



1997


Creating Natural Distinctions

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Recommended Citation (OVERRIDE)

Lindee, S.M. & Nelkin, D. (1997). Creating Natural Distinctions. In Duberman, M. (Ed.), *A Queer World: The Center for Lesbian and Gay Studies Reader*, pp. 309-317. New York: New York University Press.

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Abstract

At the 1991 CLAGS conference on "The Homosexual Brain," Dorothy Nelkin argued that linking homosexual behavior to brain structure reflects in part the growing preoccupation with biological determinism in American culture. Responding to the expectation that defining homosexuality as a biological status will reduce prejudice, she suggested that genetic explanations in fact can serve multiple social agendas. In particular, they have in the past been used to justify social stereotypes and persistent inequities as "natural" and therefore inevitable. Thus, while biological claims could lead to greater tolerance for human differences, they can also lead to pernicious abuse. Ultimately, it is not biology but common beliefs and social biases that shape social policies.

The appropriation of genetic explanations is the subject of a book by Dorothy Nelkin and M. Susan Lindee, *The DNA Mystique: The Gene as a Cultural Icon*. The following material, excerpted from this book, contains the core of Nelkin's 1991 remarks.

Disciplines

Gender and Sexuality | History of Science, Technology, and Medicine | Science and Technology Studies

Creating Natural Distinctions

Dorothy Nelkin and M. Susan Lindee

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The appropriation of genetic explanations is the subject of a book by Dorothy Nelkin and M. Susan Lindee, *The DNA Mystique: The Gene as a Cultural Icon*. The following material, excerpted from this book, contains the core of Nelkin's 1991 remarks.

Biological explanations have long served to justify social inequalities by casting the differential treatment and status of particular groups as a natural consequence of essential, immutable traits. In the 1990s the language of genetic essentialism has given new legitimacy to such explanations. Group differences are appearing in popular culture as genetically driven, encouraging stereotyped images of the nurturing female, the violent African American male, and the promiscuous homosexual. But the images of pathology have moved from gross to hidden body systems. Once blacks were portrayed with large genitalia and women with small brains: today the differences lie in their genes.

The belief in essential differences has been reinforced by scientific studies of body parts such as genes or neurons that seem to explain behavior, as well as

by scientific theories about evolution that seem to biologically ground social practices. Molecular genetics, behavioral genetics, neurobiology, and sociobiology have provided a language through which group differences can be interpreted as biologically determined. These sciences have encouraged the increasing acceptability of genetic explanations and their strategic role in the continuing debates over gender, race, and sexual orientation.

Current interest in the genetic basis of group differences coincides with extraordinary concern about gender roles, ethnic identity, and sexual orientation. Genetic explanations can be used to marginalize groups or—as in the case of some feminists, African Americans, and homosexuals—to celebrate group differences. Some who have traditionally suffered from prevailing biological theories are now embracing biological difference as a source of legitimacy and as evidence of their own superiority.

They shrewdly exploit the discursive power of biological boundaries to promote reformist agendas. Some feminists have celebrated biological difference as a source of special identity or a rationale for equal protection, citing the “creative power that is associated with female biology” and the “native talent and superiority of women.”¹ Controversial Afrocentrist Leonard Jeffries, a professor at City College in New York, has claimed that melanin is “responsible for brain development, the neurosystem and the spinal column”; since African Americans have more of it, they are more creative.² Meanwhile gay activist Simon LeVay has promoted the idea that homosexuality is inborn and unchangeable, for such a claim seems to transform nonconformist sexual behavior from a “lifestyle choice” to a natural imperative.³ These individuals, despite radically different perspectives and conflicting social policy agendas, seem to agree about one thing: in contests over social worth, biology matters. Whoever can successfully argue that biology—and more specifically DNA—supports their particular political viewpoint has a tactical advantage in the public debate.

Neither biological nor environmental explanations of human behavior have an inherent social meaning. Both forms of explanation can be used to justify liberal or conservative causes; both can be applied oppressively, and each can be used to promote greater human freedom. In the last two decades biological determinism has been the target of several well-publicized attacks by leading academic biologists and philosophers. But environmental determinism, too, can be used to limit human rights and constrict groups identified as inferior. In the 1950s and 1960s, for instance, popular interest in the power of the environment reinforced women’s traditional roles as caregivers. It justified the 1950s “back to the home” movement for mothers who had been employed during the war years: if the achievements of children were finely calibrated to their training and environment, then mothers were needed at home and entirely responsible for their children’s behavior.

Biological explanations may reassure threatened groups that they possess special skills and advantages, thereby demonstrating their inherent superiority or worth. When feminist texts promote caring or intuition as unique feminine

skills, they are effectively depicting their readers as advantaged. When men's movement texts celebrate male aggression as biological strength, they are elevating a presumed necessary evil to the status of a positive social good. Both groups are engaged in setting boundaries of identity and delineating criteria of social worth. Here, as in other forums, genes have become a way to establish the legitimacy of social groupings. This function is even more overt in the public debate over the meaning of race.

In the 1980s, growing concerns about domestic problems—the cost of welfare programs, the changing ethnic composition of major cities, and the growing “underclass”—encouraged speculation about the role of genetics in perpetuating poverty and violence. Code phrases like “welfare mother,” “teenage pregnancy,” “inner-city crime,” and “urban underclass” were often indirect references to race. But some public figures did not hesitate to make the connection explicit. Marianne Mele Hall, a Reagan administration appointee, announced in 1992 that African Americans were “conditioned by 10,000 years of selective breeding for personal combat and the anti-work ethic of jungle freedoms.”⁴ Columnist George Will, in a 1991 *Newsweek* column inspired by a speech by Harvard professor James Q. Wilson, proposed that a black “warrior class” in the inner city was a consequence of nature “blunder[ing] badly in designing males.” Men are innately uncivilized, he said, and though socialization has often constrained biology, two “epochal events” have changed this picture: “the great migration of Southern rural blacks to Northern cities and the creation of a welfare state that made survival not dependent on work or charity.”⁵

In the 1990s, race theorists are more and more willing to publicly express their views about genetic differences between ethnic groups and to suggest the significance of such differences for social policy. Michael Levin of City College in New York has not only argued that blacks are less intelligent than whites, but also used his theories to oppose affirmative action. He has asserted that differences in average SAT test scores (which unquestionably exist) are self-evident proof of genetic differences—as though such scores directly reflect innate intelligence. Genetic images appeal to these writers as a way of resisting cultural imperialism and establishing collective identity on the basis of shared identification with a common ethnic heritage.

Afrocentrists are effectively attempting to transform their differences into positive biological strengths. But they share with racist critics the assumption that race is a biological reality with some meaning for this debate.⁶ For gay rights activists, the problems are different; they face the daunting task of redefining a “sin” or a “lifestyle choice” as a biological access to DNA. By 1994, the extravagant publicity launching Herrnstein and Murray's book *The Bell Curve*—an immediate best-seller—moved the debate over genetic differences to center stage.

To protest such constructions, some African Americans have proposed a

counternarrative drawn from a long history of Pan-African ideology, in which black skin is a sign of superiority. In public lectures, Leonard Jeffries presents a view of world history and race biology that celebrates biological differences. "Black Africans of the Nile Valley," he claims, are the source of all science, mathematics, and religion. And melanin, the pigment that makes skin dark, is a crucial biological need. "You have to have melanin to be human. Whites are deficient in it . . . it appears that the creative instinct is affected."⁷ Distinguishing sun people (blacks) from ice people (whites), he is interested in promoting collective identity on the basis of a biological construction of "race."⁸

In the debates over the "homosexual brain" or the "gay gene," nature and nurture have even more complicated meanings.

In August 1991, Simon LeVay, a neuroscientist at the Salk Institute, published a paper in *Science* that linked homosexual behavior to brain structure. LeVay said that homosexual males, like all women, had a smaller hypothalamus than heterosexual males. The hypothalamus is a part of the brain between the brain stem and the cerebral hemispheres, believed to play some role in emotions. It is too small to be effectively examined through contemporary brain imaging techniques such as Positron Emission Tomography (PET scans). LeVay needed, therefore, to study the brains of cadavers. His conclusions were based primarily on the postmortem examination of the brains of forty-one persons, nineteen of them homosexual males who had died of AIDS. He has acknowledged that his findings were open to several interpretations. The size differences in the hypothalamus could indicate a genetic basis of sexual orientation, but they could also be a consequence of behavior; or they could be coincidental, reflecting neither cause nor effect but the presence of some other condition (such as AIDS).

LeVay preferred the genetic explanation, describing his "belief," his "faith" in the biological basis of behavior. Indeed, LeVay's research followed from his personal conviction that "I was born gay." He has stated that virtually all human variation, including detailed personality differences and such cultural preferences as musical taste (Mahler over Bruckner, for example), are biological. LeVay is convinced that children are entirely genetic products. Some children are, from the moment of conception, fated to become gay; if parents have any influence at all, LeVay argues, it is only in the way they respond to the inevitable.

LeVay's claims were later supported by the findings of a team of geneticists led by Dean Hamer at the National Cancer Institute. In 1993 they claimed to locate genes on the X chromosome that predisposed some men toward homosexuality. The X chromosome is inherited in boys, of course, only from the mother. This report and Hamer's popular book on the subject received extensive media coverage and attracted significant public interest.⁹

The research constructing homosexuality as biological had a tactical advan-

tage; it shifted responsibility from the person to the genes. Individual homosexuals had no choice but to behave as they did. It would therefore be unjust for society to discriminate against them, for the Constitution, demanding equal protection, prohibits discrimination on the basis of immutable characteristics.

LeVay thus sought publicity for his research, and his conclusions became a media event, discussed in popular magazines, major newspapers, and television talk shows. The hypothalamus, a little-known organ deep within the brain, became a popular symbol of virility. A Calvin Klein advertising campaign referred to a "hypothalamus-numbing host of imitators." A *Newsweek* article titled "Born or Bred?" explored the implications of the "new research that suggests that homosexuality may be a matter of genetics not parenting." The magazine's cover photo featured the face of an infant, with the headline "Is This Child Gay?"¹⁰ "Is Lesbianism a Matter of Genetics?" asked the headline of another 1993 article. "Little girls are made of sugar and spice and everything nice, and some of them may have a dollop of genetic frosting that increases the likelihood they'll grow up gay."¹¹ Vice President Dan Quayle publicly disagreed, however, insisting that homosexuality "is more of a choice than a natural situation. . . . It is a wrong choice."¹²

The debate was joined on television's *Nightline* in a program on homosexuality. The topic was whether "a newborn infant may already have certain physical differences in the brain that could be distinguished from the brain of an infant that will grow up to be a heterosexual." A leader of the religious right, Jerry Falwell, appeared on the show to insist that homosexuality was not innate but a learned and chosen lifestyle; he worried that the research would be used to legitimate homosexual practices. Meanwhile, host Ted Koppel, referring to a "potentially gay fetus," asked, "Will people abort?" (Extending this idea, a 1993 Broadway play called *Twilight of the Golds* featured a geneticist and his wife who learn through prenatal tests that their unborn son will be gay. After much soul-searching, they abort the fetus; the family is torn apart.)¹³

The media also speculated on the potential effect of genetic research on homophobia. On a segment of the prime-time news show "20/20," Barbara Walters asked, "I wonder if it were proven that homosexuality was biological if there would be less prejudice?"¹⁴ *Newsweek* presented the views of homosexuals who welcomed the research, anticipating that it could reduce animosity. "It would reduce being gay to something like being left-handed, which in fact is all that it is," said Randy Shilts.

But the gay community has been divided about the consequences of genetic identification. Some anticipate abortion of "gay fetuses," increased discrimination empowered by genetic information, or the use of biotechnology to control homosexuality, for example, with excision of the "gay gene" from embryos before implantation.¹⁵ Janet Halley, a law professor, has predicted that essentialist arguments of biological causation will work against constitutional rights and encourage "the development of anti-gay eugenics."¹⁶ The *National Enquirer* responded to research on the "gay gene" with the headline "Simple Injection

Will Let Gay Men Turn Straight, Doctors Report.”¹⁷ And a spokesman for the National Gay and Lesbian Task Force suggested that genetic thinking would give rise to the idea that “by tweaking or zapping our chromosomes and rearranging our cells, presto, we’d no longer be gay.”¹⁸

There is some historical justification for these concerns, since Nazi extermination of homosexuals was grounded in their presumed biological status. And other campaigns by gay activists have had unexpected consequences. The 1973 American Psychiatric Association decision to change the classification in the Diagnostic and Statistical Manual failed to produce the social legitimation anticipated by those who had advocated the change. LeVay himself dismisses such historical precedents. “Those who look to history are condemned to repeat it.”¹⁹

If “Dear Abby” is any indication, however, the biological narrative has influenced popular beliefs about homosexuality. In 1992, when a reader complained about the columnist’s suggestion that homosexuality was a consequence of both nature and nurture, Abigail van Buren responded, “I have always believed that one’s sexuality is not a matter of choice—that homosexuals, like heterosexuals, are born that way. I apologize for my lapse in judgment in buying that nature-nurture theory. I knew better and am profoundly contrite.”²⁰ This strong statement in such a visible source suggests that in the short term, at least, biological explanations have gained ground in the popular understanding.

In the public debates over human differences—for example, the meaning of gender, race, and sexual orientation—genetic images are strategically employed in an effort to delineate boundaries, justify rights, or legitimate inequalities. Genes can be understood in this debate as rhetorical devices that can be utilized in many different ways. They have been used to identify biological differences and give them social meaning—by those, for example, who believe education will make no difference in the social status of black Americans; by those who favor homosexual marriage; by those who promote equality of the sexes; and by those who oppose equality in general.

Biological differences in themselves have no intrinsic social meaning. Skin color is genetic—it is a real biological property—but it became a sign of political and economic difference for specific historical reasons, including the European colonization and exploitation of Africa. Due to the vagaries of evolution and population genetics, African populations happened to have skin that was uniformly darker than that of European populations. If both Africans and Europeans had instead manifested equivalent variation in skin color (displaying skin tones within each group ranging from very light to very dark), skin color would not have been a reliable sign of Continental origin and therefore could not have served as a visible mark of social or economic status. (Perhaps some other biological trait, such as eye color, would have come to stand for racial

difference.) Certainly racial classifications vary across cultures. For example, Brazilian ideas about race, the anthropologist Marvin Harris has observed, would be "inconceivable in the cognitive frame of descent rule" that guides American ideas. Full siblings in Brazil can be assigned to different racial categories if they differ in physical appearance.²¹

Sex, too, has a complicated history as a social category. Thomas Laqueur's work has demonstrated that for much of human history, from classical antiquity to the end of the seventeenth century, men and women functioned in two different social roles but were seen as variations on essentially one biological sex. The boundaries between male and female were understood to be "of degree and not of kind." To Galen, for example, the sex organs of both men and women were basically "the same," the uterus seen as a form of penis, the ovaries a form of the testicles.²² The biological story of difference was rewritten in the midst of the scientific revolution, Laqueur has argued, and two distinct biological sexes became a political necessity by the late eighteenth century on account of economic and social changes.²³ From another perspective, the biologist Anne Fausto-Sterling has noted that people do, biologically, come in more than two sexual forms—some experts estimate that hermaphrodites (individuals who have some combination of both male and female genitalia) account for one in every twenty-five births, or 4 percent of the human population. These intersex individuals are socially invisible because of medical management: such infants are promptly designated male or female and their genitals surgically transformed.²⁴

The existence of the homosexual body, too, depends on culture. In Greece in the fourth and fifth centuries B.C. there was no culturally recognized distinction between heterosexuality and homosexuality. Greek thinkers found nothing surprising in the coexistence of desire for both male and female sexual partners. They were, however, concerned about the control of desire and the uses of pleasure, and Greek texts devote significant attention to questions of control and power, though virtually none to sexual orientation.²⁵

The biological groupings that appear in the contemporary debate, then, are specific historical products, not necessary biological categories. The meaning of these groups as genetically constructed is likewise flexible. Biological differences can become a source of stigmatization (extra math study for girls) or regressive social policy (expecting all mothers to stay home with their children). They can also be a source of political power (legal recognition of homosexual marriage with all attendant benefits, for example). When defined as an unchangeable and fundamental biological attribute, race, sex, or sexual preference can become a source of social support and authenticity that may be particularly valued by groups that have been the focus of past discrimination.

Biological narratives do not inherently oppress. But we argue that they are dangerous precisely because of the cultural importance attached to DNA. These narratives, attributing social differences to genetic differences, are especially problematic in a society that tends to overstate the powers of the gene. Charged

with cultural meaning as the essence of the person, the gene appears to be a powerful, deterministic, and fundamental entity. And genetic explanations—of gender, race, or sexual orientation—construct difference as central to identity, definitive of the self. Such explanations thereby amplify the differences that divide society.

It is especially ironic that DNA has become a cultural resource for the construction of differences, for one of the insights of contemporary genomics research is the profound similarity, at the level of the DNA, among human beings and, indeed, between humans and other species. We differ from the chimpanzee by only one base pair out of a hundred—1 percent—and from each other by less than 0.1 percent. The cultural lesson of the Human Genome Project could be that we are all very much alike, but instead contemporary molecular genetics has been folded into enduring debates about group inferiority. Scientists have participated in these debates by seeking genes for homosexuality and alcoholism, genes for caring, and genes for criminality. This research and the ideological narratives that undergird it have significant social meaning and policy implications.

Notes

1. Alison Jagger, *Feminist Politics and Human Nature* (Sussex: Harvester Press, 1983). See also Deborah L. Rhodes, "The No-Problem Problem: Feminist Challenges and Cultural Change," *Yale Law Journal* 100, 1 (1991):1-62.
2. Jeffries, who has published little scholarly work, is well known because of his work with the New York City Board of Education on curricular reform and his public speeches in the late 1980s and early 1990s. See Eric Pooley, "Doctor J: The Rise of Afrocentric Conspiracy Theories: Leonard Jeffries and His Odd Ideas about Blacks and Whites," *New York Magazine*, 2 September 1991.
3. Simon LeVay, *The Sexual Brain* (Cambridge: MIT Press, 1993).
4. Cited in Micaela di Leonardo, "White Lies, Black Myths," *Village Voice*, 22 September 1992, 31.
5. George F. Will, "Nature and the Male Sex," *Newsweek*, 17 June 1991, 70.
6. David Layzer, "Affirmative Action Is at Least on the Right Track," *New York Times*, 23 June 1990.
7. Pooley, "Dr. J," 34.
8. James Traub, "Professor Whiff," *Village Voice*, 1 October 1991.
9. Dean Hamer et al., "Androgen Involvement in Homosexuality," *American Journal of Human Genetics* 53 (1993): 844-52. Also see Robert Pool, "Evidence for a Homosexuality Gene," *Science* 261 (16 July 1993): 221-91; Dean Hamer, *The Science of Desire* (New York: Simon and Schuster, 1994).
10. David Gelman, "Born or Bred?" *Newsweek*, 24 February 1992, 48-53.
11. This was based on a report of a study published in the *Archives of General Psychiatry* that focused on 108 lesbians with identical and nonidentical twin sisters, plus 32 lesbians with adoptive sisters. The study suggested that sexual preference depended on biology. Identical twins were much more likely to both be lesbians than were fraternal twins or sisters with no genetic relationship. "Most lesbians feel they were born gay," the report said. *Newsweek*, 22 March 1993, 53.

12. Quoted in Karen DeWitt, "Quayle Contends Homosexuality Is a Matter of Choice, Not Biology," *New York Times*, 14 September 1992."
13. The play, by Jonathan Tollins, starred Jennifer Gray.
14. *Twenty/Twenty*, 24 April 1992.
15. See letters to the editor, *New York Times*, 27 July 1993.
16. Janet E. Halley, "Biological Causation of Homosexuality and Constitutional Rights" (public lecture, New York University Law School, 11 October 1993).
17. *National Enquirer*, 10 August 1993.
18. Ron Wilson, "Study Raises Issue of Biological Basis for Homosexuality," *Wall Street Journal*, 30 August 1991.
19. Speech at a CLAGS symposium on "The Homosexual Brain," CUNY Graduate School, New York, 9 December 1991.
20. "Dear Abby" column, "Genes Are Key in Sexual Orientation," *Delaware County Daily Times*, 21 January 1992.
21. Marvin Harris, "Referential Ambiguity in the Calculus of Brazilian Racial Identity," in ed. Norman Whitten Jr. and John Szwed. *Africo-American Anthropology*, (New York: Free Press, 1970), 75-86.
22. Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge: Harvard University Press, 1990), 25-27.
23. *Ibid.*, 201-27.
24. Anne Fausto-Sterling, "The Five Sexes: Why Male and Female Are Not Enough," *Sciences*, March-April 1993, 20-25.
25. We are indebted to Sheila Murnaghan, who, in her talk "Was Sex Different in the Ancient World?" (University of Pennsylvania, 17 February 1994), brought to our attention the extensive recent literature on sex and sexuality in ancient Greece. See also David M. Halperin, John J. Winkler, and Froma Zeitlin, eds., *Before Sexuality* (Princeton: Princeton University Press, 1990).

A Queer World

The Center for Lesbian and
Gay Studies Reader

EDITED BY

Martin Duberman



NEW YORK UNIVERSITY PRESS
New York and London

NEW YORK UNIVERSITY PRESS
NEW YORK AND LONDON

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Library of Congress Cataloging-in-Publication Data
A queer world : the Center for Lesbian and Gay Studies reader / edited
by Martin Duberman.

p. cm.

Includes bibliographical references and index.

ISBN 0-8147-1874-4 (clothbound : alk. paper). — ISBN

0-8147-1875-2 (paperbound : alk. paper)

1. Homosexuality. I. Duberman, Martin B.

HQ76.Q44 1997

306.76'6—dc21

96-53390

CIP

New York University Press books are printed on acid-free paper,
and their binding materials are chosen for strength and durability.

Manufactured in the United States of America

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