# CRG DO GENES DETERMINE OUR SEXUALITY?

This question has been stirring considerable controversy among lesbians, gays, and their supporters and friends, as well as among opponents of gay civil rights. In the debate about the origins of sexual orientation, people have presented a variety of arguments for possible causes, ranging from genetic predisposition to individual choices about lifestyle to environmental factors. People's views regarding gay civil rights do not necessarily indicate which of these possible causes they believe is the "right" one. The fundamental question remains, however: why are we having this debate in the first place?

Questions about the biological basis of sexual orientation were first raised about a century ago when the British sexual liberators Havelock Ellis and Edward Carpenter argued that laws against same-sex sexual activities should be dropped because people engaging in such activities were biologically different from those with opposite-sex partners: they called such people "inverts". The use of the word "homosexual" as a noun designating a certain kind of person – rather than an adjective referring to specific activities – dates from that period. However, the creation of this new, presumably biological, typology did nothing to reduce prejudice and bigotry.

Sexual orientation, like any other human behavior, is experienced in complex and variable ways, which are undoubtedly influenced by both biological and societal factors. By seeking a definitive basis of such behavior in genetics, we risk oversimplifying our view of behaviors, and ultimately, of our world. And, as amply demonstrated by history, basing civil rights claims on biology is a double-edged sword.

Some argue that a genetic component to sexual orientation will reduce discrimination. Yet, in our society, people are subjected to discrimination on the basis of differences in biology (sex, skin color) and culture (ethnicity, religion); in different jurisdictions, various degrees of legal protection are provided or lacking against both of these types of discrimination. As amply demonstrated by the Civil Rights and women's movements, focusing on differences in biology can be used to further oppression, not liberation.

Rather than seeking a biology-based defense against discrimination, it would be more productive to try to understand why some people find it useful to attribute genetic causes to behaviors as varied as criminality, alcoholism and sexual orientation.

**WHY THIS FIXATION ON A GENETIC COMPONENT FOR SEXUAL ORIENTATION?**

Attributing sexual orientation to genes appeals to some parts of the lesbian and gay community for the following reasons: First, it counters the argument set forth by bigots who assert that lesbian and gay behaviors are "unnatural," or indeed, "crimes against nature." Second, some lesbians and gays feel guilty about their sexual orientation, but if there is a biological foundation to it, they argue, it is not their "fault". Third, by advancing a biological explanation for their sexual orientation, some gay rights advocates assert that it therefore constitutes an "immutable characteristic," which would afford lesbians and gays more legal protection against discriminatory practices.

But we need to recognize that this focus on

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what causes individuals to be lesbian or gay arises from homophobia. Theories focusing on the origin of homosexuality, rather than of heterosexuality, imply that because the latter predominates, it is more "natural" or "normal"." Such a homophobic bias perpetuates the assumption that homosexuality represents a "problem" in need of a "solution".

The history of discrimination against other groups, such as people of color or women, makes it clear that a biological basis for distinctness has not prevented racism or sexism. On the contrary, biological arguments have frequently been used to bolster discrimination. American slavery was rationalized on biological grounds, as was extermination of Jews. And so was the exclusion of women from all economically lucrative activities, except the sale of sexual favors to highly placed men.

We are biological organisms and, of course, everything we do has biological components, but the present revival of earlier biodeterminist arguments coincides with a broadening of genetic attributions to a wide range of physiological, psychological, and social characteristics. These include so-called tendencies to develop feared, but common, health conditions such as cancer or diabetes, and often equally feared behaviors, such as excessive alcohol consumption, suicidal tendencies, violence – and physical or psychological attraction to people of the same sex.

The scientific basis for these attributions is exceedingly weak. The claim that genes account for the transmission within families of schizophrenia, bipolar manic depression, and alcoholism have all been contested, and most such reports have eventually been withdrawn.

**DO STUDIES SUPPORT THE EXISTENCE OF A GAY GENE?**

The most frequently cited study was conducted by molecular biologists at the National Institutes of Health under the direction of Dean Hamer. This study is currently under investigation by the federal Office of Research Integrity for possible scientific misconduct, because one of the study collaborators alleges that Hamer suppressed data that would have reduced the statistical significance of the reported results.

Hamer's group examined DNA samples from self-identified gay men and other gay male family members. The researchers claim they have found a DNA segment, called a "marker," on the X chromosome, the chromosome men inherit only from their mother and not from their father. They say that most, though not all, gay men within a family share such a marker. (In a more recent study, they conclude that lesbian sisters do not share this marker.) They now hope that by defining this marker more closely, they will be able to identify a "gene for gayness" on the X chromosome.

One of the problems with their approach is that Hamer and his colleagues did not feel it necessary to check whether any of the straight men in these families share the marker in question. If even only a few of them do, it calls into question what the gene or the self-identification signifies. More recently, Hamer has tested this out, and the results do not change his interpretation.

But even more significant for Hamer's studies is the definition of who is gay. Hamer uses the extremely conservative estimate of two percent for the prevalence of homosexuality among American men. Increasing this value to the usually accepted values of five to ten percent reduces or even eliminates the statistical significance of his results. The reason Hamer gives for his unusually low estimate is that he wants to work only with "real" gay men, that is, men who have essentially never veered from their preference for men in their sexual fantasies or activities. His definition does not take into account the large population of men who have sexual relations with men, but who do not identify as gay, or men who have had sexual relationships or marriages with women, or have fathered children, but now do identify as gay. If research on sexual orientation does not consider this diversity of sexual identities, the social relevance of this research is limited.

Hamer's results remain controversial. An independent study of gay siblings did not reproduce his results, though the Hamer group now reports a second study which supports the role of a gene on the X chromosome in male homosexuality. But none of the results, including Hamer's, support the claim that any single gene can determine sexual orientation.

Another study claiming that there is a connection between homosexuality and biology, by the neurophysiologist Simon LeVay, claims that a specific structure in the brain is smaller in gay than in straight men. The size of this structure in gay men, he claims, is more like that seen in heterosexual women – though in fact, he has no evidence regarding the sexual orientation of the women whose brains he examined. All of LeVay's observations were made on the brains of cadavers, and his evidence about the sexual orientation and practices of the people in life is entirely circumstantial. Furthermore, the "gay men" all died of AIDS, which is known sometimes to affect brain structures. Another criticism of this study is that in some of LeVay's "gay" samples, the structure was larger than in the "straight" ones, so that upon inspection, there is no basis for deciding whether a given person in life had been "gay" or "straight."

**WHAT ROLE DO ENVIRONMENTAL FACTORS PLAY?**

Arguments for a biological basis of sexual orientation have also been offered, based on questionable studies of twins and other siblings. Michael Bailey and Richard Pillard, researchers at Northwestern University and the Boston University School of Medicine, measured sexual orientation in brothers of gay men. They found that for adoptive and non-twin brothers of gay men, about 10% were also gay, a rate often attributed to the general population. The rate of "double" homosexuality for fraternal twins was 22%, and for identical twins, 52%.

The fact that fraternal twins of gay men were found to be roughly twice as likely to be gay as other biological brothers shows that environmental factors play a role, since fraternal twins are no more similar biologically than are other biological brothers. In light of these results, it does not seem surprising that an even larger proportion of identical twins would have similar behaviors since the world thinks of them as "the same" and treats them accordingly, and they often share such feelings of sameness.

Homophobia – another clearly environmental factor – may also have affected the study's results by distorting the sample. Bailey and Pillard did not study a random sample of gay and bisexual men. The study's participants "were recruited through advertisements placed in gay publications in several Midwest and Southwest cities." Thus all the respondents read gay periodicals and probably were, to some degree, public about their sexuality. In addition, they responded to ads asking them about their brothers. Although the ads asked gay men to "call regardless of the sexual orientation of [their] brother[s]," men with gay brothers might well have been more likely to participate than men with straight brothers, especially if the straight brothers were homophobic or the gay ones were not "out" to their families. Since many people believe that homosexuality is genetic, a straight man who has a gay twin, and especially a gay "identical" twin, might well feel that his own sexual orientation was "suspect," and refuse to participate in the study, finding the subject threatening. Conversely, if identical twins are both gay, they might find the subject interesting and be eager to volunteer for a study.

**WILL POTENTIAL MISUSE ARISE IF A GAY GENE IS FOUND?**

Both the American Medical Association and the American Psychiatric Association have taken the official position that trying to change a person's sexual orientation would be wrong. Certainly, anti-gay violence and oppression are wrong. So what will researchers like Hamer, LeVay, Bailey and Pillard do if bigots begin to use the idea of a "marker" or "gene" to predict which male fetuses are gay for purposes of terminating such pregnancies, or to subject young boys to "remedial" education, reprogramming or other "therapies"? Hamer has said he will patent the

gene, if he finds it, so that it cannot be misused. Is patent law a realistic way to protect against homophobia? (Many people feel that it is immoral to patent human genes, anyway.) What would be the proper use of such a gene? And what is the point of searching for it in the first place?

Regardless of the extent to which biology influences one's sexual identity, lesbians, gays, and bisexuals should be afforded protection against discrimination arising from their sexual orientation. In fact, the promise of a quick technological fix for the problem of discrimination against homosexuals distracts us from the larger societal issue. Homophobia and discrimination exist, and it is naive to think that a biological explanation of homosexuality will change that. Only social and political remedies will counter discrimination. Biology is not the issue: society at present protects people against discrimination for choices such as religion (including converts), marital status, or political affiliations. Genetic predisposition is not necessary to create these legal protections.

The scientific argument for a biological basis for sexual orientation remains weak. The political argument that it will bolster gay pride or prevent homophobic bigotry runs counter to experience. The lesbian, gay, and bisexual community does not need to have its "deviance" tolerated because its members were born "that way" and "cannot help it." Rather, society must recognize the validity of lesbian and gay lifestyles. We need an end to discrimination, an acceptance of all human beings, and a celebration of diversity, whatever its origins.



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