

Nelly Oudshoorn, "Sex and the Body," *Beyond the Natural Body: An Archaeology of Sex Hormones*, New York: Routledge, 1994: 6-11.

... The myriad ways in which scientists have understood sex provide many illuminating counterexamples to the argument that sex is an unequivocal, ahistorical attribute of the body that, once unveiled by science, is valid everywhere and within every context. Early medical texts in particular challenge our present-day perceptions of male and female bodies. For our post-modern minds it is hard to imagine that for two thousand years, male and female bodies were not conceptualized in terms of differences. Medical texts from the ancient Greeks until the late eighteenth century described male and female bodies as fundamentally

Nelly Oudshoorn is a historian of science. This excerpt from her work presents a historical view of how differences between male and female bodies have been understood in scientific and biological thought in European culture since the sixteenth century. Oudshoorn shows us that knowledge about gender changes with time and place.

was only skin deep, limited to differences in the reproductive organs. For Vesalius, the father of anatomy, "sex studied parts of the body other than the reproductive organs is also present in the texts of anatomists who

This emphasis on similarities rather than differences simply did not exist (Laqueur 1990: 5, 96). We are now familiar with, such as vagina and clitoris, thus referring again to the male organ. The language of its own, but was described as the female testicle, organs. The ovary, for instance, did not have a name anatomical nomenclature for female reproductive such an extent that medical texts lacked a specific model" dominated biomedical discourse, even to the male penis. For thousands of years the "one-sex" that one could believe them to be representations of stress their resemblance to male genitalia so vividly period show drawings of the female genitalia that male body (Laqueur 1990). Medical textbooks of this self," not a different sex, but a lesser version of the body was understood as a "male turned inside her-Thomas Laqueur as the "one-sex model," the female not outside it." In this approach, characterized by with one difference: "theirs are inside the body and similar. Women had even the same genitalia as men,

Nelly Oudshoorn

SEX AND THE BODY

READING A

Sex Differences and Changing Ideas of Gender

SECTION ONE

outline of the body and the organs of reproduction. In his view, all other organs were interchangeable between the sexes" (Schiebinger 1989: 189). In his beautiful drawings of the skeleton in *Epitome*, an anatomical atlas that appeared in 1543, Vesalius did not give a sex to the bony structure of the body (Schiebinger 1989: 182). This (as we would now perceive it) "indifference" of medical scientists to bodily differences between the sexes does not seem to be a consequence of ignorance of the female body. Since the fourteenth century, the dissection of women's bodies was part of anatomical practice (Schiebinger 1989: 182). According to Laqueur, the stress on similarities, representing the female body as just a gradation of one basic male type, was inextricably intertwined with patriarchal thinking, reflecting the values of an overwhelmingly male public world in which "man is the measure of all things, and woman does not exist as an ontologically distinct category" (Laqueur 1990: 62).

It was only in the eighteenth century that biomedical discourse first included a concept of sex that is more familiar to our present-day interpretations of the male and the female body. The long-established tradition that emphasized bodily similarities over differences began to be heavily criticized. In the mid-eighteenth century, anatomists increasingly focused on bodily differences between the sexes and argued that sex was not restricted to the reproductive organs, or as one physician put it: "the essence of sex is not confined to a single organ but extends, through more or less perceptible nuances, into every part" (Schiebinger 1989: 189). The first part of the body to become sexualized was the skeleton. If sex differences could be found in "the hardest part of the body," it would be likely that sex penetrated "every muscle, vein, and organ attached to and molded by the skeleton" (Schiebinger 1989: 191). In the 1750s, the first female skeletons appeared in medical textbooks. Londa Schiebinger has described how anatomists paid special attention to those parts of the skeleton that would become socially significant, amongst which was the skull. The depiction of the female skull was used to prove that women's intellectual capacities were inferior to those of men (Schiebinger 1986). The history of medicine in this period contains many illustrations of

similar reflections of the social role of women in the representation of the human body. Anatomists of more recent centuries "mended nature to fit emerging ideals of masculinity and femininity" (Schiebinger 1989: 203).¹ In nineteenth-century cellular physiology the medical gaze shifted from the bones to the cells. Physiological "facts" were used to explain the passive nature of women. The biomedical sciences thus functioned as an arbiter in sociopolitical debates about women's rights and abilities (Laqueur 1990: 6, 215).

By the late nineteenth century medical scientists had extended this sexualization to every imaginable part of the body: bones, blood vessels, cells, hair, and brains (Schiebinger 1989: 189). Only the eye seems to have no sex (Honegger 1991: 176). Biomedical discourse thus shows a clear shift in focus from similarities to differences.² The female and the male body now became conceptualized in terms of opposite bodies with "incommensurably different organs, functions, and feelings" (Laqueur 1990: viii).

Following this shift, the female body became the medical object par excellence (Foucault 1976), emphasizing woman's unique sexual character. Medical scientists now started to identify the "essential features that belong to her, that serve to distinguish her, that make her what she is" (Laqueur 1990: 5). The medical literature of this period shows a radical naturalization of femininity in which scientists reduced woman to one specific organ. In the eighteenth and nineteenth centuries scientists set out to localize the "essence" of femininity in different places in the body. Until the mid-nineteenth century, scientists considered the uterus as the seat of femininity. This conceptualization is reflected in the statement of the German poet and naturalist Johann Wolfgang von Goethe (1749–1832): *Der Hauptpunkt der ganzen weiblichen Existenz ist die Gebaermutter* (The main point [or the essence] of the entire female existence is the womb) (Medvei 1983: 213).

In the middle of the nineteenth century, medical attention began to shift from the uterus to the ovaries, which came to be regarded as largely autonomous control centers of reproduction in the female animal, while in humans they were thought to be the "essence" of femininity itself (Gallagher and Laqueur 1987: 27). In 1848, Virchow (1817–1885),

often portrayed as the founding father of physiology, characterized the function of the ovaries:

It has been completely wrong to regard the uterus as the characteristic organ. . . . The womb, as part of the sexual canal, of the whole apparatus of reproduction, is merely an organ of secondary importance. Remove the ovary, and we shall have before us a masculine woman, an ugly half-form with the coarse and harsh form, the heavy bone formation, the moustache, the rough voice, the flat chest, the sour and egotistic mentality, and the distorted outlook . . . in short, all that we admire and respect in woman as womanly, is merely dependent on her ovaries.

(Medvei 1983: 215)

The search for the female organ par excellence was not just a theoretical endeavor. The place in the body where the “essence” of femininity was located became the object of surgical interventions. The ovaries, perceived as the “organs of crises,” became the paradigmatic object of the medical specialty of gynecology that was established in the late nineteenth century (Honegger 1991: 209, 211). The medical attention given to the ovaries resulted in the widespread practice of surgical operations for removal of the ovaries in many European countries, as well as in the United States. In the 1870s and 1880s, thousands of women were subjected to this drastic procedure for the treatment of menstrual irregularities and various neuroses (Corner 1965: 4).

Early in the twentieth century, the “essence” of femininity came to be located not in an organ but in chemical substances: sex hormones. The new field of sex endocrinology introduced the concept of “female” and “male” sex hormones as chemical

KEY TERMS

biomedical The biology of bodies; basis of medical knowledge.

discourse A concept drawn from the work of Michel Foucault, the French historian and philosopher of the late twentieth century, that refers to a dominant or powerful way of thinking.

messengers of femininity and masculinity. This hormonally constructed concept of the body has developed into one of the dominant modes of thinking about the biological roots of sex differences. Many types of behavior, roles, functions, and characteristics considered as typically male or female in Western culture have been ascribed to hormones.³ In this process, the female body, but not the male body, has become increasingly portrayed as a body completely controlled by hormones. At this moment, the hormones estrogen and progesterone are the most widely used drugs in the history of medicine. These substances are a popular means of controlling fertility and are used for numerous other purposes: as mensturation regulators or abortifacients, in pregnancy tests, and as specific medications for female menopause. Hormones are produced by pharmaceutical companies and delivered to women through a worldwide distribution network, including Third World countries (Wolters et al. 1989: 27). This was not so a century ago. Our grandmothers did not know of any hormones: estrogen and progesterone as such did not exist in the nineteenth century. The concept of hormones was coined in 1905, and it took two decades before pharmaceutical companies began the mass production of hormones. Nowadays millions of women take hormonal pills and many of us have adopted the hormonal model to explain our bodies.

[. . .] Feminist studies have pointed out that cultural stereotypes about women and men play an important role in shaping scientific theories. The major question that emerges then is: to what extent do scientists use cultural notions in their research practice?

gender The assignment of masculine and feminine characteristics to bodies in cultural contexts.

sex The categories of male and female and the biological characteristics and properties of bodies placed in these categories.

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1. Ludmilla Jordanova gave another striking example in her analysis of the representation of the female and male body in the wax models used for making anatomical drawings in the biomedical sciences in France and Britain in the eighteenth and nineteenth centuries. She described how these wax models depict male figures as active agents and females as the passive objects of sexual desire. These female figures, or "Venuses," lie on the velvet or silk cushions, whereas male figures are usually upright, and often in positions of motion, thus reflecting the cultural stereotypes of the active male and the passive female (Jordanova 1980: 54).
2. This shift seems to have been caused by epistemological and sociopolitical changes rather than by scientific progress. In *Making Sex*, Thomas Laqueur described this shift in the context of changes in the political climate. The French Revolution and new liberal claims in the seventeenth century led to new ideals about the social relationships between men and women, in which the complementarity between the sexes was emphasized. This theory of complementarity "taught that men and women are not physical and moral equals but complementary opposites." Women now became viewed as "fundamentally different from, and thus incomparable to, men" (Laqueur 1990: 32, 216, 217). The theory of sexual complementarity was meant to keep women out of competition with men, designing separate spheres for men and women. In this theory, which came to be known as the "doctrine of the two spheres," the sexes were expected to complement, rather than compete with, each other.
The shift from studying similarities to differences was not caused by new scientific findings; on the contrary, Laqueur described how scientific literature provided many new discoveries which could have strengthened the one-sex model. The new field of embryology, for instance, claimed that reproductive organs "begin from one and the same embryonic structure," offering support to the earlier belief in the similarity between male and female reproductive systems (Laqueur 1990: 169). However, Laqueur does not present a simple causal model for scientific and political changes: "these social and political changes are not, in themselves, explanations for the reinterpretation of bodies... none of these things caused the making of a new sex body; instead, the remaking of the body is itself intrinsic to each of these developments" (Laqueur 1990: 11).
3. See Briscoe (1978); Fausto-Sterling (1985); Fried (1982); Messent (1976); Money and Ehrhardt (1972); Rogers (1976).

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