

Women's Liberation Is Based on Sex not Gender

by Kathy Scarbrough

Presentation on the panel "How to Defang a Movement: Replacing the Political with the Personal" at the conference *A Revolutionary Moment: Women's Liberation in the Late 1960s and the Early 1970s* organized by the Women's, Gender, & Sexuality Studies Program at Boston University, March 27-29, 2014.

I'm speaking here today from the perspective of a feminist activist but also as an academic scientist and teacher. I take the position that our focus as feminists should be on SEX and not on GENDER. Women's Liberation makes the goal clear: the name of our movement identifies male power as a major impediment to women's freedom. Male power holds back all women—white women, woman of color, lesbians, rich and poor women, women of the imperialist countries as well as women also suffering from neo-colonialism.

The impartial interest in the "genders" (however many genders you believe may exist, I understand that Facebook now recognizes 56 of them) suggests that there is nothing special about the position of women in society. Gender is a step backward toward the old saw that we are all equally oppressed. And that's a lie.

The way that cultural expectations based on sex pervade everything we do and everywhere we go has been examined in great detail. A woman name Bai Di spoke at a recent conference organized by Redstockings about how such expectations based on sex were opposed in revolutionary China. She testified that she grew up unaware that she was a female child because at the time the differences between girls and boys were minimized. They were just children playing with a variety of toys and participating in a variety of activities. Promoting the idea that there is a continuum of human behavior that does not correlate with sex makes *meaningless* the concept of multiple genders.

Gender is derived from, and depends on, sex.

Focusing on gender tends to elevate and invigorate physical differences between the sexes and downplay our common humanity. Another way to define gender is that it is the sex you are perceived to be by others. Technological advances and new understandings in reproductive biology seem to have caused a significant amount of confusion about the definition of sex.

Is sex defined by our chromosomes? If so, how can an XX baby be born with genitals that look like a male? Either chromosomes aren't enough to define sex, or genitalia doesn't define sex. In fact, neither of these characteristics define sex. Sex, in biological terms, is defined by the **gametes** (egg or sperm) produced within organs known collectively as **gonads** (ovary or testis). But sex isn't even completely defined by the gonad you happen to possess. There are people who are chromosomally XY and have undescended testes located in their abdomens. The testes are functional in so far as they secrete the hormone testosterone but they do not produce sperm. Human bodies are able to metabolize testosterone into estrogens so these people have all the outward physical characteristics women. Clearly, sex doesn't correlate with **hormones** either.

Biological sex is about reproduction of the species: egg and sperm meeting to initiate the growth of a new individual. So these gametes are how biologists define sex. I know its fashionable to decry the binary, but sorry, we're stuck with just eggs and sperm when it comes to sex. There are only 2 types of gametes and there are no intermediate forms.

Gonads and gametes don't get mismatched in the natural world because the gamete is dependent on the gonad for its maturation. So there are no examples of human beings being born with an ovary that produces sperm or vice versa. There are known conditions, for example, the one discussed earlier where people don't produce either gamete. And some small percent of human beings are born with an amalgam of the ovary and testis, neither gonad, or one of each. However, I know of no cases where a human being makes both functional eggs AND functional sperm.

Gonads and gametes are what biologists call **primary sex characteristics**. Most female human beings also have wombs and vaginas, we are the ones who menstruate and gestate. Gender can be viewed as the social signal for either being among the class of humans whose bodies produce offspring or, alternatively, being among the class of humans who have a much more circumscribed role in the reproduction of the species—the role of the sperm provider. Pregnancy, labor and delivery take a physical toll and removes women, at least temporarily, from conventional productive forces of the economy. I believe the subordination of women is rooted in the exploitation of this difference of reproductive labor. As a result, women's liberation should concern itself with sex.

In a few instances it makes sense to rely on gender instead of sex. Anne Fausto-Sterling makes the point that humankind shows more variation in genitalia than “stereotypically male” and “stereotypically female. People born with ambiguous genitalia might actually need to *choose* whether they will represent themselves in the conventional world as man or woman until such a time when this no longer matters. Therefore, *gender* might provide an occasionally useful flexibility regarding sex.

Sarah Richardson has a lovely diagram in her new book *Sex Itself* which nicely pulls together all

this talk of **chromosomes, gonads, hormones** and the sex one is perceived to be. (Fig 1.3, page 7, in *Sex Itself: The Search for Male and Female in the Human Genome*, by Sarah S. Richardson, U Chicago Press, 2013)

What I particularly like about the figure is how Richardson emphasizes our commonalities by showing that both men and women make both estrogens and androgens. Indeed, the differences between women and men in hormone secretion have always been over emphasized in our culture.

Over-emphasis of our differences leads to nasty jokes (and guilty secrets) about the physical attributes of aging women because when estrogen secretion by the ovary decreases significantly after menopause, the effect of our natural androgens becomes more obvious. Many a woman has agonized about beard hairs sprouting from her chin or the darkening of hair on the upper lip. We pluck and bleach and shave often without questioning the conventional notion that this hair is somehow unfeminine. Or we pluck and bleach and shave with full consciousness of doing it to get along as an individual in sexist society. Indeed, this age-related change IS “unfeminine” because femininity itself is fictitious! These changes may be unfeminine but they AREN'T unwomanly.

Both women and men secrete estrogens and androgens—we are more alike than we are different. Here's a complementary example of this truth: it has been discovered recently that male fertility is dependent on the response to both hormones. Without estrogen, men are infertile, again stressing our common humanity.

Today, our “self-representation” as male or female doesn't have to correspond to one's chromosomes, sex organs or even whether we produce eggs or sperm. Gender, our notions of man and woman, is detected by the existence of what biologists call **secondary sex**

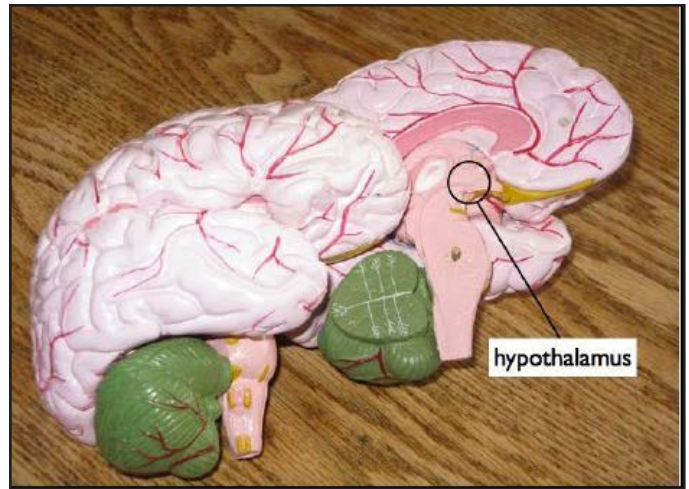
characteristics: those anatomical features that typically appear at puberty.

Looking at a person you can't tell if they have testes or ovaries but you can often immediately see whether they have breasts or beard hair. Secondary sex characteristics are controlled by estrogens and androgens, the hormones secreted mainly by the gonads. As we've seen, women and men can respond to both kinds of sex hormones. Therefore the currently fashionable cross-sex imbibing of steroid hormones—although probably bad for one's health—can introduce some gender ambiguity. **These powerful hormones can be used to alter one's gender but not one's sex.** These hormones cannot change the fact that you've grown an ovary containing eggs or a testis.

Estrogens and androgens also target the brain. They initiate menstrual cycles in women and stimulate sex drive in both sexes. An increasing number of people assert that the sex of their brain and body don't match. As a neuroscientist, I know a good deal about the sexual differentiation of the brain and I have to say it doesn't go very far—for the most part, male and female brains are quite similar.

Several recent books¹ have lambasted the biased research leading many to conclude that we humans are born with either “**pink brains or blue brains**” yet still the idea of brain sex persists.

Human brains *are* mostly alike but there is one small *functional* difference between male and female brains related to the continuation of the species. A tiny part of the evolutionarily old, non-conscious female brain creates a reproductive rhythm and the corresponding part of male brains don't. The largest physiologically important difference between the sexes is the network of a few neurons that produce reproductive cycles. This tiny part of the brain known as the



hypothalamus, plays a role in the menstrual cycle.

In women, the hypothalamus drives elevated blood levels of a pituitary gland hormone called luteinizing hormone once a month. These short term elevated levels of hormone stimulate ovulation. The physiological events that follow ovulation prepare the uterus for pregnancy. **Men can't menstruate because they don't have a uterus and just as fundamentally, their brains don't direct the pituitary gland to release hormones on a monthly cycle.** Men secrete the very same pituitary hormones in very similar concentrations but the pattern of secretion is constant, not cyclic. Again, emphasizing our common humanity I will mention that luteinizing hormone is essential for male reproduction also—specifically for testosterone secretion and sperm production.

Adult men cannot make their hypothalamus create a reproductive rhythm by taking estrogen. Scientists differentiate between the effects of hormones to “**organize**” brain function during fetal development and to “**activate**” brain function during adolescent and adult life. Parts of the hypothalamus are “organized” by the hormonal environment during fetal development. I don't want to leave you with the impression that only gonadal hormones have organizing effects on the fetal brain. Other hormones, like thyroid

hormone, also helps “organize” the brain. But thyroid hormone’s effects don’t produce a sex difference.

If someone wanted to convince me that their gonads and the “sex” of their brain doesn’t match, they’d have to demonstrate a mismatch of cyclical hormone secretion and their sex. So a person who grew testes as a fetus would have to demonstrate that their brain still has the ability to secrete luteinizing hormone with a cyclic pattern. Indeed there are “at home” tests that are sensitive enough to detect this possibility. Kits you can buy at the pharmacy to detect ovulation are actually measuring metabolites of luteinizing hormone excreted in the urine—so its possible for individuals to obtain this evidence.

As a feminist and a trained neuroscientist I don’t believe in an endogenous “**gender identity.**” Many women’s liberationists hold onto the ideal of treating human beings as individuals with interests and abilities that don’t necessarily correlate with sex organs. Gender is socially constructed, and social forces can also confuse self identity, *particularly* in cases where people don’t fit cultural norms. Conventional “girl” or “boy” behavior doesn’t fit many people. Why not simply conclude that the culturally defined categories—“feminine” and “masculine”—are the problem?

Collective action is required to fight battles against socially constructed notions of feminine and masculine; it is difficult and maybe impossible to wage this battle successfully as an individual. Certain individuals may make the personal decision that they can’t wait for that new day to dawn. But let us be clear—**the decision to change one’s gender is a personal one.** I don’t see it as a political act. A personal decision to change one’s appearance to reduce friction in life doesn’t help our struggle against the power differential between men and women. Indeed, it can be argued that transgendering embraces, supports and props up the current position

of women and men in society **at the same time that it gives some *individuals* needed relief** from the condemnation of not meeting conventional gender expectations. This is not to say that there aren’t other potent forces propping up notions of gender (for example “fashion”) and disadvantaging women. Smashing gender would be a step forward for everyone.

Kathy Scarbrough holds a Ph.D. in physiology with a focus on female reproductive neuroendocrinology.

END NOTE

¹ *Sexing the Body: Gender Politics and the Construction of Sexuality* by Anne Fausto-Sterling, Basic Books, 2000

Delusions of Gender: How are Minds, Society and Neurosexism Create Difference by Cordelia Fine, W.W. Norton & Company, 2010

Brainstorm: The Flaws in the Science of Sex Differences by Rebecca M. Jordan-Young, Harvard University Press, 2010

Sex Itself: The Search for Male and Female in the Human Genome by Sarah S. Richardson, The University of Chicago Press, 2013