



## Sexualities and technologies: How vibrators help to explain computers

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### Abstract

In this article, I stress the importance of focusing on sexualities in critical analyses of computer technologies. Using the example of late nineteenth and early twentieth century vibrators, I demonstrate that by studying historically remote, predigital technologies, students can develop the language and analytical skills needed to interrogate the mutual construction of sexualities and computer technologies. Furthermore, I argue that examining the intersections of sexualities and computer technologies is especially important in networked computer classrooms where students' sexual identities and concepts of sexuality not only shape interactions with peers and with technologies but can determine the quality of the educational experience for all.

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### 1. Introduction

A male colleague once asked me what my course in gender and technology had to do with English studies. Having taught the course twice, I would now explain to him that this course is indispensable for our majors, many of whom are in professional writing, because it helps them to see technologies not as neutral instruments, but as cultural artifacts shaped by the historical and sociopolitical contexts present at their inception. Investigating how contextual forces, in this case ideologies of gender and gender roles, interact with technologies is important preparation for students who will use technologies in workplaces and organizations and, therefore, should be prepared to do so critically and ethically. Through my research and teaching, I was repeatedly reminded that because technologies are also influenced by sexuality, a focus on gender is insufficient and, furthermore, in discussions about technologies, sexuality should not be conflated with gender (Stepulevage, 2001). Focusing on sexuality in relation to computer technologies, for example, can highlight the presence of sexed bodies and sexual

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objects in virtual spaces, such as multi-user, object-oriented domains (MOOs) and the World Wide Web, and emphasize the role these spaces play in reflecting and reifying hegemonic constructions of sexuality. Because students are close to computer technologies and tend to perceive them instrumentally, they may have difficulty identifying the mutual construction of sexualities and computer technologies without first understanding how paradigms of sexuality function and shape how technologies are developed, marketed, and used. As a result, I have incorporated a historical perspective into my courses, asking students to compare the relationships between sexuality and older technologies, including radios, telephones, microwave ovens, and vibrators, with contemporary examples. Through reading pieces from the rich body of literature analyzing how dominant paradigms of gender and sexuality influenced and were reinforced by the invention, marketing, and use of technologies throughout history, students develop a sense of how to identify models of sexuality, trace their development over time, and discuss their interactions with contemporary technologies.

In this article, I first explore sex, gender, and sexuality theoretically and interrogate their relationships to one another and to technologies. I then present the case of the vibrator, a medical implement turned household appliance, and demonstrate how its unique history can be used to prepare students to recognize and critique the ways that technologies reflect and participate in constituting dominant cultural narratives of sexuality. In *The Technology of Orgasm*, Rachel Maines (1999) argued that physicians routinely used vibrators from the 1880s until the early 1920s to bring women to *crisis* (orgasm) as a treatment for hysteria and that this practice reflected a cultural perception that female orgasm was not part of sexual intercourse and negated the part of female sexuality not directly related to male penetration and male orgasm. Highlighting how the development of the vibrator both resulted from and perpetuated the designation of female sexuality as pathological proves to be a powerful step in prompting students to explore how technologies and sexuality interact. Finally, I demonstrate how this practice of cultural analysis from a safe historical distance prepares students to perceive the interactions of sexuality with contemporary technologies, including computers and information and communication technologies (ICTs), by applying the models learned from their examinations of early vibrators.

## 2. Locating sexuality in intersections of gender and technology

While scholars have developed sophisticated, nuanced, and theoretically informed analyses of the relationships between genders and technologies, these analyses often ignore sexuality or conflate it with gender. As a result, they miss the role that dominant constructions of sexuality, assumptions of heterosexuality, and heteronormativity play in shaping the construction and deployment of technologies and, in turn, the way technologies can be used to reify and/or challenge dominant narratives of sexuality. To interrogate the relationship between sexuality and technologies, it is important to recognize sexuality as independent from, yet connected to gender, constructed and historically situated, and linked to the invention, use, and proliferation of technologies.<sup>1</sup>

Scholars agree that recognizing sexuality and biological sex as grounded in material interactions, yet simultaneously contextually defined and historically constructed, is key

to understanding how sexuality is distinct from, yet related to, gender. Such discussions trace their origins to the work of Michel Foucault (1978) and its subsequent development to include a performative model of sexuality by Judith Butler (1993). Based on the work of these theorists, the abstractions identified as sexuality that are constructed and deployed at particular historical moments and among certain groups of people go beyond a simple acting out of desire performed by sexed bodies; normative and alternate understandings of sexuality, physical and discursive, also label, give rise to, and direct the acts and desires of groups and individuals (Butler, 1993; Epstein & Johnson, 1998; Moore, 1994; Tseëlon, 2001).

The mutual construction of sexuality, gender, and certain technologies, particularly computer technologies, should be examined in educational settings, which are centers of the deployment of sexuality as well as progenitors of models for human and computer interactions. Binary and often asymmetrical gender distinctions, reductive understandings of sexuality, and heteronormativity are propagated in educational environments—through the ideologies that support particular constructions of sexuality and gender and through the technologies used therein. Debbie Epstein and Richard Johnson (1998) highlighted the central role of educational institutions in formulating the range of possible sexual identities and demonstrating the ramifications of particular positions. Although Epstein and Johnson's (1998) study centered on sexuality in primary and secondary education, the working out of sexual identities through the negotiation of various sanctioned and unsanctioned positions is part of higher education as well. On university campuses, homosexuality may be acknowledged as a legitimate sexual identity and tolerance may be encouraged and taught, yet on many campuses, including my own, heterosexuality tends to exist as an unacknowledged norm and openly gay or lesbian students and faculty are critiqued for revealing their identities in the classroom. For example, at the institution where I work, a student who recently posted a request for information about a math professor on the professor review section of the student online discussion forums received a reply indicating that the professor in question was reputed to be a good teacher but "a little gay" and so might not be a good choice for some students.<sup>2</sup> Perceived homosexuality is seen as exceptional and worthy of comment in assessments of faculty members and courses, while heterosexuality, which is viewed as normal or constant, is rarely noted as a determiner of a teacher's value or ability to connect with students.

Because heterosexuality is often transparent and assumed even in university settings, Linda Stepulevage (2001) argued that it is important to examine how sexuality and, in particular, heteronormativity function to perpetuate asymmetrical gender relations, such as the male dominance of computer-related and technological fields. Stepulevage (2001) remarked, "Unless we begin to articulate the heterosexual relations that are taken for granted in gender relations, we lose an opportunity to challenge the conflation of gender and heterosexuality that complicates social relations in male-dominated domains like computing" (p. 336). Challenging this conflation is particularly important in computer classrooms where students' assumptions about their own and others' sexual identities may affect how and even whether they interact productively with technologies. Because demanding equal control over or access to computer technologies might be seen as a feminist act and because feminism is conflated by some with lesbianism (Epstein & Johnson, 1994; Stepulevage, 2001), female students may not assert themselves or their proficiency with these technologies, endeavoring to "perform a version of female" that is unremarkably heterosexual (Stepulevage,

2001, p. 335). The presence of computer technologies both promotes and highlights the effects of sexuality and heteronormativity, effects which must be acknowledged, unpacked, and discussed. Failing to focus on sexuality and interrogating the roles it plays in gender–technology intersections results in missing a layer of possible meaning that may lend insights into how technologies can be used to maintain particular social norms related to gender, such as cultural assumptions of males' greater computer prowess or females' fears of using technologies. Such norms must be challenged to foster greater equality within educational spaces, including computer classrooms.

### 3. Sexuality and technologies: The case of the vibrator

In the undergraduate and graduate writing courses focused on gender and technology that I teach, I have observed a change in students' willingness and ability to discuss sexuality in general and relate it to the development of technologies, particularly computer technologies, after our discussion of the technological advance of late nineteenth and early twentieth century vibrators. Building on my anecdotal observations of students' reactions and on subsequent research, I explore below how and why examining early vibrators and their connections to sexuality proves to be instructive for recognizing and analyzing intersections of computers and sexualities.

A brief overview of the courses I teach in gender and technology provides a useful context for this discussion. Both courses, the undergraduate course, which I taught first, and the graduate course had the same goals,<sup>3</sup> which were to help students (a) to understand the reciprocal relationships between genders, sexualities, technologies, and other cultural artifacts and learn a variety of approaches for viewing and studying these relationships; (b) to apply various modes of critical analysis and theoretical models to cultural artifacts such as texts, films, and web sites that contain narratives of gender, sexualities, and technologies and discuss the ramifications of their respective representations; (c) to write coherently about interactions of genders, sexualities, and technologies; (d) to create media projects, including web sites, MOO exhibits, and videos, based upon reflections about and analysis of experiences with or representations of genders, sexualities, and technologies; and (e) to develop strategies for considering seriously and speaking and writing academically about unfamiliar ideas and perspectives regarding gender, sexualities, and technologies. Both courses were divided into four sections:

- (1) theoretical lenses for examining gender, sexualities, and technologies;
- (2) intersections of gender, sexualities, and computer and Internet technologies;
- (3) intersections of gender, sexualities, and home, leisure, and workplace technologies, including microwave ovens, radios, race cars, and computer games; and
- (4) intersections of gender, sexualities, bodies, and reproductive technologies.<sup>4</sup>

Course readings included a wide variety of articles from peer-reviewed journals and academic collections. Students were encouraged to reflect critically about their experiences with gender, sexuality, and technologies, to explore connections to race and socioeconomic status, and to focus on the gender and sexuality of males as well as females.

Students in both courses read the preface and first chapter of Maines' (1999) text, *The Technology of Orgasm*, in the section of the course on home, leisure, and workplace technologies. As Maines explained in her historical study, the electromechanical vibrator was invented as a medical technology in the 1880s and was used in ways that perpetuated dominant yet mythical conceptions of sexuality. The connections Maines made between the invention of the vibrator and androcentric concepts of (hetero)sexuality prove to be insightful and, I would argue, instructive for understanding how technologies support particular constructions of sexuality and gender and are shaped by those constructions. According to Maines, the vibrator's history is especially revelatory because of its use in treating women for hysteria, a disease that has been identified as a key component of dominant constructions of Western, androcentric sexuality. Vibrators are part of a history that "connect[s] gender, clinical practices and hysteria to show how women and the feminine were portrayed and labeled as deviant" (Bankey, 2001, p. 39). Likewise, Foucault (1978) identified the hysterization of women's bodies as one of the "four great strategic unities. . . which formed specific mechanisms of knowledge and power centering on sex" (p. 103) and connected the hysterization of women to the construction of sexuality by noting that the disease precipitated "a thorough medicalization of [women's] bodies and their sex" (p. 146). According to Bankey (2001), the image of the hysterical woman that medical doctors constructed in the nineteenth century codified reliable symptoms for all doctors to identify and women to imitate, including "duplicitous, theatricality, suggestibility, instability, weakness, passivity, and excessive emotionality" (p. 40). Women could be labeled as hysterical based on a myriad of symptoms and complaints, physical and emotional, literal and figurative, and for exhibiting overt sexuality or other socially inappropriate behavior (Wright & Owen, 2001). Bankey (2001) observed, "These signs and movements were often associated and conflated with representations of the feminine; thus, excessive femininity is simultaneously understood as deviant behaviour" (p. 40).

Understanding how hysteria was medically defined and treated proves to be essential to grasping why vibrators were developed and how they perpetuated androcentric<sup>5</sup> conceptions of sexuality. The medical literature from the fifth century B.C.E. through the nineteenth century provides evidence that physicians through the ages agreed that hysteria in women was caused by a "lack of sufficient sexual intercourse, deficiency of sexual gratification, or both" (Maines, 1999, p. 23) and should be treated, in part, through vaginal massage and, in some cases, stimulation to orgasm, called *crisis* or *the hysterical paroxysm* in the nineteenth century (Maines, 1999, p. 9). Despite doctors' associations of hysteria with sexual frustration, its treatment through genital stimulation using manual massage, hydriatic massage therapy,<sup>6</sup> and, subsequently, the vibrator was not considered sexual because the stimulation of the female body outside of the androcentric sexual paradigm of foreplay, penetration, and male orgasm was not viewed as a sexual act (Maines, 1999, p. 5). As a result, married women whose symptoms were not relieved through intercourse with their husbands, as well as the single and celibate, could receive socially acceptable treatment for hysteria by medical professionals. As Maines argued,

Th[e] androcentric focus, in fact, in many cases effectively camouflaged the sexual character of medical massage treatments. Since no penetration was involved, believers in the hypothesis that only penetration was sexually gratifying to women could argue that nothing sexual

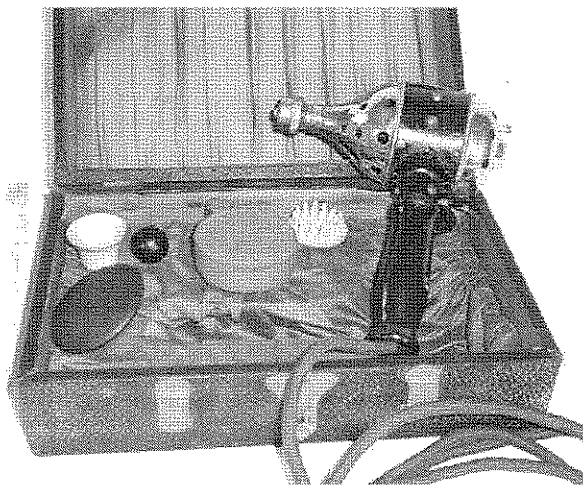



Fig. 1. Photograph of an early twentieth-century, Whitecross portable vibrator with vibratodes. From the private collection of Kate Montwieler and Mark Boren.

could be occurring when their patients experienced the hysterical paroxysm during treatment.  
(p. 10)

Based on the large numbers of women affected by hysteria and the similarity of proscribed treatments to the stimulation of women to orgasm, Maines argued that what was labeled as hysteria was in many cases not a disease but normal, unfulfilled female sexual desire “under social conditions that interpreted it as pathological” (p. 35).<sup>7</sup> Treating this lack of fulfillment as a medical problem left intact the androcentric construction of sexuality—labeling many women as sick, weak, and abnormal, and suppressing any threat to the dominance of penetration or the predominance of the male experience in heterosexual intercourse.<sup>8</sup>

The technology of the vibrator facilitated and perpetuated the construction and treatment of female sexuality as pathology in several ways. First, the vibrator aided in the camouflage of the manipulation of female genitalia as a medical procedure through the introduction of innovative technology. Some physicians set up vibratory theaters, akin to operating rooms, filled with elaborate vibratory devices (Maines, 1999). As Maines noted, some vibrators cost up to \$200 and were large and unwieldy, reinforcing their specialized, clinical nature. When vibrators became smaller, increasingly portable, and readily available for the home or beauty parlor, physicians vocally questioned the effectiveness of those devices for treating hysteria and other ailments and encouraged their colleagues to purchase only expensive, medical models (Maines, 1999, p. 95; see Figure 1 for a photo of a portable model). Second, the vibrator made it possible for physicians to have less direct contact with their patients’ genitals, which also helped the procedure to be viewed as clinical instead of sexual manipulation. Finally, because the vibrator helped them to increase their earnings, physicians had an incentive to continue to support the dominant disease and treatment paradigms for hysteria. Manual massage of one woman to the hysterical paroxysm could take a physician up to an hour; however, by using a vibrator, the time was reduced to ten minutes, allowing physicians to treat five or six women per hour (Maines, 1999, p. 67). Maines noted that in the late nineteenth century

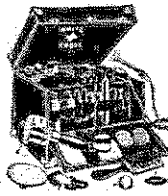
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CHICAGO, ILL.

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Name: \_\_\_\_\_  
My check/credit card's number is \_\_\_\_\_

Fig. 2. Early vibrator ad from *Home Needlework* magazine, October 1915, p. 45.

one physician in the United States claimed that treating “frail women,” many of whom were certainly diagnosed with hysteria, accounted for three-quarters of the sum of all physicians’ incomes, or one hundred and fifty million dollars (p. 38). With so much money at stake and the vibrator providing the technological means to earn it more quickly, physicians were motivated to resist any revision of the disease paradigm of hysteria or question the use of vibration in its treatment.

The medical use of the vibrator decreased in the early twentieth century, when vibrators began to be marketed directly to consumers as home health devices through advertisements in women’s sewing magazines, such as *Needlecraft* and *Home Needlework Magazine* (see Figure 2), and in catalogues, such as Sears and Roebuck’s. However, after vibrators began appearing in pornographic films in the 1920s as devices of female sexual pleasure, they

could no longer be camouflaged as medical technologies and disappeared from women's magazines, catalogues, and doctors' offices (Maines, 1999, p. 20). As overtly sexual devices, vibrators may have become taboo not only because sex toys were inappropriate for public discourse, but perhaps because such devices invoke the possible inadequacy of penetration and, therefore, posed—and continue to pose—a threat to male egos and masculine sexual supremacy by offering women options for sexual satisfaction.<sup>9</sup> Even though vibrators as sexual devices are no longer taboo,<sup>10</sup> conversations about them often arouse discomfort and, although they are the subject of articles in magazines for women and men, advertisements for them are conspicuously absent from contemporary periodicals. In the absence of references to vibrators in most mainstream media, their history and participation in the construction of sexuality have largely vanished from our collective consciousness. As I demonstrate next, reclaiming this history provokes interesting discussions of sexualities and technologies.

#### **4. From vibrators to computers: Recognizing connections between technology and sexuality**

When I first prompted students in the gender and technology courses to discuss how contemporary technologies, such as computer technologies and ICTs, were influenced by and helped to shape constructions of sexuality and, by extension, gender, they focused mainly on representations of sex and sexual acts. Students articulated their perceptions of how computers make sexual images readily available through Internet-based pornography and web cams. However, students were less able to express how their interactions with computers in educational settings or in workplaces reflected and reified representations and often asymmetrical deployments of sexuality. Our subsequent discussions of the vibrator and its origins in androcentric notions of sexuality seemed to open a space and provide students with paradigms that facilitated analyses of other technologies, such as computer technologies, in light of the ways that those technologies shaped and were shaped by particular conceptions of sexuality. This experience recalls Dennis Baron's (1999) essay "From Pencils to Pixels: The Stages of Literacy Technologies" in which he demonstrated how the computer "is simply the latest step in a long line of writing technologies" and is still moving through the same stages—accessibility, function, and authentication—that all new literacy technologies pass through as they are adopted by a larger percentage of the population (pp. 16–17). Baron's analysis emphasized how our distance from older technologies, such as the pencil and the telephone, allows us to reflect on their development and recognize paradigms that can be used to interrogate the computer, not as a cutting edge and completely new technology, but as another tool in the history of literacy stretching back to the invention of written communication. In a parallel move, I suggest below why analyses of the participation of early vibrators in the construction of sexuality facilitate analogous discussions relating to computer technologies, reflect on how these connections surfaced in classroom dialogues and activities, and suggest how this connection might be productively exploited in future iterations of this course.

Reading and talking about early vibrators brings sexuality under consideration in forceful, surprising, and memorable ways. Learning that vibrators were part of a medical treatment for

the disease of hysteria in women and were used by physicians as part of their practice stuns, yet arouses the interest of, most who hear about it for the first time. In the classroom, this interest can be channeled into an examination of how sexuality was understood and represented in the late nineteenth and early twentieth centuries. Such a discussion begins from a safe historical distance, focusing on the manifestations of androcentric sexuality that Maines (1999) argued were prevalent over one hundred years ago and in which no student, regardless of gender or sexual identity, is forced to feel implicated. In their posts to the class online discussion forum about Maines' preface and first chapter, "The Job Nobody Wanted" from *The Technology of Orgasm*, the undergraduate students' interest in the text was evidenced by their insightful comments composed prior to our class discussion about the pieces:

This hysteria was explained by men who did not acknowledge that a woman's body was different from a man's and that women had separate and different sexual needs.

It shows just how women's needs were ignored during this time, because I'm sure they didn't use the vibrators for men who suffered from so called hysteria. The vibrators were marketed as another tool of the domesticated home. They were openly advertised in women's magazines.

Vibrators were called a 'relaxation aid' and women who used them were supposed to be calmer and less prone to fits of hysteria. One advertisement said that when a vibrator is used "all the pleasures of youth... will throb within you." Vibrators were marketed based on the typical stereotype that women are emotional and high strung. The vibrator was supposed to cure the women of these feelings temporarily.

These quotations reflect students' willingness to make connections between the vibrator as technology and androcentric sexuality through recognition of the constructed nature of hysteria and women's behavior and the connection of both to the invention of the vibrator as a medical device. None of the students wholly dismissed Maines' analysis of the vibrator or the idea that androcentric models of sexuality could have perpetuated a medicalization of female sexuality. The students' willingness to entertain Maines' premise is significant given that they often resist consideration of the influence of androcentric notions of sexuality on asymmetric deployments of gender norms in contemporary workplace, educational, and social interactions.

The analysis of early vibrators and sexuality, however, begs the question of how historically remote narratives of sexuality relate to those in the present. With their interest piqued and with the discourse of sexuality brought into the classroom through a consideration of the past, students willingly dialogue about sexuality and make comparisons between the earlier period and their current experiences with sexuality in the media, the classroom, and personal interactions. During a discussion of Maines' (1999) text in our course MOO space, which provided yet another level of distance, students in the graduate course engaged in these comparisons. When asked to articulate the androcentric model of sexuality as outlined by Maines and explain how this model contributed to the pathologization of female sexuality, the students quickly related this material to the contemporary situation and debated the extent to which things have really changed:

Bernie says, "the model says there has to be a penis in order for it to be considered sex"

guinness says, "prepare for penetration, penetration, male orgasm"

ColleenR [to Bernie]: Yes

guinness says, “nothing regarding the female is included”

...

Bill says, “Well, until the Kinsey report [i.e., Alfred Kinsey’s 1948 report *Sexual Behaviour in the Human Male* that contradicted contemporary beliefs about human sexuality], many men didn’t even realize women could have orgasms”

...

Bernie says, “Bill, Is that True?”

...

Bill says, “Yup. There’s still a lot of debate about whether vaginal (as opposed to clitoral) orgasm is possible”

Bernie says, “So is the g-spot a construction to appease the androcentric model?”

...

wyldstalyuns says, “There was a judge in England that banned women from a jury while they were on their period, saying their decisions would be blinded by hysteria.”

...

andrea [to wyldstalyuns] “Men might feel oversexed at times, but which of them is going to openly admit it for fear of questioning masculinity.”

...

Bernie says, “It could be a construct that male orgasm is easier to achieve.”

wyldstalyuns says, “On average, how much more do you think men orgasm than women?”

In these excerpts from the first third of our discussion of Maines’ text, students speak frankly about sexuality and begin to interrogate the extent to which current constructions of sexuality and heterosexual interactions, including the quest for the g-spot and vaginal orgasms, are different from earlier models yet equally androcentric. Recognition of the sexual paradigm as a construct in connection with the history of the vibrator also causes the students to treat supposed facts of contemporary sexuality as constructs, as demonstrated by their questioning of the existence of the g-spot and the comparative ease of male versus female orgasms. While the students appear to use concrete and specific language, including terms like penis, orgasm, and g-spot, quite freely to discuss issues related to sexuality, they simultaneously deem the available language inadequate for this discussion, and, alluding to Luce Irigaray (2000), which we read during the first section of the course, suggest the need to develop a new language:

Bill says, “I think some women do not have the vocabulary or the comfort level to discuss their sexual preferences with their partner, which is rather odd, but still true.”

...

helen says, “We need new sex vocabulary. Let’s start making it.”

wyldstalyuns says, “I thought about that but. . . .”

guinness says, “the one thing that sets humans apart from animals is the ability to communicate through language, if wants and desires regarding sex could be voiced I think a lot more people would view sex differently”

...

Bill [to guinness]: “There really isn’t a great vocabulary for talking about these things. You either have to sound like a Hustler letter or start drawing diagrams.”

Although the students never articulate how a more appropriate language would work, their insights during this part of the discussion highlight the power they attribute to language and rhetoric as agents of change. Through their dialogue starting with the historical examination of the vibrator and continuing to their own personal experience in the textual space of the MOO, where language is paramount, the students negotiate a way to discuss sexuality and its impact on their culture and personal interactions while simultaneously creating a safe space for debate. Their discussion of masturbation exemplifies the mutuality of this exchange: When one student raises the issue of whether women will admit to masturbating and a peer responds with “I do it,” her admission is met with unequivocal support exemplified by exclamations of “good for you” and “you go!” The students’ discussion demonstrates how the case of the vibrator provides them with a recognizable model of sexuality to interrogate and a memorable paradigm of technology–sexuality interactions to use in analyses of other technologies, including the language available to conduct the discussion.

Reflecting on the history of the vibrator also highlights, rather graphically, how technology and sexuality change over time and, as a result, are constructs arising from their respective historical contexts. For vibrators, which are so clearly sex-related today, to have been successfully camouflaged as medical devices, different constructions of sexuality and vibration technologies must have been in operation in the dominant medical and cultural discourse. This difference highlights the historical and social nature of sexuality and provides strong evidence of its mutability, evidence that students, even those who initially want to insist on a biological basis for sexuality and sexual object choices, have difficulty ignoring. Recognition of the constructed nature of sexuality, therefore, is a productive initial step in analyzing its interactions with present day computer technologies. To begin this analysis, students can investigate the representations currently disseminated through computer technologies, such as the World Wide Web, and compare the models of sexuality they find in operation there with the androcentric model of sexuality they encountered in the history of the vibrator. The Web provides a good platform for this analysis because it embodies competing and complex representations of sexuality.

To analyze how sexuality is represented and discussed on the Web, we used search engines such as Google and Yahoo to search for sexuality and related terms during an in-class exercise. Entering the terms *sexuality*, *homosexuality*, *lesbian*, and *gay* in Google (<http://www.google.com>) and Yahoo! (<http://www.yahoo.com>) returns three to four screens (ten hits per screen) of results, most of which provide nonpornographic information about health, advocacy, products, and entertainment. Searching for *female sexuality* returns many hits related to female sexual dysfunction, reflecting a continued association between female sexuality and medical problems. Searches using the same engines for *bisexuality* and

*transsexuality* yield pornographic sites on the first screen of results, perhaps reflecting the stigma attached to these categories and lack of productive public discourse about them. Finally, searching for *sex*, widely acknowledged as the most popular search term online, returns mostly pornographic sites. Students can analyze the depiction of sexuality on the sites they find and compare the representations of women and female sexuality, for example, on self-help and public information sites with those on commercial sites, such as the site for Victoria's Secret lingerie (<http://www.victoriasssecret.com>), which could easily be considered soft porn. Asking students to investigate search results, after first discussing the importance of not opening pornographic sites in class, and researching the Web for data about who distributes representations of sexuality and who consumes them provides students with concrete information to use in an analysis of how the Web spins narratives of sexuality. When I used this exercise, we also considered the use of the Web as a research tool versus its function as a site of cultural representation, which highlighted the importance of investigating the sites returned in research forays for their origins and credibility. Furthermore, we completed this exercise in conjunction with reading scholarship about the Web, sexuality, and gender that provided students with alternate readings of the Web's contribution to codifying dominant conceptions of sexuality and gender (see Hawisher & Sullivan, 1999; LeCourt & Barnes, 1999; Woodland, 1999).

In exploring representations and narratives of sexuality through the Web, dealing with pornography is almost unavoidable because of its prevalence online and its connections to contemporary, androcentric sexuality. According to *Forbes Magazine*, consumers of pornographic materials spend over a billion dollars per year buying pornography online (Lubove, 2003). Additionally, "77% of online visitors to adult content sites are male. Their average age is 41 and they have an annual income of \$60,000. 46% are married" (PBS, 2002). Recent content analyses of pornographic sites report a prevalence of representations of women as sexual objects, pedophilic images, and sex involving violence and bestiality (Lo & Wei, 2002). This data supports the perception that pornography is big business on the Web and men are the primary audience, which has serious implications for how sexuality is constructed online.

As an extension of our discussion of the vibrator and the role of pornography in its demise as a mainstream medical and home massage technology, we were able to put androcentric pornography and representations of sexuality in a more complete historical context, one linked to technologies. The example of how the depiction of vibrators in early pornographic films undercut the treatment of hysteria through massage demonstrates to students an important theoretical point about the shifting locus of power related to the rhetoric of sexuality. That film representations of female pleasure outside penetration could force a revision of the androcentric model of sexuality and the medical practices associated with it demonstrates how easily technologies used to perpetuate one narrative of sexuality can be used to assert an alternate narrative and also illustrates how instruments of social control contain the potential for their own undoing (Foucault, 1978). While power is ever shifting and hegemonic rhetoric is prone to revision, the resultant change is not necessarily progressive, as in the case of the vibrator. For, although early pornography revealed a once-hidden view of female sexuality, this representation was still androcentric, depicting female sexuality and the use of the vibrator in service to male pleasure and the male gaze in stag films. In relation to computers and the Web, students

can observe a similar situation regarding the persistence of a revised yet androcentric model of sexuality online. While the Web has libratory potential—providing health-related sexual information about sexually transmitted diseases (STDs), Acquired Immune Deficiency Syndrome (AIDS), pregnancy, birth control, and home access to sex toys and sexual aids—this educational and empowering function may be undercut by the simultaneous prevalence of mostly male-centered pornography. For instance, many people, including students, may be afraid to search for sex-related health or advocacy information online for fear of the pornography such queries return. Additionally, people whose only access to the Web is through public libraries or schools may be prevented from viewing health-related sexual information due to the filtering software that libraries are required to install to block pornography. Such software often prevents access to health-related and pornographic sites alike, demonstrating how androcentric uses of technologies can by default restrict empowering uses. In examining the effects of online pornography, articulating precisely why pornographic sites should not be opened in the computer classroom can also be instructive, moving the discourse beyond the obvious characterization of these sites as inappropriate. Such discussion can assist students to consider precisely how computers in the classroom are connected to sexuality as constructed online and lead to explorations of why pornographic representations of female sexuality marginalize women or why the hypersexualized online images of homosexuals<sup>11</sup> might stigmatize students who identify as gay or lesbian.

As the previous discussion illustrates, a major element of my courses in gender and technology involves comparing the use and deployment of technologies from different time periods. In analyzing similarities and differences between early vibrators and contemporary computers as technologies, students in my courses have pointed out that both vibrators and computers were invented for use in male-dominated professions. Additionally, as the technologies developed and became smaller and easier to use, both the vibrator and the computer became appealing as technologies for home use. Although the vibrator lost its respectability shortly after being marketed for the home and went underground, computers have become indispensable tools for men and women alike. Despite the widespread use of computers for workplace tasks and communication, however, women have not assumed an equal number of positions as expert computer users, programmers, salespeople, and software and computer game developers (Aschauer, 1999; Cooper & Weaver, 2003; Ray, 2004).

In my courses, we discussed articles from the large body of work that examines why many young women do not pursue computer-related fields and do not see the computer as something that they can gain expertise in understanding, programming, customizing, and even designing (see Scott, Semmens, & Willoughby, 2001; Wajcman, 1993). Notably, females are generally introduced to computers in different ways than their male counterparts, who often encounter computers through game playing and have a large variety of computer games targeted to their demographic to cultivate their interest (Ray, 2004).<sup>12</sup> Studies indicate that playing computer games can provide individuals with the skills and motivation to become expert users and translate into more advanced, professional use (Dobosenski, 2001; Glissov & Siann, 1994; Subrahmanyam, Kraut, Greenfield, & Gross, 2000). However, females are less likely to encounter the computer through play because fewer games are targeted for girls and women and the games geared for male users are often alienating and repulsive to females in part because many of the popular games contain graphic, androcentric depictions of

sexuality that objectify women (Ray, 2004).<sup>13</sup> One study demonstrated that girls' negative associations with computer games are so strong that boys significantly out-performed girls when a computer-based task was presented as a game; however, when exactly the same task using the same software was presented as a skills test, there was no difference in performance between the girls and the boys (Yates & Littleton, 2001). The girls' reactions indicated an attitude toward computer games that may detrimentally impact their motivation to develop advanced computer skills, for, as Sheri Ray (2004) noted, "we cannot expect women to excel in technology tomorrow if we don't encourage girls to have fun with technology today" (p. 6). At first many students resist the idea that androcentric representations in games can play a role in determining how and whether women play with computers, subsequently become expert users, and pursue careers in computer-related fields. After reading about the powerful effect of the androcentric construction of sexuality in relation to vibrators, however, students are better able to recognize that model at work in contemporary technologies and grasp how its influence over computer games could negatively impact women's relationships with this technology.<sup>14</sup>

Just as the use of vibrators in the late nineteenth and early twentieth centuries marginalized female sexuality through displacement and the relegation of women to the roles of passive patients receiving treatment for a disease, many computer games marginalize and alienate females by failing to employ women as actors and representing expressions of feminine sexuality only in service to male sexual gratification (Beasley & Standley, 2002). For instance, games in the *Grand Theft Auto* series, one of the most popular game series and one usually referenced by the students in my classes, have received much criticism for their violence (Cuomo, 2002), but even more acclaim for their increasingly sophisticated graphics and the depth of the experience they provide (Au, 2002). However, the androcentric presentation of women, gender, and sexuality in this series is equally notable.<sup>15</sup> For example, in *Grand Theft Auto: Vice City*, players assume a male character (called a *skin* in computer game discourse) named Tommy Vercetti, who is a mobster. In addition to driving recklessly, carjacking, and working for the underground, this character earns money by purchasing strip clubs and porn film studios and increases his health rating by having sex with prostitutes, whom he subsequently kills to reclaim his money (Cuomo, 2002). Prostitutes, strippers, bikini-clad women walking or skating in the streets, and the occasional female carjacking victim constitute the range of female representations in *Grand Theft Auto: Vice City*.<sup>16</sup>

Even when women appear as the central figures in a game, as does Lara Croft in the *Tomb Raider* series, they are hypersexualized—represented with large hips, small waists, full breasts, and wearing small, tight clothing, even while fighting (Waggoner, 2001). A study of 47 popular computer games revealed that 41% of female characters in the surveyed games were big busted and 31% of the big-busted female characters appeared in games rated E for everyone (Beasley & Standley, 2002, p. 289). For his final course media project, a male student in my graduate gender and technology class created a web site representing the evolution of female characters in computer games over time and demonstrated how the games represented women as hypersexualized objects starting with Ms. Pac-Man, who has large, red lips, eyelashes, shapely legs, and sports a bow and high heels. Ray (2004) presented a parallel discussion tracing the evolution of female characters in video games from Ms. Pac-Man to Lara Croft. In almost every game she cited, female strength and prowess is undercut by hypersexualized

character depictions. A game from the mid-1980s, *Gauntlet*, in which male warriors and female Valkyrie characters battle through a dungeon, provides a striking example. Players can assume one of the male warriors or a Valkyrie, a female character who Ray described as the most balanced character in terms of her skills and effectiveness; however, the cheat codes that players can use to customize the home version of the game allow it to be played with the Valkyrie character nude. Finally, in *Tomb Raider*, one of the most successful games centered on a female character, Lara Croft's hypersexual representation again undermines her potential as a ground-breaking female game figure. As Ray (2004) described her, Lara has "an unrealistically large bustline, a waist smaller than her head, and a very well-rounded derriere. . . she is still a hypersexualized female character that is, essentially, 'eye candy' for male players" (p. 32). The packaging of *Tomb Raider, Angel of Darkness* perpetuates the marketing of Lara Croft as an object for male sexual arousal:

She is dressed in a black midriff and short-shorts, and wears her strapped-down holsters. The interesting part about the box cover is that her bustline is embossed so that it is raised in bas relief. The customer can actually run their fingers over the cover and 'feel' Lara's breasts. (Ray, 2004, p. 33)

Hypersexualized representations of female characters such as Lara Croft in computer games advance a heteronormative, as well as androcentric, message. As they identify with the strength and prowess of such female characters, girls and women who play these games receive an implicit admonition that displays of female power are acceptable only when coupled with feminized and hypersexualized representations that preserve underlying, heteronormative models of sexuality. In the case of the women represented in most games, their strength does nothing to make them unsuitable for male sexual consumption and does not upset basic binaries of sexuality or, by extension, gender. I found that locating underlying heteronormative messages in the fictional, familiar, and popular medium of computer games helped students to identify them in other electronic texts like web sites.

According to Ray's (2004) recent book, *Gender Inclusive Game Design*, androcentric and alienating representations of female sexuality in computer games precipitate into the workplaces and conferences of computer game developers, creating environments that women find uncomfortable at best and hostile at worst.<sup>17</sup> Ray described how the androcentric treatment of female characters in a game developers' titles, the proliferation of "booth babes" (p. 150), the sexualized representations of women at conferences and other professional meetings, the presence of sexually explicit materials on the walls of the game developers' offices, and the open use of pornographic print materials for research purposes in the workplace may contribute to the inability of computer game developers to recruit women. Thus, while the games themselves might be dismissed as optional recreation, the pervasiveness of androcentric sexuality in the industry has a potentially chilling effect on professional opportunities for women within the lucrative industry of computer game development. When teaching this course again, I plan to incorporate this information into our investigation of the practical and economic ramifications of sexualities in connection with contemporary technologies.

Finally, vibrators and computers are connected through the ideology of transcendence embedded in the discourse surrounding both technologies. In Western societies, the politics of transcendence has been used to support phallogocentrism: men have been allied with sci-

ence and technology, philosophy, and the ability to move beyond their physicality and inhabit their intellect, while women are identified with the body, nature, and depicted as unable to transcend physical and animal desires (Webb, 2003). Diagnosing women with hysteria stems from this characterization of women as irrational and in need of medical treatment to help them govern their bodies and behave in socially acceptable ways. Transcendence surfaces in relation to computer technologies in notions that virtual spaces accessed through the computer allow people to transcend corporeal constraints and markers. Just as the ideology of transcendence was used in the nineteenth century to construct women and female sexuality as inferior, this notion is equally dangerous to women with respect to computer technologies, particularly in relation to online communication. In virtual environments, transcendence can be used to dismiss harassment online, most of which is directed toward women and is often sexual in nature (Adam, 2001; White, 2001). If it is truly possible to separate from the body in virtual spaces, then such harassment, in the form of virtual words, should have little power. Additionally, those who fear harassment online are advised simply to transcend their corporeal identities and present themselves as neutral, male, or White as a means of protection. Research shows, however, that in online spaces, neutral characters are often identified as female by default or are badgered to reveal their identities, because participants in electronic communities often have an intense desire to know the sociosexual identities of others online in order “to connect self with (normative) physical images of the body and to establish (normative) relationships among the participants’ online identities” (Addison & Hilligoss, 1999, p. 33).<sup>18</sup> Thus, the assertion of transcendence is used to put the onus on the victims, mainly women, to disguise themselves, log out, or avoid spaces where harassment may occur.

In both of my classes in gender and technology, I prompted students to critique the idea of transcendence as historically related to the vibrator and hysteria and as presently represented with respect to computer technologies. My purpose was to help students become ethical and responsible users of technologies and to understand that what is said and done in virtual spaces affects real people. Such discussion is designed to make our class’s online environments, including the online discussion forum and the MOO, safe for expression and debate. To facilitate a consideration of these concepts we read Julian Dibbell’s (n.d.) *A Rape in Cyberspace* and discussed it in the class MOO space. Initially, some students respond incredulously to the notion that the people in LambdaMOO who were behind the characters victimized by Mr. Bungle could have actually felt physical or emotional pain as a result of the attack and assert that those victimized should have simply turned off their computers to stop viewing the offensive material or avoid online communities altogether, echoing the blame typically leveled at real-life rape victims for being in the wrong place at the wrong time:<sup>19</sup>

TinaUNCW says, “so i don’t understand why they didn’t just log off”

...

SallyUNCW says, “their virtual personality was raped, but they weren’t physically harmed”

...

JohnnyUNCW says, “I mean, if they stay there and let themselves get mentally cyber-raped then they have to own some of the responsibility of their own mental distress. Right?”

...

ToddUNCW says, “well i agree with Johnny. you can physically leave without being restrained, even if your identity still remains active in the moo”

The reactions of these students reflect their belief in transcendence in virtual spaces, where they see a radical separation between real and virtual selves and experiences. Other students’ rebuttals oppose this division:

JeromeUNCW says, “i say virtual or real it is wrong”

...

AbbyUNCW says, “maybe we think its no big deal in MOO, but if you use AIM a lot, wouldn’t you be upset if someone kept controlling your name, I mean people still know you in real life and see what you are supposedly ‘saying’ and that reflects you in real life”

ChrisUNCW says, “but even though these women were not phsically harmed, they were still violated. . . after reading the article in the course packet, i understood better how deeply people felt about their MOO chat”

...

AbbyUNCW says, “I guess its kind of like sexist remarks everyone hears about in the workplace, no physical harm is done but its still upsetting emotionally”

...

CathyUNCW says, “even though this rape was a virtual rape and no one was physically hurt, it just bothers me that this happend b/c a lot of times, what we say or think is a reflection of whats really in our heart and mind. Someone who says this makes me wonder if they really want to participate in the actual experience of rape”

...

ToddUNCW says, “there’s a quote from the article that says “isn’t the mind part of the body?”

As illustrated by their comments, this discussion demonstrates to some students how harassment online often assumes a sexual form that parallels attacks in physical spaces and impresses upon students the importance of controlling their behavior and speaking out against other’s inappropriate behavior. These brief excerpts illustrate how exploring the ideology of transcendence across time in relation to many different technologies starting with the vibrator assists students to see its pervasiveness and critique its use in relation to computers in terms of its perpetuation of inequalities of sexuality and gender.

##### **5. The importance of highlighting the intersections of sexualities and computer technologies in writing classes**

A critical analysis of ICTs in light of their relationship to gender and sexuality is especially important for students in writing classes taught in networked computer classrooms, where

technologies can appear as instrumental means to larger pedagogical ends, not as part of a cultural dynamic involving sexuality and gender. Viewing computer technologies as transparent instruments results in ignoring tensions and problems present in interactions between students working with technology that result from how students' sexual identities and concepts of sexuality shape their interactions with those technologies and each other. Additionally, an awareness of how sexuality can complicate the interactions of male and female students in the online spaces used for class, such as MOOs or discussion forums, can help the class unpack and attempt to avoid reifying interactions that hamper learning.

Highlighting the role played by sexuality in shaping or underpinning the ways that students interact with technology and one another is especially important when managing group projects. During group projects, underlying assumptions about sexuality and heteronormativity can result in unequal experiences for students. For example, in group situations in a computer classroom, often the most technologically savvy students will assume leadership roles in the group. Assumptions about gender roles that are based in heteronormativity, thus stigmatizing feminist acts, which are often equated with female self-confidence and assertiveness (Stepulevage, 2001), can prompt female students not to promote themselves and their technological skill in front of male group members for fear of being considered unfeminine or even lesbian. Without discussions of sexuality, such impulses cannot be interrogated and female students may assume passive roles in group interactions. As Epstein and Johnson (1998) noted, young women may be more perceptive about sexuality and more able than male students to detect and identify interactions that question or violate dominant narratives of sexuality. Unfortunately young women often employ their insights about the underlying effects of sexuality on gendered interactions to structure those interactions in ways that please and pacify rather than challenge or lead their male cohorts (Epstein & Johnson, 1998, pp. 195–196). Facilitating a discussion about how sexuality influences interactions in group situations centered on technology may help to subvert the negative effects of sexuality and promote equality when using technology. Stepulevage (2001) in her discussion of young women's reticence to own and cultivate technological expertise argued,

If the practices used to constitute heterosexuality can be disentangled and identified in a male-dominated domain like computing, women can recognise those difficulties which are informed by our own sexual becoming and by men's attempts to regulate our sexuality and develop strategies and practices for dealing with them that do not involve becoming technically incompetent. (p. 336)

Following discussions and activities such as those described in the previous section, the exploration of sexualities and computer technologies might be taken further through conscious interactions in online spaces, including MOOs and discussion forums. Online spaces do not automatically provoke radical explorations of sexuality and gender, but that does not mean they do not have potential in that regard. Used in conjunction with the reading and theorizing of issues related to sexuality and gender, including objectification, the myth of transcendence, and heteronormativity, online spaces such as MOOs can provide room for such explorations. In online discussions, one way that students can subvert sexual and gender identities is through "the deliberate and playful invocation of the subject position that subordinates in order to subvert" (LeCourt, 1999, p. 166). LeCourt described how a number of her students resist and

challenge the way that other students read their posts through a gendered lens by drawing attention to that lens and exaggerating the aspects of their writing that reveal their gendered positions. Likewise, MOO spaces might be used to complicate, interrogate and explode norms of gender, sexuality, and heteronormativity by asking students to play with the existing options of sexuality and gender and invent new ones as well as asking them to adopt positions they have not yet considered, such as asking male students to assume female avatars or encouraging heterosexual students to perform as homosexual. Subsequently connecting such play and what it reveals about the constructed nature of sexuality, gender, and heteronormativity to the use of computer technologies in the classroom could produce interesting results. In that way, the same electricity that once powered the vibrators that participated in reifying binary notions of sexuality has the potential to be harnessed through directed online discussions to explode those same binaries and radically complicate discussions of sexuality, gender, and computer technologies, not through transcendence of bodies or sexual identities but through conscious, critical, and reflective play.<sup>20</sup>

## Notes

1. Investigating sexuality and its relationship to gender and technologies does not mean that core definitions of sexuality and other contested terms such as sex and gender can or should be developed. As Henrietta Moore (1994) observed, “Since we are all gendered individuals, and since we can only speak the social through our selves and through our bodies, it is clear that these terms [sex, gender, sexuality, gender relations, social relations] can never refer to pure concepts” (p. 6). Thus, establishing absolute definitions of such terms is not as important as locating their specific deployments in particular historical moments.
2. Encouragingly, in a subsequent post another student sarcastically questioned the importance of the math professor’s sexuality and the use of the phrase “a little gay.”
3. Throughout this piece, I treat the two courses together because they were similar in terms of goals and student populations. Most of our Masters students earned undergraduate degrees from our university and are only one or two semesters beyond undergraduate school when doing graduate coursework. The students in the graduate course read more theory in the first section of the course and had slightly longer reading assignments overall.
4. Although the course readings were divided into these sections, our discussion and coursework was not. For example, we continued to discuss computer and Internet technologies from section two during the third and fourth sections of the course, and the exam questions and student projects required students to relate information from one section to that in another. Given how helpful vibrators proved to be in facilitating a reexamination of computer technologies, however, I will teach the material from section three prior to that from section two the next time I teach the course.
5. Throughout this article, I use the term androcentric to refer to models of sexuality and gender that are male-centered and heteronormative.
6. In the nineteenth and early twentieth centuries, high-powered showers, referred to as douches, were also used by some physicians in place of manual massage to treat hysteria (Maines, 1999).

7. The number was estimated by some to be three-quarters of the United States' female population in the nineteenth century (Maines, 1999, p. 5). This outrageous number certainly does not reflect the entire population of women in the United States at this time, for, as Maines (1999) noted, most sources about hysteria and most medical records pertain only to White, middle- and upper-class women.
8. Although Maines (1999) has been criticized for her emphasis on the importance of the androcentric model of sexuality in the history of sexuality and the construction of female sexuality as pathological (Ullman, 2001), it seems to me that this point cannot be overstated. Despite the sexual revolution and increased discussion of how to provide women with satisfying sexual experiences, in sexual acts with men, women are still pressured by cultural representations to seek pleasure in penetration as normal sexual experience.
9. A recent letter to *Men's Health* highlights the contemporary anxiety vibrators engender in men. A man from Virginia wrote, "My girlfriend wants to use a vibrator during sex. Is there something wrong with me?" Notably, in answering his question, the editors emphasized that using the vibrator to stimulate his girlfriend during sex is preferable to her using it to stimulate herself behind his back (effectively cheating on him with technology?) and means "less work for [him]!" during intercourse (Lawson, Ongaro, & Kitch, 2003, para. 25), which echoes Maines' (1999) assertions that stimulating women to orgasm outside of penetration is viewed as work.
10. Vibrators are still illegal in Alabama, however. Legislators in that state voted in April of 2003 against removing the ban on sex toys from the state's obscenity law ("Quick hits," 2003).
11. Individuals who identify as homosexual are often aware of a focus on them during discussions of bodies or sexualities because, "The dominant assumption is that being homosexual means being sexual in every situation" (Addison & Hilligoss, 1999, p. 35).
12. Recently, there are indications that companies are attempting to develop and market more games to women and girls and that many players on online game sites are female, particularly on sites that feature nonviolent card and activity games (Xiong, 2003).
13. Ray (2004) outlined other structural aspects of computer games that are unappealing to women, including a lack of activity orientation in most games, the construction of an adversarial relationship between the machine and game players through hidden game components that have to be discovered through trial and error, and negative consequences for incorrect answers or mistakes in play, including the death of a players' character.
14. I observed this change in students' answers to essay questions on the final exam and in the media projects of several students in both courses that focused on computer games and the ways that young children are introduced to computers.
15. This game is critiqued on the web site of the National Organization for Women and was banned by the Australian government as a result of sexual content (Orlando, 2003).
16. Female game players, clearly a minority, express frustration over the lack of female lead characters in most games and the hypersexualization of the included females (Osterman, 2003).
17. Assumedly, the heterosexist themes prevalent in these games and heteronormativity in the game industry would also prove alienating to people who identify as homosexual, although little research is currently available to support this. One anecdote from

- the game industry reflects a heteronormative bent: In 1996, a programmer, Jacques Servin, was fired by Maxis Incorporated, maker of the popular *Sims* game series, for inserting images of two men kissing in one of the games (“Man is dismissed,” 1996).
18. There is much debate in the literature about the degree to which writing online contains markers of gender and sexuality and whether or not those markers correspond to differences in physical bodies (LeCourt, 1999; Michaelson & Pohl, 2001).
  19. The students’ input has not been edited. All students’ names have been changed, and all students granted me permission to quote from their written work and from the transcripts of MOO discussions.
  20. S.J. Sloane (1999) posited that tracing the “genealogies of electricity” is key to understanding online interactions and their implications for the construction of gendered and sexual subjectivities (p. 48).

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### References

- Adam, Alison. (2001). Cyberstalking: Gender and computer ethics. In Eileen Green & Alison Adam (Eds.), *Virtual gender: Technology, consumption, and identity* (pp. 209–224). London: Routledge.
- Addison, Joanne, & Hilligoss, Susan. (1999). Technological fronts: Lesbian lives “on-the-line”. In Kristine Blair & Pamela Takayoshi (Eds.), *Feminist cyberscapes: Mapping gendered academic spaces* (pp. 21–40). Stamford, CT: Ablex.
- Aschauer, Ann Brady. (1999). Tinkering with technological skill: An examination of the gendered uses of technologies. *Computers and Composition*, 16, 7–23.
- Au, Wagner James. (2002, November 2). *It's fun to kill guys wearing acid-wash and Members Only jackets!* Salon.com. Retrieved December 18, 2003, from <<http://www.salon.com/tech/feature/2002/11/11/vice.city/index.html>>.
- Bankey, Ruth. (2001). La Donna é mobile: Constructing the irrational woman. *Gender, Place, and Culture*, 8(1), 37–54.
- Baron, Dennis. (1999). From pencils to pixels: The stages of literacy technologies. In Gail E. Hawisher & Cynthia Selfe (Eds.), *Passions, pedagogies, and 21st century technologies* (pp. 15–33). Logan, UT: Utah State University Press.
- Beasley, Berrin, & Standley, Tracy Collins. (2002). Shirts vs. skins: Clothing as an indicator of gender role stereotyping in video games. *Mass Communication & Society*, 5(3), 279–293.
- Benson, Margaret Lowe. (1992). Women’s voices/men’s voices: Technology as language. In Gill Kirkup & Laurie Smith Keller (Eds.), *Inventing women: Science, technology, and gender* (pp. 34–41). Oxford: Open University Press.
- Butler, Judith. (1993). *Bodies that matter: On the discursive limits of sex*. New York: Routledge.

- Cooper, Joel, & Weaver, Kimberlee D. (2003). *Gender and computers: Understanding the digital divide*. Mahwah, NJ: Lawrence Erlbaum.
- Cuomo, Chris. (2002, October 31). A delinquent's dream: The video game Grand Theft Auto has riled up the critics. *ABCNews.com*. Retrieved December 18, 2003, from <[http://abcnews.go.com/sections/GMA/GoodMorningAmerica/GMA021031Grand\\_theft\\_auto.html](http://abcnews.go.com/sections/GMA/GoodMorningAmerica/GMA021031Grand_theft_auto.html)>.
- Dibbell, Julian. (n.d.). *A rape in cyberspace*. Retrieved September 1, 2003, from <<http://www.juliandibbell.com/texts/bungle.vv.html>>.
- Dobosenski, Laura. (2001, September/October.) Girls and computer technology: Building skills and improving attitudes through a girls' computer club. *Library Talk*, 12–16.
- Epstein, Debbie, & Johnson, Richard. (1994). On the straight and the narrow: The heterosexual presumption, homophobias and schools. In Debbie Epstein (Ed.), *Challenging lesbian and gay inequalities in education* (pp. 197–230). Buckingham, UK: Open University.
- Epstein, Debbie, & Johnson, Richard. (1998). *Schooling sexualities*. Buckingham, UK: Open University.
- Foucault, Michel. (1978). In Robert Hurley (Trans.), *The history of sexuality*. New York: Random House.
- Glissov, Peter, & Siann, Gerda. (1994). Chips with everything: Personal attributes of heavy computer users. *Educational Studies*, 20(3), 367–378.
- Hawisher, Gail E., & Sullivan, Patricia. (1999). Fleeting images: Women visually writing the Web. In Gail E. Hawisher & Cynthia L. Selfe (Eds.), *Passions, pedagogies, and 21st century technologies* (pp. 268–291). Logan, Utah: Utah State University Press.
- Irigaray, Luce. (2000). When our lips speak together. In Gill Kirkup, Linda James, Kathryn Woodward, & Fiona Hovenden (Eds.), *The gendered cyborg: A reader* (pp. 262–264). London: Routledge.
- Lawson, Chris, Ongaro, Laura, & Kotch, Alison. (2003, April). Ask Men's Health. *Men's Health*, 18(3), 26–29. Retrieved December 10, 2003, from EBSCOhost database.
- LeCourt, Donna. (1999). Writing (without) the body: Gender and power in networked discussion groups. In Kristine Blair & Pamela Takayoshi (Eds.), *Feminist cyberspaces: Mapping gendered academic spaces* (pp. 153–175). Stamford, CT: Ablex.
- LeCourt, Donna, & Barnes, Luann. (1999). Writing multiplicity: Hypertext and feminist textual politics. *Computers and Composition*, 16, 55–71.
- Lo, Ven-hwei, & Wei, Ran. (2002). Third-person effect, gender, and pornography on the Internet. *Journal of Broadcasting & Electronic Media*, 46(1), 13–33.
- Lubove, S. (2003, June 23). Dirty little secret. *Forbes*, 171(13), 48–50. Retrieved August 29, 2003, from EBSCOhost database.
- Maines, Rachel P. (1999). *The technology of orgasm: "Hysteria," the vibrator, and women's sexual satisfaction*. Baltimore, MD: Johns Hopkins University Press.
- Man is dismissed over a game's gay images. (1996, December 8). *New York Times*, 146(50635), 47L. Retrieved December 15, 2003, from EBSCOhost database.
- Michaelson, Greg, & Pohl, Maraget. (2001). Gender in email-based co-operative problem-solving. In Eileen Green & Alison Adam (Eds.), *Virtual gender: Technology, consumption, and identity* (pp. 28–44). London: Routledge.
- Moore, Henrietta L. (1994). *A passion for difference: Essays in anthropology and gender*. Bloomington, IN: Indiana University Press.
- Oldenziel, Ruth. (1999). *Making technology masculine: Men, women, and modern machines in America, 1870–1945*. Amsterdam: Amsterdam University Press.
- Orlando, Greg. (2003). Xbox jacks. *Grand Theft Auto Electronic Gaming Monthly*, 172, 42–44.
- Osterman, Rachel. (2003, September 8). Video game industry ignoring women gamers. *Chicago Tribune*. Retrieved December 15, 2003, from EBSCOhost database.
- PBS. (2002). *Frontline: American porn*. Retrieved August 29, 2003, from <<http://cgi.entropymedia.com/actions/pornquiz?submit=check+your+answers>>.
- Quick hits. (2003). Quick hits: Sex in the news: Still no sex toys in 'Bama'. *Contemporary Sexuality*, 37(6), 8.
- Ray, Sheri Graner. (2004). *Gender inclusive game design: Expanding the market*. Hingham, MA: Charles River Media.

- Scott, Anne, Semmens, Lesley, & Willoughby, Lynette. (2001). Women and the Internet: The natural history of a research project. In Eileen Green & Alison Adam (Eds.), *Virtual gender: Technology, consumption, and identity* (pp. 3–27). London: Routledge.
- Sloane, S. J. (1999). Postmodernist looks at the body electric: E-mail, female, and Hijra. In Kristine Blair & Pamela Takayoshi (Eds.), *Feminist cyberscapes: Mapping gendered academic spaces* (pp. 41–61). Stamford, CT: Ablex.
- Subrahmanyam, Kaveri, Kraut, Robert E., Greenfield, Patricia M., & Gross, Elisheva F. (2000). The impact of home computer use on children's activities and development. *Future of Children*, 10(2), 123–144.
- Stepulevage, Linda. (2001). Gender/technology relations: Complicating the gender binary. *Gender and Education*, 13(3), 325–338.
- Tseëlon, Efrat. (2001). *Introduction: Masquerade and identities*. In *Masquerade and identities: Essays on gender, sexuality, and marginality*. London: Routledge.
- Ullman, Sharon. (2001). Sex and science: The return of the repressed. *Journal of Women's History*, 13(3), 214–224.
- Waggoner, Zach. (2001). Idols of lust, creatures of whims & will: Representations of (anti)feminism in the interactive narrative. *Kairos: A Journal of Rhetoric, Technology, and Pedagogy*, 6(2). Retrieved August 29, 2003, from <<http://english.ttu.edu/kairos/6.2/binder2.html?coverweb/gender/waggoner/index.html>>.
- Wajcman, Judy. (1993). The masculine mystique: A feminist analysis of science and technology. In Belinda Probert & Bruce W. Wilson (Eds.), *Pink collar blues: Work, gender, & technology* (pp. 20–40). Carlton, Victoria, Australia: Melbourne University Press.
- Webb, Patricia. (2003). Technologies of difference: Reading the virtual age through sexual (in)difference. *Computers and Composition*, 20(1), 151–167.
- White, Michèle. (2001). Visual pleasure in textual places: Gazing in multi-user object-oriented worlds. In Eileen Green & Adam Adam (Eds.), *Virtual gender: Technology, consumption, and identity* (pp. 123–149). London: Routledge.
- Wright, Nicola, & Owen, Sarah. (2001). Feminist conceptualizations of women's madness: A review of the literature. *Journal of Advanced Nursing*, 36(1), 143–150.
- Woodland, Randal. (1999). "I plan to be a 10": Online lesbian, gay, bisexual, and transgender students. *Computers and Composition*, 16, 73–87.
- Xiong, Chao. (2003). Where the girls are. *Wall Street Journal—Eastern Edition*, 242, B1.
- Yates, Simeon J., & Littleton, Karen. (2001). Understanding computer game cultures: A situated approach. In Eileen Green & Alison Adam (Eds.), *Virtual gender: Technology, consumption, and identity* (pp. 103–123). London: Routledge.

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