Strangers to the Law
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In one of its most controversial strategic decisions, the plaintiffs’ legal team decided to try to show that sexual orientation is immutable, and, once again, the team was split.

In addition to the legal debate about whether it was necessary to prove that sexual orientation was immutable in order to establish sexual orientation as a suspect classification, there were nonlegal factors influencing the decision for the legal team. While Dubofsky and the Colorado attorneys could focus squarely on trying this case, the attorneys for the gay legal groups had to weigh the impact that arguments made in this case might have on future litigation on gay civil rights issues. Pinning civil rights protection on the immutability of a characteristic seemed risky to most of the gay attorneys. If scientists someday concluded that sexual orientation was not strictly immutable, gains won through such an argument would be vulnerable. But there was a personal discomfort in the argument for many of the gay attorneys as well. The gay people on the legal team had each experienced firsthand how complex being gay is and how the experience of being gay can vary from person to person.

With classic decorum, very little about these debates spilled into public view at that time. During the trial, Peter Cicchino, a gay attorney who represented the ACLU’s Lesbian and Gay Rights Project on the team, made one of the few comments that revealed the disagreement publicly. He told a newspaper only that he considered it unfortunate that gay civil rights supporters had to argue that gay people have an "immutable" trait in common because taking that strategy seemed to focus the court’s scrutiny on gay people instead of the anti-gay initiative.

“It’s gay people who are on trial here,” said Cicchino, who also noted that he resented the argument because “I’ve always thought
about the movement as being about the freedom to choose.\footnote{Lisa M. Keen, "Gay People Are Put ‘On Trial’ in Colorado Case," \textit{Washington Blade}, October 15, 1993, 27.} Cicchino’s comments highlighted the role of the gay civil rights movement as part of a larger social movement toward sexual liberation, which also included the liberation of women from gender stereotypes and the pursuit of reproductive freedom. But for most gay people, the freedom to choose meant primarily the ability to decide whether to express one’s feelings for people of the same sex openly. Many people in the gay civil rights movement had been carefully choosing their language to avoid giving the impression that having those feelings was a choice. The term \textit{sexual preference}, with all its connotations that homosexuality is a “choice,” was consistently dismissed as inaccurate. The generally accepted term was \textit{sexual orientation}.

\textbf{The Troubling Question}

Regardless of its legal and social consequences, the question about the origins of sexual orientation was one that many people were searching to answer through scientific research. In the year leading up to the trial, four important new studies had been published. In fact, just three months before the Amendment 2 trial began, a scientist at the National Institutes of Health, a biomedical research agency of the U.S. Department of Health and Human Services, published a study showing that genes are probably one factor determining whether a person is homosexual, heterosexual, or bisexual. That study, and others before it, had triggered unprecedented media interest in homosexuality in general and its “cause” in particular. On National Public Radio’s \textit{All Things Considered}, commentators discussed how finding the cause of homosexuality might lead to the development of a test that parents could use to determine the sexual orientation of their child before birth. ABC \textit{Nightline} host Ted Koppel took this inquiry a step further, pondering the concept that if a “cause” for homosexuality could be found, one might also find a “cure.”

It was that type of discussion, of course, that made many gay people uncomfortable, and not just because it was simplifying something that many had experienced as complicated. For some, there was the fear that the scientific discoveries that would help society understand gay people better would also enable it to “cure” gay and bisexual peo-
ple right out of existence, as Koppel had pointed out. For others, it was simply the wrong question.

"I don't think it's an argument worthy of our energy," said one national gay leader in 1986, when one of the first studies came out reporting that a biological marker had been found that might, through measuring hormone levels in the blood, distinguish gay men from heterosexual men. "The problem is not what we are. It's what they are. . . . If people stopped asking why we're homosexual and would ask why they're homophobic—that would be a step forward."2

For many gay people, attempting to prove the biological or genetic origins of a homosexual sexual orientation also reeked of the implication that gay people had some physical defect as compared to the heterosexual majority. One lesbian journalist characterized the argument as thinking that "the road to gay rights runs through the thicket of gender dysfunction" and that homosexuality is "a sort of tumor on the body politic."3

But while the discussion was considered counterproductive politically by many gay people, it was considered useful legally by Dubofsky and others on the plaintiffs' legal team. They believed it would strengthen the legal argument that sexual orientation fit the "obvious, immutable and distinguishing" indicia of suspect classification analysis. Dubofsky and others also felt that both the courts and the general public would be more opposed to Amendment 2 if they understood that sexual orientation was an inborn characteristic rather than a "lifestyle choice." Since the case against Amendment 2, they knew, would be widely reported in the press, they believed the trial would be a good opportunity to make their case in court and in the country. Also, as Dubofsky explained, it was important that this trial lay down as complete a record as possible on all issues involving homosexuality to prepare for further appeals. "If we end up at the U.S. Supreme Court," said Dubofsky, "we want to be sure we have everything in the record that we might possibly need or want to argue."

2. Virginia Apuzzo, executive director of the National Gay Task Force, as quoted in "Biological Marker Found in Gay Men," by Dave Walter, Washington Blade, September 28, 1984, 1, 10, in reference to a study, "Neuroendocrine Response to Estrogen and Sexual Orientation," by Brian Gladue, Richard Green, and Ronald Hellman, published in September 28, 1984, issue of Science magazine, about the effect of a female hormone on luteinizing hormone levels in men. The study found that the female hormone triggered higher levels of the luteinizing hormone in gay men than in straight men.

Of the 35 hours of testimony at trial, about 20 percent was devoted to the biological and genetic origins of sexuality. The testimony around the issue became both a primer in sexuality and an exercise in educated guessing under oath.

On the second day of the trial, plaintiffs called the first of three expert witnesses to the stand: Richard Green. Green, a sex researcher and professor of psychiatry at the University of California in Los Angeles, was involved with some of the first studies that sought concrete evidence that homosexual sexual orientation originates in some biological factor. One of Green's studies, published in September 1984,4 claimed to be the first valid5 study to show clearly that a biological marker exists for homosexuality. It did not, however, claim to identify a "cause" for homosexual sexual orientation. That distinction was a big one—it was one thing to find a biological trait that people with a homosexual sexual orientation seemed to share in common; it was quite another to suggest that that trait was the cause of the homosexual orientation.

Green, who also held a law degree, taught courses covering the intersection of psychiatry and law. His specialty was human sexuality, in particular, how children develop their sexual identity or, as Green put it, "what their sexual orientation is."6 Green had been working in the field for 23 years, authoring more than 100 professional papers on the subject of sexuality. He estimated that he had been used as an expert witness in about 30 trials.

But by some standards, he was an odd choice. Over the previous seven years, Green had annoyed some gay people with studies claim-


5. There were several earlier studies, but Green and his colleagues said these predecessors were "not convincing." Among these was one published in the *Archives of Sexual Behavior* in 1975 (vol. 4, no. 1) by Gunther Dorner et al., researchers in what was then East Germany. This report, "A Neuroendocrine Predisposition for Homosexuality in Men," included a suggestion that tests should be developed to measure the hormone levels of the fetus. In fetuses without the "proper" level of hormones for a male or female, the authors theorized, "a preventive therapy of sexual differentiation disturbances could be accomplished during these critical prenatal organizational periods."

6. Most scholars in this area, including Green, are very careful about their terminology. Sexual identity is not sexual orientation, as Green would soon explain.
ing that many gay men, as children, were likely to have behaved as "sissy boys"7 and that they could be identified through a simple blood test for hormone levels. The "sissy boy" profile was a stereotype that few gay people cared to have perpetuated, much less given any credence by the appearance that it had a scientific basis. And many worried about the consequences of Green's hormone test. "Gay people have a right to be worried that some people will go around saying, 'If you don't want a queer son, get this injection,'" commented one gay researcher about Green's hormone study.8

Prior to trial, Green advised plaintiffs' attorney Jeanne Winer about his various studies and which ones he believed would be best for her to ask him about to make the plaintiffs' case that there is some biological basis to homosexuality. His testimony covered three basic areas—genetics, hormones, and brain anatomy—and examined how each affects sexual orientation.

**Elements of Identity**

In court, Winer asked Green to start with some basic definitions. A person's "sexual identity" or "gender identity," he said, has three elements:

awareness of oneself, anatomically, as either male or female;
awareness of how one's culture defines being "masculine" or "feminine"; and
awareness of one's own "sexual orientation."

"Sexual orientation," said Green, is measured across three areas:

physical arousal,
fantasy, and
self-identification.

According to Green, a person's sexual orientation can be discerned through "extended interviews" about these elements. He

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8. James Weinrich, a sex researcher at the Boston University Medical Center, quoted in *Washington Blade*, September 28, 1984 (vol. 15, no. 39), 1, 10.
explained the "Kinsey scale" commonly used for measuring a person's sexual orientation. The scale, he noted, ranges from zero to six. A person who rates a zero is exclusively heterosexual in both his or her fantasy life and behaviors, a person who rates a six is exclusively homosexual, and in between are conditions Green characterized as "various bisexuality."

Although Green did not go into great detail on the witness stand, it bears noting that the "Kinsey scale" was developed by sexual researcher Alfred Kinsey in the 1950s and was originally intended to measure only sexual behavior—not fantasies, attractions, or self-identification. At a symposium sponsored by the Kinsey Institute in 1986, experts generally agreed that a person's Kinsey scale rating could change over his or her lifetime and that separate ratings should be gauged for behavior, fantasy, and self-identification. In other words, a person's sexual fantasies could be exclusively about a person of the same sex (making him or her a Kinsey 6) but that same person's behaviors—for various reasons, including opportunity and the level of concern about societal conformity—could be limited to persons of the other sex (a Kinsey 0).

The *Kinsey Institute New Report on Sex: What You Must Know to Be Sexually Literate* notes:

Thoughtful scientists have come to question whether labels such as homosexual or bisexual tell us very much about the way a person actually behaves sexually. In many past studies, once a person described himself or herself as homosexual, the researcher did not ask any questions about behavior with the opposite sex, assuming these questions would not apply to a homosexual; they also did not ask people who called themselves heterosexual about same-sex partners. But in a recent Kinsey Institute study of a group of lesbians from across the United States, 43 percent of even the women who had always referred to themselves as lesbian had had sex at least once with a man since age 18; of the total group of lesbians, 74 percent had experienced heterosexual sex.

These complications were not discussed during the trial. As she had
planned out with Green ahead of time, plaintiffs' attorney Winer sim­
ply asked Green, "What percentage of the population is homosexual?"

The answer, explained Green, is riddled with "controversy and
some uncertainty." Accurate estimates, he said, were made difficult
because sexual activity between two people of the same sex is a "stig­
m怠ated behavior," one that many people surveyed are reluctant to
acknowledge to an interviewer or even in filling out a questionnaire.

"But having said that," said Green, "the numbers which appear to
be in the majority of studies indicate that somewhere between two and
three to four percent of males and perhaps one to two to three percent
of females are exclusively or predominantly homosexuals as adults, but
this may represent an underreporting."

Even though on cross-examination Green was careful to empha­
size a difference between behavior and orientation, under Winer's ques­
tioning, he did not choose to make these distinctions in explaining var­ious estimates. Winer asked Green to explain the commonly heard
estimate that lesbians and gay men make up about 10 percent of the
population; Green said 10 percent referred to "the number of males
who were at least predominantly homosexual for a three-year period
after age 16." In fact, that answer represented only one theory.

Zeroing in on an estimate of how many people have a homosexual
or bisexual orientation was as difficult, it seemed, as zeroing in on why
they had such orientations. Still, in court, an estimate was important to
the plaintiffs in making for Judge Bayless the first broad sketch of who
gay people are and what their power might be as a minority. But it was
only a tentative sketch because, as Green noted, "there isn't really an
accurate estimate" available.

There had been many attempts to gauge what part of the popula­
tion is homosexual, but nearly every survey was different from the oth­
ers in some significant way—either in its execution or interpretation—
making all of them difficult to compare or to use to show any one
number as being most representative. Some surveys had asked ques­
tions that provided information about behavior, some about self-iden­
tity, and even a few about attractions and fantasies; but, among them,
there was no clear agreement about what represented "homosexual-
ity." Should the survey takers, for instance, count as homosexual a person who had sex only with a person of the other sex but who was a Kinsey 6 in fantasy and arousal? Should they count a person who identified as "gay" but who had never had sex with anyone? How should they count a person who had an equal number of same-sex and opposite-sex partners and who felt an equal attraction to both?

Lost in most discussions of the numbers was the important influence the wording of the questions had in determining the answers. For instance, a survey looking for men at risk for AIDS might find fewer men acknowledging they had had sex with another man than a survey that asked men to indicate first what types of sexual activities they had engaged in and then asked them to indicate the gender of their partners.

In addition to the variations in how questions were asked, there were variations in how the answers were interpreted. For instance, when Kinsey was interpreting his own results in the 1950s, he wrote: "At least 13 percent of the male population would have to be institutionalized and isolated if all persons who were predominantly homosexual were handled in that way." But on the witness stand in Denver in 1993, Green testified that Kinsey had "indicated that approximately four percent of adult males were predominantly to exclusively homosexual throughout their lives."

For women, said Green, "about two percent . . . would have been predominantly or exclusively homosexual."

 Somehow, in popular currency, the 10 percent figure Green discussed had come to represent something much broader than "the number of males who were at least predominantly homosexual for a three-year period after age 16." Sometimes, the 10 percent was cited as an estimate of both lesbians and gay men in the United States; sometimes it was referred to as an estimate of people who had ever acknowledged engaging in sex with a partner of the same sex. While Green's testimony implied that the 10 percent figure was generated out of the Kinsey study of men, it is not entirely clear either that that is true or how the 10 percent estimate had acquired such acceptance. But it seems obvious that the number did have its origins in Kinsey's famous sexual behavior studies conducted mostly in the 1940s and 1950s. Those studies—one on men and one on women—found that 13 percent of men

and 7 percent of women reported having sex with persons of the same gender during the three years prior to the study. Many believe the 10 percent figure was simply an average of those two figures.\textsuperscript{11}

Studies between then and 1994 found widely disparate percentages—as low as 1.2 percent\textsuperscript{12} and as high as 22 percent.\textsuperscript{13} Predictably, the lower estimates tended to come out of surveys designed for AIDS-related studies that focused on behaviors only, while the higher estimates tended to come out of surveys that asked questions about sexual attractions and fantasies.

Green also testified that while Kinsey’s studies had been subsequently criticized for including an “overrepresentation” of male prostitutes and prisoners, a later analysis of the data by Kinsey coauthor Paul Gebhard “upheld” the finding that “close to 10 percent of males were predominantly homosexual for a significant period of years after age 16.”

So which was it—13 percent, 4 percent, or 10 percent?

While attorneys challenging Amendment 2 had reasons to try to establish this point, it was an exercise as complicated as trying to estimate the number of people in the United States with easygoing personalities. And, in truth, it did not matter. Amendment 2 did not target only those people who were “predominantly” or “exclusively” gay. It did not target only those people who had this orientation for life or for only brief periods of time. It targeted everyone with “homosexual, lesbian, or bisexual orientation, conduct, practices, or relationships.”

\textbf{The Growing Evidence}

After having Green set out what sexual orientation is and estimating how many people might have a homosexual orientation, attorney Winer asked him to discuss what scientific research has revealed thus far about the origin of homosexual orientation. Green began by

\textsuperscript{11} In \textit{The Social Organization of Sexuality: Sexual Practices in the United States}, by Edward Laumann, John Gangnon, Robert Michael, and Stuart Michaels (University of Chicago Press, 1994), the authors note that gay activist Bruce Voeller, once head of the National Gay Task Force, took credit for coming up with the average.


explaining that neither he nor most experts in the field believe sexual orientation can be “consciously chosen.”

“At this time,” he said, “I believe there is a growing body of biological research pointing to prenatal origins of sexual orientation.” In making this statement, Green said, he relied on studies about genes, the anatomy of the brain, and the effects of prenatal sex hormones on subsequent behaviors.

In recent studies of gay men who had identical twin brothers, “approximately 50 percent” of the twins also were gay, said Green.14 Later studies found that the likelihood of both individuals having the same sexual orientation was definitely higher in identical twins than in fraternal twins. In cases where the sexual orientation of identical twins is not the same, said Green, researchers have speculated that the differences might be due to “some dislocations of atoms” that can occur “during the early cell divisions.”

“Additionally,” said Green, “one can also suggest that because a set of twins is genetically similar or identical, that not all prenatal events are necessarily identical. For example, we know that sets of twins differ in birth weight. We also know, for example, that parents can distinguish twins. So there are other prenatal events that occur that can affect the individual members of a twin pair which could account for differences postnatally.”

The upshot of all this, said Green, is that there is a “growing body of scientific knowledge showing that, to some extent, sexual orientation has a genetic basis.”

But hormones, too, he said, play a role. There is an inherited condition called Congenital Adrenal Hyperplasia (CAH) in which some female fetuses “overproduce” male-type hormones. Two or three studies, he said, have shown that when this happens, the female infant’s genitalia may appear somewhat like a penis at birth. As adults, these women “reveal a higher rate of bisexual or homosexual fantasy” and behaviors. This finding, he said, suggests that the levels of male hormones before birth have some influence on sexual orientation.

Other studies, he testified, have shown a similar effect on the female offspring of women who took DES. (Diethylstilbestrol is a synthetic female hormone given to women who had difficulty carrying a fetus the full nine months. The drug is now off the market for use by

pregnant women.) The female offspring of mothers who took DES had a higher rate of bisexual or homosexual fantasy and behavior than did their sisters born when the mothers did not take DES.

And some male fetuses, he said, have a condition that leaves them unable to convert the male hormone testosterone into a form necessary to masculinize their genitalia before birth. One study showed that these male offspring appeared to be female at birth and were raised as girls until puberty, when their bodies began developing male genitalia and a sexual orientation toward women.

All of these studies, he said, provide a “growing body of scientific evidence” that the levels of sex hormones present before birth influence sexual orientation.

Concerning anatomy, Green noted that recent studies had found some differences between the brains of men and those of women. Specifically, the difference was in the nuclei between tissue at the front of the hypothalamus, a part of the brain that regulates sex drive, body temperature, sleep, and appetite. In 1991, said Green, researcher Simon LeVay reported noticing that that part of the hypothalamus in heterosexual men appeared to be larger than in homosexual men. “The significance of that, if it’s a valid finding,” said Green, “is, again, pointing in the direction that there are indeed anatomic, in this case, central nervous system or brain differences, that are associated with sexual orientation.”

The strength of LeVay’s findings was tempered by the small number (41 brains) and nature (deceased persons) of his subjects: 16 were from men whom LeVay “presumed” to be “heterosexual,” 6 were from “presumed homosexual” women, 18 were from men who had indicated to a physician that they had had sex with men, and 1 from a man who had indicated he had had sex with both men and women.15 Of the 35 men, 25 had succumbed to AIDS, which is known to have some impact on the brain. Those 25 included 6 who were “presumed heterosexual” men and all 19 of the men who had indicated they had had sex with men.

As LeVay had done himself, Green carefully laid out the considerable caveats surrounding interpretation of the study. For one, LeVay could only hope that his “heterosexual males” were, indeed, heterosexual. With the men who succumbed to AIDS, LeVay was able to identify

the gender of their sex partners—indicating with some degree of confidence whether they were heterosexual, homosexual, or bisexual—because information about sex partners was recorded for reporting AIDS-related deaths to the U.S. Centers for Disease Control (later renamed the U.S. Centers for Disease Control and Prevention).

All of the men who had been identified as homosexual or bisexual had died of AIDS-related diseases, and some experts wondered if the differences in the sizes of the hypothalamus might be the result of that infection. But, as Green noted, the brains of the six presumed heterosexual men who died from AIDS and the brains of the homosexual men who died from AIDS were different in the same ways from the brains of the presumed heterosexual men who died from other causes.

Green did not explain that LeVay varied his methods during the research. With 15 brains, he measured the volume of the nuclei from both the left and right sides of the hypothalamus (which, like the brain, is divided into two spheres). With 14 brains, he examined only the right side, and with 12 brains, only the left.

LeVay himself carefully laid out these variables in reporting his conclusions and said the study “suggests that sexual orientation has a biologic influence, and that sexual orientation may be either a "cause or a consequence" of the size of the nuclei at the front of the hypothalamus. Then again, said LeVay, both sexual orientation and the size of the nuclei might be affected by "some third, unidentified variable."

Although he did not go into detail, Green also testified briefly about other brain anatomy comparisons. A study in the Netherlands found that a portion of the back of the hypothalamus was bigger in homosexual men than in heterosexual men.16 A study at the University of California at Los Angeles found that a cable of nerve fibers at the top of the hypothalamus was larger in homosexual men than in heterosexual men.17 A more recent study found

16. D. F. Swaab and M. A. Hofman, “An Enlarged Suprachiasmatic Nucleus in Homosexual Men,” Netherlands Institute for Brain Research, in Amsterdam. Published by Brain Research, 537, 141–48, in 1990. This study, too, suffered from weaknesses. Only 10 homosexual males who died of AIDS were compared to 6 heterosexual males who died of AIDS, and they were compared to 18 males who died from various causes and whose sexual orientation was unknown.

another section of the brain larger in homosexual men than heterosexual men.\textsuperscript{18}

Although Green did not address this, none of the published studies at that time had examined the brains of women known to be lesbians.

\textit{Nature and Nurture}

Green's own research contributions in the area of sexual orientation had to do with hormones and, separately, behavior. He did not ask Winer to guide him through a discussion of the study concerning hormone levels and sexual orientation, which he coauthored with two other researchers, but he did choose to discuss his own controversial "sissy boy" study. Perhaps because of its inflammatory terminology—about "sissy boys" and "extremely effeminate" behaviors—the "sissy boy" study had garnered much more publicity for Green than his earlier coauthored study on the neuroendocrine influences on sexual orientation.\textsuperscript{19}

In discussing the "The Sissy Boy Syndrome,"\textsuperscript{20} Green testified that he had monitored a group of young boys for 12 years. One-half of the boys were "conventionally essentially masculine," he said, while the other half exhibited behaviors and preferences that were more typically associated with girls. He dubbed this latter group "sissy boys" and said that, over the course of the study, between two-thirds and three-quarters of them eventually "emerged" as "homosexual to bisexual."

Green said his study "demonstrates that one can identify features, at least in the male in the earliest years of life, that are associated with later sexual orientation." Green further noted that while many of the "sissy boys" had been entered into "so-called treatment" during childhood to modify their behaviors, "there was no difference in sexual orientation" in later years between those who did and did not receive such "treatments."

\textsuperscript{18} A Canadian researcher reported November 16, 1994, at the annual meeting of the Society for Neuroscience, that one part of the corpus callosum (a fiber which connects the two hemispheres of the brain) was significantly larger in "gay compared to straight men." The scientists used Magnetic Resonance Imaging (MRI) to study 21 healthy males—11 homosexual and 10 heterosexual.


Green also said that the “sissy boys” had spent “substantially or significantly less” time with their fathers in the first four to five years of life than had the conventionally masculine group. In many of these cases, he noted, the father had apparently tried to spend time with the son but found that his boy was not interested in the same activities that interested the father. Thus, said Green, the father became “discouraged” and decreased the amount of shared time with that son. But, Green said, “When we add up all the variables . . . we find that . . . less than 50 percent of the variance is accounted for by all of these postnatal experiential socialization events.”

Sexual orientation, said Green, is not all nature or all nurture; it is “an interaction between nurture and nature,” and he added, “most experts in psychiatry agree that sexual orientation is set early in life.”

“Precisely what year or years is in some dispute,” said Green, “but in the traditional psychoanalytical views, the Freudian views, it was largely set at the Oedipal phase, in the first five to six years.”

Of course, Green was not on the stand just to give his own expert opinion. He was also there to refute the experts that the state of Colorado had engaged to convince the court that homosexuality is a “lifestyle choice.” So, on the witness stand, Green also acknowledged that there are a “handful” of people who claim they can change a homosexual orientation to heterosexual. These people are refuted by most professionals, said Green, who believe sexual orientation is “certainly not easily changeable” and that it is not a psychiatric disorder. Green alluded to the fact that in December 1973 the American Psychiatric Association (APA) voted to declassify homosexuality as an illness. Prior to that vote, the APA’s official diagnostic manual listed homosexuality as a mental disorder—a “sexual deviation,” along with pedophilia, exhibitionism, voyeurism, fetishism, and sadomasochism.

**Politics of Science**

Although Green’s testimony did not stretch back to the beginning of “homosexuality,” it is interesting to note that homosexual sex—then

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called "intercourse against nature"—first appeared in medical nomenclature in 1800, when Frederik Moltke, president of the Royal Chancery of Denmark, appointed a commission to revise that country's penal code. In doing so, wrote historian Wilhelm von Rosen of Copenhagen, Moltke suggested that people who engage in sodomy "ought, in my opinion, be treated as lunatics or sick persons, and together with their acts hidden away in secluded places." In his *Gay/Lesbian Almanac*, historian Jonathan Katz explained that one of the earliest uses of the terms "homosexual" and "heterosexual" in the United States came in May 1892, when Dr. James Kiernan announced he was launching a quest to discover the cause of homosexuality.

But Kinsey's research in the 1950s, by showing that same-sex sexual behavior was fairly common, challenged this concept of homosexuality as an illness whose cause needed discovery. And by the end of that decade, another researcher, Dr. Evelyn Hooker, weighed in with her own discovery—that homosexuals are just as happy and mentally healthy as heterosexuals.

In September 1967, Hooker was appointed to head a Task Force on Homosexuality at the National Institute of Mental Health, and two years later, that Task Force submitted a report. The report recommended that the government "remove legal penalties against acts in private among consenting adults" and make "comprehensive statements from an authoritative source . . . that would dispel myths and help to disseminate what is known" about homosexuality.

The news media gave the Task Force's report only passing notice, and the administration of then-president Richard Nixon took no action to circulate it until 1971, when it printed the document but gave no publicity to its availability. Publicity, however, did come after someone leaked a copy of the report to a gay publication called *One* magazine, which then published it.

By this time, Washington, D.C., gay activist Franklin Kameny and a number of prominent psychiatrists had begun lobbying the APA Board of Trustees to declassify homosexuality. The APA did so on December 15, 1973. In its resolution, the APA said that "it is generally acknowledged that a significant proportion of homosexuals are clearly..."
satisfied with their sexual orientation and show no significant signs of psychopathology.” Thus, the *Diagnostic and Statistical Manual of Mental Disorders, Second Edition (DSM II)*, the standard diagnostic guide for doctors and clinicians working in psychiatry, established that homosexuality “by itself does not constitute a psychiatric disorder” but “per se is one form of sexual behavior.”

And that, testified Green, is where medical science had evolved to: that homosexuals are “no more, no less healthy” than heterosexuals and, responding to some brief summary questions at the end of direct examination, he added that homosexual people make “no better, no worse” parents than heterosexual people.

The testimony about gay people as parents was important groundwork to address one argument the state of Colorado planned to offer for why it needed Amendment 2—that the initiative was necessary to protect children. Green noted that recent studies of the children of lesbian parents found “no differences” in general psychological or sociological adjustment or in the incidence of homosexuality among children of homosexual or heterosexual parents.

Green’s testimony contradicted the state’s notion that gay people pose some threat to children, and he made clear that he believed Amendment 2 posed a threat to gay people by targeting them for prejudice. The “effects on one’s self-image, levels of self-esteem, are negatively impacted and may, in fact, be devastating.”

*State Has No Witness*

Winer used Green not only to begin laying the groundwork for the plaintiffs’ contention that sexual orientation should be considered a suspect classification and to attack the state’s argument that Amendment 2 would promote the psychological well-being of children, but also to attack the credibility of several psychological experts the state planned to call to the witness stand. One of these experts was Paul Cameron, a psychologist who had gained notoriety for his unorthodox research concerning homosexuality. Cameron had contributed his works to a number of political campaigns seeking to overturn civil rights laws protecting gay people. Many of these campaigns relied on antigay literature that he published, claiming that his reports represented accepted scientific research. An example of this literature is a
1992 pamphlet he produced called “What Causes Homosexual Desire, and Can It Be Changed?” In the pamphlet, Cameron wrote, “No one has found a single heridible [sic] genetic, hormonal or physical difference between heterosexuals and homosexuals—at least none that is replicable.” To back up this claim, he then cited in a footnote a book written by the esteemed psychiatrist Judd Marmor in 1980, and another journal article written in 1984.

But most of the important research in this area was done well after 1984 and long before Cameron put together his pamphlet, and a number of researchers in the field took issue with his claims. A group of faculty members at the University of Nebraska filed a complaint against Cameron with the American Psychological Association, saying that his public statements and writings about homosexuality often cited research data taken out of context. Cameron, at the time, was a psychologist with a practice in Lincoln, Nebraska, but he had also made a name for himself through his claims that 40 percent of child molestation is perpetrated by “those who engage in homosexuality.”

The American Psychological Association announced in one of its journals in late 1984 that it had “dropped” this psychologist from its membership on December 2, 1983, “for a violation of the Preamble to the Ethical Principles of Psychologists.” The organization would not comment on the details of the decision at the time, saying that the organization’s bylaws prohibited disclosure of specific charges made against any member.

Cameron told one newspaper that he resigned from the American Psychological Association in November 1982 and was not expelled. But the association’s administrative officer for ethics, David Mills, said the organization would not have been able to bring proceedings against Cameron unless he had still been a member. Soon after this controversy erupted, Cameron created an Institute for the Investigation of Sexuality in 1984 in Lincoln (he later moved the operation to a suburb of Washington, D.C., calling it the Family Research Institute). By August 1986, the American Sociological Association had “repudiated any claims that

Paul Cameron is a sociologist and condemned his misrepresentation of sociological research.\(^{25}\)

On the witness stand, Green testified that Cameron’s “findings” were “at odds to other researchers in the area of homosexuality” and that his articles about homosexuality were not published in journals that require expert scrutiny of articles to insure their scientific integrity. Green criticized Cameron’s research methodology as “unusual,” saying that Cameron based his generalizations on groups as small as 15 to 20 people and used terminology that is not well-defined.

“I don’t believe that is good science at all,” he said of Cameron’s work. “And, as Dr. Cameron admits, his findings are generally at odds with all other researchers in the field of human sexuality, which I think should give one pause.”

Plaintiffs also called Dr. Carole Jenny to the stand. The purpose of her testimony was to rebut Cameron’s claims that gay people were disproportionately responsible for instances of sexual abuse against children—claims repeated in CFV campaign literature to promote Amendment 2’s passage. Jenny was director of the child advocacy and protection team at the Children’s Hospital in Denver. She was also an associate professor of pediatrics at the University of Denver Medical School and was president-elect of the American Academy of Pediatrics’ section on child abuse.

Jenny characterized Cameron’s claims as insupportable, noting that, in her clinical experience spanning 800 cases between 1992 and 1993 involving sexually abused children in Denver, she had found only three cases in which “people came in and said, ‘I think someone who’s homosexual has molested my child and I want them HIV tested.’”

Although the state initially indicated that it planned to call Cameron to the stand in the Amendment 2 trial, presumably to bolster its argument concerning the well-being of children, and even though hours of deposition and court time had been spent by plaintiffs to refute his claims, the state, during the course of the trial, decided not to call Cameron to the witness stand, saying simply that it no longer needed his testimony. Ultimately, the state never even submitted an affidavit from Cameron.

Winer also asked Green about another expected expert for the state: Charles W. Socarides, a psychiatrist, psychoanalyst, and clinical

professor of psychiatry at Albert Einstein College of Medicine in New York City. His specialty, for nearly 40 years, he said in an affidavit filed with the court during trial, had been “sexual deviations, especially homosexuality.” He had written two books on the subject, coedited two books, and cochaired a discussion group called “The Sexual Deviations: Theory and Therapy.”

Socarides explained in his affidavit that he considered homosexuality to be a “psychiatric psychopathology” caused by an overbearing mother and an “absent or abdicating” father. In this scenario, argued Socarides, a gay son has no “appropriate masculine” role model and a lesbian daughter is deprived of a “feminine” and “maternal” role model. The children suffer a deep fear of the other sex and “neutralize” this fear through their attraction to a person of the same sex.

In his affidavit, Socarides also claimed that the American Psychiatric Association removed homosexuality from its diagnostic manual in 1973 only as a “direct result of relentless intimidation and pressure from gay rights group activists.” But Green presented considerable testimony to illustrate that Socarides’s views did not represent those of the mainstream of his professions, psychiatry and psychoanalysis, and the state, ultimately, did not call Socarides to the witness stand for questioning.26

**State Plays Defense**

Although the state, too, sought to answer the question “Who are gay people?” it called no witnesses to the stand to testify about the origin of sexual orientation. Instead, it relied on challenging the testimony of the plaintiffs’ experts through cross-examination and trying to use those witnesses for its own advantage. So, when cross-examining Green, Jack Wesoky, senior assistant attorney general for Colorado, sought to undermine the notion that homosexuality is an immutable characteristic by attempting to discredit research done in this arena and by illustrating that, for some people, sexual behavior is a choice.

To establish the former, Wesoky relied on an essay about homosexuality that appeared in an outdated encyclopedia. He presented Green with the essay’s description of homosexuality, which appeared

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26. In an interview with the *Washington Blade* (April 12, 1996), Socarides’s openly gay son, Richard, said that, at his urging, his father decided not to take the witness stand in Colorado.
in the 1988 edition of the *Encyclopedia Americana*. The lengthy entry was written by former president of the American Psychiatric Association, Judd Marmor.

Wesoky focused on particular sections of the entry:

Homosexuality can be characterized as behavior involving sexual relations with a member of the same sex. . . . Some pursue [homosexuality] because of an intense erotic attraction to members of their own sex; others, such as prisoners, may seek homosexual outlets only because of prolonged deprivation of contact with the other sex; still others, with defective moral controls, may engage in it for money or adventure, or a need to please, or out of boredom, curiosity, or rebelliousness. . . .

Many misconceptions concerning homosexuality circulate widely despite the absence of evidence for them. These include beliefs that homosexuals are 'born that way'; that they are biologically or hormonally different from heterosexuals; that they can be recognized on sight; that they represent a unique personality type; and that their sexual patterns are irreversible.

There is no convincing evidence that homosexuality is inheritable. Most studies indicate that it is an adaptive response to certain experiences. Hormonal studies show no differences between most homosexuals and heterosexuals.

Confronted with Marmor's statements that at least some people engage in sex with a person of the same sex "for money or adventure, or a need to please, or out of boredom, curiosity, or rebelliousness," Green cautioned that there is a difference between engaging in a "homosexual act" and having a homosexual orientation. Wesoky simply ignored Green's remark.

"In the area of choice of homosexuality," said Wesoky, "you've testified that it's not a choice."

"Yes," said Green.

"That would be true for all homosexuals—[that] it's not a choice?" asked Wesoky.

"I think for the vast majority of homosexuals," said Green.

Wesoky pressed Green to define what percentage of homosexuals constitutes this "vast majority" and eventually got him to speculate that for "at least 80 percent," homosexuality is not a choice.
"Approximately 20 percent, then, of homosexuals engage in that as a matter of choice," posited Wesoky.

"No," said Green. "There might be some element of choice in a small minority," but he estimated that to be the case in "no more than . . . maybe one percent."

Asked if he agreed with an article by Marmor, suggesting that the women's liberation movement may have influenced some women to choose homosexuality, Green said "it's probably" true to some extent.

"So, now we know from your testimony," said Wesoky, "I believe, that some women choose homosexuality."

"We know from that," retorted Green, "that some women may choose homosexual behaviors, not necessarily homosexual orientation."

Wesoky then tried to blur the distinction between behavior and orientation by noting that Marmor was writing about something he called "homosexuality."

"I was talking about the word homosexuality," said Wesoky. "You said it generally means sexual orientation, homosexual orientation. But Dr. Marmor, in his article in the encyclopedia, didn't use it in that sense, did he?"

"No, he did not," conceded Green. But, Green said, homosexuality "generally means homosexual orientation," and he speculated that, when Marmor took the witness stand later in the trial, Marmor would agree with him.

In attempting to discredit studies that suggest there is a biological origin for homosexual orientation—particularly LeVay's study of the brain—Wesoky had Green acknowledge that some of the studies have contradicted one another and that their conclusions have sometimes been very tentative. Green agreed that the contradictory results of two studies meant their conclusions were "inconclusive," but he would not dismiss every study.

Since LeVay's studies involved the brains of homosexual men who succumbed to AIDS, Wesoky asked, "couldn't you hypothesize that AIDS" accounted for the difference in the sizes of their hypothalamuses. "I don't think so," said Green, noting that several of LeVay's "presumed heterosexual" men had also died from AIDS and that their brains compared generally with those of the "presumed heterosexual" men who died from other causes.

In a further attempt to discredit LeVay's findings, Wesoky got Green to acknowledge that there had been some evidence that men
with late-stage AIDS suffer a reduction in their male sex hormones and that, in a laboratory study involving the brain of the Mongolian gerbil, scientists found that testosterone levels influence the size of the part of the hypothalamus that LeVay attributed to sexual orientation.

"I have heard of that study," said Green. "I think it's a controversial one. I don't think there's a consensus as to the findings of that study."

To undermine the significance of Green's testimony about the DES study that seemed to indicate a biological influence on sexual orientation, Wesoky, apparently presuming that lesbians are more athletically active than heterosexual women, had Green acknowledge that another study had "failed to demonstrate" that the DES hormone could account for "a difference in sports participation."

"And didn't that same study also report that marriage and motherhood rates from DES-exposed women and their unexposed sisters were comparable?" asked Wesoky.

Green said he did not recall.

"And didn't that same study also report that DES-exposed women did not differ from their unexposed sisters in athletic ability and interests, as recognized in hours per week spent in sports, number and types of sports participated in, and high school physical education grades?"

"It may have," said Green, who eventually conceded that one could conclude that the study Wesoky brought up did not support a conclusion that sexual orientation was biologically based.

Wesoky also tried to undermine the conclusions of a number of studies about which Green had testified, including the twin brother study conducted by Michael Bailey and Richard Pillard, which was reported in December 1991. In that study, the researchers found that, of 56 gay men who had identical twin brothers, 52 percent of those twin brothers were also gay or bisexual. That compared with only 11 percent of the 57 gay men who had brothers who had been adopted, and 22 percent of the gay men who had fraternal twin brothers.

Wesoky, noting that Green had testified that about 4 percent of the general male population is homosexual, asked whether the finding that 11 percent of adopted brothers are also gay suggests "an environmental factor in homosexuality."

"That's one possible [explanation]," said Green.

And, on cross-examination, Wesoky got Green to agree that homosexuality is "possibly" a reversible condition.

Wesoky then attacked Green's testimony about the American Psy-
psychiatric Association’s decision to declassify homosexuality as an illness in 1973. He referred Green to a survey, published in a journal called the *Medical Aspects of Human Sexuality*, conducted by Harold O’Leaf in 1977. The survey purported to show that 69 percent of psychiatrists polled said they consider homosexuality to be a “pathological” condition. Wesoky also asked about a book by Ronald Bayer, *Homosexuality and American Psychiatry: The Politics of Diagnosis*, in which Bayer claimed that the APA declassified homosexuality in reaction to political arm-twisting by gay activists, including what was then the National Gay Task Force.

But Green said it wasn’t clear that O’Leaf’s survey actually polled psychiatrists and that he had no personal knowledge of any gay political activity surrounding the APA vote.

**No Single Cause**

Judd Marmor, who took the stand for plaintiffs later that afternoon, did know about the vote. He was vice president of the American Psychiatric Association when the vote was taken. Marmor, a psychiatrist, had practiced psychiatry for 56 years and taught it for 45 years. He was a life fellow and past president of the American Psychiatric Association, a life fellow and past president of the American Academy of Psychoanalysts, and a diplomate of psychiatry and neurology for the American Board of Psychiatry and Neurology. He recently had served as chief of the Department of Psychiatry at the Cedars-Sinai Medical Center in Los Angeles and as a professor of psychiatry at the University of Southern California and at the University of California at Los Angeles. Marmor had, at the time of the trial, written six books and about 300 scientific papers, and he had served as an expert witness in about 15 trials.

Marmor testified that he and most other psychiatrists believe multiple factors determine sexual orientation and that sexual orientation is set by age six. “There is no single cause for it,” said Marmor. “And it is a situation in which probably some genetic, some early environmental, and occasionally some socio-causal factors may play a role.”

Marmor testified that there is “absolutely no evidence” at all for contentions of Cameron that homosexuality is infectious and that children who come into contact with gay men and lesbians will become gay themselves.

Marmor noted that the American Psychiatric Association declassified homosexuality in 1973, and that the American Psychological Asso-
ciation, the American Medical Association, and the American Bar Association subsequently all took similar stands.

And Marmor recounted for the court that, for one year prior to the APA vote, a subcommittee of the organization's Council on Research reviewed "all of the available scientific evidence" on the matter and heard reports both in favor and opposed to declassifying it.

"After a year of intensive study," said Marmor, the subcommittee "came to the conclusion that homosexual orientation in and of itself did not constitute a mental illness and so recommended to the board of trustees."

Ironically, Marmor noted, the vote on whether to declassify homosexuality was "taken at the insistence" of those who wanted to see homosexuality retained as a mental illness. Marmor said that he and two other candidates for president of the American Psychiatric Association decided to send out a letter to the APA's membership to support the proposal to declassify it. While he acknowledged that the National Gay Task Force "offered to finance that mailing" and that the three "accepted the financing," he added that "the wish to make it and the idea to make it came from the three of us." Marmor said that 58 percent of the 10,000 APA members who cast votes supported the declassification, and 37 percent opposed it.

"What part of the decision did gay [activists] play to undo this?" asked plaintiffs' attorney Winer.

"The only part they played," said Marmor, "was to finance the mailing of the letter which all three of us candidates sent out. We wrote the letter with—they gave us a form letter which we modified and made suitable to our own needs and which was sent out under our three signatures. The decision was not based on the board's decision nor... on gay activists' pressure at all." Marmor further noted that the APA "reaffirmed" that decision as recently as March or April 1993, in an official fact-finding report.

Concerning O'Leaf's survey of psychiatrists in 1977, Marmor said O'Leaf's results were never peer-reviewed, as is routine for scholarly work, by a jury of experts in the field and, like Green, Marmor noted there were no "safeguards" taken to ensure that all 2,500 respondents to O'Leaf's survey were, in fact, psychiatrists.

"They were self-appointed psychiatrists," said Marmor, "and, in any case, the number of people involved were only a quarter of the number of people who voted in the APA election."
Toward the close of his direct examination by Winer, Marmor told the court that he believed Amendment 2 "promotes homophobia and it injures the psychological and emotional health and self-images of thousands" of people with homosexual sexual orientations.

On cross-examination, Wesoky approached Marmor with the entry Marmor had written in the 1988 *Encyclopedia Americana* about which he had already questioned Green. His mission was to have Marmor acknowledge that he had written that factors other than biology influence homosexuality. Marmor was clearly ready for the questions and simply reiterated that, over the years and with new evidence, his opinions had changed.

"In that article," said Wesoky, "you said, did you not, concerning homosexuality, that [sociocausal] factors are also involved?"

"May also be involved, or are," said Marmor. "If I were writing it today, I would say 'may,' but they are, in many cases."

When Wesoky asked Marmor to confirm that he had written in 1988 that the incidence of homosexuality tends to increase due to certain cultural factors, Marmor said he did, but that he "wouldn't ascribe to that in its full form" now.

"But you said it in 1988?" asked Wesoky.

"I did, yes," said Marmor. "I think a good scientist should be able to change his mind with new evidence."

Such new evidence had apparently prompted the *Encyclopedia Americana* to revise its entry on homosexuality several times since 1988. The 1993 version, for instance, described homosexuality not as behavior but rather as "the tendency to be sexually and/or romantically attracted to members of one's own sex." And it said that people "can be homosexual for many different reasons, involving a variety of combinations of constitutional [biological] factors, life experiences, or both."

That revised entry, however, was not written by Marmor. The last entry Marmor contributed was the one in 1988.

Apparently hoping to mitigate Marmor's contention that he had, since 1988, acquired "new evidence" about homosexuality, Wesoky quickly noted that Marmor seemed to have changed his mind from 1965 when he edited a book called *Sexual Inversion: The Multiple Roots of Homosexuality.*

Wesoky clearly figured that these changes in Marmor's opinion over time might undermine Marmor's credibility.

"So you are always changing your mind?" asked Wesoky.
Marmor had the perfect comeback.

"The more I know, the more I'm going to change my mind," he said. And concerning the meaning of "homosexuality," Marmor added that, in his encyclopedia entry, he wrote "homosexuality" to mean "homosexual behavior, not homosexual orientation."

**Trees and Chimpanzees**

Perhaps the most critical witness to the plaintiffs' case that sexual orientation was an immutable characteristic was Dean Hamer, a molecular biologist and chief of the Gene Structure and Regulations Section of the Laboratory of Biochemistry at the National Cancer Institute. Hamer also served as editor of two technical journals, sat on the advisory board for the American Cancer Society, and acquired the patents for a hepatitis B vaccine and a growth hormone. He had authored more than 80 scientific articles and edited two books on the structures of genes. Subsequent to the Amendment 2 trial, Hamer also released *The Science of Desire: The Search for the Gay Gene and the Biology of Behavior*, about his work in this field.

Hamer stated that both his research and that of others caused him to believe "that sexual orientation is not chosen."

"We and others have shown that there's a strong biological component and a genetic component to sexual orientation," said Hamer. "Since people don't choose their genes, they couldn't possibly choose their sexual orientation."

Hamer testified that Charles Darwin in his theory of evolution was the first to suggest that sexuality is an inherited characteristic. Although he did not explain this on the witness stand, in his book *The Science of Desire*, Hamer said that Darwin enunciated this theory in his 1871 book *The Descent of Man, and Selection in Relation to Sex*. Most of the book, wrote Hamer, described a process "whereby natural selection favors certain traits that make either males or females more successful in mating and therefore passing on their genes." Darwin, said Hamer, "seemed quite certain that variations in behavior . . . must be at least partly inherited."

Hamer added that Darwin's theory was further supported by the hypothalamus studies of Simon LeVay and of Laura Allen and Roger Gorski, and by the twin studies conducted by Bailey and Pillard.
Hamer explained to the court that his own research had two phases—a "pedigree" study and a "linkage" study.

The pedigree study, said Hamer, mapped out the "family tree" of each of 76 gay men, who volunteered to participate and gave permission for researchers to contact their relatives. (During cross-examination later, he explained that most of these men were recruited through the HIV clinic at the National Institute of Allergies and Infectious Diseases or through "a gay group" in Washington, D.C. He interviewed each of the men to find out if any of their relatives had ever identified themselves as gay, he interviewed a total of 143 relatives to determine whether they self-identified as heterosexual or homosexual, and then he drew up family trees involving "roughly" a thousand relatives.)

"We found significantly elevated rates of homosexual orientation in three and only three classes of male relatives," said Hamer. Those three classes were brothers, maternal uncles, and maternal cousins. With all other relatives, said Hamer, the incidence of "homosexuality" was "just about" the same as that seen in the general population. (He did not indicate, nor was he asked, what that incidence was.)

The first conclusion derived from this finding, said Hamer, was that the higher incidence of homosexuality could be attributed to genes rather than to environment, since the elevated rates occurred in relatives who were brought up in different households, cities, and circumstances. Another observation about the family trees—that most gay relatives tended to be on the mother’s side of the family—led Hamer to his second conclusion.

He said that he hypothesized that "there might be a gene" on the X chromosome that had something to do with homosexual orientation.

A chromosome, explained Hamer, is a long piece of DNA that carries the material that determines inherited characteristics. The X chromosome is a piece of DNA that men inherit only from their mothers.

To test his hypothesis, Hamer did a "linkage" study. He took blood samples from the parents and siblings in 40 families in which he had already identified two gay brothers, and he examined the DNA in them. From those blood samples, he could examine the DNA of each family member’s chromosomes, and in that DNA, he could examine their genes. Such an examination has become possible only in recent years because of the development of more sophisticated tests to analyze blood samples.
For Hamer, the new technology enabled him to determine "whether or not two gay sons got the same bit of DNA from their mother." In most areas of the X chromosome, said Hamer, the test showed that the two gay brothers shared the same bits of DNA only 50 percent of the time. But it also showed that in one particular region of the X chromosome, two gay brothers had the same DNA a "large majority" of the time.

“Our interpretation of that result,” testified Hamer, “was that that region contains a gene or genes that was involved in their sexual orientation.” Hamer said the scientists labeled that region of the DNA “Xq28.” The X stands for the X chromosome, the q stands for the long arm of the chromosome, and 28 identifies a specific location, or band, on that arm.

“It’s a very, very tiny region at the very tip of a big long sausage-shaped chromosome,” explained Hamer.

Hamer acknowledged that the study, thus far, has been performed only on families where there are two gay brothers and that his study has only been able to narrow the search down to a “few million base pairs.”

“We haven’t identified the single gene that’s involved,” said Hamer.

“Our DNA is like a forest,” explained Hamer. “It has about a hundred thousand trees in it. There’s one particular thicket that has the sexual orientation tree, but we haven’t gotten to the exact tree yet.” Hamer said he will eventually be able to locate that “tree.”

“How certain are you of your results that you have actually found the place on the X chromosome that is associated at least with male homosexuality?” asked plaintiffs’ attorney Winer.

Hamer said his group did two standard statistical analyses of their data. By one analysis, he said, “there’s only one out of 10,000 chance that we are wrong by some fluke.” By another, even more careful analysis, he said, there was “at least a 99.5 percent chance that we have identified a linkage for sexual orientation.”

Under closer questioning, he explained that, of the 40 pairs of gay brothers, only 33 pairs shared “a set of five markers” in the Xq28 region. Seven pairs of brothers did not. But Hamer said he believes those seven pairs are gay “either because of some other gene that’s not on the X chromosome” or “for other biological reasons that are not inherited.” He echoed Green’s testimony that the prenatal hormonal environment might play a role or that “it could be for other reasons that we don’t know.”
"From your study," asked Winer, "can you conclude that sexual orientation is completely genetic?"

"No," said Hamer, "it is not completely genetic. We can only conclude that in our set of brothers, 64 percent of them are linked to this." Hamer said the studies of twins conducted by Bailey and Pillard indicated a likelihood of about 50 percent that sexual orientation is genetically determined.

"Most human traits are not genetic," said Hamer. Height, for instance, is only 90 percent genetic; about 10 percent of a person's height is determined by such things as "what you eat when you are a young child," he said. He also noted that some traits, like baldness, are "largely" genetic but do not express themselves until later in life.

Wesoky had made a point with Green and Marmor to illustrate that some heralded findings from the past have later proven unreliable, and Winer apparently anticipated he would try to undermine Hamer's findings by making this same point. She gave Hamer the opportunity to explain that earlier studies did not have the benefit of the more sophisticated techniques that his study used, and that he thinks his results will stand the test of time.

On cross-examination, Wesoky initially tried to undermine the solidity of Hamer's conclusions by referring Hamer to an article by William Byne, a well-respected psychiatrist and neurologist. In an article entitled "Human Sexual Orientation: Biological Theories Reappraised," Byne criticized the studies by LeVay and by Bailey and Pillard and called into question their conclusions that sexual orientation was somehow biological. But that line of questioning quickly fell flat when Hamer testified that he had recently received a letter from Byne in which Byne "said [Byne's] article flat out does not reject the idea that biology is important."

Wesoky shifted to questioning to what extent behavioral traits are genetic.

"Are all behavioral traits genetically influenced?" asked Wesoky.

"No, they are not," replied Hamer.

"How about temperament? Some people are quick-tempered; some are laid back. Is that genetically influenced?"

"Temperament is actually a very large field of psychology. There are about 40 different traits," said Hamer. "Inheritability has been stud-
ied, and some have some influence, and others have very little, if any.”

“Talk about sexual orientation behavior,” said Wesoky. “How about like the old ‘Gentlemen prefer blondes; is there something inheritable in a preference for blondes as opposed to brunettes?”

Hamer, with a completely deadpan expression, replied, “I have never heard of any research on that subject.”

“Is that possible? Isn’t it possible that there’s some genetic influence on choice of what your sexual object looks like?” asked Wesoky.

“I don’t know of any research on that topic,” replied Hamer again. “It would seem extremely unlikely to me.”

“How about choice of a thin person as opposed to a larger person as a sexual object,” continued Wesoky. “Do you think there’s something genetic that influences that choice?”

“I know of no research on that topic,” replied Hamer. “It would seem unlikely to me.”

By this point in the trial, Wesoky was establishing himself as an unpredictable and colorful sort. He often appeared to be struggling with the complexity of the scientific subject matter—mispronouncing terms, asking Hamer about information that his study was not designed to produce, asking questions that revealed he was misinterpreting data himself, and unwittingly opening a trap door on his own line of questioning about Byne. He also liked to stand in the middle of the courtroom with his left hand on his hip and challenge the witness to use him as a guinea pig. The technique, during questioning with Hamer—which sometimes became quite testy—often produced comical results.

“The percent of DNA shared by human beings—in other words, the DNA similarities between human beings—is how much?” asked Wesoky.

“On average,” said Hamer, “each human being shares about 99.9 percent of their DNA with each other human being.”

“So my DNA is almost exactly like your DNA?”

“Your DNA is, on average, about .1 percent different from my DNA, and it’s about one percent different from a chimpanzee’s DNA.”

“So, all the difference from the two of us is accounted for by .1 percent?”

“All of the inherited differences of DNA are accounted for [in] that .1 percent, and all of the inherited differences between you and a chim-
panzee's are accounted for [in that] one percent DNA. The rest," said Hamer, "is identical."

"Knowing you and me," said Wesoky, "because I don't know many chimpanzees—I'm short and you are taller; that's accounted for by .1 percent of the DNA?"

"It would actually require much less than .1 percent of the DNA. It's within that .1 percent, that's right."

Referring to the fact that Hamer had a full head of hair, Wesoky, who was largely bald, continued, "You have hair; as you notice, I don't. That's accounted for by the same .1 percent?"

"Predominantly," said Hamer, "and possibly some difference in our age and other factors."

"My bone structure appears a little bigger in places than your bone structure," said Wesoky. "That's accounted for by the difference?"

"It's probably accounted for," said Hamer, "somewhere in that three million differences that you and I have."

The point served to emphasize just how complex and mysterious is each human being's nature. Under further cross-examination, Hamer explained that the Xq28 region of DNA, where he believes the sexual orientation "tree" lies, also appears to be responsible for at least 20 other traits, including color blindness, severe mental retardation, and diabetes. The Xq28 region could account for about a hundred or so traits, he said, but scientists had identified only 20 at this point.

As much as science had been able to pin down to a microscopic level certain factors that influence how each person appears and behaves in the world, thus far, it had—like scientists studying fossils to reconstruct the dinosaur age—dusted off only what evidence was nearest the surface. In the dusting off, a whole host of new questions seemed to have emerged, ranging from inquiries into the mix of factors that influences any individual's sexual orientation to examinations of why some people are quicker to experience, understand, and accept their sexual orientations than others. For all that science could answer at the time of the trial or, indeed, at any time in the future, it was unlikely that even the most advanced genetic research could ever fully resolve the question of who gay people are.