

The Universe is Binary

Sex, as a matter of fact

Eleonora Lievens

May 19, 2025

Abstract

...

1 Introduction

Hydrogen and helium make up 99% of all observable matter in the universe (Center for Astrophysics, [n.d.](#)). The rest is just a deviation from the norm, anomalies we shouldn't account for. Sounds absurd? I guess Mendeleev was woke (Mendeleev.com, [n.d.](#)). When we try to understand the world around us, we are not simply observing reality as it is: we are constructing and utilizing models, frameworks and paradigms through which we perceive, analyze, predict, and control our environment and the living beings around and among us. In order to justify our beliefs, we draw from empirical data, rationalize and hypothesize causation in relation to established insights; all within a plural and intertwined historical project of knowledge building and perception shaping (Feyerabend [1982](#); Quine [1951](#)). “Scientific observation is always mediated by the nature of the instruments through which we interact with selected aspects of reality. In this sense, scientific observation is always perspectival” (Giere [2006](#)). If we fail to admit that some perspectives are ineffective for understanding and describing certain phenomena within a given context, we're not helping ourselves in this project; we are simply reinforcing the narratives that we've grown to accept throughout history—potentially doing real harm along the way (Foucault [1972](#)).

Certain qualities that appear to live on a singular dimension receive more nuanced and spectral recognition than more complicated topics. Take human age, for example; “we tend to view age as a series of discrete categories, rather than as a continuous distribution. Categories such as infant, baby, child, adolescent, teenager, young adult, adult, middle-age, old age, elderly would seem to be the most common, but we can easily think of further subdivisions” (Giles

and Reid 2005). We may perceive of others as young or old in reference to our own age, or think in terms of minor, adult, senior in legal settings, but we typically seem to understand that transitioning from one category into another is merely a crossing of an arbitrary mark. The underlying dimensional or gradual understanding of human aging is maintained, while we do seem to value decimal divisions and lifecycle categories whenever the situation calls for it.

Thus, we can conceive of age through a variety of perspectives and representational models, depending on the circumstances. Interestingly, some properties like age, body weight, and stature are typically not construed through a binary lens, in favor of prototypical or normative structures (Cash 2002). Whereas diversity of racialized, gendered, or (dis)abled bodies seems much harder to grasp as sophisticated aspects of human life. As multiplicity increases, our capacity to understand seems to shrink, and the urge to bifurcate the human population into constrictive binary systems emerges. Female or male, gay or straight, white or of color, abled or disabled. . . These designations are dumbed-down perspectives of intricate and composite natural phenomena, but our intuition struggles to conceive of them as diverse and multifaceted¹ (Butler 1999; Foucault 2020; Omi and Winant 2015; Shakespeare 2014).

When we are confronted with the question of the sexed body—what it means to be female or male, and how we incorporate this marked difference in the world—several models of perception are commonly utilized; implicitly, but every story of the sexed body ultimately is a descriptive model. Insisting on operating outside or above any framework is an illusion, an appeal to tradition, nature, or divinity.

In 2021, the interpretation of “sex” in the UK under the *Equality Act 2010* (c. 15) (EA2010) in relation to the *Gender Representation on Public Boards (Scotland) Act 2018* was challenged in the Scottish courts by the activist group For Women Scotland (FWS). The legislation in question aimed to ensure equal sex representation among non-executive members of public boards. FWS contested the provision that expressly included transgender women as eligible under the statute. The case ultimately reached the UK Supreme Court and in 2025, *For Women Scotland Ltd v The Scottish Ministers* [2025] UKSC 16 ruled in favor of the appellant, setting a significant precedent with far-reaching consequences for transgender and gender non-conforming people (EHRC 2025; O’Thomson 2025). The court argued that in the context of the EA2010, the protected categories of sex must be interpreted as “biological” and not applied to the sex obtained

1. It’s important to note that gender, sexuality and ethnicity are occasionally categorized in fine-grained detail; various labels for gender and sexual identities emerge in subcultures. Likewise, “race” is frequently typologized through a colonial lens or identified in detailed ethnic categories. However, binary perspectives are dominant in Eurocentric and heteronormative discourse.

through gender recognition certificates. The word “biological” appears over 200 times in the 87-page judgment, but we are left to speculate what it precisely entails. In paragraph 171, it is stated that:

Although the word “biological” does not appear [in the EA2010], the ordinary meaning of those plain and unambiguous words corresponds with the biological characteristics that make an individual a man or a woman. These are assumed to be self-explanatory and to require no further explanation.

The word “biological” is introduced by the court; biology is hereby tasked to carry the burden of *plain and unambiguous* differentiation of bodies. Biologists oftentimes disagree on the criteria of human sex (Fausto-Sterling 2000; Richardson 2015), but in that disagreement lies potentiality. The Supreme Court made an appeal to tradition²; that “biological” is *self-explanatory*, explained by what is already known, thus certainly not in need of new interpretations or revisions. “Biological sex” is no longer participating in the ever-evolving process of collective epistemic advancement, stifling all disagreement.

While the Supreme Court judgment explicitly evaded any and all attempts to circumscribe sex, many political leaders and public figures have overtly postulated constrictive definitions, explanations, and meanings of the word “sex” and “woman” in particular. In this text, I will lay out three popular essentialist perspectives, illustrated by examples, old and new. I will demonstrate how they claim to reflect the *truth* and why they are limited in conveying human diversity. By differentiating between “Mythical”, “Biological” and “Cultural” models, we can learn to better understand these expressions of thought while hopefully expanding our curiosity and capacity to appreciate ambivalence. This dissection is by no means an attempt to arrange and structure thought patterns, but rather an initiative to gain insight from differing angles, hopefully fostering greater awareness.

2. Attempting to persuade others of a point of view by appealing to their feelings of reverence or respect for a tradition instead of to evidence, especially when a more important principle or issue is at stake (Damer 2008).

2 Models

2.1 Mythical Essence

The first model is the mythical sexed essence, the assertion that any person belongs to either of the two sexed categories, contingent on an immutable yet intangible reality. Manifested as an immaterial substance, symbolized by sex characteristics, possibly inconsistent or misleading, but incontestably *disclosed* by the fantasy of the karyotype. Beyond the observed traits that allow us to *know a woman when we see her*, the body encapsulates the capacity to reproduce. Or at least, the expectation that it *should* have or *could* have when it fails to do so. This model retains its strength in its flexibility and its power through its perceived signification of a reproductive teleology. It is the sexed body in *spirit*, impossible to neatly define without resorting to circular definitions, but its boundaries are strict. So strict that the merest glance at the nature of this spirit during the initial seconds of life mandates an entire lifetime within the boundaries that it imposes.

In a 2024 podcast (Winn 2025, 1:10:31), author Helen Joyce offers us a textbook example that unifies various characteristics, vaguely revolving around, yet transcending procreation. While the factual essence remains uncaptured, it is expressed through various mechanisms of the body. Above all, it is given signification—*it matters*:

You can tell people’s sex all the way through their bodies. It’s not just our sex organs. There’s a good name for people thinking it’s just about our sex organs, which is bikini medicine³. Bikini medicine is the idea that humans are the same except for the bits that are covered by the bikini. Well, actually, your fingers are different. Your tendons are different. Everything’s different between men and women, a little bit. In some ways, a lot, but in some ways, a little. Yeah, so basically, anything where the fact that we come in two sexes and that one of those sexes bears pretty much all the bur-

3. Bikini medicine is a critique addressing the problematic under-representation of women’s health concerns outside reproductive health. “For many years, the medical community has viewed women’s health with a bikini approach, focusing essentially on the breast and reproductive system. The rest of the woman was virtually ignored in considerations of women’s health; the tacit assumption was that women and men reacted comparably to diseases and drugs” (Wenger 2004). The term was coined to challenge the systemic patriarchal biases and the unjust allocation of resources, it is not a formal proposal that disregards endocrinological, genetic, environmental, or psychosocial factors. “When compared with the [global burden of disease] study, major disease areas such as infectious disease, cardiovascular disease, and musculoskeletal disorders were underrepresented as topics in women’s health publications” (Hallam et al. 2022). The specificity of these health concerns cannot be attributed to the essentialist dimorphic framework that is postulated by the author in the example.

den of reproduction. Anywhere that that matters, it matters that you acknowledge sex.

—Helen Joyce

In the following example, political commentator Matt Walsh (2022) attempts to outline womanhood, building on a more comprehensive list of elements, ranging from scientific testing, general appearance or behavior, and childbearing capabilities; but most of all, sex is intuitively perceived, *preconceptually*:

Women are adult human females. They have XX chromosomes. They can bear children and give birth. They're not necessarily nicer than men, but they sure are better looking. Even if you didn't know the science or use the exact right words, you could point a woman out pretty easily. By nature, they look and act differently from men.

—Matt Walsh

Thus, sex is presented as an abstract *conclusion* drawn from a cluster of properties that have historically gained significance; subjectively assessed and evaluated within a heterosexual (Butler 1999) and Eurocentric tradition (Oyěwùmi 1997). While initial recognition and categorization of sex typically occurs at the time of birth and on the basis of observed external genitalia, it is speculated that the remaining markers of sex will reveal themselves coherently in later stages of sexual development. Perceived incongruence between these markers or divergence of aesthetic conformity give rise to tension when they contradict the notion of nature's intended complementary design.

The story of Hermine Barbin is one of the most famous accounts of intersex people. Born 1838 in France, she was initially assigned female at birth. Although she was consistently perceived as a girl before puberty, she experienced mockery and contempt for her appearance as a teenager. From her memoirs: "At that age, when all a woman's graces unfold, I had neither that free and easy bearing nor the well-rounded limbs that reveal youth in full bloom. My complexion with its sickly pallor denoted a condition of chronic ill health. My features had a certain hardness that one could not help noticing. My upper lip and a part of my cheeks were covered by a light down that increased as the days passed. Understandably, this peculiarity often drew to me joking remarks that I tried to avoid by making frequent use of scissors in place of a razor" (Barbin 1980, 26).

At age 22, following medical examinations, she was abruptly classified as male—strongly against her will—and legally reassigned to *rectify* this *mistake*. To contain a potential scandal and conceal the alleged *disgrace* of her existence,

she was barred from seeing her partner Sara, and forced to resign from her job as a teacher in a girl’s boarding school. She moved to Paris and adopted a male persona but she lived in desolation and poverty, only to die by suicide at age 29 (Barbin 1980). “As for anxiety, I can truly declare that I had none. I consider that every day given to me is the last of my life. And I do so quite naturally, without the slightest dread. To understand such indifference in someone who is twenty-nine, it would be necessary to have seen oneself condemned, like me, to the most bitter of all torments: perpetual isolation. The idea of death, which is generally so repulsive, is ineffably sweet to my aching soul” (109).

Herculine, or Alexina—the name she used and identified with—saw herself as an “*exceptional* female, she did not perceive herself as necessarily beyond the boundaries of the female” (Holmes 2004, 6). Her extensive memoirs were edited and published by Michel Foucault (Barbin 1980) and her somber story has seen abundant coverage in the studies of sex and gender, emerging as an intriguing subject of discourse on sexual development and identity formation (Butler 1999; Holmes 2004).

Alexina’s date of birth marks Intersex Solidarity Day⁴. Over 100 million people worldwide do not conform to the restrictive, yet vaguely specified classifications of sex (Blackless et al. 2000). The failure to recognize physical diversity still echoes in current-day juridico-medical coercive practices and institutionalized policing of sexed bodies (Muschialli et al. 2024). Intersex and transgender rights advocates are united in efforts to counteract political and institutional regulation of healthcare practices targeting bodily autonomy. The USA has seen a dramatic rise of “laws that claim to protect minors’ bodily integrity”, yet this *protection* is disingenuous: “By permitting coercive procedures for intersex minors and barring affirming care for trans minors while exempting cisgender minors from similar regulations, these bans reveal a deeper legislative agenda: enforcing sex and gender conformity.” (Katri and Sudai 2025, 1524, 1531).

Prior demonstrated attempts to differentiate sex are typically recitals of multiple characteristics. However, many proponents of restrictive frameworks resort to one-liners and self-referencing definitions. The following quotes illustrate expressions of incontrovertible certainty while providing little further substance:

Biological sex is real. A gender recognition certificate is there to show that someone is now transgender, but that doesn’t change their biology.

—Kemi Badenoch on Times News (2025, 0:18)

Female is real, and it’s sex, and femininity is unreal, and it’s gender.

4. Also known as Intersex Day of Remembrance, November 8 (Carpenter 2011)

—Germaine Greer on Channel 4 News (2018, 33:36)

Some of these expressions approach the lingo used in racial realism (Wikipedia 2025b):

It’s kind of obvious... 95% of it is just facts... sex realism means that you accept that sex is real.

—Helen Joyce cited by Liang (2025)

Biology’s *realness* and importance are emphatically reiterated but never consistently demarcated. US Supreme Court Justice Ketanji Brown Jackson was mockingly asked to define the word “woman” at her Senate confirmation hearing (Ward 2022). Following her reluctance to comply, Huffpost later asked several GOP Senators the very same question; the answers were telling (Delaney and Bendery 2022):

[a woman is] biologically a woman.

—Sen. Lindsey Graham

an adult female human

—Sen. Ted Cruz

General-purpose dictionaries carry the task “to identify the words of a language, describe their actual use in speech and writing, and report what use shows about meanings” (Finegan 2020). The senator’s *Meriam-webster mic drop* does not provide a valuable contribution to solving the problem at hand. Nevertheless, the phrase “adult human female”—a dictionary classic—has become a popular trans-antagonistic utterance (Wikipedia 2025a; Elliards 2023). Ironically, the wording shifts the burden of defining womanhood onto the word “female”, which in turn is defined as “belonging or relating to women or girls” (Cambridge University Press., n.d.[a])⁵.

However absurd, circular thought is meaningful; it allows us to build valuable concepts out of abstract imagery. It is fundamental to symbolize and structure ideas and thinking; instrumental to the conception of language (citation). “Without language, thought is a vague, uncharted nebula. There are no pre-existing ideas, and nothing is distinct before the appearance of language” (Sausure et al. 1959, 112). When I define A as containing B and B as belonging to A, I’m not making any sense, unless A and B reside in a wider context in which their relations are significant and they become meaningful to their environment.

5. The same dictionary provides multiple definitions of “woman”, such as “an adult who lives and identifies as female though they may have been said to have a different sex at birth” (Cambridge University Press., n.d.[b]).

If you argue that A does not contain B, there is nothing but arbitrariness that permits me to claim the *truth*. Derrida (1982) notes: “Every sign, linguistic or nonlinguistic, spoken or written, [...] as a small or large unity, can be cited, put between quotation marks; thereby it can break with every given context, and engender infinitely new contexts in an absolutely nonsaturable fashion. This does not suppose that the mark is valid outside its context, but on the contrary that there are only contexts without any center of absolute anchoring.”

If we cannot delineate the outlines of biology preceding all context, how can we justify enforcement beyond any context? In what context, and for what purpose do we define sex? Was it *necessary* to reassign Alexina Barbin to protect other women from her *intrusion* and force her into desperation? Were the girl’s boarding schools in which Alexina tutored threatened by her presence? Who is on the receiving end of protection—what exactly is worth protecting, and from whom or what? Categories arguably do not possess embodied personhood; they’re in constant motion as they reflect the living entities they comprise, but they are not composed through affect, not recognized as subjectivities capable of thought and emotion. The people symbolized by the categories are candidates for protection, but this brings us back to the very same question.

* * *

The aforementioned descriptive and reductive efforts all suggest a contained intrinsic ontological substance outside and above all context. Reaffirmations of a natural authoritative power of biology—refuting temporality and multiplicity—are repeatedly made with presumptuous entitlement to veracity, yet legitimizing arguments that surpass direct self-reference are seldom provided. As though repetition upholds truth in itself. However, the essence remains unuttered, gesturing towards *something out there* but failing to unveil *what* is out there. Millions of people all over the world report a strongly perceived sense of sexed embodiment that presents itself prior to conscious reflection, challenging or disputing assigned sex, and suggesting the possibility of a concealed essence that constitutes the true nature of the self. We should wonder why an interrogation shaped by a historically contingent account of *nature’s intentions* is granted justification to dismiss and override personal insight when it concerns the subject’s private and intimate experience.

2.2 Biological Essence

Instead, we could forego mythical thinking and spiritual conceptions, look at the body and perceive its true nature only through that which is quantifiable. In this model, there is no sexed essence that transcends material reality. A single trait is appointed, not as a signifier but as the very essence of the sexed body. The belief that there is no underlying substance other than the presence or absence of the penis, the Y-chromosome, ovaries, or the uterus... but pick one, and stick to that definition, or you will resort to the mythical referential model.

In this prime example, former UK PM Tony Blair *clarified* his binary and genital-oriented perspective:

I'm definitely of the school that says, biologically, a woman is with a vagina and a man is with a penis. I think we can say that quite clearly.

—Tony Blair, PM cited in (Johnson [2024](#))

This coincidentally leads us to arrive at the conclusion that he supports sex reassignment through surgical procedures. Despite this unexpected but welcome admission, this definition still does not reflect all lived realities, as he fails to recognize the variety of genitalia observed at birth (Kamoun and Dalke [2024](#)).

Other political figures have expressed a similar oversimplified stance. In the following two fragments we find that sex assignment and *presumed* sex chromosomes are conflated—as if they are one and the same—yet sex chromosome analysis is rarely involved in sex assignment (Rathus et al. [2011](#)). In order to disqualify sex reassignment efforts, attempts are made to pin down sexual categorisation to the initial observation at birth; an act performed by medical personal, inscribed in administrative records. MP Jonathan Gullis makes it *perfectly clear* in a debate on the legislative definition of sex in the infamous EA2010 (House of Commons [2023b](#), 6:51pm):

sex is not assigned at birth. You are born a man or you are born a woman. Those are indisputable facts. You have XY chromosomes or XX chromosomes. Again, that is not up for debate or discussion.

—Jonathan Gullis, MP

Directed to House Speaker Nancy Pelosi in reaction to Justice Ketanji Brown Jackson's hearing, we find a similar message in Rep. Madison Cawthorn's reply, though with a slightly altered tone:

Take notes, Madame Speaker, I’m about to define what a woman is for you. XX chromosome, no tallywacker.

—Rep. Madison Cawthorn cited in (Quay 2022)

Both representatives are claiming that observing sex is straightforward, assumed to be free from interpretation. Yet, the Venn diagram of people assigned female at birth and those with XX chromosomes is not a perfect circle; there is a risk of both under- and overinclusion (Kamoun and Dalke 2024). While we currently understand that the Sry gene on the Y chromosome typically sets forth a complex and layered process of sexual development (Barresi and Gilbert 2020; Carlson 2014), genitalia are merely a semblance of sex chromosomes. They remain distinct aspects, and the fact that we frequently rely on one to signify the other precisely illustrates this, while at the same time highlighting the possibility of divergence. The tradition of sex assignment predates our understanding of chromosomal sex by several millennia (Joyce 2008). The relatively recent invention of karyotyping and earlier observations of sex chromosomes are scientific revelations part of an ever evolving process subject to re-evaluation. Furthermore, they remain observations of natural phenomena, in the same way that physical examinations are. It is a subjective act to dismiss limitations presented by any method of investigation as insignificant, and so are the choices that are made when a single attribute or method is designated and elevated to represent eternal truth. We are left to speculate whether these two gentlemen would have endorsed Alexina Barbin to continue her life in the capacity of her preferred and assigned sex.

Famous author and likely billionaire J.K. Rowling (2020) mockingly equated womanhood to menstruation. She took offense at the phrase “people who menstruate”, used in the context of global menstrual health and hygiene; likely because this use of language could include trans men and non-binary people, while underscoring the exclusion of trans women.

“People who menstruate” I’m sure there used to be a word for those people. Someone help me out. Wumben? Wimpund? Woomud?

—J.K. Rowling

However, Rowling (2024), who equated sex with menstruation later reverted to “DNA testing” as the *veritas* of human sex, revealing a shifted perspective. Why didn’t she demand that boxer Imane Khelif provide proof of menstruation, if that is what makes a woman? *Would it be inappropriate?*

It’s important to highlight that launching a PR campaign and applying layers of thick makeup requires far more time and effort than simply making DNA test results public.

—J.K. Rowling

In “The Whole Woman”, Germaine Greer (2000) went as far as to deprive women with Androgen Insensitivity Syndrome (AIS)⁶ from their womanhood as she marks them as *incomplete males*:

There is nothing new in using the catch-all category “female” to describe incomplete males [...] In most cases of AIS the newborn child has been mistakenly identified as female and raised as female.

—Germaine Greer

While the language used is contemptuous, it is also an untruthful assumption: “Given the female genitalia, patients with [Complete] AIS are generally raised as females with few reports of gender dysphoria. [...] patients with [Partial] AIS may be raised as males or females” (Legato 2017). Curiously, years later she conceded that her former perspective was inaccurate:

I agree that when I first was thinking about what is a woman, I fell for the usual view that women were people with two Xs and men were people with an X and a Y, and I now realize... that this was wrong.

—Germaine Greer cited by (John 2016)

The second Trump administration attempts to provide a restrictive formulation of sex, rooted in the complementary nature in procreative duties. In executive order No. 14168, the legal definition of sex is outlined and strict terminology is codified (The White House 2025):

- (a) “Sex” shall refer to an individual’s immutable biological classification as either male or female. [...]
- (d) “Female” means a person belonging, at conception, to the sex that produces the large reproductive cell.
- (e) “Male” means a person belonging, at conception, to the sex that produces the small reproductive cell.

While the designated roles that gametes play in the formation of zygotes are widely understood (Barresi and Gilbert 2020; Carlson 2014), the “reproductive cells” referred to in the executive order are merely symbolic; implementation

6. “AIS characterizes clinical disorders due to dysfunction of the androgen receptor (AR) leading to hormone resistance despite age-appropriate production. Severity may range from complete androgen insensitivity syndrome (CAIS), partial insensitivity (PAIS), to mild insensitivity (MAIS)” (Legato 2017).

and enforcement of the proposed definitions is not feasible: people born with ovaries will likely not be subjected to systematic high-risk and costly biopsies to determine the presence of oocytes, sperm production doesn't even start before puberty, and gamete production in people born with atypical gonads is variable and oftentimes in contradiction with observed characteristics (Campo-Engelstein et al. 2017). Furthermore, bilateral gonadectomy as well as several health conditions (citations) may halt the production of gametes during a person's lifetime—which makes it inherently mutable. To circumvent this problem, the Trump administration decided to rely on the word “sex” as a proxy; it symbolizes the *presumed* production of reproductive cells, or rather, the category of people that *should* or *could* produce small/large cells. An *expectation* is invoked, a prediction of the future, based on prior observations. Additionally, it does not resolve the endless feedback loop that is closed when the definition of sex recursively relies on the words female and male. This is yet another attempt to reductively constrict the complexity of human sex, but by failing to capture the essence, it relegates itself outside its intended category.

* * *

A tedious task, it seems, defining sex by consistently nominating a singular natural kind without disrupting intuitive understanding. Codifying the spirit of what seems self-evident—capturing that essence that *gracefully unfolds* into phenotypical expression—seems to fail as nature resists complicity with the structures that we enforce upon it. We could ask ourselves to what extent the effort to chase this phantasmatic testimony truly differs from the mythical essence that remains strategically obfuscated.

2.3 Cultural Essence

This model emerges through lived experience; a culturally or politically conceived essence. It is the formation of scars inflicted by patriarchy that sets the stage of womanhood. The duality of male domination and female submission renders this model binary by design, and since lived experience is impossible to forfeit or pursue retroactively, it is inherently immutable. Once a victim of male hegemony, she is destined to live the life that was set out to be lived by the very same perpetrator. Womanhood is *victimhood*; it's inescapable once the body is marked by patriarchal violence and it's *impenetrable*—it is earned but only granted by birthright, certainly not appropriated.

In 1977, a letter written by Michigan Womyn's Music Festival organizer Lisa Vogel (1977) was directed to the feminist music collective Olivia Records, stating her objection to the inclusion of sound engineer Sandy Stone:

We are writing concerning your decision to employ Sandy Stone (formerly [...]) as your recording engineer and sound technician. We feel that it was and is irresponsible of you to have presented this person as a woman to the women's community when in fact [she] is a post-operative transsexual. [...] Sandy Stone grew up as a white male in this culture, with all the privileges and attitudes that that insures [sic]. It was [her] white male privilege that gave [her] access to the recording studio and the opportunity to gain engineering practice in the first place. [She] has never had to suffer the discrimination, self-hatred or fear that a woman must endure and survive in her life. And [she] cannot possess the special courage, brilliance, sensitivity and compassion that derives from that experience. How can we share feelings of sisterhood and solidarity with someone who has not had a woman's experience?

—Lisa Vogel, 1977

In this instance, trans womanhood is not necessarily portrayed as an aggressive dominant force, but as the intrusion of privilege. *Genuine* womanhood, or sisterhood is characterized by terms that one might attribute to human excellence, suggesting that only girlhood brings about this excellence, on account of male subjugation. Self-hatred and fear emerging from gendered power dynamics allegedly cannot lead to female excellence in the formation of nonconforming subjectivities. This polarizing attitude is reflected in the field of psychoanalysis, where nonconforming genders and sexualities have seen repeated misrepresentation and abuse in the service of hetero- and cisnormative homogeneity (Barkai

2017; Green 1972; Stoller 1984). “The theorizing of how normative gender comes about, in other words, is neither unheard of [...] nor is it rare: psychoanalysis has always been thinking about gender formation of cis people; *but it has not been doing so with an eye toward changing the patient’s gender*” (Saketopoulou and Pellegrini 2024).

Following the same current but more radical, the website *feministcurrent.com*, founded by right-wing political candidate Meghan Murphy, features an article from C.K. Egbert (2016). She writes that womanhood is not to be traced back to genitalia, but it is homogenized into a political identity—*ex negativo*. Womanhood is signified by placing it in opposition to the male position. Woman is most of all *not-a-man*:

People often fail to recognize that “woman” is not a personal identity but a political identity based upon a shared experience of oppression. The purpose of certain women-only spaces is not about excluding those with or without a particular genitalia [sic] (we didn’t decide that having vaginas and uteruses made one subordinate; men did) or excluding those with a particular gender identity. This isn’t about how strongly one identifies as a woman, whether one might subsequently be seen and treated as a woman, or whether one is marginalized and disadvantaged by gender hierarchy (for example, gay men are marginalized by patriarchy even though they are men). It is about controlling for the experience of male privilege.

—C.K. Egbert

It is not the experience of living or having lived through oppression that seems to matter, not the formation of the subject through societal structures, it’s the privilege inherently contained within manhood that defines the female body—*a priori*. An identity manifested at birth, not temporally constructed and continually evolving, but afforded by virtue of a presupposed victimhood. After all, maybe one *is* born a woman. We can only imagine whether the author would have encouraged Alexina Barbin to pursue her life in the capacity of her preferred and assigned sex. But she continues:

Transgendered [sic] women cannot experience all forms of subordination that [cisgender] women as women face. Most female-born women are capable of becoming pregnant at some point in their lives. For those who cannot, infertility is often considered a “problem” that needs to be “fixed.” Transgendered [sic] women do not experience disadvantage by virtue of their reproductive role (they don’t need abortions, for instance), and neither are they considered

somehow “defective” by virtue of not being able to fulfill a particular reproductive role.

—C.K. Egbert

The failure to acknowledge that trans bodies are extensively deemed defective on all counts—dehumanized, artificial, damaged, mutilated, and incapacitated, especially in relation to reproduction (Leigh 2025; Cascalheira and Choi 2023)—precisely demonstrates the double standard and ideological bias evident in the juxtaposition of trans and cis female oppression. Furthermore, the author expresses resentment when she portrays women experiencing infertility as privileged by *virtue of not needing* abortion. The enduring anguish over the inability to bear children that affects and haunts many trans women and non-binary people (Asseler et al. 2024) is not only disavowed; it is strategically exploited and weaponized to deprive them of womanhood. Findings show that “Desire for parenthood among transgender women appears to match those held by cisgender women” (Bayar et al. 2023). This contemptuous misconception echoes a much older statement made by author Germaine Greer (2000), both illustrating a severe lack of engagement with the very people they denounce:

MTF transsexuals [trans women] have so far shown no more interest in reproduction than most men do.

—Germaine Greer

In the following excerpt from a podcast (Helen Staniland 2022, 04:52), author Helen Joyce portrays trans people as damaged and in need of lifelong special accommodations:

we have to try to limit the harm, and that means reducing or keeping down the number of people who transition, and that’s for two reasons. One of them is that every one of those people is a person who’s been damaged, but the second one is that every one of those people is basically, you know, a huge problem to a sane world. Like, if you’ve got people that, whether they’re transitioned, whether they’re happily transitioned, whether they’re unhappily transitioned, whether they’re detransitioned, if you’ve got people who’ve dissociated from their sex in some way, every one of those people is someone who needs special accommodation in a sane world where we re-acknowledge the truth of sex, and I mean the people who’ve been damaged by it [...] I’m saying every one of those people; for 50, 60, 70 years is going to need things that the rest of us just don’t need because the rest of us are just our sex, so the fewer of those people there are, the better in the sane world that I hope we will reach.

—Helen Joyce

In addition to her unwarranted arrogance found in evaluating bodies by their functioning and capabilities, depicting people in need of accommodation as problematic or not in accordance with a *sane* world is remarkably ableist and contemptuous. Nonetheless, in another podcast (Winn 2025, 01:06:35), the very same thinker situates trans women in a position of power and dominance, directing attention towards the penis and highlighting its potency as the origin of aggression:

There just are these very powerful men whose entire aim in life is to transgress women’s boundaries and to force everyone else to pretend that they’re women because they get a neurotic thrill out of it. And those men think about nothing else, like men and their boner. Excuse me, that is the greatest force in human history, as far as I can see.

—Helen Joyce

Cognitive dissonance at first sight? Let us remind ourselves of Umberto Eco (1995) on fascism: “The enemies are at the same time too strong and too weak”, or Jean-Paul Sartre (1995): “The anti-Semite does not see the Jew as he is, but as he imagines him, as a great power that secretly governs the world. Yet, the Jew is simultaneously depicted as weak, parasitic, and an alien being”. Helen Joyce may not hold a position of authoritative power, her words resonated through the UK Supreme court⁷ and are echoed by nationalist authoritarian leaders⁸.

7. On Spiked (2025, 2:04), Joyce, Director of Advocacy at Sex-Matters: “we intervened on the side of for women Scotland who [...] got both written and spoken submissions, and the judges thanked us for our cogent analysis so we helped them to do this exercise of statutory interpretation that allows you to think through what all these different laws mean, how words have to be interpreted”

8. Russian “Duma speaker Vyacheslav Volodin called gender-affirming surgery a ‘path to the degeneration of the nation’”. (Papachristou 2023). “Russia’s Supreme Court has banned the ‘international public LGBT movement’, ruling that it is an ‘extremist organization’ (Riedel 2023).” Pope Francis famously said: Gender ideology is the ugliest danger of our time (Zengarini 2024). Turkish president Recep Tayyip Erdoğan: “It is our common responsibility to protect our children and youth from harmful trends and perverse ideologies [...] The target of gender neutralization policies, in which LGBT is used as a battering ram, is the family. Criticism of LGBT is immediately silenced, just like the legitimate criticisms of Zionism. Anyone who defends nature and the family is subject to heavy oppression” (Perry 2025). Viktor Orbán in 2023, in his opening speech at the Conservative Political Action Conference: “We have to say no to migration, gender and war” (Csonka 2023). Andrzej Duda, president of Poland in 2020: “My parents’ generation didn’t fight the communist ideology for 40 years to... now allow another, even more destructive, ideology to come” (Kosc 2020). “Uganda’s President Yoweri Museveni has defended signing one of the world’s harshest anti-LGBTQ laws, with punishments up to and including the death penalty, saying it was needed to prevent LGBTQ community members he said were ‘disoriented’ from ‘recruiting’” others (Obulutsa and Lawson 2023). In september 2024, “the Georgian Parliament passed a controversial ‘Family Values’

In the following quote from Germaine Greer (2000), the mere existence of a trans woman and her identification as a woman is characterized as an intrusive transgression into a sanctified space. It is a canonical example of gender *propriotorship*. Through the act of sex assignment, the immanent privilege of ownership and governance over womanhood is bestowed:

No one ever asked women if they recognized sex-change males as belonging to their sex or considered whether being obliged to accept MTF transsexuals as women was at all damaging to their identity or self-esteem.

—Germaine Greer

A sense of identity and self-esteem are delicate traits that are well worth protecting, but apparently not for all humans. Male privilege is placed in stark contrast to the female privilege that it engenders, possibly through an understandable yet misdirected *retribution* for inflicted wounds. In “The Transsexual Empire”, Janice Raymond (1994) laid the foundation of this narrative. She describes her sentiment around the events of the Michigan Women’s Music festival:

As one woman wrote of Sandy Stone and the Olivia controversy: “I feel raped when Olivia passes off Sandy, a transsexual, as a real woman. After all [her] male privilege, is [she] going to cash in on lesbian feminist culture too?” Rape, of course, is a masculinist violation of bodily integrity. All transsexuals rape women’s bodies by reducing the real female form to an artifact, appropriating this body for themselves.

—Janice Raymond

There is an allegation of assault, but there are no victims, no damage done, no accounts of emotional trauma. The text is of historic value but there is little substantial content to it; the work is a bitter expression of hatred pointed towards trans people and it has already been abundantly refuted by Sandy Stone herself (Stone 1992). The following and final fragment from the same book raises an interesting question:

No man can have the history of being born and located in this culture as a woman. He can have the history of wishing to be a woman and of acting like a woman, but his gender experience is that of a

bill, which directly targets the rights and freedoms of the LGBTI+ community in the country [...] It bans gender transition procedures, prohibits adoption by gay and transgender people, and annuls same-sex marriages performed abroad” (Bergfeldt 2024).

transsexual, not of a woman. Surgery may confer the artifacts of outward and inward female organs but it cannot confer the history of being born a woman in this society.

—Janice Raymond

What is *this* culture? Is a woman only a woman in *this* culture and society? What is the *universal* experience that renders her a woman? That of a working-class woman? A white woman with a cigar and scotch on a yacht, or an African woman trafficked and enslaved? Indigenous women of the Americas or the Pacific? An Algerian boxer or a South African runner? What about Yorùbá or Mosuo women? Alexina Barbin? What is it that binds all women across spatio-temporal boundaries, disqualifies intersex and trans women, belittles and patronizes trans men, and scorns non-binary people? Perhaps it *is* the body after all? Most strikingly, a white Christian imperialist *reading* of the body. A reaffirmation of the colonial intrusion of gender that effaced diverse accounts of womanhood, through which a stable and binary notion became legible as naturally conceived. *So* natural that all other accounts of womanhood are simply left unacknowledged when defining that cultural essence.

* * *

Harm and discrimination inflicted through violence and normative forces is downplayed when targeted towards incongruent and nonconforming bodies—it does not seem to contribute to shaping reality—only violence committed by the (presumed) penis is acknowledged to mark the body as inherently female. Moreso, it is reappropriated to disenfranchise those who wish to redefine their own embodiment. A political female identity is mythologized. The heiress of white womanhood, inherited from cultural feminism, retaliates against those in search of alignment. They are deemed complicit in her *rape*; her denial of vindication and absolution marks a shift in control and begets superiority; empowerment and satisfaction through resentment—*ressentiment*. Although efforts could be made to untangle biology from its preconceived purpose in a destiny marked by oppression, the perpetual accumulation of commodified victimhood and the reciprocal imposition of assaulthood do not benefit the project of emancipation.

3 Discussion

Biology of human sex is commonly misrepresented as a *natural* binary, by virtue of our capacity to present phenotypically in two distinct directions, conditioned by steroid hormones (Barresi and Gilbert 2020). Archetypal representations of the *feminine* and *masculine* expression exemplify polar extremes within a population that is otherwise bimodally⁹ distributed among a multitude of perceived characteristics. Binary frameworks envision and encourage perceptual convergence of the prototypical modes towards the archetypal extremes. The analysis of human diversity within a spectral framework is preceded by the provided dataset—the population; the spectrum is a lens, not a container. A conceptualization error is made when the framework is reified to bring about the results it is set out to bring forward: if you look for one or the other, you will find only these two kinds. “What a man sees depends both upon what he looks at and also upon what his previous visual-conceptual experience has taught him to see” (Kuhn and Hacking 2012).

Binary models *rely* on arbitrary thresholds of tolerance to reject irregularities or outliers on account of their own limited accuracy. We could come to an agreement; try to negotiate at which exact point the grains of sand transition into a heap. But when we think of sand, we’re not *moving* grains into the heaps that we examine because the observer does not interfere. The taxonomy of human sex does not only *study* bodies and behavior, it exerts power over the subjects of its own inquiry by perpetually reestablishing an assignment that was never initially even consented to.

Legal recognition of sex reassignment is currently unattainable for the majority of people while vested rights are being eroded (Melley et al. 2025; The White House 2025). Reparative “conversion” practices that coerce behavior and desire into conformity still remain legal around the world (Wakefield 2022). Despite efforts by the UN and major health related associations to condemn SOCE and GICE¹⁰ (APA 2009; Madrigal-Borloz 2020; Rafferty et al. 2018), “conversion” or “gender-exploratory”¹¹ therapy is still endorsed by some institutions (Cass 2024; HHS 2025; Moore 2022). Access to medical interventions is either restricted by pathologizing institutional policy and years long wait-

9. In statistics, a “mode is commonly defined as the most frequently occurring measurement in a set of data. [...] But it is perhaps better to define a mode as a measurement of relatively great concentration, for some frequency distributions may have more than one such point of concentration. [...] A distribution with two modes is said to be bimodal and may indicate a combination of two distributions with different modes (Zar 2010).”

10. Sexual Orientation Change Efforts and Gender Identity Change Efforts (APA 2009)

11. “a close comparison of gender-exploratory therapy and conversion practices reveals many conceptual and narrative similarities. How proponents talk about gender-exploratory therapy is nearly identical to how individuals offering conversion practices targeting sexual orientation frame their own work. Despite the language of exploration, gender-exploratory therapy shares more with interrogation, if not inquisition” (Ashley 2023).

ing lists (Ashley 2019; Grant et al. 2025; House of Commons 2023a; Ross et al. 2023; Van De Grift et al. 2024), prohibited through state enforced barriers (Trans Legislation Tracker, n.d. Melley 2024), or coerced without patient consent (Muschialli et al. 2024). The regulation and policing of bodies is instrumental sustaining binary harmony and upholding the very same status quo that was initially invoked for the purpose of sex assignment (Katri and Sudai 2025).

Binary and immutable are not interchangeable qualifiers; mutable properties can live within a binary system, and immutable traits can be diverse. By conflating the terms and interchanging them deliberately, it seems that we are not seeking to define the sexed body as much as rebuking the fluidity of sex as a concept. Not only challenging the variability, plasticity, and temporality of biology, but negating the sexed body as a discursive field. Those who live below that threshold are systematically dismissed when discourse is discarded. The very existence of the threshold is trivialized. There is no space for discourse in courts¹², legislative institutions and executive powers (citation) when they unilaterally defy the fluidity of sex. It is crucial that we learn to identify the patterns of violence inflicted on those living below that threshold. We must acknowledge that our entitlement to open inquiry is actively denied through self-perpetuating commonsensical thought and the imposed significance of the procreative imperative.

When it is said that *sex matters*, an assertion is made to reject gender as a historically construed subject in favor of a stable depiction of the distinctions that nature *provides*—preceding all signification. However, once extracted what is learned from that truth is then applied to structure society and to objectify subjectivities, it seems that it is truly gender that matters. If gender is what assigns meaning to the apparent qualities of sex, such sloganesque expressions paradoxically disintegrate as they relocate themselves into the realm of gender. This appeal to nature and its arrogance to determine destiny is exactly what feminism has sought to scrutinize and dislodge from its historical constraints.

* * *

The first model asserts the narrative of an unarticulated essence, expressed

12. Dr Victoria McCloud “applied to be a party to the Supreme Court case of For Women Scotland, backed by the Good Law Project along with a trans man. The court refused to allow trans people to put in evidence reflecting the impact of potential interpretations of the act on the trans community. They refused without reasons that, with genuine respect to them, hobbled their ability to explore the human rights implications of alternative interpretations of the act. We were not heard. The Supreme Court did not consider the human rights consequences of its choice of interpretation for all UK citizens, not just people like me or all people visiting the UK or working or living here, including for the EU. And some of people’s sex will now change, believe it or not” (QueerAF 2025, 05:09).

through biology but tacitly contained—through our own judgment, it is imbued with meaning. The second model attempts to simplify that narrative and elucidates a facticity conveyed within, often overlooking the shadows cast by its own clarity. The third model casts the body from a rigid mold, modeled on the master pattern that is male oppression; the course of life is preordained. So is the shape of the body.

This list is far from exhaustive, but these are the most prevalent essentialist perspectives used to form a constrictive definition of sex. They are not distinct tactics elegantly deployed to tackle the problem, but rather intermingled methods conveniently alternated and engaged on demand to uphold prevailing preconceptions—frequently at odds with one another. Nonetheless, proposing formulations of improved models that better articulate intuitive understanding may prove to be foolish—the inaccuracy and subjective nature inherently present in all efforts made to discern sex may as well be understood as an opportunity for discourse and possibility, rather than provoking contention and contempt. When ill-defined and intuitive conceptions of embodied expression are codified into law, they become mechanisms of coercion and disciplinary power, arbitrariness masquerading as order.

4 References

- APA. 2009. *Report of the American Psychological Association Task Force on Appropriate Therapeutic Responses to Sexual Orientation*. Task Force Report. American Psychological Association. Accessed May 18, 2025. <https://www.apa.org/pi/lgbt/resources/therapeutic-response.pdf>.
- Ashley, Florence. 2019. “Gatekeeping hormone replacement therapy for transgender patients is dehumanising” [in en]. *Journal of Medical Ethics* 45, no. 7 (July): 480–482. ISSN: 0306-6800, 1473-4257. <https://doi.org/10.1136/medethics-2018-105293>. <https://jme.bmj.com/lookup/doi/10.1136/medethics-2018-105293>.
- . 2023. “Interrogating Gender-Exploratory Therapy” [in en]. *Perspectives on Psychological Science* 18, no. 2 (March): 472–481. ISSN: 1745-6916, 1745-6924. <https://doi.org/10.1177/17456916221102325>. <https://journals.sagepub.com/doi/10.1177/17456916221102325>.
- Asseler, J D, I De Nie, F B Van Rooij, T D Steensma, D Mosterd, M O Verhoeven, M Goddijn, J A F Huirne, and N M Van Mello. 2024. “Transgender persons’ view on previous fertility decision-making and current infertility: a qualitative study.” *Human Reproduction* 39, no. 9 (September): 2032–2042. ISSN: 0268-1161, 1460-2350. <https://doi.org/10.1093/humrep/deae155>.
- Barbin, Herculine. 1980. *Herculine Barbin: Being the Recently Discovered Memoirs of a Nineteenth-Century French Hermaphrodite*. Edited by Michel Foucault. Translated by Richard McDougall. Vintage, June. ISBN: 9780394738628.
- Barkai, Ayelet R. 2017. “Troubling Gender or Engendering Trouble? The Problem With Gender Dysphoria in Psychoanalysis” [in en]. *The Psychoanalytic Review* 104, no. 1 (February): 1–32. ISSN: 0033-2836. <https://doi.org/10.1521/prev.2017.104.1.1>. <http://guilfordjournals.com/doi/10.1521/prev.2017.104.1.1>.
- Barresi, Michael J. F., and Scott F. Gilbert. 2020. *Developmental biology* [in eng]. 12th ed. New York: Sinauer associates. ISBN: 9781605358741.
- Bayar, Erna, Nicola J. Williams, Amel Alghrani, Sughashini Murugesu, Srdjan Saso, Timothy Bracewell-Milnes, Meen-Yau Thum, et al. 2023. “Fertility preservation and realignment in transgender women.” *Human Fertility* 26, no. 3 (May): 463–482. ISSN: 1464-7273, 1742-8149. <https://doi.org/10.1080/14647273.2022.2163195>.

- Bergfeldt, Andreas. 2024. "New bill in Georgia violates LGBTI+ rights" [in en-US], September. Accessed May 18, 2025. <https://crd.org/2024/09/20/new-bill-in-georgia-violates-lgbti-rights/>.
- Blackless, Melanie, Anthony Charuvastra, Amanda Derryck, Anne Fausto-Sterling, Karl Lauzanne, and Ellen Lee. 2000. "How sexually dimorphic are we? Review and synthesis." *American Journal of Human Biology* 12, no. 2 (March): 151–166. ISSN: 1042-0533, 1520-6300. [https://doi.org/10.1002/\(SICI\)1520-6300\(200003/04\)12:2<151::AID-AJHB1>3.0.CO;2-F](https://doi.org/10.1002/(SICI)1520-6300(200003/04)12:2<151::AID-AJHB1>3.0.CO;2-F).
- Butler, Judith. 1999. *Gender Trouble: feminism and the subversion of identity*. 10. anniversary ed. New York: Routledge. ISBN: 9780415924993.
- Cambridge University Press. n.d.(a). "Meaning of female in English." Accessed May 18, 2025. <https://dictionary.cambridge.org/dictionary/english/female>.
- . n.d.(b). "Meaning of woman in English." Accessed May 18, 2025. <https://dictionary.cambridge.org/dictionary/english/woman>.
- Campo-Engelstein, Lisa, Diane Chen, Arlene B. Baratz, Emilie K. Johnson, and Courtney Finlayson. 2017. "The Ethics of Fertility Preservation for Pediatric Patients With Differences (Disorders) of Sex Development" [in en]. *Journal of the Endocrine Society* 1, no. 6 (June): 638–645. ISSN: 2472-1972. <https://doi.org/10.1210/js.2017-00110>. <https://academic.oup.com/jes/article-lookup/doi/10.1210/js.2017-00110>.
- Carlson, Bruce M. 2014. *Human embryology and developmental biology*. 5th ed. Philadelphia, PA: Elsevier/Saunders. ISBN: 9781455727940.
- Carpenter, Morgan. 2011. "Intersex Day of Solidarity," May. Accessed May 18, 2025. <https://intersexday.org/en/intersex-day-of-solidarity/>.
- Cascalheira, Cory Jacob, and Na-Yeun Choi. 2023. "Transgender Dehumanization and Mental Health: Microaggressions, Sexual Objectification, and Shame." *The Counseling Psychologist* 51, no. 4 (May): 532–559. ISSN: 0011-0000, 1552-3861. <https://doi.org/10.1177/00110000231156161>.
- Cash, Thomas F. 2002. *Body image: a handbook of theory, research, and clinical practice*. Edited by Thomas Pruzinsk. New York: Guilford Press. ISBN: 9781572307773.
- Cass, Hilary. 2024. *Independent Review of Gender Identity Services for Children and Young People: Final Report*. Accessed May 18, 2025. <https://cass.independent-review.uk/home/publications/final-report/>.

- Center for Astrophysics. n.d. “Elemental Abundances.” Harvard & Smithsonian. Accessed May 18, 2025. <https://www.cfa.harvard.edu/research/topic/elemental-abundances>.
- Channel 4 News. 2018. “Germaine Greer on women’s liberation, the trans community and her rape [YouTube video].” Accessed May 18, 2025. https://youtu.be/aU_csXGfdVM.
- Csonka, Tamas. 2023. “Hungary has the antidote to liberal virus of migration and gender ideology, says Orban” [in en], May. Accessed May 18, 2025. <https://www.intellinews.com/hungary-has-the-antidote-to-liberal-virus-of-migration-and-gender-ideology-says-orban-277864>.
- Damer, T. Edward. 2008. *Attacking faulty reasoning: a practical guide to fallacy-free arguments* [in eng]. Sixth edition. Belmont, CA: Wadsworth Cengage Learning. ISBN: 9780495095064.
- Delaney, Arthur, and Jennifer Bendery. 2022. “What’s A Woman? GOP Senators Stumble On Their Own Question To Ketanji Brown Jackson,” April. Accessed May 18, 2025. https://www.huffpost.com/entry/republicans-ketanji-brown-jackson-woman_n_624c9967e4b0d8266ab22274.
- Derrida, Jacques. 1982. *Margins of philosophy*. Reprint. Translated by Alan Bass. Harvester Wheatsheaf. ISBN: 9780710804549.
- Eco, Umberto. 1995. “Ur-Fascism.” *The New York Review of Books* (June). ISSN: 0028-7504. <https://www.nybooks.com/articles/1995/06/22/ur-fascism/>.
- Egbert, C.K. 2016. “Defending the ”TERF”: Gender as political,” July. Accessed May 18, 2025. <https://www.feministcurrent.com/2014/07/16/defending-the-terf-gender-as-political>.
- EHRC. 2025. *An interim update on the practical implications of the UK Supreme Court judgment*, May. Accessed May 18, 2025. <https://web.archive.org/web/20250514204212/https://www.equalityhumanrights.com/media-centre/interim-update-practical-implications-uk-supreme-court-judgment>.
- Elliards, Xander. 2023. “Who is Posie Parker? The anti-trans founder of Standing for Women,” February. Accessed May 18, 2025. <https://www.thenational.scot/news/23299549.posie-parker-anti-trans-founder-standing-women/>.
- Fausto-Sterling, Anne. 2000. *Sexing the body: gender politics and the construction of sexuality* [in eng]. New York: Basic books. ISBN: 9780465077137.

- Feyerabend, Paul. 1982. *Against method: Outline of anarchistic theory of knowledge* [in eng]. 4. impr. London: Verso. ISBN: 9780860917007.
- Finegan, Edward. 2020. *Description and Prescription: The Roles of English Dictionaries*. 1st ed., edited by Sarah Ogilvie. Cambridge University Press, September. ISBN: 9781108553780. <https://doi.org/10.1017/9781108553780.006>.
- Foucault, Michel. 1972. *The archaeology of knowledge* [in eng fre]. 1st American ed. Social theory, 2nd edition. New York: Pantheon Books. ISBN: 9780394471181.
- . 2020. *The history of sexuality. Volume 1: The will to knowledge*. Edited by Robert J. Hurley. Penguin Modern Classics. London: Penguin Classics. ISBN: 9780241385982.
- Giere, Ronald N. 2006. *Scientific perspectivism*. Chicago: University of Chicago Press. ISBN: 9780226292120.
- Giles, Howard, and Scott A. Reid. 2005. “Ageism Across the Lifespan: Towards a Self-Categorization Model of Ageing” [in en]. *Journal of Social Issues* 61, no. 2 (June): 389–404. ISSN: 0022-4537, 1540-4560. <https://doi.org/10.1111/j.1540-4560.2005.00412.x>. <https://spssi.onlinelibrary.wiley.com/doi/10.1111/j.1540-4560.2005.00412.x>.
- Grant, Ruby, Gene Lim, Ash Russell, Sasha Bailey, and Sharon Dane. 2025. “Trans healthcare temporalities: the impacts of waiting for gender affirmation on trans identities, wellbeing, and futurity” [in en]. *International Journal of Transgender Health* (March): 1–12. ISSN: 2689-5269. <https://doi.org/10.1080/26895269.2025.2458702>. <https://www.tandfonline.com/doi/full/10.1080/26895269.2025.2458702>.
- Green, Richard. 1972. “Treatment of Boyhood “Transsexualism”: An Interim Report of Four Years’ Experience” [in en]. *Archives of General Psychiatry* 26, no. 3 (March): 213. ISSN: 0003-990X. <https://doi.org/10.1001/archpsyc.1972.01750210021003>. <http://archpsyc.jamanetwork.com/article.aspx?doi=10.1001/archpsyc.1972.01750210021003>.
- Greer, Germaine. 2000. *The whole woman*. Anchor, August. ISBN: 9780385720038.

- Hallam, Laura, Amy Vassallo, Ana-Catarina Pinho-Gomes, Cheryl Carcel, and Mark Woodward. 2022. "Does Journal Content in the Field of Women's Health Represent Women's Burden of Disease? A Review of Publications in 2010 and 2020." *Journal of Women's Health* 31, no. 5 (May): 611–619. ISSN: 1540-9996, 1931-843X. <https://doi.org/10.1089/jwh.2021.0425>.
- Helen Staniland. 2022. "Wine with Women ep. 4: Helen Joyce [YouTube Video]." Accessed May 18, 2025. https://youtu.be/8_u1MQFjxvI.
- HHS. 2025. *Treatment for Pediatric Gender Dysphoria: Review of Evidence and Best Practices*. Authors' names withheld to maintain integrity of post-publication peer review process. U.S. Department of Health and Human Services, May. <https://opa.hhs.gov/gender-dysphoria-report>.
- Holmes, M. Morgan. 2004. "Locating Third Sexes." *Transformations*, ISSN: 1444-3775. <https://doaj.org/toc/1444-3775>.
- House of Commons. 2023a. "Transcript of parliamentary debate on Gender Dysphoria: Waiting Times." House of Commons, April. Accessed May 18, 2025. <https://hansard.parliament.uk/commons/2023-04-25/debates/65FCCDBB-8488-4280-8F31-34D50D87E44F/GenderDysphoriaWaitingTimes>.
- . 2023b. "Transcript of parliamentary debate on Legislative Definition of Sex." House of Commons, June. Accessed May 18, 2025. <https://hansard.parliament.uk/Commons/2023-06-12/debates/F74BD8CC-4807-46F4-AA51-5402B7CFE8F9/details#contribution-A597A147-62D1-4364-9537-279BDF7F9154>.
- John, Tara. 2016. "Germaine Greer Defends Her Controversial Views on Transgender Women," April. Accessed May 18, 2025. <https://time.com/4290409/germaine-greer-transgender-women>.
- Johnson, Simon. 2024. "Tony Blair: A woman has a vagina and a man has a penis," June. Accessed May 18, 2025. <https://www.telegraph.co.uk/politics/2024/06/17/tony-blair-labour-trans-views-gender-general-election>.
- Joyce, Rosemary A. 2008. *Ancient bodies, ancient lives: sex, gender, and archaeology* [in eng]. London: Thames / Hudson. ISBN: 9780500051535.

- Kamoun, Camilia, and Katharine B. Dalke. 2024. "Embracing Difference in Intersex Variations" [in en]. *Clinical Pediatrics* (November): 00099228241299909. ISSN: 0009-9228, 1938-2707. <https://doi.org/10.1177/00099228241299909>. <https://journals.sagepub.com/doi/10.1177/00099228241299909>.
- Katri, Ido, and Maayan Sudai. 2025. "Intesex, Trans, and the Irrationality of Gender-Affirming-Care Bans." *The Yale Law Journal* (March). <https://doi.org/10.2139/ssrn.4953186>.
- Kosc, Wojciech. 2020. "Poland's Duda says "LGBT ideology" more "destructive than communism"" [in en], June. Accessed May 18, 2025. <https://www.intellinews.com/poland-s-duda-says-lgbt-ideology-more-destructive-than-communism-185364/>.
- Kuhn, Thomas S., and Ian Hacking. 2012. *The structure of scientific revolutions*. Fourth edition. The University of Chicago Press. ISBN: 9780226458113.
- Legato, Marianne J. 2017. *Principles of gender-specific medicine: gender in the genomic era*. Third edition. Elsevier/Academic Press. ISBN: 9780128035061. <https://shop.elsevier.com/books/principles-of-gender-specific-medicine/legato-j/978-0-12-803506-1>.
- Leigh, Darcy. 2025. "Transness as insecurity: Anti-trans movements and the security politics of reproduction" [in en]. *Security Dialogue* 56, no. 1 (February): 3–20. ISSN: 0967-0106, 1460-3640. <https://doi.org/10.1177/09670106241283282>.
- Liang, Yunzhang. 2025. ""Sex-realist advocate" Helen Joyce speaks at Balliol amidst backlash." Accessed May 18, 2025. <https://www.oxfordstudent.com/2025/02/18/sex-realist-advocate-helen-joyce-speaks-at-balliol-amidst-backlash/>.
- Madrigal-Borloz, Victor. 2020. *Practices of so-called "conversion therapy"*. UN Report A/HRC/44/53. United Nations Human Rights Council, May. <https://www.ohchr.org/en/stories/2020/07/conversion-therapy-can-amount-torture-and-should-be-banned-says-un-expert>.
- Melley, Brian. 2024 [in en], December. Accessed May 18, 2025. <https://apnews.com/article/britain-puberty-blockers-banned-indefinitely-8993f4c3251aad55521fa4ed987fc58>.

- Melley, Brian, Jill Lawless, and Sylvia Hui. 2025. "UK's top court says definition of a woman is based on biological sex." Accessed May 18, 2025. <https://apnews.com/article/uk-supreme-court-decision-definition-woman-scotland-1a61bea0c26c13cf34864f696a1a5f0c>.
- Mendeleev.com. n.d. "Periodic table of elements." Accessed May 18, 2025. <https://www.mendeleev.com>.
- Moore, Mallory. 2022. "NHS Trust uses "Gender Exploratory" training materials promoting conversion therapy lobbyists." Accessed May 18, 2025. <https://transsafety.network/posts/gender-exploratory-nhs-training>.
- Muschialli, Luke, Connor Luke Allen, Evelyn Boy-Mena, Aiysha Malik, Christina Pallitto, Åsa Nihlén, and Lianne Gonsalves. 2024. "Perspectives on conducting "sex-normalising" intersex surgeries conducted in infancy: A systematic review." *PLOS Global Public Health* 4, no. 8 (August): e0003568. ISSN: 2767-3375. <https://doi.org/10.1371/journal.pgph.0003568>.
- O'Thompson, Jess. 2025. "On sex, the Supreme Court has brought only doubt" [in en]. Accessed May 18, 2025. <https://www.prospectmagazine.co.uk/ideas/identity/equality/69803/supreme-court-judgment-sex-trans-rights>.
- Obulutsa, George, and Hugh Lawson. 2023. "Museveni says Uganda won't be swayed after anti-LGBTQ law triggers aid cut threats" [in en], June. Accessed May 18, 2025. <https://www.reuters.com/world/africa/museveni-says-uganda-wont-be-swayed-after-anti-lgbtq-law-triggers-aid-cut-2023-06-01/>.
- Omi, Michael, and Howard Winant. 2015. *Racial formation in the United States* [in eng]. Third edition. New York London: Routledge Taylor & Francis Group. ISBN: 9780415520980.
- Oyèwùmi, Oyèrónké. 1997. *The invention of women: making an African sense of western gender discourses* [in eng]. Minneapolis: University of Minnesota Press. ISBN: 9780816624416.
- Papachristou, Lucy. 2023. "Russian Duma completes passage of bill banning gender change," July. Accessed May 18, 2025. <https://www.reuters.com/world/europe/russian-duma-completes-passage-bill-banning-gender-change-2023-07-14/>.
- Perry, Sophie. 2025. "Turkey's president attacks "perverse" LGBTQ+ community" [in en-US], January. <https://www.thepinknews.com/2025/01/14/turkey-erdogan-lgbtq-year-of-the-family/>.

- Quay, Grayson. 2022. "A woman according to Rep. Madison Cawthorn: "XX chromosomes, no tallywhacker"," April. Accessed May 18, 2025. <https://the-week.com/lgbtq/1012159/a-woman-according-to-rep-madison-cawthorn-xx-chromosomes-no-tallywhacker>.
- QueerAF. 2025. "Trans judge taking UK to European Court Of Human Rights speaks out during Trans+ History Week [Youtube video]." Accessed May 18, 2025. <https://youtu.be/IPU6XN4lOvw>.
- Quine, W. V. 1951. "Main Trends in Recent Philosophy: Two Dogmas of Empiricism." *The Philosophical Review* 60, no. 1 (January): 20. ISSN: 00318108. <https://doi.org/10.2307/2181906>. <https://www.jstor.org/stable/2181906?origin=crossref>.
- Rafferty, Jason, Michael Yogman, Rebecca Baum, Thresia B. Gambon, Arthur Lavin, Gerri Mattson, Lawrence Sagin Wissow, et al. 2018. "Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents" [in en]. *Pediatrics* 142, no. 4 (October): e20182162. ISSN: 0031-4005, 1098-4275. <https://doi.org/10.1542/peds.2018-2162>. <https://publications.aap.org/pediatrics/article/142/4/e20182162/37381/Ensuring-Comprehensive-Care-and-Support-for>.
- Rathus, Spencer A., Jeffrey S. Nevid, and Lois Fichner-Rathus. 2011. *Human sexuality in a world of diversity* [in eng]. 8th ed. Boston: Allyn & Bacon. ISBN: 9780205786060.
- Raymond, Janice G. 1994. *The transsexual empire: the making of the she-male*. Athene series. New York: Teachers College Press. ISBN: 9780807762721.
- Richardson, Sarah S. 2015. *Sex itself: the search for male and female in the human genome* [in eng]. Paperback edition. Chicago London: The University of Chicago Press. ISBN: 9780226084688.
- Riedel, Samantha. 2023. "Russia Bans LGBTQ+ Activism, Declaring It an Extremist Movement" [in en-US], November. Accessed May 18, 2025. <https://www.them.us/story/russia-bans-lgbtq-activism-declaring-it-an-extremist-movement>.

- Ross, Maeghan B., Hiba Jahouh, Margriet G. Mullender, Baudewijntje P. C. Kreukels, and Tim C. Van De Grift. 2023. "Voices from a Multidisciplinary Healthcare Center: Understanding Barriers in Gender-Affirming Care—A Qualitative Exploration" [in en]. *International Journal of Environmental Research and Public Health* 20, no. 14 (July): 6367. ISSN: 1660-4601. <https://doi.org/10.3390/ijerph20146367>. <https://www.mdpi.com/1660-4601/20/14/6367>.
- Rowling, J. K. (jk.rowling). 2020. "'People who menstruate.' I'm sure there used to be a word for those people. Someone help me out. Wumben? Wimpund? Woomud?," June. Accessed May 18, 2025. <https://x.com/jk.rowling/status/1269382518362509313>.
- . 2024. "Could any picture sum up our new men's rights movement better?," August. Accessed May 18, 2025. https://x.com/jk_rowling/status/1819007216214573268.
- Saketopoulou, Avgi, and Ann Pellegrini. 2024. *Gender without identity*. New York, NY: The Unconscious in Translation. ISBN: 9781942254195. <https://www.uitbooks.com/shop/gender-without-identity>.
- Sartre, Jean-Paul. 1995. *Anti-Semite and Jew*. New York: Schocken. ISBN: 9780805210477.
- Saussure, Ferdinand de, Charles Bally, Albert Sechehayé, and Albert Riedlinger. 1959. *Course in general linguistics* [in engfre]. Edited by Charles Bally, Albert Sechehayé, and Albert Riedlinger. Translated by Wade Baskin. LaSalle, Ill: Open Court. ISBN: 9780812690088.
- Shakespeare, Tom. 2014. *Disability rights and wrongs revisited* [in eng]. Second edition. London: Routledge (Publisher). ISBN: 9780415527613.
- Spiked. 2025. "'The madness is over' Helen Joyce on the Supreme Court trans ruling," April. Accessed May 18, 2025. <https://www.youtube.com/watch?v=lWIa6PCFHgI&feature=youtu.be>.
- Stoller, Robert J. 1984. *Sex and Gender: The Development of Masculinity and Femininity* [in eng]. London: New York: Science House. ISBN: 0701203218.
- Stone, Sandy. 1992. "The Empire Strikes Back: A Posttranssexual Manifesto." *Camera Obscura: Feminism, Culture, and Media Studies* 10, no. 2 (May): 150–176. ISSN: 0270-5346, 1529-1510. <https://doi.org/10.1215/02705346-10-2-29-150>.

- The White House. 2025. “Defending Women From Gender Ideology Extremism And Restoring Biological Truth To The Federal Government,” January. Accessed May 18, 2025. <https://federalregister.gov/d/2025-02090>.
- Times News. 2025. “Badenoch hails Supreme Court ruling on gender definition [Youtube video].” Accessed May 18, 2025. <https://youtu.be/rJgadR0mxmQ>.
- Trans Legislation Tracker. n.d. “anti-trans bills tracker.” Accessed May 18, 2025. <https://translegislation.com>.
- Van De Grift, Tim C., Casper Martens, Lisa Van Ginneken, and Margriet G. Mullender. 2024. “Waiting for transgender care and its effects on health and equality: a mixed-methods population study in the Netherlands” [in en]. *eClinicalMedicine* 73 (July): 102657. ISSN: 25895370. <https://doi.org/10.1016/j.eclinm.2024.102657>. <https://linkinghub.elsevier.com/retrieve/pii/S2589537024002360>.
- Vogel, Lisa. 1977. “Sister,” June. Accessed May 18, 2025. <http://eminism.org/michigan/1977-lettertooliviarecords.pdf>.
- Wakefield, Lily. 2022. “Conversion therapy ban delayed by equalities minister Kemi Badenoch,” October. Accessed May 18, 2025. <https://www.thepinknews.com/202...1/conversion-therapy-ban-kemi-badenoch/2/10/31/conversion-therapy-ban-kemi-badenoch>.
- Walsh, Matt. 2022. *What is a woman?: one man’s journey to answer the question of a generation*. DW Books. ISBN: 9781956007008. <https://store.dailywire.com/collections/books/products/what-is-a-woman-one-mans-journey-to-answer-the-question-of-a-generation-by-matt-walsh>.
- Ward, Myah. 2022. “Blackburn to Jackson: Can you define ‘the word woman’?” Accessed May 18, 2025. <https://www.politico.com/news/2022/03/22/blackburn-jackson-define-the-word-woman-00019543>.
- Wenger, Nanette K. 2004. “You’ve Come a Long Way, Baby: Cardiovascular Health and Disease in Women: Problems and Prospects.” *Circulation* 109, no. 5 (February): 558–560. ISSN: 0009-7322, 1524-4539. <https://doi.org/10.1161/01.CIR.0000117292.19349.D0>.
- Wikipedia. 2025a. “Adult human female.” Accessed May 18, 2025. https://en.wikipedia.org/wiki/Adult_human_female.
- . 2025b. “Scientific racism: Wikipedia, The Free Encyclopedia.” Accessed May 18, 2025. https://en.wikipedia.org/wiki/Racial_realism.

- Winn, Stephanie. 2025. "Helen Joyce Returns: Why Sex Matters in Life and Law." Accessed May 18, 2025. <https://share.transistor.fm/s/2cfc8153>.
- Zar, Jerrold H. 2010. *Biostatistical analysis*. 5th ed. Upper Saddle River, N.J: Prentice-Hall/Pearson. ISBN: 9780131008465.
- Zengarini, Lisa. 2024. "Pope Francis: Gender ideology is the ugliest danger of our time" [in en], March. Accessed May 18, 2025. <https://www.vaticannews.va/en/pope/news/2024-03/pope-francis-gender-ideology-is-the-ugliest-danger-of-our-time.html>.