

## MEDICINE AND SOCIETY

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## The Political Nature of Sex — Transgender in the History of Medicine

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On July 18, 2016, the final rule of the Department of Health and Human Services (HHS) implementing Section 1557 of the Affordable Care Act regarding gender nondiscrimination went into effect. Advocates were relieved that the law now included protections against discrimination in health care “on the basis of sex” that applied to transgender patients. These protections ensured that patients were treated in a manner consistent with their gender identity and, among other safeguards, helped U.S. transgender patients access gender-affirming therapy. Four years later, under the Trump administration, HHS proposed revising this rule so that antidiscrimination provisions would apply only to “male or female and as determined by biology.” Advocates for transgender rights feared the rollback would jeopardize specific health services and leave trans people especially vulnerable to discrimination. On June 15, 2020, the U.S. Supreme Court in *Bostock v. Clayton County* held that the prohibition on discrimination in employment “because of . . . sex” in Title VII of the Civil Rights Act of 1964 applies to gender identity and sexual orientation. On the night of his inauguration, on January 20, 2021, President Joe Biden issued a wide-ranging executive order to enforce the court’s ruling and to prevent and combat discrimination on the basis of gender identity and sexual orientation.

The Trump administration’s proposed change, the Supreme Court ruling, and Biden’s executive order are perhaps the most high-profile and consequential illustration that the definition of sex has become a highly contested and polarizing issue in contemporary society and political debates. Yet historians of medicine recognize that the relevant moral and scientific questions, which seem so utterly modern, touch on age-old themes in medical understanding.

In our current cultural moment, discussions about whether sex and gender are spectrums or dichotomies have taken center stage. Defenders of transgender rights are often accused of pushing identity politics or “gender ideology.” But the current situation has not appeared out of the blue: attempts to define sex and gender have been a recurrent theme in medical history, and because the topic of transgender rights is necessarily also a medical one, this legacy underpins the current debates. A greater awareness of this history can help doctors become more responsible, empathetic, and reflective when we meet with transgender and gender-nonconforming patients.

While biologists have rooted a definition of sex in the evolution of species and the capability of producing small or large gametes, doctors have been confronted with a practical challenge: treating patients whose bodies or identities cannot easily be categorized as either male or female. The history of sex in medicine is therefore also a history of doctors adopting and modifying theories of sex to the task of practicing medicine. But even if doctors have often based their definitions on physical characteristics — gametes, gonads, internal reproductive organs, external genitalia, hormones, chromosomes, and genes — medical understandings of sex have evolved with technological developments and in response to political, bureaucratic, and legal demands, such as a desire to provide clear-cut answers in criminal cases or to promote the cultural ideal of marriage.

Knowledge production about sex, however, has not been a one-way street from experts to laypeople. People with bodies, identities, or desires that did not fit societal norms have pushed back, asserted agency and self-definition, and shaped categories in therapeutic and research

settings. And historically, scientific and medical understandings of sex have shifted largely by attending to “anomalous” forms of embodiment and identities — a pattern illustrated by five cases: the hermaphrodite, the homosexual, the intersex body, the transsexual, and the transgender person.

THE HERMAPHRODITE: SEX BETWEEN  
DICHOTOMY AND SPECTRUM

For a long time, two fundamentally different models of sex existed in science and medicine — the binary and the spectrum — and each had social implications. For early modern writers, the “hermaphrodite” threw into question medical and scientific theories and classifications. Work in the tradition of Aristotle conceived of sex as polar opposites: the heat of the heart determined sex, and hermaphroditism was merely a matter of the genitals rather than the organism as a whole. Although genitalia could be ambiguous, sex was binary.

Writers following Hippocrates and Galen, by contrast, saw sex as a product of both the maternal and paternal seed and the left and right sides of the uterus. This set of variables opened up a variety of intermediate phenotypes that threatened a binary model of sex. The obsession with the hermaphrodite among medical writers in the mid-16th century can be seen as a manifestation of a revival of Hippocratic theories and of a broad “male anxiety” about sexual ambiguity and immoral conduct. Hermaphroditism became emblematic of all kinds of sexual ambiguity, including sodomy and transvestism, which illustrated how the definition of sex responded to moral and political questions in society.<sup>1</sup>

THE HOMOSEXUAL: INSEPARABILITY  
OF SEX AND SEXUALITY

Another “anomalous” figure that has played an important role in the creation of sex is the homosexual. In medicine in the late 19th and early 20th centuries, the concept of gender did not exist, and sex and sexuality were intertwined and inseparable. Psychiatrists in the German-speaking world began to categorize and pathologize people whose identities and bodies violated the heterosexual norm of sexuality and binary understandings of sex. The prominent Berlin

psychiatrist Carl Westphal, for instance, coined the term “contrary sexual feeling,” which tied together the phenomena of cross-dressing and same-sex attraction.<sup>2,3</sup> In *Psychopathia Sexualis*, the psychiatrist Richard von Krafft-Ebing expanded sexual psychopathological theory into a complex taxonomic system of “sexual perversions.”<sup>4</sup> He divided “contrary sexual feeling” into acquired and congenital forms that were expressed to a greater or lesser degree: homosexuality represented an early stage, whereas “metamorphosis sexualis paranoica” was defined as the delusional idea of sex transformation or the feeling of belonging to the “other” sex.<sup>5</sup>

A broad constellation of sexual perversions, from homosexuality and a gender identity incongruent with birth sex to somatic manifestations such as the masculinization or feminization of secondary sex characteristics, were fundamental to late 19th-century theories of sexual pathology. Contemporary understandings of sexuality as distinct from sex or gender identity would have made little sense to late 19th-century psychiatrists.

Like some psychiatrists, activists in the homosexual liberation movement of the late 19th century also evoked biology in arguing that homosexuality was congenital. One early activist, Karl Heinrich Ulrichs, argued that homosexuals (or “urnings”) belonged to a “third sex,” a woman’s soul in a male body, referring back to Aristophanes’ tale of the origin of love in Plato’s *Symposium*, which depicted three original beings of three different sexes.<sup>6,7</sup> In opposing punishment for homosexuals, doctors and sexologists in the sexual reform movement argued that homosexuality had congenital causes and was part of human variation, not immoral conduct or a psychiatric disorder. Challenging both sexual pathology and psychoanalytic reasoning, the physician and sexual reformist Magnus Hirschfeld’s theory of “intermediate sexual stages” placed sex and sexuality on a spectrum, evoking biologic and endocrinologic arguments: “It cannot be repeated often enough” Hirschfeld wrote, “that the human being is not man or woman but man *and* woman.”<sup>8</sup>

By the late 19th century, gonads had become the primary marker of a patient’s sex — this period is sometimes called “the age of the gonads”<sup>9</sup> — but cases emerged that puzzled doctors, who had to use other criteria in trying to determine sex unequivocally.<sup>10</sup> The increased influence of genetic and endocrinologic research on medi-

cine in the late 19th and early 20th centuries further undermined strict gonadal criteria.<sup>11</sup>

The birth of psychoanalysis in the early 1900s and the advent of psychosexuality and considerations of the patient's own experience of a gendered self added complexity to the concept of sex.<sup>12</sup> Sex was not understood as a binary biologic category in scientific and medical discourse at that time, as it often is today: bisexuality was not limited to sexuality but referred to an inert, latent potential in every human being to develop in a male or female direction.

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TRANSSEXUAL AND INTERSEX PEOPLE:  
INTERVENING IN THE BODY

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Doctors' handling of transsexual and intersex patients has been fundamental to contemporary understandings of sex. But historically, these categories have also been fluid. In Berlin in the 1920s, doctors at Hirschfeld's Institut für Sexualwissenschaft performed the first sex-reassignment surgeries on "transsexual" people, embracing a bisexual, endocrinologic, and sexologic framework of sex.<sup>3,12</sup> The United States, however, lacked a similar medical understanding of transsexual identity and embodiment, so when people we would now consider transgender contacted the Johns Hopkins Hospitals for care, they used the language of intersex to obtain similar treatment. Their doctors nonetheless considered these patients to be homosexual, thereby precluding any form of medical treatment and prohibiting the emergence of trans identities in medical discourse.<sup>13</sup>

The approach changed in the second half of the 20th century with the popularization of the concept of "transsexualism" and the creation of university-based gender-identity clinics. The media coverage of American Christine Jorgensen's gender-confirmation therapy in Copenhagen in the early 1950s rapidly spread worldwide, with headlines such as "Ex-GI Becomes Blonde Beauty." Though the treatment protocols were not new, sex seemed to be in flux in new ways, as Jorgensen's story brought the notion of "sex change" to the public and raised awareness of transsexual issues.<sup>14,15</sup> Since synthetic sex hormones had become available in the 1930s and made it easier to modify the body to make it more congruent with peoples' experiences of their inner selves, doctors were increasingly confronted with a fundamental question: Instead of intervening in pa-

tients' bodies, would it not be better to help change the person's identity by other means — for instance, by psychotherapy?

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THE BIRTH OF GENDER:  
REGULATING THE NORMAL

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Doctors defending "sex change therapy," such as the endocrinologist Harry Benjamin, staunchly rejected this notion, and their practice of offering hormonal and surgical treatment rested on complex theories of child development proposed by psychologists and doctors working with intersex children at Johns Hopkins Hospital.<sup>16,17</sup> The Hopkins team's research and clinical work led them to a new concept that would gain paramount importance for modern societies: *gender*.<sup>18-20</sup>

In the 1950s, John Money and colleagues published a series of articles in the *Bulletin of the Johns Hopkins Hospital*<sup>21-24</sup> in which they claimed, on the basis of examinations of numerous "hermaphrodites," that the most reliable "prognosticator" of a person's gender role was the "sex of assignment," not biologic categories of chromosomal sex, gonadal sex, hormonal sex, internal reproductive structure, or morphology of external genitalia. They therefore discarded the idea that psychological or social sex was biologically or genetically predetermined and developed a model of "gender identity or role" formation based on a behavioral-adaptational framework: the first 18 months of life represented a crucial window in which one's gender identity could be molded, after which it would become cemented. The crucial concept was "imprinting": since bodily morphology and child rearing interacted in a complex biosocial matrix, the presence of "ambiguous" genitalia threatened the formation of a firm, univocal gender identity or role as either man or woman. Therefore, the genitals of intersex babies should be made as "normal looking" as possible, meaning unambiguously masculinized or feminized, using hormones and surgery. After surgery, parents were told never to talk to their children about this part of their past and to raise them according to the gender and sex the professionals had assigned. Later studies nonetheless showed that the doctors' blind belief in gender identity's social changeability was wrong.<sup>25,26</sup>

In other words, the concept of gender once again opened up an understanding of sex as plastic, but not in the sense that it represented a

plurality of ways of expressing gender: the treatment protocol was underpinned by a fragile concept of gender that hinged on the belief that bodies and gender roles must be aligned and the normative idea that a good life depended on being unambiguously gendered and sexed.<sup>13</sup> The psychoanalyst Robert Stoller, who helped establish the Gender Identity Center at UCLA in the 1960s, refined these theories into a concept of “core gender identity.”<sup>27</sup> Gender identity’s unchangeability would become an axiom and justification for future gender-affirming therapy. Hence, gender, a concept that would become a crucial resource for feminists in challenging patriarchal structures — systemic inequalities often justified with reference to biologic differences between men and women — originally came from medicine and protected the integrity of the binary model of sex.<sup>28,29</sup>

Toward the turn of the century, activists and trans people increasingly took issue with the tendency of the medicalized concept of transsexualism and the concept of the “wrong body” to reduce and delimit trans people’s identities and experiences.<sup>30</sup> The term “transgender,” which emerged in the 1990s, was a response to this problem, allowing for myriad nonconforming and nonnormative forms of gender identity and expression.<sup>14</sup>

the Department of Housing and Urban Development proposed allowing homeless shelters to discriminate against transgender people by admitting people according to “biological sex,” and it provided a list of characteristics for identifying trans women, including height, facial hair, and Adam’s apples.

Yet when the Trump administration sought to establish a legal definition of sex based on inspection of external genitals and genetic testing, the editors of *Nature* responded by declaring that “anatomy does not define gender”: “The research and medical community now sees sex as more complex than male and female, and gender as a spectrum that includes transgender people and those who identify as neither male nor female.”<sup>31</sup> Major scientific and medical organizations such as the Endocrine Society have used genetic and neuroradiologic research to argue that gender identity is not a mere “social construct” but also the product of biology.<sup>32</sup> And the American Medical Association has adopted a policy on educating the medical community and the public about the “medical spectrum of gender,” including the recognition that “an individual’s genotypic sex, phenotypic sex, sexual orientation, gender and gender identity are not always aligned or indicative of the other” and that gender may differ from sex assigned at birth.<sup>33</sup>

MOBILIZING BIOLOGY

A milestone in transgender history occurred in 2019, when the World Health Organization removed “gender identity disorder” from the chapter on mental illnesses in the *International Classification of Diseases* and replaced it with a new diagnosis of “gender incongruence” in a new chapter on sexual health. Transgender people were thus no longer labeled mentally ill, and trans, nonbinary, and gender-nonconforming identities were recognized as expressing human variation.

Nevertheless, various groups, including social conservatives, have opposed transgender rights, and some feminists, including the author J.K. Rowling, have instrumentalized biology to oppose a U.K. law on gender self-declaration, arguing that “sex is real.” The Trump administration decided that transgender personnel cannot serve in the U.S. military except in their assigned birth sex, a decision that was revoked by President Biden on January 25. Under the Trump administration,

LOOKING THROUGH NATURE

These examples demonstrate how transgender rights trigger discussions about the nature of sex. But that effect is nothing new: repeatedly throughout the history of Western thought, “nature” has provided a rich resource for shaping norms, settling categories, and stabilizing concepts of normality.<sup>34</sup> What counts as natural and what role nature plays in the order of things, however, are historically contingent. In the center of the medieval and Renaissance concept of nature, for instance, stood the goddess Natura, who protected heterosexual sex and the continuation of the human species. Since the word “nature” became a synonym for the genitals, the “hermaphrodite” became a site for demonstrating not only natural variation but also nature’s normative role in protecting the moral order.<sup>1</sup>

In the history of medicine, the common has often been equated with the normal. In the past 150 years, we’ve seen how diagnostic and classificatory systems have pathologized and stigmatized

people whose bodies, identities, or desires did not fit social norms. However, history also provides examples of doctors listening to the needs of trans and intersex patients and using medical knowledge to provide empathetic care. By shaping and guarding the concept of sex, doctors have enabled some bodies and ways of living while invalidating others. Ultimately, the medical categories of homosexuality, intersex, and transsexualism have shaped contemporary understandings of sex.

The process of working out the concepts of sex and gender continues in relation to trans people. The inclusion, removal, and reinsertion of gender nondiscrimination in the Affordable Care Act are just another reminder of the inseparability of politics from the scientific boundaries of sex and gender. The history of medicine offers an antidote to the notion that we are simply looking at “nature” when we see sex and gender: what counts as sex and gender is historically changeable, morally infused, and politically loaded.

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