Oppression by Scientific Method: The Use of Science to "Other" Sexual Minorities

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Lesbian, gay, and bisexual (LGB) civil rights have become a major focus of the legislative agenda of a variety of organizations in support of and in opposition to those rights. This growing interest in LGB civil rights can be seen through the increasing news reports and political discussions concerning marriage equality, the addition of sexual orientation as a protected class to hate crime laws and workplace nondiscrimination legislation, the elimination of the military's "don't ask don't tell" policy, and the right of LGB people to adopt children. As these issues move to the forefront, different groups attempt to use scientific reports, studies, and perspectives as one way to promote their viewpoints.

It is important to research the use of science by anti-LGB organizations because scientific and medical theories about homosexuality have been used to create and justify norms and values related to sexual relations and used to support anti-LGB policies (Terry, 1999). These theories are often considered objective and a simple reporting of the facts as they exist. However, science is often political and used to promote specific social agendas (Harding, 1991, p. 10). For example, scientists have spent more than two centuries attempting to prove the superiority of upper-class, white males over all other races and classes (Tucker, 1994).

The use of science to justify prejudice, stereotypes, and hatred has not been limited to this explication of racial essences. Science also has a history of reinforcing anti-LGB biases (Rosario, 2002; Terry, 1999). This paper examines the rooting of science in heterosexist biases, its uses in anti-LGB discourses, and its role in the Othering process of LGB people. The growth of science as an important way of understanding the world, explaining scientific heterosexism, and defining the Othering process is examined in this study. It is important to note that this paper does not focus on the accuracy of the science used by anti-LGB organizations—only on how it is used and misused within an anti-LGB discourse. Many of the studies referred to throughout this paper that claim to demonstrate the problems with LGB people have already been challenged on methodological, ethical, and interpretive grounds by a number of authors (Bohan, 1996; J.C. Gonsiorek, 1982; John C. Gonsiorek & Weinrich, 1991; Hooker, 1957; LeVay, 1997; Richardson, 1993; Schuklenk & Ristow, 1996). In other cases, anti-LGB organizations misuse legitimate studies to Other LGB individuals. The use of science by anti-LGB organizations in these ways is less about deepening our understanding of homosexuality and more about promoting a specific political agenda, as will be seen in this paper.

I. Literature Review

In the West, the relationship between science and values began to be transformed during the Renaissance (Longino, 1990, p. 162), with the Enlightenment raising science to serve as the epitome of enlightened reason (Hamilton, 1996, p. 37); and in modern American society science became institutionalized as the best way to understand the world (Terry, 1999, p. 11). Science is seen in this manner because it provides a framework for discovering and understanding natural and human phenomena without the use of theological, cultural, or other subjective biases. It acquires knowledge through the use of observation and experimentation. This acceptance of science was supposed to signal a movement away from beliefs based on superstition, religious faith, and subjectivity, and one toward beliefs supported by reason, objectivity, and scientific understanding. However, religious and juridical concepts about homosexuality were incorporated into scientific research, allowing for new justifications of old prejudices and biases (Terry, 1999, p. 11; Wood, 2000). For example, psychoanalytic theories arose from an assumption that homosexuality was pathological and unhealthy, an assumption which then served as the foundation for the construction of psychological models of homosexuality (Rosario, 2002, p. 267). It was also theorized that the gay man had a woman's soul merged in his male body (Bohan, 1996), demonstrating the connection of a religious concept, soul, with psychological concepts of mental illness. Homosexuality quickly became labeled as a disease as part of a scientific movement to medicalize diverse social phenomena such as alcoholism, unconventional sexual behaviors, and insanity (Drescher, 1998). One of the benefits of using science was that people could now claim their biases and assumptions were based on objective criteria as observed in nature, granting a sense of authority to their preconceived views that was not necessarily deserved.

These claims of objectivity were based on the idea that scientists study their topic from an unbiased perspective when their own personal or professional interests are not at stake (Porter, 1995, p. 4). These claims are furthered by the notion that scientific research appeals solely to reason and is untouched by cultural and historical forces (Gaukroger, 2006). This impartial pursuit of knowledge, often based on the scientific method, is considered the way to uncover an understanding of the world. Scientific discourse quickly became a privileged way of speaking about human diversity, including homosexuality (Terry, 1999, p. 29). Though claims of objectivity and impartiality are contested, especially when they are presented in the absence of historical and cultural context, these ideas have found their way into people's understanding of science (Gaukroger, 2006). In many cases, scientists injected their research on nature into political arguments to justify oppression (Tucker, 1994, p. 6). Just as racist and sexist attitudes guided research into racial hierarchies and the differences between the sexes, heterosexist bias is another of the unstated assumptions that often underlies scientific research. This bias expresses itself as scientific heterosexism.

I use the phrase *scientific heterosexism* to refer to the use of scientific principles, findings, and methods to support the assumption that everyone should be heterosexual but that due to an abnormality, whether psychological, biological, or cultural, some individuals will be homosexual, and that it is possible to uncover these abnormalities and correct them. Heterosexuality is privileged as the preferred sexual orientation and serves as a baseline for research into sex, sexuality, and gender. A further assumption is that heterosexuality and homosexuality are polar opposites and that heterosexuals can serve as a control group for determining what is different about homosexuals (Gagnon, 1987, p. 122). In this binary model, bisexuality is barely considered and is often ignored even though it may be different from homosexuality and heterosexuality (Garnets & Kimmel, 1993, p. 112).

The heterosexist bias of this discourse can be observed as having started in the 1860s when the professional community began studying "sexual perversions," which were considered to be any sexual activity that did not lead to reproduction (Rosario, 2002, p. 14). This perspective caused homosexual sexual activity to be associated with sexual perversity, leading scientists and physicians to connect their research into sexual perversions with the societal discourse concerning what to do with the social problems associated with homosexuality (Terry, 1999, p. 8). The basic premise of this research into and discourse on the origins of homosexuality assumes that there is a deviation from a person's normal growth that causes the individual to develop a homosexual instead of a heterosexual orientation. The research focuses on a search for this difference to explain the existence of homosexuality rather than focusing on what causes the development of a person's sexual orientation in general. These assumptions and this focus are rooted in the prevalent heterosexist assumptions of society in which anyone who deviates from heterosexuality must have a defect. It is this strong cultural bias against homosexuality, rather than unbiased scientific interest, that explains the efforts of scientists to locate this individual abnormality (Gagnon, 1987, p. 121).

The heterosexist assumptions within scientific research into homosexuality can be documented in many of the scientific disciplines. This paper, however, focuses on briefly discussing the role of heterosexism in the areas of biology and psychology, since they are the disciplines most often used in anti-LGB discourse. There are a number of authors who can be read by readers who are interested in a more detailed analysis of the role of heterosexist biases in the process of how the sciences developed their perspectives on homosexuality (Bohan, 1996; LeVay, 1997; Rosario, 2002; Terry, 1999).

The biological sciences have been used to search for differences between homosexuals and heterosexuals, with these differences providing possible explanations for the causes of homosexuality. Originally, when biological reasons were sought to explain homosexuality, it was considered a medical condition representing a pathology that needed treatment (Bohan, 1996, p. 17). An example of the pathological assumptions related to homosexuality was one theory that became popular in the nineteenth century, which claimed that homosexuality was caused by progressive hereditary degeneration (Rosario, 2002, p. 19). It was claimed that the homosexual's relatives were degenerates and neurotics who passed their defects on to successive generations with cumulative intensity, leading to a person's homosexuality (Terry, 1999, p. 47). The research analysis and conclusions of these biological explanations were driven by heterosexist assumptions. More recently, differences between homosexuals and heterosexuals have been explored in the hypothalamus (LeVay, 1991), suprachiasmatic nucleus (Swaab & Hofman, 1990), anterior commisure (Allen & Gorski, 1992), fingerprints (Hall & Kimura, 1994), finger size (Williams et al., 2000), auditory system (McFadden & Pasanen, 1998), penis size (Bogaert & Hershberger, 1999), hair whorl direction (Rahman, Clarke, & Morera, 2009), birth order (Blanchard, 1997), chromosome Xq28 (Hu, Pattatucci, Patterson, Li, Fulker, Cherny et al., 1995), and twin studies (Bailey & Pillard, 1991).

One fundamental assumption underlying current biological research into homosexuality is that there are only two sexes (Terry, 1999, p. 33), even though until the eighteenth century it was believed that there was one sex and that women represented less developed men (Laqueur, 1992, pp. 150-151). The transformation of this belief was driven not by new discoveries, but by shifting power relations between the sexes (Laqueur, 1992, p. 152), and it allowed for maleness and femaleness to be theorized as representing opposite poles, with homosexuality landing somewhere in the middle. This conceptualization means that male homosexuality is associated with femininity and female homosexuality is linked with masculinity, which leads science to engage in research to determine how gay men are feminized and lesbians are masculinized (De Cecco, 1987, p. 109). This belief convinced doctors that gay men had feminine nervous systems and lesbians had masculine ones (Rosario, 2002, p. 20). Biological research exploring this countersexualization of a person's biology has occurred through morphological studies of the brain, endocrinological studies of hormone levels, and genomic analysis of the genes (Schuklenk & Ristow, 1996). The problem confronting much of this research is that it is based on assumptions about the existence of two sexes as developed since the eighteenth century. However, there exists an anthropological and historical record of cultures accepting and defining the existence of a third sex, including the Indian Hijras caste, Native American Berdache, eunuchs in the Byzantine palaces, transsexuals in the United States, and other individuals in Melanesia, Indonesia, and the Balkans (Herdt, 1996). Fausto-Sterling has argued that there exist at least five sexes, though she recently suggested there may be more (Fausto-Sterling, 2000, July/August). As an example of how some countries are dealing with these issues, Tamil Nadu, one of India's states, recently recognized a third gender on its official forms (Narayan, 2008, March 16). The evolution from the one-sex model to the two-sex model of understanding sex may not be complete, as becomes apparent as our understanding of human difference continues to expand.

The bias against homosexuality is also revealed through zoological explanations of homosexual acts in animals as sexual perversion, unnatural, aberrant sexual behaviors, and other such negative terms (Bagemihl, 1999, pp. 88-89). Same-sex acts are often described as problematic and demonstrating sexual dysfunction. For example, sexual activity between female gorillas takes longer than heterosexual activity, and this difference has been speculated by zoologists to be a sign of "mechanical difficulties" (Bagemihl, 1999, p. 91). However, there are other and more positive explanations, such as that the females find greater enjoyment in one another or they are developing closer bonds. It is the underlying prejudice against homosexuality that allows for the use of these pejorative terms and explanations.

American psychiatrists in the twentieth century argued against the idea of biological origins for homosexuality and claimed that homosexuality was not hereditary or biologically-based, but developed from environmental conditions that interfered with people's psychosocial maturation (Terry, 1999, p. 103). This belief assisted psychology in developing a disease-based model of homosexuality as a form of mental illness in need of treatment. The original issue of the 1952 *Diagnostic and Statistical Manual* (DSM) listed homosexuality as a sociopathic personality disorder, and then in 1968 it was listed as a sexual deviation (Bohan, 1996, p. 18). Though homosexuality was removed from the DSM listing in 1973, the new version referred to "egodystonic homosexuality," which served as a classification for homosexuals who were distressed about their sexual orientation. This classification continued to allow psychologists to treat a patient's homosexuality as a disorder. Finally, in 1987, reference to egodystonic homosexuality was removed as psychologists began to understand that doubt about one's sexual orientation was related to the internalization of negative societal standards. However, even when therapists accept that homosexuality is not a pathological condition, they often maintain the same model of explaining homosexuality as the end product of immature development (Richardson, 1993, p. 118) that marks homosexuality as less than heterosexuality. Rather than variations in sexual orientation being seen as equal, it is perceived that heterosexuality is normal or the baseline. Along with the continued use of these detrimental models of homosexuality, some psychologists and psychiatrists continue to understand homosexuality as a mental illness that can be corrected through reparative therapy despite its removal from the DSM.

Science, regardless of discipline, has approached the issue of homosexuality as a mystery to be solved and a social problem to be managed (Terry, 1999, p. 35). Based on the bias that homosexuality reflects a deviation from normal heterosexual functioning and is a reflection of an underlying pathology, anti-LGB organizations have focused on using studies containing these prejudices to promote their agenda and assert power over LGB individuals. A number of studies as explained by Bohan (1996, p. 76) have presented the following etiologies as explanations for homosexuality. It has been considered a result of narcissism or autoeroticism, fear of and aversion to the genitals of the other sex, or a developmental arrest. In gay men, it is the result of an overprotective mother and a distant father, a hunger for masculinity which can only be found in other men, or unresolved castration anxieties. In lesbians, it is the product of a girl's anger at her father and her resultant hatred of men, a girl's strong attachment to her father causing her to reject men so as not to realize her incest fears, or an expression of a woman's desire to assume the male role. Since the etiology is assumed to be the result of traumatic environmental stimuli (Drescher, 1998), anti-LGB groups argue that LGB individuals should be treated as if they have a disease or mental illness.

A. *Othering*

Research into homosexuality has led to individual harm in the "form of social sanctions, psychiatrization, and legal discrimination, inflicted by society upon its homosexual members" (Schuklenk & Ristow, 1996, p. 21). This research has negative consequences for LGB people because, through a process of Othering, it turns them into the "Other," or people who are perceived as different from and dangerous to heterosexuals. This Othering process "serves to mark and name those thought to be different from oneself" (Weis, 1995, p. 17) and banishes them to society's margins, representing them as "unworthy, dangerous, immoral, or as pitiable, victimized, and damaged" (Fine, 1998, p. 139). Science has been actively engaged in this process of defining LGB individuals as deviants, perverts, or mentally ill and in need of treatment (Bohan, 1996; Rosario, 2002; Terry, 1999). Power relations are deeply embedded within this defining process (Carabine, 1996), and since psychiatrists have the power to define what is normal, they can impact the identity of in-groups and out-groups (Ussher, 1992, p. 140). These perceptions of a group as the Other then has an impact on public policy as related to them (Stabile, 2008). For example, when the AIDS crisis first appeared in the 1980s it was considered a "gay disease." Since it was assumed to be a disease that mostly struck the gay community and this community had come to be represented as the Other, few resources were initially mobilized to respond to this tragedy.

By being Othered, people are homogenized into a collective "they" (Pratt, 1985, p. 120) in which they are always peripheral to the mainstream (Gandhi, 1998, p. 126), and stereotypes about the groups can flourish (Perks, 2008). It is assumed that "they" can be identified through their differences from mainstream cultures (Pratt, 1985). To be defined in this manner is "to experience how the dominant meanings of a society render the particular perspective of one's own group invisible at the same time as they stereotype one's group and mark it out as the Other" (Young, 1990, p. 59). Marginalized groups are then prevented from engaging in self-definition and self-determination (Collins, 1998). This Othering process can lead to demonizing other cultural groups (Ashcroft, Griffiths, & Tiffin, 2000, p. 30), stereotyping groups as magical, violent, and comical (Perks, Winslow, & Avital, 2008, p. 33), representing others as ignorant, poor, and uneducated (Gandhi, 1998, p. 86), failing to recognize individuals in the group and perceiving them as prey (Olson, 2008), and excluding group members from social power and status (Thomson, 1997). Once these myths about the Other become established as "fact," they can be circulated repeatedly until their origins are lost and their truth unquestioned (Caramagno, 2002, p. 171).

Part of this Othering process involves a strategy of constructing dualisms such as woman/man, east/west, and madness/sanity (MacCallum, 2002, p. 88) that allows for the co-construction of the Other and Self as existing in opposition to one another. This binary thinking allows for the construction of a hierarchy of values that structures how we understand ourselves and the world (Caramagno, 2002, p. 184). For example, in postcolonial studies, Othering explains how an empire defines itself against those it colonizes (Ashcroft et al., 2000, p. 173; Said, 1978). When colonizers define the people they colonize, they construct themselves as superior and in opposition to those they have conquered. The constructs of heterosexuality and homosexuality when theorized as part of a binary system can also be seen within this dualistic nature of Othering.

The Othering process is not just about defining the Other, but also provides the dominant group with benefits from which they gain privileges (Gandhi, 1998, p. 85), are placed at the top of moral and racial hierarchies (Perks, 2008, p. 74), and have a mechanism to manage their fear of difference and guilt over their oppressive actions (Perks, p. 78). This process is central to identity formation, as we often come to understand ourselves in relation to others based on long-standing narratives regarding specific groups (Weis, 1995). Scientific racism provides an example of how previous narratives can be used to explain the identities of dominant and subordinate groups through the creation of a body of empirical research that "proved" the inferiority of blacks to whites. Most of this research was biased from the very beginning, and interpretation of collected data was designed to support the preconceived notions of white superiority. One example of how this works was described by Tucker (1994, p. 3) in relation to studies on memory. When blacks were found to perform better on tests of memory than whites, the information was used to prove the superiority of whites because, it was claimed, memory decayed as one moved away from primitive conditions, and blacks were closer to these conditions than whites. Whites could then maintain an identity of being more evolved in contrast to the primitive nature of blacks. In this case memory was not related to intelligence. However, when another researcher found that the memories of the sons of the rich were superior to those of the sons of the working class, he claimed that this disciplined memory was proof of the intelligence of the rich. This comparison of research is just one example demonstrating how the interpretation of empirical research always takes place within the social, political, historical, and economic contexts of the person doing the research and how it can be used to fashion identities of subordination and domination.

Scientific heterosexism operates in a very similar fashion to the functioning of scientific racism in that it starts with a priori views, creates a body of empirical evidence that denigrates homosexuality and privileges heterosexuality, interprets the data to fit preconceived notions, and then applies these findings and ideas to claims of power over LGB individuals and their lives. Due to this research, heterosexuals cannot exist as those with a normal sexual orientation without homosexuals, and they cannot perceive themselves as moral and superior without the foil of the homosexual Other. In essence, heterosexuality comes to have meaning in relation to the exclusion, repudiation, and repression of homosexuality (Carabine, 1996). Dominant identities such as heterosexuality become "woven through the assertion of a pure sexual self and . . . 'others' are constructed as predators, sick, diseased, hyper-sexual" (Weis, 1995, p. 31). These assertions are then supported through the use of empirical science.

B. *Why Science?*

Anti-LGB groups often base their opposition to LGB individuals on religious arguments and perspectives. However, they have increased the incorporation of scientific discourse into their discussions. From the literature, four main reasons have been identified as to the reason that anti-LGB organizations seek to use science in their discourse concerning LGB people. First, the West has developed as a scientific culture in which claims about the world are based on objective study rather than subjective pronouncements (Gaukroger, 2006). As science has became the preeminent way of knowing the world, theological claims had to pass the test of consistency with Newtonian physics and modern biology (Longino, 1990, p. 163). To meet this requirement for consistency, anti-LGB organizations and activists combine scientific and religious arguments and language to create powerful messages that can justify homophobic and heterosexist biases and reasons for voting against LGB rights and the supporting of anti-LGB public policies (Wood, 2000). To defend the science they use, anti-LGB organizations deny that subjective biases inform research into homosexuality that has negative connotations, and they charge that changes to the scientific and psychological understandings of homosexuality that present a more positive perspective on it are based on political motives and not objective science, as reflected in Carlson's (n.d.-a) anti-lesbian article. In essence, the anti-LGB organizations claim their science is objective and that any science that does not comply with their a priori views is politically driven.

Second, there must exist a compelling state interest to prevent people from having their civil rights recognized (Cain, 2000). Religious arguments cannot be used as a justification for limiting civil rights when considered within the context of a secular government as exists in the United States. For this reason, incorporating scientific arguments into anti-LGB discourse is a benefit because the science can be used to argue that there is a compelling state interest in restricting the rights of LGB people. Research claims, as explored by Bohan (1996), Garnets and Kimmel (1993), LeVay (1997), Rosario (2002), and Terry (1999), that homosexuality shortens a person's lifespan, is a result of degeneracy or mental illness, reflects a narcissistic personality, may be as harmful as drug abuse or smoking, and many other negative assertions, are used to promote the idea of a compelling state interest in regulating the lives of LGB people. For example, the Family Research Institute (FRI) website ("Can anything be done to stop gay rights?," 2009), after providing some research that purportedly shows that homosexuals are more likely to be diseased than heterosexuals and that these diseases involve substantial health care costs borne by the state, asserts, "For this reason, and the fact that those who engage in a penile-anal sex encourage others to participate with them, the state has a compelling interest in suppressing this behavior" (¶ 107).

Third, anti-LGB organizations seek to demonstrate that their religious claims about gender and sexuality are reflected in the natural world as revealed by science. Focus on the Family, an anti-LGB organization, is committed to the idea, based on their spiritual and moral beliefs, that homosexuality "violates God's intentional design for gender and sexuality" and that people can change their sexual orientation (Focus on the Family Issue Analysts, 2008a, ¶ 3). They then explain that "not only does research confirm permanent change is possible, but numerous testimonies declare the truth of God's healing and redemptive power" (Focus on the Family Issue Analysts, 2008b, ¶ 9). Their appeal to research is an attempt to bring scientific legitimacy to their religious beliefs. If their religious beliefs have scientific validity, then, they believe, their claims cannot be easily dismissed by society and they can impose their religious values on others.

Finally, "scientific claims and ideas have an influence on public (governmental) policies, on the social values informing policy, on informal policies, and on cultural ideals" (Longino, 1990, p. 164). The importance of science leads to a desire to make decisions based on quantitative expertise that involves the use of supposedly objective statistics uncovered through research (Porter, 1995, pp. 7-8). Due to the growth of scientific influence and quantitative expertise on public policy and opinion, it was hoped that scientific theories describing the features and causes of homosexuality could be used to contain and control it (Terry, 1999, p. 73). For example, Wood explained how the Oregon Citizens Alliance blended scientific and religious discourse to support Ballot Measure Nine, which would have defined homosexuality in the Oregon constitution as "abnormal, wrong, unnatural and perverse" (2000, p. 21).

The Family Research Institute also recognizes the influence of science on public policy, as evidenced on its website where it asserts, "Science and scientific reasoning are increasingly the arbiters of public policy. Without scholarship of their own in hand, conservatives have few weapons in their arsenal" ("Stopping gay rights," n.d., ¶ 6). By accepting the importance of science in public policy debates, anti-LGB organizations attempt to infuse their religious arguments with scientific rationale to expand their influence and to contain LGB people within specific social parameters. The policies they seek to influence include, but are not limited to, issues such as marriage equality, LGB people joining the military, and adoption rights.

II. Methodology

This study focused on two major anti-LGB organizations and their use of science, as expressed on their websites, to Other members of the LGB community. The two organizations selected for analysis, Focus on the Family (FOF) and Family Research Institute (FRI), were chosen due to their active involvement in opposing pro-LGB legislation, supporting anti-LGB legislation, and filing amicus briefs in support of or opposition to, depending on the purpose of the case, legal cases dealing with LGB rights. Their use of science on the web was studied because the Internet integrates audiovisual, oral, and written forms of communication into one system that could influence society on a level comparable to the effect of the alphabet's impact on society (Castells, 2000, pp. 355-356). With the expansion of the Internet and more people accessing it as a means of gaining information, online communication has the potential to lead to the greatest transformation in public opinion on a variety of topics (Pippa, 2001). This potential makes it important to understand how discourse is used on the web to promote a group's ideology and beliefs.

Analyzing discursive structures is one way to uncover how the Othering process is used to define marginalized groups (Perks et al., 2008, p. 34) such as the LGB community. Critical discourse analysis (CDA) was selected as a means of interpreting the text on websites because it focuses on the dynamics of power, ideology, and knowledge within discursive processes (Phillips & Hardy, 2002, p. 2). It provides a tool for determining the ways in which social power, dominance, and inequality are produced, reproduced, and resisted within the text and talk of a society (Henry & Tator, 2002, p. 72). These texts are assumed to create and shape identities and actions, form cultural capital, and produce and articulate broader ideological interests (Luke, 1997, p. 53).

Language and text operate ideologically and contribute to the domination of some people by others (Fairclough, 2001, p. 6). Discourse "may be used to make asymmetrical relations of power and particular textual portrayals of social and biological worlds appear given, commonsensical and 'natural'" (Luke, 1997, p. 54). Using science to promote a disease-based model of homosexuality is an attempt to explain heterosexuality as the only natural and normal sexual orientation, with all deviations from this norm considered unnatural. It is an attempt to legitimatize the marginalization of the LGB community in society and the superiority of heterosexuality. Through the use of CDA, it is possible to disrupt and render problematic the use of science to promote the Othering of LGB people and to uncover how this scientific discourse creates ideologies and relationships of subordination and domination based on sexual orientation, identities, and expressions.

This critical approach to discourse links the texts (micro-level) with the sociocultural practices and power structures (macro-level) that the texts reproduce (Thompson, 2004, p. 5). By understanding how the texts reproduce power relations, it becomes possible to bring forth the voices of the marginalized and to question those in power to reveal their hidden agendas and motives that promote their self-interests and sense of superiority (Henry & Tator, 2002). When texts are not critically analyzed, current power structures and worldview assumptions remain unchallenged, masking oppressive and marginalizing ideologies in discursive interactions. Through these discursive interactions, prejudices are reinforced and shared justifications for discrimination against minority groups are expressed and communicated (van Dijk, 1993).

III. Findings and Discussion

The organizations under study use and misuse science to create a sense that LGB people are the "Other" and different from heterosexuals. The sense of Otherness is created by using science to assist in creating five key dimensions of Othering. These areas include using scientific studies to generate fear, create a sense of disgust, provide a rationale for pity, demonstrate the changeable nature of sexual orientation, and create a heterosexual identity based on the superiority of heterosexuality which exists in opposition to a homosexual identity. The same studies under review may be referenced to demonstrate any number of these dimensions.

One of the main ways in which these organizations use science is to create a sense of fear that LGB people intend to destroy the traditional family and the nation, and to harm children. Focus on the Family is opposed to the legalization of same-sex marriage and attempts to provide different rationales for opposing it. According to Dobson (n.d., ¶ 16) of FOF, one reason to oppose same-sex marriage is that children will be harmed by having gay or lesbian parents "because homosexuals are rarely monogamous, often having as many as three hundred or more partners in a lifetime–some studies say it is typically more than one thousand." Dobson did not cite which studies make these claims, but his reference to "some studies" indicates an attempt to add scientific validity to his assertions that homosexuals are hypersexual and dangerous to children. He also contends that "ten thousand studies have concluded that kids do best when they are raised by loving and committed mothers and fathers" (¶ 17) and that "social scientists have been surprisingly consistent in warning about the impact of fractured families" (¶ 18). Once again, the attempt is to appeal to science to justify prejudice and legal discrimination against LGB individuals.

In promoting their book *The Gay 90s*, by Paul Cameron, the Family

Research Institute claims that it reviews all of the relevant studies of homosexuality. It further attests, “This work demonstrates the importance of empirical research in current social policy formulation and adoption” (“The Gay 90s,” n.d., ¶ 6). Due to the recognition of the importance of research in developing public policy, the Family Research Institute uses science to condemn homosexuality and to cause people to fear LGB people. They conclude the promotion of their book with the following statement:

> The elite of our society seems determined to alter the nature of society itself. Contemptuous of history, devoid of principle, this elite seems determined to destroy the only value system that has actually worked in the past and still works—the one practiced by a majority of my fellow Americans—the Judeo-Christian ethic. What Pitirim Sorokin warned about in the 1956, that Western Civilization was unleashing sexual forces that would topple us from our position of world leadership, is happening before our eyes. (“The Gay 90s,” n.d., ¶ 8)

The destruction described above occurs, according to their claims, due to society’s acceptance of homosexuality. The FRI continues using fear to Other LGB people by citing a variety of studies to claim that LGB individuals are more violent than heterosexuals and are more likely to be serial killers, murderers, and rapists (Cameron, n.d.-d). Along with citing his own work, Cameron refers to reports from the U.S. Department of Justice and studies that appeared in the Journal of the American Medical Association and the American Journal of Psychiatry to make his case that homosexuals are more violent than heterosexuals. Fear of the Other and claims that they are inclined toward violence are not new and have been seen in attempts to denounce people of color and immigrant groups considered socially undesirable (Tucker, 1994, p. 68). These ideas linking violence and homosexuality are given the appearance of objectivity through the citation of negatively oriented research into homosexuality or descriptions of serial killers who happen to be gay as reflective of the general LGB community. This connection between LGB people and a tendency toward violence is meant not only to generate fear in some people, but also to provide a justification for prejudicial attitudes and discriminatory acts against the LGB community.

A second dimension of the Othering process of LGB people involves invoking a sense of disgust for homosexuals by showing how they are diseased, sexually promiscuous, and abnormal. Claiming that other groups are diseased, are more vulnerable to disease, or are the cause of spreading disease has been linked to increasing the disgust factor that one group has for other groups (Navarrete & Fessler, 2006). An article on the FOF website (Carpenter, 2001) discussed the National Education Association’s (NEA) support for talking positively about LGB people through the curriculum. Carpenter suggested that if the NEA wants to discuss LGB issues then "they ought to talk about the dangerous health risks accompanying homosexuality, including syphilis, damage to the intestinal tract and the mother of all STDs, AIDS" (¶ 15). In another article that references reports from the Centers for Disease Control and Prevention, the link between homosexuality and disease is made again and reads, "For instance, data from cities across the U.S. indicate that rates for diseases like syphilis, gonorrhea, hepatitis and human papilloma virus are consistently–and disproportionately–high among gay men" ("Silence v. the truth," n.d., ¶ 9). By claiming to use information from the CDC, FOF is attempting to show that in addition to religious arguments, there are reasons based in scientific research to oppose homosexuality.

The FRI attempted to increase people's disgust for homosexuals by connecting disease to homosexuality and explaining in graphic detail how the supposed sexual activities of the LGB population are vile and dangerous (Cameron, n.d.-b). In the pamphlet *Medical Consequences of What Homosexuals Do*, Cameron (n.d.-b) referenced a number of medical and biological studies (Christenson, Brostrum, Buttiger, Hermanson, Weiland, Ryd et al., 1982; Corey & Holmes, 1980; Dritz, 1980; Elford, Tindall, & Sharkey, 1992; Mavligit, Talpaz, Hsia, Wong, Lichtiger, Mansell et al., 1984; McKusick, Horstman, & Coates, 1983) published in journals such as the *New England Journal of Medicine, American Journal of Public Health,* and *American Journal of Epidemiology* to make the point that LGB people are diseased or engage in acts that promote disease. Though the authors of these studies may be surprised to learn that their research is used to degrade LGB individuals, their work is an important component of the process of Othering engaged in by FRI. By linking their beliefs to these studies and others, the FRI wants to legitimize its discourse and create a sense that LGB people are the Other, as demonstrated through empirical science. This Otherness is reflected by how disgusting LGB people are perceived as being, especially when compared with heterosexuals.

The third use of science for Othering purposes is to portray LGB people as objects deserving pity. The need to create this sense of pitying the Other allows the group doing the pitying to show themselves as caring and empathetic (Eriksson & Aronsson, 2005). One way to transform LGB people into individuals needing pity is by portraying them as victims of some kind of trauma. Satinover (n.d., ¶ 17) claimed, "Childhood trauma has terrible effects on the emotional well-being of adults. Many studies demonstrate the sadly disproportionate extent of sexual abuse in the childhoods of homosexual men." Carlson (n.d.-a, ¶ 54) argued that lesbians suffer from physical and emotional trauma when growing up and that in adulthood "the underlying theme in a lesbian's life parallels that of a baby. An infant radiates insecurity just as a lesbian harbors insecurity deep within herself." The image of an adult being like an infant engenders pity for a person stuck at such a young developmental stage. How this pity is turned into a faux sense of caring can be seen in Cameron's (n.d.-b, ¶ 24) claim: "Homosexuals are sexually troubled people engaging in dangerous activities. Because we care about them and those tempted to join them, it is important that we neither encourage nor legitimize such a destructive lifestyle." Fryrear, a former lesbian who works as the director of gender issues at FOF, said in her interview with Mesko (n.d., ¶ 7), "The hearts of those who serve at Focus are full of such compassion, grace and love." By making LGB individuals pitiable, anti-LGB people can claim that they really care for and love homosexuals and just want to make them "normal." It is purported that it is this caring and concerned attitude and not hatred or prejudice that explains such people's opposition to recognizing LGB people as legitimate members of the community.

This sense of pity is also developed when LGB individuals are said to be trapped by their sexual desires. Carlson (n.d.-b, ¶ 41) commented, "The [male] homosexual who has not been told the truth that his homosexuality is changeable, unknowingly becomes trapped. The seeming acceptance and rush of excitement that may seem fulfilling at the time, ends up leaving him empty and hopeless." If LGB people are really trapped in their "lifestyle," then, this discourse claims, it is only right for the anti-LGB individual or group to feel sorry for homosexuals and to help free them from their trap.

Another dimension of using science to Other LGB individuals is to demonstrate that people can change their sexual orientation from homosexual to heterosexual. The belief that sexual orientation is biologically formed predicts positive attitudes toward LGB people, and conversely, the belief that sexual orientation is a choice can lead to more negative attitudes toward them (Boysen & Vogel, 2007). If anti-LGB groups can establish the changeability of sexual orientation, they can convince people that LGB individuals do not deserve to receive the same civil rights protections as other groups do based on immutable characteristics such as race, gender, or disability. For example, on the FRI website Cameron (n.d.-e, ¶ 21) commented, "It's a much different story with inherited characteristics. Race and gender are not optional lifestyles. They remain immutable." Price (n.d., ¶ 4) argued on the FOF website, "And since nobody is 'born gay,' it's clear that sexual orientation is, at its core, a matter of *how one defines oneself*–not a matter of biology or genes." The FOF website also provided quotations from scientists who claim that sexual orientation is not biologically determined and is a result of the environment (Fryrear, n.d.).

By describing sexual orientation as changeable, anti-LGB organizations can Other LGB people by claiming that their sexuality is an abnormal response to the environment that it is a danger to society, and that homosexuals should not have the same rights under the law as heterosexuals. This explanation also provides anti-LGB groups with the argument that LGB people are rebelling against social norms and just need to control their behavior, and that if they don't, this reflects a weakness on their part that cannot be tolerated by society. It is important for anti-LGB groups to portray sexual orientation as controllable behavior because people with this belief are more likely to have negative attitudes toward LGB people (Sakalli, 2002), making them more supportive of anti-LGB policies. For example, after criticizing scientific studies that demonstrate the biological origins or psychological normalcy of homosexuality, Cameron (n.d.-a, ¶ 30) referenced studies that claim sexual orientation can change and concluded, "No matter how such desires come about, members of society are rightly expected to control their behavior and not endanger others." Homosexuality is portrayed as an individual defect that must be controlled and contained—if not by the individual, then by society.

The final dimension in using science to Other LGB individuals is to provide a contrasting heterosexual identity, recognize this identity as the norm, and promote heterosexism, creating a sense of superiority to LGB people. In athletics, by classifying gay men as not real men and as sick and inferior, athletes are able to construct their own identity as a "man" (Weis, 1995, p. 25). Anti-LGB organizations accomplish the same identity construction, but rather than through athletic prowess, they use science to define a heterosexual identity in contrast to the Otherness of LGB individuals. These organizations describe LGB people as being incapable of having deep relationships, being mentally ill, and being unable to control their desires. Cameron (n.d.-c, ¶ 28) argues that LGB people have weaker human bonds with others, and as evidence of this "fact" he claims that compared with heterosexuals, "only about half as many homosexuals had gotten married and, if married, were much less apt to have children." He continues the comparison by asserting that "if married, homosexuals were about 3 times more likely to cheat on their spouse" (¶ 29). Along with claims that LGB people have worse interpersonal relationships with others than heterosexuals, Cameron (n.d.-c) suggests that they also have worse health and are more likely to be criminals than are heterosexuals. Heterosexuals can, therefore, take comfort in the fact that they represent the opposite of all these things and are less likely to be criminal, are more likely to maintain meaningful relationships, and are healthy.

The formation of a superior heterosexual identity can be observed when Mesko (n.d., ¶ 19) explains that when heterosexuals oppose homosexuals, their "standing for righteousness will sometimes bring the hatred of those who do not yet understand." Anti-LGB heterosexuals, through this discourse, are represented as righteous and loving, not hateful. Likewise, Cameron argues that heterosexuals are good citizens and that LGB people are nonproductive and a threat to society. According to his view of history,

> Good citizens led productive lives and brought children into the world to replenish the community with virtue.
>
> Those who did not accept these responsibilities–who avoided work or failed to accept the "sweet yoke" of marriage and parenthood–were considered suspect and even vicious. (Cameron, n.d.-c, ¶ 1-2)

He continues, "Productive people will enjoy life, feel good about themselves, earn the respect of friends and co-workers, and feel connected with their families and society" (Cameron, n.d.-c, ¶ 5). He contrasts this state with that of the nonproductive or homosexual by describing the latter as being likely "to feel dissatisfied with life, themselves, be stung from social scorn, and seek excessive distraction" (¶ 5). The clear message from this discourse is that heterosexuality represents everything that is good and normal in society, and is superior to homosexuality. By engaging in the Othering process in this manner, anti-LGB organizations are able to create a heterosexual identity in opposition to the hated and unacceptable identity of the Other.

The concern about getting a disease from another group was explained above as being connected to increasing the disgust factor one group has for another. However, this disgust sensitivity toward others can also help solidify in-group attraction, thereby helping to construct an in-group identity (Navarrete & Fessler, 2006), which in this case is that of heterosexual as healthy. Cameron (n.d.-c) repeatedly compares the health of LGB people with that of heterosexuals in an attempt to demonstrate that heterosexuals are healthier as a group. By designating themselves as the healthier group, heterosexuals can create a superior identity that allows them to see their sexual orientation as the only natural and correct one.

Scientific studies are often used as an integral component of creating these contrasting identities in which heterosexuality is privileged and all other sexualities are devalued. In one example, Stanton (n.d., ¶ 31) explains research connected to the role of mothers and fathers in raising children and concludes, "To be concerned with proper children development is to be concerned about making sure that children have daily access to the different and complementary ways mothers and fathers parent." This article presents the idea that heterosexuals make good parents, whereas lesbian and gay parents lack the necessary diversity to raise healthy children. FRI uses science to proclaim that adults "who engage in homosexuality are more criminal, more rebellious, more likely to be drug-users, more apt to molest children, and so on" ("Can anything be done to stop gay rights?," n.d., ¶ 61). The heterosexual identity formed through this comparison is as follows: adults who engage in heterosexuality are more likely to be law-abiding, sexually restrained, and productive members of society.

IV. Conclusion

The rise of belief in scientific interpretations of reality and the decline of the unquestioning acceptance of theological viewpoints as valid, combined with the American belief that one cannot impose religious beliefs on others, has led organizations that perpetuate anti-LGB ideas to use and misuse science to support their beliefs when explaining their views in the public debate on homosexuality. However, this is not the first time that science has been used to promote injustice and oppression. Science's attempt to understand racial differences quickly entered the political discourse on human rights and freedom, the limitations of democracy, the necessity of racial segregation, the inevitability of socioeconomic disparities between the races, national welfare, and public education (Tucker, 1994, p. 5)—all to the detriment of people of color. Likewise, the study of homosexuality is used by organizations and individuals to justify limiting the rights and societal involvement of LGB individuals.

Similarly to research into racial differences that is used to reject the rights of people of color, the scientific study of homosexuality has also been critiqued. Schmidt explained that every etiological theory of homosexuality—psychoanalytic, learning, sociological, biological, or a combination of them—has been used against LGB individuals (1984, p. 138). These theories and the corresponding research are rooted in extra-scientific normative values (Suppe, 1999, p. 175). The inherent heterosexist biases contained within research on LGB people have been used to suggest that science should focus on the causation of homophobia and its prevention rather than on the etiology of homosexuality (Schuklenk & Ristow, 1996, p. 25). However, science is too valuable a tool for anti-LGB groups to stop their research, as it allows them to Other LGB people and to promote their political, moral, social, and ideological agendas under the guise of empirical science.

This study has demonstrated that science is an important component of the process used by anti-LGB organizations to justify their beliefs, to Other LGB individuals, and to construct a superior heterosexual identity. The process of Othering through scientific discourse serves to privilege the heterosexual "Us" over the homosexual "Them." The line separating the two is permeated with negative judgments that portray LGB people as dangerous, diseased, pitiable, unwilling to change, and inferior to heterosexuals, while heterosexuals are positively judged as pure, sexually restrained, healthy, and moral. These differences are then used to justify the oppression of LGB people, as well as to blame them for the injustices they confront and for the growing problems of society.

The goal of these organizations is not to seek truth about homosexuality, or even sexual orientation, through science. Instead, they seek to justify their beliefs through claims of empirical science and to represent the oppression of LGB individuals as based on the natural order of life. For example, the FRI asserts that it was founded "with one overriding mission: to generate empirical research on issues that threaten the traditional family, particularly homosexuality, AIDS, sexual social policy, and drug abuse" ("Our Mission," n.d., ¶ 1). The group further claims that it "believes the strength of our society depends on preserving America's historic moral framework and the traditional family. FRI is working to produce sound, scientific data on pressing social issues—especially *homosexuality*—in an effort to promote traditional policies" ("Our Mission," ¶ 3). FRI's research is automatically biased toward its view of what constitutes traditional values and policies. The ideological nature of the research is to Other LGB people in an effort to promote FRI's political and social values that will ostracize, repress, marginalize, and exclude LGB individuals from society.

This intertwining of the scientific study of homosexuality with preconceived ideologies and strong religious and political dimensions has taken place almost from the very beginning. The current state of much of this research can be said to resemble the description of eugenics as described by Raymond Pearl in 1927. He argued that the propaganda and scientific components of the eugenics movement had "become a mingled mess of ill-grounded and uncritical sociology, economics, anthropology, and politics, full of emotional appeals to class and race prejudices as solemnly put forth as science, and unfortunately accepted as such by the general public" (Tucker, 1994, p. 71). Likewise, the research into, politics surrounding, and religious dimensions of homosexuality have become so mixed together that it is impossible to tell where one starts and the other ends. Much of this science is based on heterosexist prejudices that influence the type of research conducted and its interpretation. These findings are then used as impartial and empirical data to Other members of the LGB community as dangerous, different, and inferior, to define heterosexuals as normal, and to defend the use of social, political, religious, and cultural power to marginalize LGB individuals.

In conclusion, scientific judgments formed by anti-LGB groups are rooted in a heterosexist context, eliminating any claims to objectivity and serving only to provide a rationale for promoting anti-LGB prejudices.

Preconceived ideas frame the research into homosexuality, determine the criteria for data analysis, and influence the conclusions drawn from the research. This science provides cover for politicians, religious leaders, and activists who wish to promote discrimination and prejudice against sexual minorities through defining them as the Other. Studies that create statistics "proving" that sexual minorities are at risk for disease, mental illness, or engaging in unhealthy practices ignore the role that factors such as violence and discrimination against LGB individuals may play in these figures. Science does not exist outside the social, cultural, or political contexts within which it is constructed; rather, it is an integral component of these contexts and can often be used within a discourse of Othering to rationalize oppression against and power over the hated Other.

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