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Sex Categorization in Medical Contexts: A Cautionary Tale

ABSTRACT. The goal of this paper is to problematize the use of sex categories in medical contexts. We question the benefits of categorizing all individuals as either male or female in medical contexts and argue that we should focus instead on the relevant sex-related properties of patients. Contrary to what many people believe, the classificatory system by which sexed bodies are neatly divided into male and female is anything but clear. An abundance of evidence shows that a binary sex system does not accurately describe the reality of human bodies. Given the complexity of sex with its many markers, variations, and combinations, why is medicine still based on the assumption that there are only two sexes? Why is binary sex still systematically used as a proxy in medical contexts, even when it doesn't help, but can actually hinder diagnoses, care, and treatments? The complexity and heterogeneity of sexed bodies is critical in medical contexts. We argue that the use of female/male categories overlooks and obscures this complexity and variety, thereby resulting in a variety of harms, poor health care, oversimplification, and over-pathologization.

[We] perform the cultural work of fitting individuals into categories; yet the active labor that goes into making sex appear dichotomous is generally invisible to the broader society, or at least rarely remarked upon.

(Epstein 2004, 192)

Wording matters. It doesn't just affect a person's willingness to check the box and be counted—it also highlights the existence of those identities. Perhaps if we weren't so regularly confronted with a simple choice—"Are you male or female?"—our thinking about gender wouldn't be so binary.

(Keith Conron, cited in Chalabai 2014)

To be sure, there are truths about bodies.

Yet such truths can be expressed without the notion of sex.

(Bettcher 2009, 115)

Contrary to what many people believe, the classificatory system by which sexes are neatly divided into the two categories of male and female is anything but clear. There is an abundance of evidence showing that a binary sex system does not accurately describe the reality of human bodies (see for example, Eckert and McConnell-Ginet 2003; Fausto-Sterling 1989; 2000; Jordan-Young 2010; Epstein 2004; Richardson 2013; Serano 2017). That is, people are not neatly divided into only females or males (Karkazis et al. 2012); sex is not defined in terms of the presence or absence of a single property, like genitals; and sex is not immutable, which is to say that it is not necessarily the case that if you are born into one sex, you will always remain within that sex (Serano 2017). Insofar as there are people who do not fit into the category of either female or male, we are compelled to ask: why is medicine still based on the assumption that there are only two sexes? Why is binary sex still systematically used as a proxy in medical contexts, even when it doesn't help, but can actually hinder diagnoses, care, and treatments?

The fact that many people fall somewhere in between the two distinct categories of male and female calls us to rethink this binary system on medical, ethical, psychological, and practical grounds. This paper begins to undertake such a project. In what follows, we question the benefits of categorizing all individuals as either male or female in medical contexts and argue for more restraint and nuance in immediately and necessarily classifying and categorizing everybody on the basis of two sexes. Specifically, we argue in favor of not relying upon sex as a proxy for diagnoses and treatments. Instead, in applicable contexts, we urge medical practitioners to focus on the relevant sex-related properties of the patient in relation to the history of those properties and the bodies in which they exist. Importantly, we are not proposing an abolitionist project, for, as we discuss below, there are many instances—both within and especially beyond medical contexts—in which sex categories can be useful, beneficial, and important. However, whereas currently one of the first questions that patients are asked on patient in-take forms in medical contexts is whether they are male or female, we want to shift the focus away from this emphasis due to the many harmful consequences that can follow.¹ The kind of change in thinking and practice that we are proposing requires a shift in medical education and training to include information about individual variability in relation to sex properties, controversies about determining someone's sex, and information about the variety of

bodies and needs, including those related to trans folks, intersex people, and those who are gender non-binary.

Our argument unfolds in four parts. In section I, we make some terminological and methodological clarifications. In section II, we outline some of the problems with the current system that assumes sex dimorphism. In section III, we consider several examples that demonstrate various problems that arise for the health and health care of intersex people, trans folks, and gender non-binary people—whose bodies do not meet the expectations associated with the sex category (male or female) that they have been assigned at birth—when we assume that everyone can be classified as either male or female. In section IV, we develop our normative argument for why on medical, ethical, psychological, and practical grounds, within many medical contexts, relying on sex properties as opposed to sex categories can help to alleviate some of the harms faced by intersex, trans, and gender non-binary people.²

I. TERMINOLOGICAL & METHODOLOGICAL CLARIFICATIONS

It is important to clarify four terminological and methodological points at the outset. First, when we say that many people do not fit squarely into the categories of male and female, we are referring to three broad groups of people: (i) trans folks whose bodies might not conform to traditional sex categories; (ii) intersex people whose bodies show different combinations of sex-linked properties (hormones, genitalia, chromosomes, etc.) and who, despite the incongruities that their bodies show, do identify as either male or female; and (iii) gender non-binary people, whose bodies and/or appearances in other ways don't align with traditional sex categories, and who do not identify as trans or intersex.³ We are using “gender non-binary” as an umbrella term for any gender (or lack thereof) that does not fit into the categories “man” or “woman.” There is a plurality of identities and experiences that fit into this group—for example, those who identify as genderqueer, genderfluid, or agender. Indeed, trans folks could also be classified as non-binary on our broad definition. However, for our purposes, we will consider trans folks in their own category and reserve the category of gender non-binary for those who do not fit within the binary and who also do not identify as trans.

With regards to statistics on the number of people who fall into each group, matters become increasingly trickier with each group. One regularly cited study of nearly 35,000 newborns reports that one in 426

does not have either XX or XY chromosomes (Nielson and Wohler 1991). The World Health Organization (WHO) reports that one in every 2,000 births worldwide is visibly intersex insofar as the child's genitals are either ambiguous or incomplete (2017). Accordingly, at least five American intersex newborns are born each day, which amounts to 1,825 per year in the US. With regards to determining an accurate number of trans folks, data becomes more difficult to obtain since neither the U.S. Census Bureau nor the Centers for Disease Control and Prevention (CDC) ask about whether one is transgender (Chalabai 2014).⁴ Moreover, most medical forms still rely on a two-sex system. The most recent study on this topic (as of September 2017) estimates that 1 in every 250 adults, or almost 1 million Americans are trans (Meerwijk and Sevelius 2017); however, it is very likely that even this number is lower than the actual number of trans folks, since many trans folks fear outing themselves as trans for reasons of safety or discrimination or both. The trickiest group on which to obtain statistical data is non-binary people, since the category itself is so diverse and also because there are no agencies that track this information (see Eckstrand et al. 2016 for a helpful discussion on this matter⁵). Gender non-binary people also tend not to out themselves in public forums, demographic forms, or even in medical contexts. In fact, many non-binary people actually choose to identify as either male or female within medical contexts precisely in order to avoid mistreatment, discrimination, and other psychological harms (Harrison et al. 2012; Freeman 2017). Thus, we cannot provide accurate numbers for how many people fall into this group.⁶

Second, we must underscore that our proposal does not challenge the psychological value that sex categories have in building identities, as we highlight throughout the paper. That is, we are not advocating a wholesale abolition of sex categories. Indeed, we maintain that such categories are important for those individuals who *do* identify as either male or female and in particular, in social contexts. Rather, our concern centers on the use of sex categories (*viz.*, male or female) in medical contexts and specifically from the second- and third-person stance. Often, in medical contexts, categorizations are foisted on people who do not identify with them. Our worry centers on medical contexts in which the use of such categories jeopardizes the well-being of the person upon whom the categorization has been imposed.⁷

Third, our proposal is compatible with the fact that sex categories have been of value to articulate and address some problems in medical research

both with regards to human bodies and also in terms of structural injustices that befall members of underrepresented and historically marginalized groups. For example, acknowledging differentiation between the sexes in certain medical contexts was key in the legislation that mandated gender inclusion in clinical trials.^{8,9} While acknowledging these points, we nevertheless still insist on the dangers of the default use of sex categories in medical contexts as a proxy for diagnosis and treatment and urge for a more cautionary approach.

Fourth, given the nature of this project, it is incumbent upon us to say something about how we are using the terms “sex” and “gender.” We acknowledge the difficulty of neatly defining and distinguishing between “sex” and “gender;” indeed, there is an extensive and ever-growing literature on this topic (see Mikkola 2016). In this paper, however, we are neither commenting on, nor committing to, the precise distinctions between the two terms. Rather, we are setting this issue aside to focus on the practical and social dimensions of understanding sex and gender within medical contexts and more specifically, the practical problems of when traditional understandings and uses of these categories do not work and cause harm. For our purposes, when we discuss “sex” in this paper, we are referring to the way that the institution and practice of medicine understands the term, namely, as a classification (usually male or female) that is based on one’s biological properties (both genotype and phenotype). Within medical contexts, patients are always asked to classify themselves based on this categorization where the assumption is that (a) everyone knows what the term “sex” refers to and (b) everyone fits into one of these two categories. Our claim is that not only do the categories of “male” and “female” not always work well, but also and more importantly, that relying upon them can cause serious harms to many individuals. In terms of “gender,” we understand the term to refer to self-identification. Now, let us consider problems with sex categories as they are currently used within the context of medicine.

II. PROBLEMS WITH SEX CATEGORIES

Despite evidence to the contrary, the idea still persists—both in society in general and in medicine in particular—that sex is a transparent and easily accessible fact of our bodies and that there are clear and reliable sex differences between those who are classified as “male” and those who are classified as “female” (see Fausto-Sterling 1993; Hirschauer 1998; Hirschauer and Mol 1993; Kessler 1998; Kessler and McKenna 1978;

Lorber 1996; Oudshoorn 1994; Serano 2017).¹⁰ However, determining people's sex has always been a controversial and difficult endeavor that has required negotiation from scientists and clinicians alike (Dreger 1998b; Reis 2009). In this section, we discuss four problems with sex categories in the service of our claim that the current, standard reliance upon the assumption of sex dimorphism should be called into question. The four problems that we discuss are the following: (1) not everyone is *either* male *or* female; (2) context matters when determining one's sex; (3) sex dimorphism is not a fact but rather is imposed as a *normative ideal*; (4) sex dimorphism relies on a controversial assumption about the possibility of neatly dividing all human beings into two and only two different groups. Let us now discuss each problem in turn.

(1) Not Everyone is Either Male or Female

As we stated above, not everyone falls neatly into the category of either male or female. We tend to think of sex categories as deriving from a single marker (e.g., the external genitalia that an individual possess, or the relevant chromosomes). But in fact, there are five markers or traits on the basis of which sex can be determined: chromosomes, ratio of sex hormones, secondary sex characteristics, external genitalia (penis/clitoris and vulva), and internal genitalia (reproductive organs within the body, including ovaries, uterine tubes, uterus, and vagina as well as testes, epididymides, ductus deferentes, seminal deferentes, seminal vesicles, ejaculatory ducts, prostate, and bulbourethral glands).¹¹ While there are a number of different sex markers and traits, it might be the case that within the same person, the markers or traits do not all align (i.e., all male, or all female), as is the case for intersex and many trans folks (Serano 2017). As Serano writes, for each of these markers or traits "some people's anatomies will fall 'in between' or 'outside of' what most people consider to be standard for female or male" (ibid.). For example, a person could count as male on the basis of some markers (i.e., testosterone levels; or testicles, perhaps undescended), yet female on the basis of others (i.e., could have a vagina). Determining someone's sex has never been straightforward, in spite of current assumptions, and has required negotiation and attention to context (Fausto-Sterling 1985; Karkazis 2008).

Let's consider how complicated this matter can be by unpacking the following example of a person who can count as male on the basis of some markers yet female on the basis of others (also see Karkazis et al. 2012; Epstein 2004). Consider Ann who has Complete Androgen Insensitivity

Syndrome (CAIS).¹² This means that Ann has male chromosomal sex (XY karyotype), male gonadal sex (internal undescended testes), and male hormonal sex (high levels of androgens), but is morphologically female, which is to say that she has female genitalia (breasts and vagina) and because of that, although not necessarily, she might present as and consider herself to be female. From a medical perspective that assumes that there are only two sexes and that each individual falls neatly into one or the other, it isn't clear what the "right" sex classification for Ann is. In fact, the current binary system doesn't have a place for people like Ann. A similar case can be made for a male-to-female transgender person who has had surgery and who takes hormones. Although she has "male" chromosomes (XY), she has "female" hormones, genitals, secondary sex characters, and identity. As Talia Bettcher writes: "In both cases, there is no fact of the matter as to what sex or gender the person belongs to" (2013, 386).¹³ As we can see in these examples, insofar as not everyone can be categorized in medical contexts by the system of sex dimorphism, we need to rethink its benefit and use.

(2) Context Matters When Determining One's Sex

It is also the case that context matters when determining someone's sex, thereby undermining the assumption (operative in medicine and in society more generally) that one can be categorized in a single, determinate way in all contexts. For example, properties that in some contexts might point towards the category of male (e.g., not having a uterus in the context of CAIS) in other contexts point to the category of female (e.g., a woman who's had a hysterectomy). Also, while in some contexts not having a uterus, and the reason why that is so, might be relevant (i.e., in the case of reproduction), in other contexts it might be completely irrelevant (i.e., for self-identification, in sexual-affective relationships, in many medical contexts that are unrelated to reproduction, or in any other social activity). Insofar as context can change how one is characterized with regards to one's sex, it is worth reconsidering the default use of determinate sex categories across all contexts.

(3) Sex Dimorphism is Imposed as a Normative Ideal

Though sex dimorphism is considered to be a fact, this is not the case. Rather, sex dimorphism is imposed as a normative ideal, both outside and inside of medical contexts. That is, it is commonly assumed that every person is either female or male, and that this is the case in an unambiguous

way. However, intersex people are a clear counterexample insofar as some possess reproductive or sexual anatomy that are neither strictly male nor strictly female. Legal and medical forms ask for people's sex in ways that assume sex dimorphism. Education institutions, whether or not sex-segregated, reinforce this assumption by teaching children that there only two sexes, an assumption that gets reinforced with any exposure to social life and social and political norms. However, for reasons we have already discussed (and upon which we elaborate below), we know that this ideal is descriptively wrong. Nevertheless, like with many other social ideals (i.e., gender), many of our common practices render this ideal to appear "natural," and thus, do not compel us to question it. As Ayala and Vasilyeva write:

The amount of individual variability is often underestimated because social practices actively mask deviations from the paradigmatic, idealized cases (by waxing, wearing specific clothes, and more radically, by surgical interventions on ambiguous genitalia). A lot of work goes into maintaining the appearance of absolute sexual dimorphism, despite all the evidence to the contrary. (2015, 727)

This is a descriptive claim, from which follow serious consequences that compel us to draw normative conclusions. As Davis and Bradley write, "When the ideal is taken as the norm, variation becomes defined as disease—an especially peculiar circumstance insofar as much variation has no particular clinical significance or biological consequence" (1996, 70).¹⁴

The fact that we treat sex dimorphism as natural can be particularly concerning when individuals who exhibit variations from the norm are considered to have something wrong with them that needs medical intervention. For example, many women naturally have facial hair (to varying degrees) or have a clitoris that is considered to be "too large." These women might be subjected to hormonal tests looking for some problem, when in fact, there might well be none. Another example is the myriad of inhumane and subsequently traumatic procedures and protocols to which intersex people are subjected—unnecessary cosmetic genital (and other) surgeries, taking hormones for their entire lives—in order to make them fit neatly into one of the two categories. The harmful fallout of cases like these will be discussed in more detail below. For now, our point is that we must take seriously the fact that what has become normalized (i.e., that women do not grow facial hair and have "small" clitorises, that we can make intersex people into "real" males or "real" females) is not natural; rather, this is a norm that we have created and from which many

people deviate. Moreover, it is not the case that those who deviate from this norm necessarily have some kind of pathology. Rather, it is the norm itself that is problematic.¹⁵

(4) Sex Dimorphism Relies on a Controversial Assumption

Finally, a binary sex system relies on an assumption that is open to discussion, namely, that there is a fact of the matter in sex categorization (see Serano 2017). But this assumption needs to be argued for, rather than merely assumed. It could be argued that our categories of female and male do not correspond to natural kinds. In response, one option would be to revise current sex categories, female and male, and to adjust them so that they get the facts about sex right (see e.g., Daly 2015). This revision might result in new categories to account for the variety of sexed bodies.

But we can even go further to say that it is not only current sex categories that need to be reconsidered, but the very concept of sex itself (see e.g., Ayala and Vasilyeva 2015). Rather than revising membership criteria for the categories of female and male, we would need to revise the very concept of sex in a way that accounts for the significant role that such a concept has in how we do science in general (e.g., biology), how we practice medicine in particular, how we interact with each other, and how we understand ourselves.¹⁶ This option might take us to a functional characterization of sex, according to which what takes the (social) function of sex varies across contexts. A more extreme option is to say that there is no privileged ontological category corresponding to sex, that is, that there are no facts about sex to be discovered. At present, we are not arguing for any particular metaphysical approach to sex. Rather and in a more focused way, our aim is to point out the need to be cautious about what our assumptions are in that respect; moreover, we need to be ready to argue for, and not simply to assume, the conditions that undergird the system we endorse.

III. SEX PROPERTIES, NOT SEX CATEGORIES

In this section we elaborate upon problems that result from relying too heavily upon two categories of sex (viz., male or female). We divide these problems into the following four kinds: (1) health, (2) moral, (3) psychological/emotional, and (4) practical. On the basis of these problems, in the next section, we argue that what should be prioritized in many medical contexts are sex properties, not sex categories, so that we can be more successful at avoiding the kinds of problems that we discuss.

Before proceeding, a brief clarificatory point about the scope and aim of this paper is necessary. A question that this paper does not address is the difficulty of determining what sex properties are relevant in any given medical context. While we are defending the position of deviating from a fixed system of binary sex categories, we do not propose a fixed set of criteria to determine relevance of sex properties. What sex properties are relevant in any given situation is highly context-dependent. That we are not providing an exhaustive list of such a kind is not, however, a weakness of our project. This difficulty only emphasizes the great variability of sexed bodies and the complex ways in which sex properties may or may not be relevant in any given medical situation. Our claim is that this variability and flexibility must be reflected in our medical practices, even if that means making them more complex.

(1) *Health Problems*

Our first claim is that relying only on sex categories within certain medical contexts can jeopardize the health of patients. Many trans patients have complicated bodies that do not fit neatly within either of the two sex categories that are currently used in medical contexts. As a result, they can suffer many health (and other) problems that are caused by not seeking care altogether (due to fear of stigma or discrimination that may be based on past negative experiences), by delaying care, or by receiving subpar care by health-care providers who are not experienced with trans bodies. Twenty-eight percent of trans folks surveyed reported postponing medical care due to discrimination (and 48 percent due to their inability to afford it) (Grant et al. 2010, 78; also see McCarthy et al. 2017).¹⁷ Gender non-binary patients often delay necessary care due to fear of bias, present themselves as either male or female when accessing care in order to avoid discrimination (Freeman 2017), and often self-medicate rather than participate in the health-care system (Harrison et al. 2012; also see Mepham et al. 2014). It has been reported that trans patients whose health-care providers were not educated on trans issues were four times more likely to delay needed care; moreover (and frighteningly), 50% of trans patients surveyed reported having to teach a provider about appropriate care (Grant et al. 2010). In their report, the Institute of Medicine (IOM) discusses how *felt stigma*—fears and anxieties that result from prior negative experiences of trans folks in health-care contexts—leads many trans folks to avoid seeking or to delay care (IOM, 2011), which can lead to health problems, but crucially, health problems that could have

been prevented. In the United States, trans folks have delayed or avoided preventive health care such as pelvic exams or STI screening out of fear of discrimination or disrespect (Grant et al. 2010). In Canada, 20% of trans folks surveyed have avoided emergency departments because they feared negative consequences from providers more than lack of treatment (Bauer et al. 2009¹⁸). In the European Union, an increased risk of specific cancers in trans folks has been reported resulting from their reluctance to participate in screening programs (Branstrom and van der Star 2013).

The following examples help to illuminate this point. Let's say that it's a practice that at a certain age, people with prostates should have them tested, and that there is an assumption that all males and *only* males have prostates.¹⁹ In this context, some people with prostates who do not identify as men or males, and who do not count as men or males for many purposes, might be left out of this requirement (e.g., trans women and gender non-binary people who have prostates). So in this kind of case, there can be problematic repercussions for those who don't identify as male but who do have prostates, in that they will not be considered for prostate screenings and as a result, could develop prostate cancer that would go unnoticed and therefore, unmonitored, and untreated. This example demonstrates how and why relying on sex categories as a proxy for medical diagnoses and treatments can be a problem, specifically, that doing so can lead to potential health problems. To be clear, our claim is not that medical practitioners should get rid of sex categories altogether (since for social and self-identity reasons, sex categories can be of crucial importance, as we elaborate below). Rather, our claim is that the immediate and primary focus of medical practitioners needs to shift. Our current system that uses sex as a proxy for treatment and diagnosis would not best serve our patient in this example, since checking either the male or the female box on their demographic form and proceeding in accordance with the standards of care for that sex would not do our patient justice and indeed, could even do our patient great harm. Within this specific medical context, the patient's sex is not the most primary concern; rather, it is whether the patient has a prostate. This is similar to the point Talia Bettcher makes when discussing the way that the American Cancer Society uses the term "men" when commenting about screening for prostate cancer (Bettcher 2012).²⁰ The recommendations about prostate screening assume that the sex category (in this case via a gender term) is the relevant information in order to identify those who are the potential beneficiaries of a prostate screening. This is clearly in conflict with the interest of those trans women

and gender non-binary people who have prostates. Why not, then, focus on the properties that are relevant for prostate cancer instead? This way, we would group people according to who possesses those properties (e.g., a prostate). In Bettcher's words "the testing could be done on *people* with prostates" (ibid., 240).

Of course, in addition to focusing on what properties bodies have, it is also necessary to focus, holistically, on the histories of individual bodies (see, for example, McCarthy et al. 2017). The worry with focusing on history in all medical contexts is that patients might not want to or feel comfortable discussing histories, precisely for fear of discrimination (see for example, Spade 2006), and especially with specialists with whom they do not have any kind of longstanding relationship. Thus, the idea is to normalize a focus on properties instead of sex categories precisely in instances like this to lower the chance of discrimination.

Another example that both problematizes and calls into question our reliance upon sex categories is a phenomenon that has been called "trans broken arm syndrome" coined by Naith Payton.²¹ Trans broken arm syndrome describes the common phenomenon of when a trans person goes to the hospital for something routine like a broken bone or a virus and, as Payton describes, "healthcare providers assume that all medical issues are a result of a person being trans." Payton specifies: "Everything—from mental health problems to, yes, broken arms" (2015).²²

Let's consider the following example. Tanya Walker, a trans woman, had lung cancer and was coughing up blood. When she visited the emergency room in a U.S. Department of Veterans Affairs hospital in New York, the doctor kept asking about her genitals. Walker remarks: "It seemed like they weren't going to treat me unless I told them what genitals I had" (Trotta 2015). Walker said the doctor who was distracted by her being trans misdiagnosed her lung ailment as tuberculosis. He gave her antibiotics and sent her home. Three months later she discovered she had lung cancer (though thankfully she is now cancer-free).

In this example, it is the emphasis on the patient's sex (and in particular, their genitals) that is problematic, distracting, irrelevant, and potentially dangerous. Health-care providers tend to focus on the person's sex, even when it is completely irrelevant to the medical issue at stake (i.e., a broken arm; virus; or in Walker's case, lung cancer). Not only does the person's sex have nothing to do with the medical issues under consideration in the examples we have just discussed, but it becomes the focus of the treatment. In addition, it is often treated as pathological. When someone

experiences trans broken arm syndrome, the actual medical issue that should be receiving attention receives neither attention nor treatment (at least not right away and only with a big, unnecessary, ordeal). Most often, patients leave the hospital with a psychiatric diagnosis since, even though it is not appropriate to refer trans folks to psychiatrists to enable them to transition (Nordmarken and Kelly 2014), it is still common that being trans comes along with a psychiatric diagnosis of body dysmorphic disorder (BDD), at least if one wants to initiate any kind of medically assisted transition or hormone regimen. The requirement of a medical psychiatric diagnosis for being trans comes with all sorts of dangerous consequences (both individually and socially) and is one of the many negative fallouts of the gatekeeper model of medicine (see, for example, Spade 2006, McKinnon 2013). Among the negative consequences is the message (rooted in cissexist assumptions) communicated to trans folks, that they are not able to understand or determine their gender identity on their own (Nordmarken and Kelly, 151). Such consequences should be of concern given the immediate medical issue under consideration, but also for the ways in which trans and gender non-binary folks might respond if and when they require future medical care. To be treated in this way can and often does deter trans and non-binary folks from engaging in any way with health-care systems, which can result in further health problems (for example, when health issues go untreated) (ibid., 157, also see Grant et al. 2010). As Nordmarken and Kelly argue, such problems are systemic, namely, that regardless of individual prejudice, people still act in such problematic ways unless changes are made on a larger, systematic level.

(2) Moral Problems

The moral problem that results from relying on sex categories in all medical contexts is the way that social values and stigmas are imposed on individuals who don't fit assumed sex dimorphism. This is morally problematic since it harms people in a variety of ways. Imposing the ideal of sex dimorphism can result in feelings of inadequacy, and in lack of self-worth of not living up to it. One example of this problem is the ways in which norms of femininity are imposed with regards to appearance. Being classified as female, while having what is considered to be "excessive" facial and body hair according to the common idea(l) of how a female should look, might prompt a diagnosis of hirsutism. Though it could be the case that such a female does have a medical problem causing the "excess" in hair (e.g., some malfunction in the adrenal gland) and though that person

might benefit from tests to see whether or not this is in fact the case, it must be emphasized that the mere fact of having “excessive” body hair according to assumed standards should not immediately and necessarily prompt a medical diagnosis, and importantly, should not be right away classified as a problem. Also, recall a point made in section II.3 about all of the procedures and medications to which we subject intersex people to ensure that they adequately fit into one of the two sex categories. The point is that having what might be considered “excessive” facial hair according to the standard of femaleness is not necessarily a medical issue, but rather, a *social* and cultural one, pointing to what we as a society or culture deem to be acceptable levels of hair for people classified as females. Imposing the ideal of sex dimorphism can lead to the medicalization of unproblematic traits, making patients feel unnecessarily inadequate and abnormal. This is harmful. Insofar as it causes harm, it should be avoided. If instead, we were to rely on sex properties, and whether or not they are functioning properly (as opposed to how they are related to sex categories which are infused with all sorts of social norms), this problem could be avoided or at the very least, minimized.

(3) Psychological and Emotional Problems

In medical contexts, it's commonplace for people who do not fit into either operative sex category to suffer psychological and emotional harms, which can have enduring, even deadly effects. Reading testimonies of such patients demonstrates how being subject to the often unintentionally harmful treatment, attitudes, and norms of health-care providers (and of society more generally) results in enduring fears and anxiety.²³ For example, a common narrative amongst trans folks is one described by Eli Strong, a trans man. He notes that he “put off having annual [gynecological] exams . . . because it was also so incredibly uncomfortable to be a bearded man in a gynecologist's office” (see Grant et al. 2010²⁴). Here we see how fear and anxiety (emotional and psychological harms) result in feelings of marginalization, delaying or altogether avoiding medical care on account of how he felt due to the present sex categorization that determines who should be a patient in a gynecologist's office (women) and who should not (men). If men (with uteruses and cervixes) do not feel comfortable going to a gynecologist, as was the case with Eli, then they might stop going. This can result to negative health outcomes for them (also see Nordmarken and Kelly 2014). In fact, according to the IOM, poor access to basic medical

care for transgender individuals is largely due to social stigma and “fear of discrimination in health-care settings” (IOM 2011).

Another example of emotional problems that result from forcing people into one of the two existing sex categories is the psychological harm associated with the surgery that is done to many intersex girls to create a deeper vagina. Such surgery sends the message that there is only one kind of “proper” vagina and those who do not have such a vagina are somehow defective. In addition to the psychological fallout of being on the receiving end of the message that you are “not normal,” there are countless testimonies from intersex people of the psychological trauma they suffered when, as children, their genitals were put on display both before and after so-called “genital correction” surgery.²⁵ A common claim made by many adult intersex individuals is that the (often multiple) surgeries, stigma, and humiliation at the hands of doctors that they endured as children on account of not being “normal” was so much more psychologically harmful, physically painful, and overall traumatic than it would have been to simply have had a vagina that cannot be fully penetrated or a micro-penis (Dreger 1998b). For some people, we might add, the latter option might have no associated harm at all.

In addition to emotional and psychological damage and physical harm suffered by these individuals, it is important to underscore the moral harm of imposed heteronormativity that lies behind such surgeries: namely, the idea that the purpose of vaginas is to be penetrated by a penis and that penises must be large enough in order to penetrate vaginas. To hold individuals to such heteronormative ideals reinforces the message that sex ought to be a certain way and that anything that falls outside of the traditional way (*viz.*, a penis penetrating a vagina) is not normative or normal.²⁶ Furthermore, it assumes that all individuals will want to have sex in this way. Moreover, this heteronormativity also reinforces the two sex categories (and bodies that go along with them) that we are problematizing. Focusing instead on sex properties and not on sex categories, though it might not get rid of these problems entirely, could help to normalize bodies that do not fit into either of the two assumed sex categories.

(4) Practical Problems

There are at least three practical problems that result from our reliance upon sex dimorphism: (a) problems obtaining medical insurance for trans folks (especially within an American context where there is no universal

health care); (b) being denied medical care altogether on the basis of being trans; and (c) problems with the care that is received. Let us discuss each problem in turn.

(a) Problems getting medical insurance

When there's a change of sex throughout one's lifetime, it's common for the person undergoing the change to face problems with their insurance company (Gillespe 2015). This is because at least within an American context and under the (now as of December 2017, precarious) Affordable Care Act, enrollees must check a single sex box (male or female) when they sign up for a plan sold on the individual or small group markets (ibid.). However, Robin Maril, senior legislative counsel at the Human Rights Campaign, an advocacy group for lesbian, bisexual, gay, and trans folks, notes the following worry: "What happens is that the health insurance companies have specific codes and they put you in as female or male; you only get services that go with that code" (ibid.). This can result in what can be called a failure of "administrative recognition" (Kelly 2012), namely, when administrative systems do not officially recognize trans folks' identities.²⁷ As Dru Levasseur of the Transgender Rights Project clarifies, getting around this problem is very difficult as most insurance billing systems are automated and reproductive services like mammograms and prostate exams are flagged with a corresponding "female" or "male," which results in an automatic denial of coverage if the sex does not match (Gillespe 2015). Thus, for example, a trans man may be considered male by his insurance company. However, if that man becomes pregnant, the insurance company will not have any way of covering the medical costs associated with pre-natal, labor, and post-natal care, since on the system, men are not eligible to be covered for pregnancy-related costs. More generally, it is worth reminding ourselves that someone who is undergoing gender transition might still have organs associated with the other sex category, for example, a uterus and breast tissue for someone assigned female at birth, or a prostate for someone assigned male at birth. In addition, the transitioning process can take years, and some trans folks forego reassignment surgery (also called confirmation surgery) because of cost or other reasons. As a result, and as we discussed above, such people might still require annual mammograms or pap smears even if they are trans men, or prostate exams if they are trans women. Though we are considering this to be a practical problem, it is not without possible or actual medical consequences and harms since someone might be denied

coverage and therefore unable to pay out of pocket, which could result in harm if they don't get the treatment. This can also result in accompanying psychological and emotional harm. If insurance was tied to what properties and organs patients have, instead of what sex they are, many of these problems could be alleviated. Indeed, this would require a complete overhaul of the current system, and we are not speaking to how this would happen. Rather, our focus is on the more preliminary point that if this shift occurred, then the various harms to patients could be diminished, even if not altogether eliminated.

(b) Denial of medical care

More seriously, it is very common for trans folks to be denied care altogether, that is, for physicians to refuse to see them, *simply because they are trans* and, according to traditional sex categorization, do not fit neatly into the categories of male or female. According to Grant et al., 19 percent of those surveyed reported being refused care due to their transgender or gender non-conforming status, with even higher numbers among people of color (2010, 78). Such denial is common even when the medical issue under consideration has no bearing on their sex (Kahn 2011). The reason behind this denial of treatment might be an alleged lack of experience treating trans folks. While this justification might work to exonerate individual practitioners who genuinely lack the expertise needed to provide quality medical care, it does not exonerate the hospital where the practitioners work or the medical profession as a whole, which has a moral and professional obligation to train present and future health-care providers to deliver quality care to all individuals.

Such denial of care can happen even though under the Affordable Care Act, there is a requirement that insurance companies not deny coverage to individuals based on their gender or health history (Gillespe 2015).²⁸ In the United States, trans patients report being turned away by providers who refused to care for them and not just by specialists in care that is related to their trans status (Grant et al. 2010); in fact, Grant et al. found that 19 percent of those nearly 7,000 people surveyed were refused medical care and two percent said they were victims of violence in a doctor's office. In Canada, 52% of trans folks surveyed reported trans-specific negative experiences in the emergency room (Bauer et al. 2009). In the European Union, 22% of trans folks who accessed health-care services in the prior year felt that health-care providers discriminated against them because of being trans (EUAFR). To deny a person health care based on the way

they identify is fundamentally at odds with the cornerstone principles of medicine and moral and professional obligations of physicians.²⁹ If there were a shift to focus on sex properties, rather than sex categories, in time, if such a shift is normalized, then such problems could be diminished.

As Alison Reiheld (2017) has discussed, when individuals are denied care, further practical and health concerns follow. That is, transferring a patient to a different provider can impose additional burdens on patients, which can result in deferral of care, additional expense with regards to both time and money, and future avoidance of health-care settings (*ibid.*). Moreover, even if a current health-care provider does agree to see a trans patient, if that provider is not familiar with treating trans patients then the patient can suffer potentially humiliating experiences or be alienated in other ways (*ibid.*).³⁰

Again, here we see the problem of relying on sex categories when they have no bearing on the medical issue at stake. As a result of this threat, some trans folks either forego an insurance plan altogether (Kahn 2011) or stick to their birth sex category on their insurance ID cards (Gillespe 2015), both of which can have serious practical, health, and psychological harms, among others. For example, Eli Strong began his transition from female to male before the passage of the Affordable Care Act, while living in Washington, D.C. where he had employer-based coverage. In 2008, though he changed all of his legal identification to male, he kept his health insurance ID as female since he had not yet gotten a hysterectomy. His reason for this decision as was not wanting to have to fight his insurer over a gynecological exam. He notes:

I was afraid that my insurance company wouldn't cover annual exams, or anything having to do with organs that insurance companies deemed as non-male. I resented having to keep my insurance marker as female because the way I saw it, that simple marker shouldn't determine what coverage I received. What should determine my coverage is whatever organs I currently have, or conditions I am diagnosed with. (cited in Gillespe 2015)

Strong eventually did decide to change his insurance ID to male in 2014 after having undergone a hysterectomy. But, as Gillespe reports, some of his trans friends have not had such an easy time navigating the system. Others, Strong said, have changed their insurance IDs to their new gender and have contacted their insurance companies after a claim was denied to explain their transgender status, though with limited success. The same qualification as we made in (a) is relevant here, namely, that we are

considering this to be a practical problem but it is one with potentially serious medical consequences, in addition to harmful emotional fallout (discussed earlier). Rea Carey, the Executive Director of the National LGBTQ Task Force, notes:

It is outrageous that basic health care is being denied to transgender and gender non-conforming people and that so much additional trauma is being caused by doctors instead of being resolved by doctors. The medical profession must take these data seriously and ensure that everyone in the medical care system knows how to provide transgender-sensitive medical care. (cited in Gillespe 2015)

In responding to the Grant et al. 2010 study, NCTE Executive Director Mara Keisling continues:

Health care is a fundamental human right. This study clearly documents that it is regularly being denied to transgender and gender non-conforming people. (National LGBTQ Taskforce)³¹

The point of all of these examples is to show that if medical care and insurance coverage were based on sex properties as opposed to sex categories, many of these problems could be avoided.

(c) Problems with the kind of care received

Even when medical care is granted to people who do not fit into one of the two operative sex categories, there are many problems that patients still face within the medical system, that can compromise the kind and quality of care that they receive. A European study that surveyed trans men and women on their experiences in health care found that between 18% and 31% of respondents felt that being trans had an impact on how health-care professionals treated them; between 15% and 23% felt that it affected the ways they accessed routine non-trans-related care; and more than 25% reported that they had been refused treatment because a practitioner did not approve of gender reassignment (Whittle et al. 2008).

The following example shows how our limited and problematic categories can not only cause psychological and emotional harm for those who do not fit into them, but can also increase health problems down the road on account of health-care providers either refusing to treat patients, or providing sub-standard care. Jay Kallio is a 61-year-old a transgender man. In 2008, he was examined for a lump that he found in his breast. He said that the doctor who saw him never called him back with the results

of the biopsy. In fact, he discovered that he had aggressive breast cancer only when a radiologist happened to check up on him weeks later. When Kallio eventually spoke to the primary doctor, the doctor immediately said, “I have a problem with your transgender status,” followed by, “I don’t even know what to call you” (Trotta 2016). In addition to the moral and emotional problems present in this case, this physician did not follow up on a life-threatening diagnosis because they had a problem with the sex (trans) of the patient.

Because many trans and gender non-binary patients fear being discriminated against within medical contexts, as Kallio was, or being denied care altogether, many do not disclose their transness or gender non-binary status. This can lead to inappropriate treatment, with potentially significant implications (e.g., harmful interactions between HIV medications and hormones) (Bauer et al. 2009). To de-emphasize what sex a person is and to emphasize instead what properties people have would take attention away from people who fall outside of the sexes male and female. Over time, this could hopefully diminish the kinds of harms that befall those who do not fit the categories.

We conclude that for the cases we’ve discussed, sex categories do not help but rather *hinder* medical practices and can even jeopardize a person’s health, health care, and in some cases, self-identity, self-esteem, and self-worth. On the basis of such examples, we now present our normative argument.

IV. NORMATIVE ARGUMENT

In this section, we defend the position that in the context of health and health care, the use of sex categories should be restricted. Instead, what should be prioritized is what properties bodies have that are relevant for specific medical symptoms, diagnosis, procedures, potential illness, or care, along with the history of those properties.

Our call for caution in the use of sex categories resembles Braun et al.’s (2007) call for caution in the use of racial categories in medical practice. They argue against using race as a proxy since doing so often leads to missed diagnoses and inappropriate treatments. For example, cystic fibrosis is under-diagnosed in people of African ancestry, due to its classification as a white disease (see Yudell et al. 2016; Garcia 2004). Additionally, they propose that more information about the complexities of race could help provide better health care, if only by being able to assess “why and when race matters and why and when it doesn’t” (1427). For example, they

propose that medical training should include “information on the history of racial categories, current controversies about their biological significance, and the limits of their utility” (1426). Many of their suggestions are mirrored in a more recent article by Yudell et al. (2016) which calls for re-thinking and substantially limiting the race category within the context of science (specifically, genetics and medicine) and instead, focusing on what is actually medically and scientifically relevant such as geographic ancestry and socio-economic standing (SES) as well as local environmental factors (i.e., access to fresh food and drinking water, time for recreation and exercise).

We support a similar move in relation to sex categories: medical training should include information about individual variability in relation to sex properties, controversies about determining someone’s sex, and information about the variety of bodies and needs, including those related to intersex people, trans folks, and gender non-binary people. Currently, most medical schools are failing to prepare their students to treat trans and gender non-binary patients. According to a 2011 study published in the *Journal of the American Medical Association*, the median time dedicated to teaching LGBT-related content was five hours, and most of this time covers gay and lesbian issues, bypassing transgender health completely (Obedin-Maliver et al. 2011).³²

Our call for caution in the use of sex categories has the effect of facilitating the liberatory change in meaning of body parts that Talia Bettcher discusses (2012). Based on the practices in trans cultures, Bettcher defends a multiple-meaning view with regards to gender that includes a change in meaning of body parts: “That testicles, penises, XY karyotype, and prostates count as *male* in the first place is precisely what trans subcultures are contesting” (ibid., 240). Our proposed restriction in the use of sex categories also has the effect of preventing the imposition of the social meaning that those categories carry. Referring to body parts alone, as they become relevant for diagnosis and treatment purposes, as well as the histories of those body parts, facilitates the attribution of new meaning to them.

Objections

In order to further elaborate our position, we will raise and respond to three objections.

- i. The first and most obvious objection is that we should not meddle in categories of medicine that have always been used. This is the way medicine has always operated, so why change?

Arguments from tradition typically fail. We know from any number of areas that just because things have always been a certain way, that does not make them right, beneficial, or the best way of doing things. Moreover, such an objection is regressive and goes against the very aim of both science and medicine, which is progress and change. If new evidence arises that the scientific categories we are using are misguided, misplaced, or do not accurately map onto the actual states of bodies, and if we find, as a result, that our practices are not optimal and even cause harm, then the only reasonable response is to revise our categories and change our practices.

In this context, it is worth noting an important change of mind that occurred in the early 2000s in the context of sex genetics (as elaborated in Richardson 2013). In the 1990s, leading geneticist Peter Goodfellow undertook what was considered to be groundbreaking work and made radical claims about the importance of the SRY gene. In 1992, he claimed that this gene contained “all of the genetic information that you need to make a male” (cited in Richardson 2013, 142). In response to further research, in addition to social and political issues raised by the intersex community (e.g. that the methodological framework within which he was operating was too narrow and did not accurately account for the complexity of biological sex), Goodfellow retracted his original position in favor of a far more modest claim with regards to the role that the SRY gene has in sex determination. He stated the following:

The dialogue that occurs between the medical profession and patient groups is something that the medical profession has to listen to. Not just with respect to this very difficult area, but generally. Treatment can reflect the social prejudices of the treaters. When a particular treatment is chosen because of the prejudices of the people who are performing the treatment, there has to be a social dialogue. (Cited in Richardson 2013, 143; originally from Chadwick and Goodwicke 2002, 55)

The context for this statement is that in response to patient advocates, researchers actually revised their own assumptions about what “normal” sex phenotypes are, and the “naturalness” and necessity of a male–female binary. As Richardson notes in her analysis of this case, “[t]hey appreciate the need for care and precision in research design and language use in sex determination” (ibid.)

Even stronger arguments from several other sex geneticists should also be noted in this context of reconsidering and complicating our scientific and methodological assumptions with regards to sex determination and categorization. Eric Vilain states that “there [are] many ways to define sex and each one of them [is] just as equally important as the other” (cited in Richardson 2013, 146³³). His colleague, David Page chimes in that “often we fall all over ourselves because of the limitations of the definitions we try to impose” on sex. Moreover, he continues “there is no such thing as a simple definition [of gender] and even within a scientific context, sex or gender has been defined at many different levels” (cited in Richardson, 146³⁴). Though these sex geneticists are talking about problems of definition and categories within the context of research in genetics, their comments are equally relevant within the context of medicine as the same prejudices and (unfounded) commitments to tradition are at play. We are calling for the same kind of care and precision in medicine, specifically, as Goodfellow notes, for there to be changes in medical protocols and categories in response to the very real and varied documented harms suffered by trans, intersex, and gender non-binary patients who have had the courage to come forward.

- ii. A related objection has to do with our recommendation not to use the sex binary as a proxy for diagnostic purposes (even if it is retained in social contexts): if many deviations (from the ideal female and male bodies) are in fact natural, and if we do not immediately assume (within a medical context) that there is something pathological when “deviations” are observed (e.g. “excessive” facial hair or clitoromegaly), then we might have trouble detecting—or at the extreme, we might altogether miss—when there *is* in fact some pathology (e.g., polycystic ovary, Congenital Adrenal Hyperplasia).

There are several ways of responding to this objection. First, if we frame the problem as a choice between on the one hand, missing a potential pathology that could end up being serious, and on the other hand, as testing that results in a false positive, then it’s clear that the costs of the former are higher, and so using the sex binary categorization and the assumptions behind it is in principle preferable. However, we could reason in similar ways for other symptoms and potential pathologies unrelated to sex and our intuitions would be different. For example, fatigue can be a symptom of Multiple Sclerosis (MS), but that does not make us consider MS as a first hypothesis whenever we observe fatigue. Moreover, we don’t think that we are missing such an important diagnosis if/when we do

not use fatigue as a sign of MS. Finally, it's important to pay attention to the actual predictive power of certain symptoms. How likely is it that a person with "excessive" hair (given existing expectations for females) or a "large" clitoris also has a condition that might present health problems? What we'd like to draw attention to here is that independently of any possible medical issue, whether a woman has "excessive" body/facial hair tends to be judged first according to cultural norms (where, for example, Mediterranean, Middle Eastern and South Asian women tend to have more hair than women not in those groups). The problem then is in cases where "excessive" hair does not point to any medical anomaly and poses no threat to health (other than the potential psychological struggle of violating a social gender norm of appearance).

Second, there is an important sense in which this objection is problematic insofar as it takes for granted both the very classificatory system that we are calling into question, and also the boundaries between what counts as "normal" and what as a deviation. Unless we want to keep our classificatory systems unquestioned—and to do so would run contrary to the very functioning of science, which continues to update its classifications and categories—it is not always clear precisely what constitutes a deviation, and how much of a so-called deviation is within the realm of what we consider to be healthy. The very notions of *health* and *disease*, in addition to what is considered to be *normal*, are far from clear, and different understandings have radically different consequences (e.g., for how we determine what counts as disease, and for what counts as medical treatment as opposed to enhancement) (Silvers 1998).³⁵ For example, some bodily processes are part of a healthy life for females, like menstruation, menopause, and pregnancy. Yet historically, all three of these processes have been treated as diseases under the idea that they are not consistent with *normal functioning*, where "normal" is defined according to male standards (see Kukla 2006). Importantly, *normal functioning* is often infused with assumptions that go beyond biologically well-functioning bodies (see Campbell and Stramondo 2017, Longmore 2003). For example, ideals of normal functioning have historically been based on male bodies, so that many occurrences that are "natural" for women (like those just mentioned) are considered to be pathological when compared to standards of male bodies (Sherwin 1992). Silvers (1998) discusses the problems with this tendency to normalize in the context of medical treatments. Her analysis reveals, among other things, how what counts as an obstacle to well-being and flourishing is often a response to

social forces and ideals, as opposed to any kind of biological or medical flourishing. Appearing normal according to social standards has often been the priority in the medical treatment of diverse individuals (e.g., Silvers refers to the emphasis on prostheses for children with missing limbs, as opposed to wheelchair or alternative modes of mobility; and oralism as a preferred option for deaf children, as opposed to sign language).

The question thus arises: what counts as normal? How are we understanding “normal” when we appeal to such a standard? Is normal a medical or a social standard? According to some readings of normal, like “naturally occurring state” or “free from disease,” the aforementioned states of facial hair in females and/or women and large clitorises are normal, but under other understandings of this tricky notion, e.g., “defined standard,” they count as deviations or abnormalities. One problem we observe here is that we often take normal to be an ideal. According to Davis and Bradley (1996), “[m]edicine has come to understand normal as a ‘description of the ideal’” (70), and when framed in this way, we will see naturally occurring states and also those that are part of a healthy life as abnormal, and by definition pathological. There are good reasons to think that this ideal easily gains normative power, if only by how we communicate it, which is often via generic statements. From research in cognitive psychology, we know that generics are interpreted in normative ways (Prasada 2000; Knobe, Prasada, and Newman 2013). Therefore, statements like “females have such and such amount and distribution of hair” could be easily communicating this normative force, even when they are descriptively wrong, whether or not we are aware of it. Once such statements are taken to be norms rather than as reports of statistical data, then these ideals set the boundaries of health and disease.

Finally, it is important to remind ourselves of the aim and scope of this paper: we are not claiming to develop a protocol for health-care providers as to what is the best way of determining these potential pathologies. Rather, our concern is more theoretical: a first step that is necessary in order to motivate more practical shifts that ought to occur in scientific and medical practices to ensure that these practices are guided by conceptual models that adequately and accurately map on to the realities and diversities of human bodies.

Thus, in response to the objection that not using sex categories as a proxy would cause health-care providers to miss out on possibly pathological deviations, our response is two-fold. First, such an objection frames the issue too narrowly as a choice between pathology and health;

instead, we propose deepening our thinking beyond such a binary by considering deviations also in terms of possibilities that aren't necessarily pathological. Second, this objection is problematic insofar as it takes for granted both the very classificatory system that we are calling into question, as well as the boundaries between what counts as "normal" and what counts as a deviation.

- iii. A third objection is that our project is misguided since there are many instances in which one's sex *is* important.

This objection is misplaced because the operative term "sex" that is used in the objection is a reified notion based on too simplistic an understanding of the term. If we move to understand ourselves not according to just two categories of male and female, but rather along the lines of the five markers that we've discussed above, then this objection falls away. We are not claiming that sex categorization is altogether bad or wrong; nor are we claiming that in *all* contexts we ought to do away with any reference to sex-relevant properties in favor of a sex-neutral world. Rather, what we are calling for is more nuanced in the way we place people into categories, one that more adequately maps on to the realities of people's bodies. Focusing on relevant properties in particular contexts as opposed to an all-contexts female/male categorization is a more beneficial and scientifically and biologically accurate way of understanding people's biology and physiology.³⁶ Crucially, we are not claiming that such a shift is a panacea; more moderately, what we are claiming is that relying on sex properties is an important first step in the right direction to a more humane way of understanding the diversity of human bodies and experiences.

CONCLUSION

We all know that categories are useful. We in fact rely on them all the time. The reason why we use and rely on them all the time is because they help us to process and to navigate an immensely complex world with our limited cognitive resources. However, categories can also lead us astray, and they often do. In fact, instead of being a tool to help us comprehend and even master the world around us, some categories can turn into masters themselves, dictating how the world (and we ourselves) should be. Categories are neither immutable nor infallible. As much as they have the power to change us, we too have the power to change them. Insofar as this is the case, with new knowledge and better judgment, we need to keep revising and adjusting our categories and their use, to sharpen the

way they reflect the world, and to fine-tune them so that they can better serve as guides to explain and predict the reality around us. Far from calling for a moratorium on categories, ours is a call to improve the way that we use sex categories, female and male. Given the complexity of sex with its many markers, variations, and combinations, the need arises to reconsider our use of current sex categories. Importantly, and as we've demonstrated, this call is not merely a theoretical one; rather, it is a call with practical consequences, sometimes between life and death, but more often, between a life of greater and lesser harm.

The complexity and heterogeneity of sexed bodies is critical in medical contexts. We have argued that the use of female/male categories overlooks and obscures this complexity and variety, thereby resulting in harm, bad health care, oversimplification, and over-pathologization. Shifting from female/male categories to sex-relevant properties is, we argue, one important step in adjusting medical practice to the reality of our marvelously varied and rebellious bodies. Importantly, the shift we propose will not make transphobia and the prejudiced perception of non-binary and intersex people magically disappear. Rather, our proposal can be understood as putting in place a structural intervention aimed at creating the institutional space for trans, intersex, and gender non-binary folks to receive appropriate and humane medical care. Our hope is that such an institutional change facilitates or even turns into a cultural change: a change in the norms we have regarding human bodies and a change in how we see and treat each other. Ultimately, we hope that all of these changes will mitigate the individual prejudices that we hold.

NOTES

1. For a recent account of the ways in which a reliance on binary representation perpetuates invisibility, discrimination, victimization, and subsequent poorer health among gender non-binary patients, see Eckstrand et al. 2016. While we are in part sympathetic to their position that moving forward, health care providers must provide gender-affirming, responsible care to gender non-conforming patients, we find a problem with proposing an account that keeps the root of the problem—namely, a binary sex system securely in place. Thus, our proposal goes further to question our very reliance upon this system in the first place. Only once this foundation is disrupted, we believe, can the suggestions that Eckstrand et al. propose succeed.
2. We would like to thank audience members at the Society for Analytical Feminism (2016), Canadian Philosophical Association (2017), as well as

at University of Louisville, specifically students in Lauren's Gender, Race, Culture, and Health Care seminars (2016, 2017). Further thanks to University of Louisville's Commonwealth Center for Humanities and Society for a grant that helped in the writing of this paper and to John Gibson for his continued support of the project. Final thanks to Andreas Elpidorou and the two anonymous reviewers of this paper for their meticulous reading of drafts of the paper.

3. For an excellent discussion of what it means to be gender non-binary and some implications within the context of health care, see Eckstrand et al. 2016, especially 1108ff.
4. As Chalabai (2014) notes, even if such forms did ask for this information, responses might still be unreliable because, for example, many individuals don't answer for fear of discrimination or because they disagree on the definition of what it means to be transgender.
5. Specifically, they note that "striking gaps remain in our knowledge of GNC people's utilization of health care services and physical health outcomes, longitudinal models of GNC people's health and the impact of gender-affirming services on their health, protective and supportive factors, and how each of these interacts with additional aspects of identity (e.g., race, culture, sex)" (Eckstrand et al. 2016, 1110).
6. For a fascinating, detailed discussion of the myriad problems of obtaining such information, see the following discussion in the context of the UK: <https://practicalandrogyny.com/2014/12/16/how-many-people-in-the-uk-are-nonbinary/> (accessed August 15, 2017). Also see Chalabai 2014.
7. A first-person use of existing sex categories might also have problems, but those are not the focus of this paper.
8. See Epstein 2004 for a helpful discussion of the history of how and why it came to be the law in 1995 that the National Institute of Health (NIH) was required to ensure that women and members of racial and ethnic minority groups be included as subjects in each clinical study funded by the agency.
9. Acknowledging sex differences is also key in the presentation of certain medical ailments, for example, those for which men and women present different symptoms, like heart attacks (see Canto et al. 2012; <https://www.goredforwomen.org/know-your-risk/find-out-your-risk/gender-heart-disease/> Accessed 05/12/2017).
10. It is worth mentioning that academic sexologists today do not consider there to be only two sexes (cf. Richardson 2013, 8).
11. For several different accounts of the history of how sexes came to be divided into two categories, see Richardson 2008; 2012; 2013; Mittwoch 2005; Brush 1978; Fausto-Sterling 2012.

12. This example is expanded from a similar one that appears in Bettcher 2012.
13. Bettcher’s claim implies that even if one identifies with a certain sex or gender, that’s not sufficient to *really count* as a member of that sex or gender given operative mainstream practices. Within certain medical contexts, we want to prioritize what properties bodies have over what sex one “really is” to avoid such problems of so-called incongruity. Within non-medical contexts, we defer to individuals to determine what sex and gender they identify as and therefore, are.
14. For an account of the history behind our current use of the term “normal” and how it (only very late in the game, around 1840) was constructed to become the metric and imperative that we currently use, see Davis 1995, chapter 2. Also see Campbell and Stramondo 2017.
15. Most media representations of trans folks do nothing to offset these dangerous norms. For example, cultural tropes, representations, characterizations, and caricatures maintain transphobic stereotypes by characterizing sex or gender shifts as “strange, unnatural, fake, or monstrous” (Serano 2007). Specifically, media sensationalize how trans folks, and in particular trans women, perform gender (ibid., see especially 36–37). Similarly problematic is the lack of genderqueer, gender non-conforming, and trans masculine folks in the media (Nordmarken and Kelly 2014).
16. In response, one might consider (re)turning to Anne Fausto-Sterling’s 1993 (partly tongue-in-cheek) article advocating that we expand our sex categories to five. One reason why we do not advocate such a move is because even though that system would provide more options, it’s still a system based on categories. We’d like to thank Reviewer 2 for pushing us to consider this possibility.
17. In 2008, the National Center for Transgender Equality (NCTE) and the National Gay and Lesbian Task Force formed an important research partnership to address, on a national level, the problem of discrimination of trans folks. In so doing, they initiated the first comprehensive study on this topic. Over eight months, a team of community-based advocates, trans leaders, researchers, lawyers, and LGBT policy experts collaborated to create an original survey instrument. Over 7,000 people responded to the 70-question survey. This resulted in data on all significant aspects of transgender discrimination—including housing, employment, health and health care, education, public accommodation, family life, criminal justice, and identity documents (http://www.thetaskforce.org/static_html/downloads/resources_and_tools/ntds_report_on_health.pdf (accessed 07-27-2017)).

18. TransPULSE was a community-based research project in Ontario, Canada, that collected qualitative and quantitative data from focus groups with 85 trans community members with the purpose of trying to understand how social exclusion impacts the health of trans folks (Bauer et al. 2009).
19. This example is slightly modified from Bettcher 2012.
20. The American Cancer Society (ACS) website reads: “men thinking about getting screened for prostate cancer should make informed decisions based on available information, discussion with their doctor, and their own views on the possible benefits, risks, and limits of prostate cancer screening” (accessed 12/19/2017). <https://www.cancer.org/cancer/prostate-cancer/detection-diagnosis-staging/detection.html>
21. Naith Payton at British LGBT site *Pink News* coined this term on July 9, 2015 <http://www.dailydot.com/irl/trans-broken-arm-syndrome-healthcare/> (accessed 12/12/16).
22. When this term was coined, it sparked a twitter feed where trans folks shared all of their experiences of trans broken arm syndrome. See <http://blog.mytranshealth.com/post/126024096665/trans-broken-arm-syndrome-and-the-way-our> (accessed 12/12/16). The hashtag #transhealthfail indicates the various ways in which the health care system fails trans folks.
23. Also see Freeman and Stewart (forthcoming) for an account of how microaggressions that members of marginalized groups encounter within the context of health care can have serious and lasting harmful effects.
24. The National Transgender Discrimination Survey was a joint partnership of the National Gay and Lesbian Task Force and National Center for Transgender Equality. It is the most extensive survey of transgender discrimination undertaken to date. It included 6,450 respondents from all 50 states and several territories, with a geographic and racial distribution approximating that of the general U.S. population.
25. Importantly, medical protocols have changed to ensure that no body-altering, irreversible procedures are performed until the person is able to consent (Elders 2017; also see Reis and McCarthy 2017, 394; and Wall 2016, 42).
26. For a helpful discussion of this issue, see McCarthy et al. 2017, 241.
27. Nordmarken and Kelly (2014, 143) argue that this type of recognition that requires administrators to record trans folks’ identities accurately and consistently is necessary for health access.
28. This is an important change in health law from a system wherein many insurance companies had exclusions barring transition-related care or care to transgender folks in general, citing it as a “pre-existing condition” (Gillespe 2015).

29. In addition to the kinds of health problems we've related, it's worth noting that more generally, trans folks have worse health outcomes than the rest of the population, and that this is due to social and structural and not biological or genetic reasons (see Grant et al. 2011).
30. Equally as worrisome as these practical and health problems that trans patients face is the lack of attention that this issue has received from bioethicists (see, for example, Nelson 1998, 2012).
31. <http://www.thetaskforce.org/new-report-reveals-rampant-discrimination-against-transgender-people-by-health-providers-high-hiv-rates-and-wide-spread-lack-of-access-to-necessary-care-2/>
32. There are some important exceptions to this trend. One example is University of Louisville's national pilot project *eQuality Project—Leading Medical Education to Deliver Equitable Quality Care for all People, Inclusive of Identity, Development, or Expression of Gender/Sex/Sexuality*. This multi-year pilot project was launched in 2015 and aims to implement a comprehensive medical school curriculum that requires students to learn, practice, and demonstrate mastery of skills, knowledge, and attitudes required for excellent care of patients who are lesbian, gay, bisexual, transgender (LGBT), gender non-conforming individuals, and persons affected by differences of sex development (DSD) (<http://louisville.edu/medicine/ume/curriculum/equality>) (see Holthouser et al. 2017; Sawning et al. 2017). Also see Obedin-Maliver et al. 2011; Davy and Siriwardena 2012; and Winter 2012 for discussions of the problems of medical schools not doing a good job of training future health care providers on issues pertaining to trans patients and McCarthy et al. 2017 for some other measures that medical should be taking to help to normalize the care of trans patients as well as Eckstrand 2016; Murphy 2010; Wahlert and Fiester 2014; Wahlert and Feister 2016 for some concrete ways to facilitate more inclusive care for trans and gender non-conforming folks.
33. E. Vilain, 2004.
34. Ibid.
35. For a recent problematization of these categories, see Barnes 2017.
36. McCarthy et al. 2017 provide excellent guidelines for treating trans patients, which focus on considering the histories of bodies in ways that seek to normalize those bodies that don't fit into either sex category.

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