendered females" is incoherent. For, on this reading, the thesis is equivalent to "women (a social kind) are adult biological females (a natural biological kind)"—which is a contradiction. But, of course, I deny that this is how to properly disambiguate "female" in the context of the present debate. For, as we saw earlier, "female" is ambiguous between a biological interpretation and a gendered interpretation—and, as we have seen through clear examples, only the latter is relevant to whether someone is a woman. Women are *adults who are gendered female*, where to be gendered female is a social rather than a biological kind. So, my position is certainly intelligible. Finally, however, it might be argued that if this is how I want to understand "woman," then my thesis is uninformative, since the concept "gendered female" has not been properly, non-circularly defined.

Is this latter horn of the above dilemma a fatal (or sound) objection to my argument? No. First, the thesis "women are adults gendered female" is non-circular in that to be gendered female is a *social practice*: it is to be recognized as satisfying relevant *social norms* (see e.g., Ásta 2013; 2018). So, for example, in *I, Robot* the artificial intelligence VIKI is recognized as female in part because of her name ("VIKI" is a female name), in part because of her voice

(which is stereotypically feminine), and so on. In *WALL-E*, the featureless robot Eve is recognized as female for similar reasons. Similarly, in the *Star Trek* universe, women of different alien races broadly satisfy gender norms for their respective planetary race. These social norms specify who is female in a gendered sense, as hence, who is a woman. Second, even if the social practice of gendering is *itself* in some sense circular—given that it plausibly does hold that being gendered female simply is to satisfy norms for what *counts* as “gendered female”—I do not think that this is a problem, and for reasons that Louise Antony (2020) gives in defending a deflationary account of gender. Just as some epistemologists now take knowledge to be epistemically fundamental (viz., knowledge-first epistemology) and many meta-ethicists take reasons to be normatively fundamental (viz., a reasons-first approach to normativity), I think it is entirely plausible to take gender to be irreducible to anything more basic than social practices determining what these things *are* (i.e., I don’t take the property of being gendered female as bottoming out in anything deeper than the very practice defining who counts as “gendered female,” viz., satisfying social norms for what counts as feminine in the sense relevant to being a girl or woman). Thus, if there is any circularity here, it is a non-vicious circularity.

Second, Byrne and so-called “gender-critical feminists” may take issue with how gender is currently socially constructed, viz., the entire prevailing system of gender norms and classifications according to which trans women are women (see e.g., Jeffreys 2014). But this is the crucial point: these philosophers are quite self-consciously advocating for a revisionary conception of gender, one that criticizes what gender *is*. In their own words, they are “gender-critical.” But to be critical of what *is*, is just that: contending that what is *ought not to be*. So, for example, if I criticize calling this paper “a paper,” or classifying chairs *as chairs*, then I am clearly doing something revisionary: I am arguing that papers *shouldn’t* be called “papers” or

chairs “chairs.” But now if this is how Byrne means to defend AHF, then his argument is predicated upon conflating what gender-critical feminists think “woman” *ought* to mean with what it *does* mean.

Next, Byrne and gender-critical feminists might argue that “adult,” “female,” and “woman” are not truly or unambiguously *inclusive* in the ways that I have contended, such that cartoon characters, robots, and trans women are not properly termed “women.” For example, although we may colloquially call cartoon characters and robots “women,” Byrne might say that many of us may be willing hedge these claims, adding (e.g.) that “robot women” are not *really* women—that is, that AI or robot “women” are merely *artificial* women, not *real* women, where to be a “real woman” requires satisfying some reductive biological definition of “female.” And indeed, it might even be claimed on this basis that when we talk of “robot women” or “cartoon women,” we are not speaking literally, but rather *figuratively*, referring to beings who are not literally women *as though* they are.

Yet, it is easy to see how these objections err. First, as we saw earlier, it is clearly infelicitous to talk about “women dung beetles” or “women cows.” We do not call beetles or cows that are biologically female in sense 1(a)(1) “women” because they are not gendered female. Conversely, all of the individuals who we do systematically call “women”—ranging from human women to alien women, to robot women, to cartoon ant women—genuinely share a property in common referred to by the expression which explains this usage: they are all gendered female. Thus, the literal meaning of “woman”—adhering to “the ordinary construction or primary meaning” of the expression (Merriam-Webster 2021d)—clearly refers to being female in a *gendered* sense. When we talk about robot women, alien women, or cartoon women, we are not merely speaking figuratively: we are literally attributing to them one and the same

property—being an adult who is gendered female—that we attribute to cis human women.

Finally, we can see that the restriction of “woman” to only include some adults who are gendered female is linguistically arbitrary. In the 2017 film *Blade Runner: 2049*, a woman android, Mariette, dismisses a male (android) protagonist’s romantic interest in a holographic woman, Joi, by saying, “*Oh, you don’t like real girls.*” Mariette obviously means to imply that she, Mariette, is a real girl, whereas Joi is not. But this is absurd. If Mariette is a real woman (and she is), then so too must Joi be one—because they are equally gendered female. Mariette’s dismissal of Joi as not a “real” girl is rooted in nothing more than an arbitrary linguistic prejudice on Mariette’s part that androids like her can be “real girls” or women but hologram AIs like Joi cannot. Notice, further, that if one were to tell *Mariette* that she is not a real woman because she is an android, then she would almost certainly find this to be an arbitrary and offensive denial of what she plainly *is*: an android woman. But, in that case, by a similar token, the contention at the heart of the objection here—that trans women are not “real women” because women *androids* are not “real women”—is nothing more than a similarly arbitrary linguistic prejudice. Mariette is not a “natural biological woman”—that is for sure! That is, she is not the *same kind* of woman as a human woman. But still, for all that, Mariette is a woman. How do I know this? Because, as we have seen, *all* of the types of individuals that the term “woman” picks out—ranging from cisgender human women to robot women, trans women, Cardassian women, Hutt women, and beyond—have something important in common that explains our classifying them this way: they are all *adults gendered female*.

We can further see how linguistically arbitrary the above sorts of objections are (e.g., denying that hologram women are real women because they are holograms; denying that robot women are real women because they are robots; or denying that trans women are real women

because they do not have bodies with particular biological/reproductive characteristics) by considering a variation on this same linguistic move. In the Old Testament, God is said to only “clothe” Adam and Eve “in skin” after they sin by eating the apple of the Tree of Knowledge of Good and Evil (The New American Bible, Gen. 3:21). So, it seems, prior to this time Adam and Eve did not have corporeal human bodies at all (with reproductive organs, etc.), but were perhaps more akin to disembodied angels. Suppose, then, for the sake of argument that there *were* disembodied angels in Heaven witnessing this entire process, and that these angels were gendered, as they seem to be in the Bible (as the angels referred to therein include “Michael,” “Raphael,” “Gabriel,” etc.). What might a female gendered angel, call her “Angel”, say about Eve once Eve is clothed in human skin? Setting theological claims aside about what angels ought to believe (given their relation to God), one can readily imagine Angel having much the same kind of reaction to Eve that Mariette has to the hologram AI, Joi. Angel might well be inclined to say, of Eve, “Eve is not a *real* woman. Only we adult female angels are real women. Eve is an *artificial* woman that Yahweh clothed in skin!” But this is plainly absurd. Why? Because Eve *is* a woman. Eve is *gendered female* as much as Angel is—and as much as a robot woman, cartoon woman, alien woman, trans woman, or cis woman is. Cases like this once again demonstrate the point of this paper: that when we follow ordinary usage and do not make linguistically arbitrary decisions, we can see that to be a woman just is to be an adult who is gendered female.

Further, the above discussion once again highlights an important deeper point: namely, that in claiming that women are (simply) adult human females (in a biological sense), such that this excludes trans women, people like Byrne conflate genuine qualifications that can be meaningfully attached to the category (i.e., “human woman,” “robot woman,” “cartoon bug woman,” etc.)—each of which denote a genuinely different type of woman (human women,

robot women, etc.)—with the meaning of “woman” *itself*. For again, if Byrne’s AHF were right, then “Azteca is a woman ant,” “Delores is a robot woman,” and so on, would all be literally incoherent, meaning “Azteca is an adult human female ant,” “Delores is a (biologically-)adult human robot woman,” etc., such that none of these expressions would express truths. Yet, these statements do not express such incoherent absurdities. They express obvious truths: Azteca clearly *is* a woman ant (at least in her “cartoon world”), Mariette *is* a woman android, so too are *Westworld*’s Delores and Maeve, and so on—because, again, they all plainly share something in common that explains this: they are all gendered female. So, AHF is false. “Woman” can be coherently modified in all kinds of ways (“robot woman,” “trans woman,” “cartoon ant woman,” etc.)—but all such modifications presuppose the meaning of “woman” this paper defends: that women are *adults who are gendered female*.

There is one final set of objections that we should surely address. Consider the first sense of “female” discussed earlier:

1a(1): of, relating to, or being the sex that typically has the capacity to bear young or produce eggs.

Suppose Byrne were to concede every point defended so far in this paper (as he should, since the argument so far is sound). That is, suppose Byrne were to admit what is clearly the case: that on the standard literal meaning of “woman,” to be a woman is to be an adult who is gendered female, such that alien women, robot women, cis women, and trans women really are all women. That being said, Byrne might contend that there is still another, perfectly intuitive, literal, colloquial meaning of “woman” according to which robot women and trans women are *not* women but cisgender human women (and alien women) *are* women: namely, sense 1a(1)—“being women” in the sense of satisfying a *purely biological* definition of “female.” Indeed,

Byrne might conjoin this objection with the following observation: that when, in *Westworld*, Delores's mind comes to occupy Martin Connells's body, there is clearly a sense in which "Delores is now a man." After all, Byrne might say, Delores is quite naturally described this way: as being a woman (in the gendered female sense) *in a man's body*. Consequently, Byrne might say that even if trans women are women in a gendered sense, they are clearly not "women in a biological sense," and that this alone is sufficient to deny what many trans-inclusive theorists and activists want to affirm: namely, that trans women are women *simpliciter*, without qualification.

There are a number of things to say in response here. First, consider again how unnatural (and indeed, infelicitous) it is to classify other biological entities as "women" on the basis of reproductive characteristics. There are, for example, adult female flowers and adult female dung beetles that can produce eggs, but it would be plainly infelicitous to call an adult female rose or geranium a "woman flower," or again, an adult female dung beetle a "woman beetle." No competent speaker of ordinary English would speak this way. Why? The most obvious (and correct) answer is that adult female flowers and dung beetles are not *gendered* in the sense that women humans, aliens, robots, or cartoon characters are—namely, by broadly conforming to socially-constructed gender norms qua what counts as "feminine" in a sense relevant to being a woman (which gender-fluid and gender-queer individuals violate in various ways, making them *not* men or women *simpliciter*, but rather individuals who span these genders or otherwise have another gender). Flowers and dung beetles are never gendered in this sense, which is why we never call them "women." So, "woman" does not refer to adult females "in a biological sense" . . . unless those individuals are *also* gendered female—in which case this paper's argument still goes through: *the explanation* for why a particular being is a woman (viz., cis human women,

Cardassian women, robot women, trans women, etc.) is not biological, but rather social, having to do with *gender*.

Now, I imagine that Byrne and many “gender-critical feminists” might want to reject this explanation, claiming that there is another—as-yet undiscussed—reason to classify all and only adult humans and aliens who are female in sense 1a(1) (but not, say, flowers) *as* women “in a biological sense” (see e.g., Stock 2021). For, there is an obvious difference between female flowers and female human beings in biological sense 1a(1), right? In addition to being members of very different biological kingdoms, human women have been and continue to be subjects of *oppression* based upon their biological features: principally (but not only) on the basis of their reproductive features and exhibiting a “natural” female phenotype that biological males have throughout human history unjustly aimed to dominate and oppress (viz., behaviors ranging from sexual to domestic violence, discrimination, etc.).

Yet, to see how this objection errs, consider the fact that in many animal species, females (in biological sense 1a(1)) are unfairly controlled and dominated by males. This is not only the case in many primate species, such as gorillas and chimpanzees (Van Schaik et al. 2004), but also in many other species (Smuts and Smuts 1993), such as lions—where in lion prides, a single male dominates the entire group, “having the right” to mate with female lions in the pride at will (Bertram 1975). Conversely, in some species, biological females are dominant (Lewis 2018). Still, there is something particularly striking about the scientific literature on these issues: namely, the prevalence of the use of the neutral/ambiguous terms “male” and “female” in conjunction with the *absence* of the use of the terms “men” and “women.” For example, in scientific discussions of primate behavior, the discussion centers on “sex differences” and interactions between (biological) “males” and “females” in sense 1a(1)—that is, where “male”

and “female” are understood in reductive biological terms. Specifically, “male” lions, chimpanzees, and so on, in this biological sense are identified as seeking to dominate and control (biological) *females*, principally for reproductive reasons. No one with a reasonable grasp of language or the relevant empirical facts—including trans-inclusive theorists and activists who (correctly) believe that trans women are women—would presumably deny these kinds of facts. Males in many species, including the human species, have aimed to dominate and control *females* in sense 1a(1): females, that is, in the sense “of, relating to, or being the sex that typically has the capacity to bear young or produce eggs.” Not only that: human males have controlled and dominated human females in sense 1a(1) in *very* specific ways, some of which may be similar to the ways in which they dominate trans women (e.g., harassment and sexual violence), but others of which are very different forms of dominance and control, such as denying human females in sense 1a(1) their basic reproductive freedoms (viz., abortion laws, etc.), and engaging in distinct forms of violence (viz., transphobic violence) against trans women specifically.

Again, no one with a basic grasp of language and relevant empirical facts would presumably deny any of the above. But here is the key: *no one* refers to “men” and “women” lions or chimpanzees in these contexts. In the scientific literature, the terms “male” and “female” are always used instead. Why? At least offhand, one might think that we merely reserve “man” and “woman” for human beings *simply because they are terms for members of our species*—whereas in other species there are analogous distinctions (e.g., “bulls” and “sows” in the case of cows, “hens” and “roosters” in the case of chickens, and so on). One might suggest, further, that in virtually all of these cases, the relevant terms are *synonymous* with “male” and “female” in the (purely biological) sense. For example, a “hen” is defined (simply) as a female chicken older

than one-year of age (Merriam-Webster 2021e), and a “sow” is (simply) an adult female cow (Merriam-Webster 2021f). Alas, although this may seem plausible on the surface, upon further reflection it is entirely clear that this is *not* how “man” and “woman” are understood or used by competent language users. Their meaning is very different. How do I know this? Consider again the series of facts enumerated earlier: competent language users plainly recognize Delores and Maeve as women robots, *WALL-E*’s Eve as a girl robot, Mariette in *Blade Runner: 2049* as a woman robot, Gardulla Besadii the Elder as a Hutt woman in the *Star Wars* universe, T’Pol as a Vulcan Woman in *Star Trek*, and so on. Despite the fact that some of these individuals are robots without reproductive biology, others slug-like creatures, others Vulcans with blue blood and pointy ears, and so on, competent language users readily identify them all *as girls or women* of the sort they are (e.g., robot girls, alien women, etc.). This again reveals that, unlike “sow” or “hen”—which plainly do refer to members of particular species based solely upon biology—the terms “girl,” “boy,” “man,” and “woman” do not function this way. There are no “boy” chickens or “woman” cows; rather, there are (simply) *male* chickens and *female* cows (e.g. in biological sense 1a(1)). But there plainly *are* girl Vulcans, boy Hutts, android men (such as Joe in *Blade Runner: 2049*), and women androids, such as Delores, Maeve, and Mariette. The fact that we use the terms “girl,” “boy,” “woman,” and “man” to refer to individuals who are gendered male or female (respectively) of *any* biological species (and indeed, to gendered individuals who are not even biological organisms), but not to individuals in species that lack anything like advanced gender norms (e.g., chickens, cows, etc.), once again demonstrates this paper’s thesis: that “woman” refers not to anything biological but instead to individuals who satisfy the 1(b) definition of “female”—individuals who satisfy certain socially-constructed *gender norms*, including robot women, alien women, and trans women.

Let us now turn to the remaining part of the same objection: namely, that when (in *Westworld*) Delores's mind comes to occupy Martin Connells's male body (via uploading her mind into his body), there is a sense in which Delores is now "a man." Notice, to begin with, that this is on its face a very strange and infelicitous way to speak. No one who watches *Westworld* thinks Delores has literally *become a man* simply by occupying Connells's body. She is still *Delores*, after all. We still recognize her *as* the woman AI who, in Season 1 of the program, was brutally assaulted and repeatedly murdered by the Man in Black, only to be repeatedly "born again" each day to suffer similar horrors as a robot "host" in a Western theme park. The most natural way to describe Delores is as a *woman AI* who now occupies a male body, a body assigned a different sex and gender than Delores's original sex and gender "at birth" (or rather, at her creation as a woman robot). But, of course, this in turn is precisely why trans women are now (correctly) identified *as* (trans) women—as women whose gender (as women) does not match the gender they were socially-assigned at birth. So, again, the terms "girl" and "women" are gendered terms, and insofar as a person with one gender (Delores) can *clearly* occupy a (male) body normally associated with another gender (e.g., boys and men), it follows once again that trans women, robot women, and alien women are all women—since, as with Delores, individuals in each of these categories can clearly be gendered female.

There is one final objection to address here, which is that in the cases in Delores, Maeve, Mariette, and women Hutts, there is a clear sense in which the individual's psychosocial history is plausibly relevant to whether they are women. For example, at the outset of *Westworld*, Delores is stereotypically feminine, presented to the viewer as though she is a conventionally attractive female member of the human species—features of her which result in her being dominated and oppressed by men in conventionally sexist ways (including sexual violence). It

might be suggested that insofar as Delores “had these characteristics from the beginning,” it makes fine sense to still call her a woman after uploading her mind into Martin Connells’s body—since she has the history of a woman and was long treated as one (particularly by men) due to phenotypically-female physical features. But, it might be said, the opposite is true of trans women. Trans women entered the world identified as “male,” may have developed physically “as boys,” and so on—in which case, it may be suggested, they are *still* boys (or men) regardless of their gendered-feminine features (e.g., that may only develop or present later in life).

However, it is surprisingly easy to see this line of argument to be unsound—though perhaps just how easy it is has not been fully appreciated due to the standard focus on humans, as opposed to robots, cartoon characters, and so on (as the present paper does). For consider what we would doubtless say about a robot (such as Eve) who *transitioned* from being gendered female to gendered male. Suppose for the sake of argument that future AI programmers developed the ability to replace every feminine trait of Eve’s psychology and behavior with corresponding masculine ones. So, for example, in Western societies the following traits are considered stereotypically feminine: affection, cooperativeness, gentleness, humility, nurturance, passivity, sensitivity, supportiveness, sweetness, and warmth (Vetterling-Braggin 1982, 5-6; Stets and Burke 2000; Kite 2001; Windsor 2015). Conversely, the following traits are stereotypically masculine: assertiveness, independence, leadership, strength (Vetterling-Braggin 1982, 6; Carli 2001; Kimmel 2013)—not to mention machismo (Morales 1996). Second, there are also clearly norms for *gender performance* (Butler 1988): masculine and feminine forms of dress, speech (prototypically “masculine” voices being lower in pitch, “feminine” voices higher), hair styles, etc. Finally, there is a person’s internal sense of their *gender identity*—which is known to be informed by a person’s sense of their own masculinity, femininity, etc. (Bem 1974;

Wood and Eagly 2010; Tate 2014). Importantly, recognizing all of this does not presuppose any kind of gender essentialism—the view that there is an *essence* of what it is to be a man or woman, nor does it deny that men can be feminine in various ways, etc. It is entirely consistent with the more plausible idea that gender categories are *family-resemblance concepts* (Wittgenstein 1958, secs. 66-8), such that there is no precise number of masculine or feminine traits that an individual must have to be a man or a woman, respectively—but rather, the more or fewer such traits one instantiates, the more (or less) paradigmatically male or female one is in a gendered sense. Obviously, there are men who are nurturing, passive, sensitive, and so on, as well as women who are assertive, independent, etc. The point is simply that a person’s gender will normally be understood—both by themselves and others—as a function of their masculine and feminine traits in conjunction with gender performance and experienced gender identity (the latter of which, in turn, will normally be understood by reference to the former, as a person will typically identify *as* a man, woman, gender-queer, etc. in virtue of their particular blend of gendered traits and performativity). Notice, finally, that all of this is also consistent with ongoing debates about how gender *ought* to be understood—such as whether gender should be understood in terms of dispositions, relevant social norms, or self-identification alone (see e.g., Jenkins 2018), debates which we cannot settle here.

Bearing all of this in mind, let us return to the thought experiment mentioned above: the example of a stereotypically feminine robot having *all* of her feminine gendered traits replaced by masculine ones. So, for instance, as mentioned earlier, in the Disney film *WALL-E*, Eve is stereotypically girlish, being a bit bashful and demure toward WALL-E, complete with a high-pitched, female-sounding voice, and so on. Suppose then that Eve entered a “robot gender-transition shop” asking to have these features of her personality and behavior systematically

replaced by stereotypically male features: a deep baritone voice, a desire to be called “John” rather than Eve, interests in stereotypically masculine things (football), stereotypically masculine behaviors, interests, and performance (such as dominating conversations, preferring masculine deodorants to feminine ones, wearing male clothing, etc.), an internal sense of being a boy robot, and so on. Despite her previous history as Eve, it now seems clear that if Eve has changed so fundamentally in these ways, she will have *become a male AI*, that is, a *boy robot*: namely, John. Indeed, suppose that, in addition to the above changes to her psychological and behavioral characteristics, the robot formally known as “Eve”—now John—receives a *physical-body makeover* to in turn make much of her body stereotypically masculine as well: specifically, in ways that satisfy various (traditional) gender norms and expectations for “how men are supposed to be,” physically speaking. John, let us suppose, has a robot-penis prosthesis permanently attached where before (on Eve) there had been nothing, or perhaps the robot equivalent of biologically-female genitalia. Now it may seem even clearer than before that Eve has *become John*, a plainly male robot. Eve *once was* a girl robot—at least sense of having been socially conferred this gender (see Ásta 2013; 2018)—but now is a *male robot* in a gendered sense. This, again, is not because reproductive biology (such as having a penis) objectively makes someone “male” or “female,” or indeed, is even necessary for that (since WALL-E is clearly identifiable as a male robot despite having no reproductive organs). Rather, it is because now—in addition to having a masculinized personality and a litany of distinctly masculine behavioral-performative characteristics—John now *looks* more “like a man is supposed to look” (in a traditional socially defined sense) than Eve did (Stoller 1974), and is able to *do* characteristically masculine things sexually which Eve could not do (e.g., engage in penetrative sexual activities without a temporary prosthesis). Again, John (formerly Eve) needn’t have a penile prosthesis to become a

distinctively male robot—as the various psychological and behavioral changes would suffice for Eve to transition from distinctly feminine (*qua* girl) to distinctly masculine (*qua* boy or man). The point is merely that, in transitioning from the less-masculinized body that Eve had, John would (*viz.*, gender norms for physicality) become *more masculinized* (or “manly”) than before, physically speaking. Finally, though, whether such gender norms are good or just ones for a society to have or for individuals to conform to is another story entirely. It could well be that the most morally defensible (and just) gender norms are ones that define gender (and hence, womanhood) in terms of self-identification alone (Bettcher 2017a)—though again these are ongoing debates. Which brings us to the following.

Byrne concludes his paper with a proposed lesson. He believes that his argument reveals that ameliorative definitions of ordinary terms, such as Sally Haslanger’s (2012, 8) definition of “woman” as a person “subordinated in a society due to their perceived or imagined female reproductive capacities,” only go so far, introducing entirely new concepts and categories. As Byrne writes, “Sometimes a word is replaced or demoted by a synonym...but that just makes the old distinction by new means. There is no reason to think that the utility of a word for the category *adult human female* will markedly decline in the foreseeable future” (3801). However, as we have seen, there is *no* word for “adult human female.” That is simply not what “woman” or any other single word means. How do I know this? Because, again, adult Cardassian females are women (nonhuman ones) and adult robot females are women (despite not being biological beings at all). Byrne, then, is simply choosing to understand a word, “woman,” in a way that it manifestly isn’t used or understood by any competent language user of the English language. Why? One can only surmise—though we have seen various possible reasons in this paper, each of which is predicated upon some form of confusion. The relevant point for our purposes is that

denying any of the above claims is to discriminate against certain kinds of women, deeming them *not* women when they are. *That* is to engage in ameliorative definition of “woman”—a gender-critical definition according to which current gender norms and categories should be rejected, and according to which the concept of “woman” should only be used to refer to adult human beings who satisfy the dictionary definition of “female” in biological sense 1a(1).

This paper’s argument has been primarily descriptive, focusing upon what the word “woman” literally means, and hence, on which types of beings are women. That being said, this paper’s argument has also touched upon a number of normative issues in ways that are plausibly illuminating with respect to ongoing debates over gender-critical versus trans-inclusive feminism, such as which conception of “woman” ethics and justice require.<1> To see how, consider again Mariette, a robot woman who wishes to deny that Joi (a hologram AI) is “a real girl.” This paper’s argument reveals just how arbitrary Mariette’s exclusion of Joi from this category is. Joi *is* a “girl” (or rather, woman) hologram just as much as Mariette is a woman *robot*, as they both genuinely satisfy the satisfaction-conditions (or meaning) of “girl” and “woman”: they are both gendered female. Mariette’s denying Joi this equal recognition *as* a girl/woman in effect denies linguistically (and socially) that Joi has relevant properties to being one that *Joi in fact has*: properties that Joi and Mariette both care about, and moreover, which Joi and Mariette *genuinely share*—namely, being *gendered female*. Are Joi and Mariette *different kinds of women* in potentially important ways? No doubt. For one thing, as a hologram Joi has no physical body, so there are things that Mariette can do as a robot woman that Joi cannot do as a hologram woman, and ways that Mariette can be physically treated by others that Joi cannot; and *vice versa*. These differences between Mariette and Joi are real, and may warrant careful consideration as matters of ethics and justice. But, for all that, Joi and Mariette are both *women*

AI. Thus, whatever else ethics and justice may require, denying that Joi is a woman is not only descriptively incorrect (as this paper has shown); it is also seriously *pro tanto* unfair to her, at least in these regards: it denies the literal reality of something *true* of her that is (or at least may be) *central to her existence* as a person—namely, that she is *gendered female*—as well as the further reality that she and Mariette *genuinely share* this characteristic (irrespective of their many other differences). This paper’s argument shows that the same is true of trans women: denying that *they* are women (simpliciter) denies the literal reality of something true of them and central to their existence as persons—namely, that they are *gendered female*—as well as the fact that they genuinely share this characteristic with cis women and the other kinds of women discussed herein. Might there be countervailing normative considerations in the debate between trans-inclusive and gender-critical feminism that might justify changing how “woman” is understood, such that the term should be reconceived in an exclusionary manner, referring merely to “biological sex” rather than to all adults who are gendered female? Much has been written on this important topic, and by authors far more qualified on these matters than I (see e.g., Koyama 2003; Haslanger 2012; Saul 2012; Bettcher 2013; 2017a; 2017b; Jenkins 2016; 2018; Hines 2018; Kirkland 2019; Dembroff 2020b; Zanghellini 2020. Cf. Jeffreys 2014; Bogardus 2020a, 2020b; Stock 2021). The relevant point for now is that to determine whether the meaning of the term “woman” should be retained or changed as a matter of ethics or justice, we first need to know what the term means—that is, who *women* are according to the ordinary literal meaning of the term. This paper has shown through what that meaning is, and it isn’t what Byrne and others who express skepticism about the identity of trans women claim it to be.

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Notes

1. I thank an anonymous reviewer for encouraging me to note this.

References

- Antony, Louise. 2020. Feminism without metaphysics or a deflationary account of gender. *Erkenntnis* 85: 529–49.
- Ásta. 2013. The social construction of human kinds. *Hypatia* 28 (4): 716–32.
- Ásta. 2018. *Categories we live by: The construction of sex, gender, race, and other social categories*. New York: Oxford University Press.
- Bachtrog, Doris, Judith E. Mank, Catherine L. Peichel, Mark Kirkpatrick, Sarah P. Otto, Tia-Lynn Ashman, Matthew W. Hahn, *et al.* 2014. Sex determination: Why so many ways of doing it? *PLOS Biology* 12 (7), e1001899: 1–13.
- Bem, Sandra L. 1974. The measurement of psychological androgyny. *Journal of Counseling and Clinical Psychology* 42 (2): 155–62.
- Bertram, Brian C. R. 1975. The social system of lions. *Scientific American* 232 (5): 54–65.

- Bettcher, Talia Mae. 2013. Trans women and the meaning of 'woman.' In *Philosophy of sex: Contemporary readings*, 6th ed., ed. Alan Soble, Nicholas Power, and Raja Halwani. Lanham, MD: Rowman and Littlefield.
- Bettcher, Talia Mae. 2017a. Through the looking glass: Trans theory meets feminist philosophy. In *The Routledge companion to feminist philosophy*, ed. Ann Garry, Serene Khader, and Alison Stone. New York: Routledge.
- Bettcher, Talia Mae. 2017b. Trans feminism: Recent philosophical developments. *Philosophy Compass* 12 (11), e12438: 1–11.
- Bogardus, Tomas. 2020a. Some internal problems with revisionary gender concepts. *Philosophia* 48 (1): 55–75.
- Bogardus, Tomas. 2020b. Evaluating arguments for the sex/gender distinction. *Philosophia* 48 (3): 873–892.
- Butler, Judith. 1988. Performative acts and gender constitution: An essay in phenomenology and feminist theory. *Theatre Journal* 40 (4): 519–31.
- Byrne, Alex. 2020. Are women adult human females? *Philosophical Studies* 177 (12): 3783–803.
- Carli, Linda L. 2001. Assertiveness. In *Encyclopedia of women and gender: sex similarities and differences and the impact of society on gender*, Vol. 1, ed. Judith Worell. San Diego, California: Academic Press.
- Corliss, Richard. 2008. WALL-E: Pixar's biggest gamble. *Time*, June 12, 2008, <http://content.time.com/time/subscriber/article/0,33009,1813964,00.html>
- Dembroff, Robin. 2020a. Escaping the natural attitude about gender. *Philosophical Studies* 178: 983–1003.

- Dembroff, Robin. 2020b. Cisgender commonsense and philosophy's transgender trouble. *TSQ: Transgender Studies Quarterly* 7 (3): 399–406.
- Fandom. n.d. VIKI. *Fandom: Villains Wiki*, <https://villains.fandom.com/wiki/VIKI>.
- Gee, Tabi Jackson. 2017. Why female sex robots are more dangerous than you think. *The Telegraph*, July 5, 2017, <https://www.telegraph.co.uk/women/life/female-robots-why-this-scarlett-johansson-bot-is-more-dangerous>
- Griffiths, Paul. 2020. Sex is real. *Aeon*, September 21, 2020, <https://aeon.co/essays/the-existence-of-biological-sex-is-no-constraint-on-human-diversity>
- Haslanger, Sally. 2012. *Resisting reality: Social construction and social critique*. Oxford: Oxford University Press.
- Heartsilver, Maggie. 2021. Deflating Byrne's "Are women adult human females?". *Journal of Controversial Ideas* 1 (1): 1–16.
- Hines, S. (2018). The feminist frontier: Towards trans-inclusionary feminism. *Journal of Gender Studies* 27: 145–157
- Jeffreys, Sheila. 2014. *Gender hurts: A feminist analysis of the politics of transgenderism*. New York: Routledge.
- Jenkins, Katharine. 2016. Amelioration and inclusion: Gender identity and the concept of woman. *Ethics* 126 (2): 394-421.
- Jenkins, Katharine. 2018. Toward an account of gender identity. *Ergo: An Open Access Journal of Philosophy* 5 (27): 713–34.
- Kimmel, Michael S. 2013. Masculinity as homophobia: Fear, shame, and silence. In *Readings for diversity and social justice*, 3rd ed., ed. Maurianne Adams, Warren J. Blumfeld, Rosie

- Castañeda, Heather W. Hackman, Madeline L. Peters, and Ximena Zúñiga. New York: Routledge.
- Kirkland, Katie L. 2019. Feminist aims and a trans-inclusive definition of “woman”. *Feminist Philosophy Quarterly* 5 (1): 1–24.
- Kite, Mary E. 2001. Gender stereotypes. In *Encyclopedia of women and gender*, Vol. 7, ed. Judith Worell. San Diego: Academic Press.
- Koyama, Emi. 2003. The transfeminist manifesto. In *Catching a wave: Reclaiming feminism for the 21st century*, ed. Rory Dicker and Alison Piepmeier. Boston: Northeastern University Press.
- Lewis, Rebecca J. 2018. Female power in primates and the phenomenon of female dominance. *Annual Review of Anthropology* 47: 533–51.
- Maron, Dina Fine. 2016. How a transgender woman could get pregnant. *Scientific American*, June 15, 2016, <https://www.scientificamerican.com/article/how-a-transgender-woman-could-get-pregnant/>
- Merriam-Webster. 2021a. Definition of *female*. *Merriam-Webster Dictionary*, April 2021, <https://www.merriam-webster.com/dictionary/female>
- Merriam-Webster. 2021b. Definition of *adult*. *Merriam-Webster Dictionary*, December 2021, <https://www.merriam-webster.com/dictionary/adult>
- Merriam-Webster. 2021c. Definition of *grown up*. *Merriam-Webster Dictionary*, December 2021, <https://www.merriam-webster.com/dictionary/grown-up>
- Merriam-Webster. 2021d. Definition of *literal*. *Merriam-Webster Dictionary*, January 2022, <https://www.merriam-webster.com/dictionary/literal>

Merriam-Webster. 2021e. Definition of *hen*. *Merriam-Webster Dictionary*, April 2021,
<https://www.merriam-webster.com/dictionary/hen>

Merriam-Webster. 2021f. Definition of *sow*. *Merriam-Webster Dictionary*, April 2021,
<https://www.merriam-webster.com/dictionary/sow>

Morales, Edward. S. 1996. Gender roles among Latino gay and bisexual men: Implications for family and couple relationships. In *Lesbians and gays in couples and families: A handbook for therapists*, ed. Joan Laird and Robert-Jay Green. San Francisco: Jossey-Bass.

Raymundo, Oscar. 2016. Meet Sophia, the female humanoid robot and newest SXSW celebrity. *Macworld*, <https://www.macworld.com/article/227605/meet-sophia-the-female-humanoid-robot-and-newest-sxsw-celebrity.html>

Richards, Julia E., and R. Scott Hawley. 2011. *The human genome: A user's guide*, 3rd ed. London: Academic Press.

Saul, Jennifer (2012). Politically significant terms and the philosophy of language: methodological issues. In *Out from the shadows: Analytical feminist contributions to traditional philosophy*, ed. Sharon L. Crasnow and Anita M. Superson. Oxford: Oxford University Press.

Smuts, Barbara B., and Robert W. Smuts. 1993. Male aggression and sexual coercion of females in nonhuman primates and other mammals: evidence and theoretical implications. *Advances in the Study of Behavior*, 22 (22): 1–63.

Star Wars Fandom. n.d. Gardulla Besadii the Elder. *Fandom*,
https://starwars.fandom.com/wiki/Gardulla_Besadii_the_Elder#:~:text=Gardulla%20Besadii%20the%20Elder%20was,to%20Watto%20in%20a%20bet

- Stets, Jan E., and Peter J. Burke. 2000. Femininity/masculinity. In *Encyclopedia of sociology*, Vol. 2, 2nd ed., ed. Edgar F. Borgatta and Rhonda Montgomery. New York: Macmillan Reference USA.
- Stock, Kathleen. 2021. *Material girls: Why reality matters for feminism*. London: Fleet Books.
- Stoller, Robert J. 1974. *Sex and gender: The development of masculinity and femininity*. New York: Routledge.
- Tate, Charlotte. 2014. Gender identity as a personality process. In *Gender identity: Disorders, developmental perspectives and social implications*, ed. Beverly L. Miller. Hauppauge, NY: Nova.
- Teenage Robot. n.d. My life as a teenage robot. *Fandom*,
https://teenagerobot.fandom.com/wiki/My_Life_as_a_Teenage_Robot
- The New American Bible (2011). Revised Edition. New Jersey: World Catholic Press.
- Van Schaik, Carel P., Gauri R. Pradhan, and Maria A. van Noordwijk. 2004. Mating conflict in primates: infanticide, sexual harassment and female sexuality. In *Sexual selection in primates: new and comparative perspectives*, ed. Peter M. Kappeler and Carel P. van Schaik. Cambridge, UK: Cambridge University Press.
- Vetterling-Braggin, Mary, ed. 1982. *"Femininity," "masculinity," and "androgyny": A modern philosophical discussion*, Totowa, NJ: Rowman and Littlefield.
- Wikipedia. n.d. Gynoids. https://en.wikipedia.org/wiki/List_of_fictional_gynoids
- Windsor, Elroi J. 2015. Femininities. In *International encyclopedia of the social & behavioral sciences*, Vol. 8, 2nd ed., ed. Neil J. Smelster and Paul B. Baltes. Oxford: Elsevier Science.
- Wittgenstein, Ludwig. 1958. *Philosophical investigations*. Trans. G. E. M. Anscombe. Oxford: Basil Blackwell.

Wood, Wood, and Alice H. Eagly. 2010. Gender. In *Handbook of social psychology*, 5th ed., vol. 1., ed. Susan T. Fiske, Daniel Todd Gilbert, Lindzey Gardner, and Arthur E. Jongsma, Jr. Hoboken, NJ: Wiley.

Zanghellini, Aleardo. 2020. Philosophical problems with the gender-critical feminist argument against trans inclusion. *SAGE open*, 10(2), 2158244020927029: 1–14.

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