

Crossfire: Gender, Cyberfeminism and World Wide Web Visual Culture

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Abstract

Crossfire: Gender, Cyberculture and World Wide Web Visual Culture

Cynthia Roblin

The main purpose of this thesis is to tread through the sometimes murky waters of cybercultural feminist theory in hope of clarifying the current status of the World Wide Web as an art medium, and its suitability as a vehicle for the expression of contemporary feminist concerns. I have divided this paper into four chapters. The first is a brief revision of the history of communication and computer technology, aimed at revealing the extent of women's exclusion from recorded historical accounts. The second chapter delves into current cybercultural theory dealing with central topics such as: disembodiment, the changing status of the postmodern subject in relation to gender theory, the reconciliation of gender with sexual difference theory, and the gender implications of hegemonic organization of the real vs. virtual experience. These themes are examined in the hope of illuminating some of the political motivations behind cyberfeminist visual culture. The final two chapters of my thesis consist of two case studies: the first focuses on the theoretical writings and work of contemporary web artist Mary Flanagan while the second deals with the web component of this interdisciplinary M.A., available at: <http://pasted.com>.

Acknowledgement

Over the past two years I have acquired knowledge that has infused beyond my academic papers into my daily life, permanently altering my perspective on our planet and its inhabitants for the better. This is the ultimate achievement in the pursuit of knowledge and I will remain eternally grateful to all of those who have made this experience possible.

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Introduction

Web art or "net.art" consists of a variety of genres ranging from 3D games to text based pieces. Its status as a valid art medium has yet to be fully recognized by some traditional art institutions due to: its diversity of genres, its supposed dependency on commercial tools (Flash, Netscape etc.), its similarities with graphic design, its open door policy to commercial professionals who have chosen to create art, inaccessibility for those either unable to access the internet or for those lacking navigational skills to understand the piece, and its essentially anarchistic tendency towards traditional archival display methods.¹ For those of us working with the World Wide Web as an art medium, however, there is no question as to its validity as a medium for artistic expression.²

What does come into question is how the World Wide Web as an art medium maintains a dialogue with contemporary gender issues³. I raise this question because cyberspace

¹ Rachel Greene, *Internet Art* (New York: Thames & Hudson, 2004) 12.

² The arguments against net.art are easily dismissed since throughout art history we have seen commercial tools appropriated for artistic purposes: Camera, Television. Graphic design was a major influence on Pop Art and artist such as Andy Warhol did come from a commercial background. Inaccessibility is just as prevalent in traditional institutions: MOMA charges 15\$ for entrance, for example, and many people do not know how to understand various kinds of artwork, especially non-figurative. There have been many kinds of non-archival movements: performance, body art, and earth art to name a few.

³ Biological, linguistic and cultural differences have been the basis for the construction of gender, as a result of social rationales accounting for those differences. Gender "roles" or "characteristics" could then

introduces the element of anonymity into gender identity which lends itself to identity manipulation. The internet, therefore, seemingly gives its user the ability to conceal his or her "true" or "real life" (RL) identity. The notion that, on the World Wide Web, "you can be whoever you want to be"⁴, complicates the usual gender discourse by removing visual cues and by providing its users with an apparent *carte blanche* in deciding what sex they would prefer to be. This includes the choice of being a-sexual or a non-sexed persona, as well as whether to adhere to, or to subvert, traditional gender stereotypes.

It seems relevant to question how a medium that introduces new modes of interaction situates itself within a feminist framework, especially when many artists are increasingly turning to these burgeoning media. This leads to the main purpose of this thesis, to tread through the sometimes murky waters of cybercultural feminist theory in the hope of clarifying the current status of the internet as an art medium, and its suitability as a vehicle for the expression of contemporary feminist concerns.

be understood as signifiers of how society explains these differences. Judith Butler, "Subjects of the Sex/Gender/Desire: Gender: the Circular Ruins of Contemporary Debate," in *Gender Trouble* (New York & London: Routledge, 1990 & 1999) 12.

⁴ Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon & Schuster, 1995) 184.

I have divided this paper into four chapters. The first is a brief revision of the history of communication and computer technology, aimed at revealing the extent of women's exclusion from recorded historical accounts. I will provide evidence of women's many contributions to these areas, and propose a reason for the sudden decrease in their involvement with computers (beginning in the early '80s).

In the second chapter, I delve into current cybercultural theory dealing with central topics such as: the possibility of disembodiment and its potential effects on gender, the changing status of the postmodern subject (the disappearance of the unified subject) in relation to gender theory, the reconciliation of gender with sexual difference theory, hegemonic organization of the real vs. virtual experience and gender in relationship to computer interface. These themes are examined in the hope of illuminating some of the political motivations behind cyberfeminist visual culture.

The final two chapters of my thesis consist of two case studies. The first (chapter 3) focuses on the work and theoretical writings of contemporary web artist Mary Flanagan and her reconciliation of the World Wide Web as an

art medium with the feminist political motivations behind her work. The second case study (chapter 4) deals with my own web artwork, which forms the studio component of this interdisciplinary M.A. thesis. This chapter will recount my own experience changing from working with paint to working with web design software as my art medium of choice. It will discuss how I try to incorporate feminist cybercultural theory discussed within this paper into my website work entitled *Crossfire*, accessible at <http://pastiched.com> as the studio component of this thesis.

Chapter One: Information Technology- Women's
infrastructural role

Let us begin by considering the history of women's involvement with computer and communication technology, which together are commonly referred to as information technology. This is no easy feat, since "factual" accounts have too often been distorted by gender-biased versions which exclude the important contributions made by women in the digital field. The perception of computers as a male domain originates from a tradition of recording only the stories of the "master's" (male) dominance over technology (including art media such as paint, marble, wood, etc.). In recent times, this biased historical viewpoint has been perpetuated in popular culture myths stemming in particular from the science-fiction (SF) subgenre of cyberpunk, and has consequently served to further overshadow many of the contributions made by women in the domain of information technology. The literary and multimedia entertainment-based influences on computer culture, specifically SF films, SF television series, computer games⁵ and cyberpunk novels,

⁵ Computer games have a major influence on the gender divide in computer studies because games are often the first way that children are introduced to computers. Most games, even today, are targeted at the male consumer, containing almost exclusively male protagonists and centring on such stereotypical masculine pursuits of war, fantasy quests and car racing, not to mention the usual omnipresent-style user-machine interaction, where the gamer has a god-like control over all actions occurring within the game

have had a massive influence on gender relations within the field of digital technology, and have until recently reaffirmed outdated gender binary oppositions. If a lie is told often enough, it will eventually become recognized as truth until its falsehood is exposed, and it is with this objective in mind that we must turn to a re-examination of the history of information technology.

Ada

Sadie Plant's *Zero and Ones: Digital Women and the New Technoculture*, 1997, opens with a discussion of Charles Babbage, who in 1820 invented the Difference Engine. The Difference Engine would come to be recognized as the first prototype for how computers function today. It was inspired by the Jacquard loom, the users of which were almost exclusively women who worked in the cloth factories. Although invented by a man, it was women who would actually program the looms with the strands of cloth in order to execute the desired pattern. This was a common phenomenon throughout the history of communication and computer technologies. Although women were not the inventors of the

(The SIMS, SimCity, Civilization), is considered to be a stereotypical male programming style. Later I will show how cyberpunk created a culture of masculinity around computers and I would like to suggest here that cyberpunk influenced the gaming culture as well. A good source for information on the gender divide in gaming culture is: Justine Casell and Henry Jenkins, "Chess for Girls? Feminism and Computer

new machines, they would often make up the bulk of the machine's users. Similarly, it would be women who would become the programmers of the first computer.⁶

Charles Babbage, who is also credited with inventing the Analytic Engine soon after the Difference Engine, had working with him a very talented mathematician, named Ada Lovelace (Lord Byron's daughter). As Sadie Plant intelligently argues in her book, it was actually Ada Lovelace who was responsible for programming the Difference and Analytic Engines, and it was she who held together the projects, obtaining the necessary funding for most of Babbage's often disorganized adventures in invention.⁷ Unable to pursue her love of mathematics in her own right, owing to her status as female, Lovelace cleverly insinuated her way into the world of machine invention in early nineteenth-century England by offering herself as an assistant to Babbage. Using Lovelace's example as a starting point, Plant goes on to explore the whole missing story of women's contributions to digital technology: what

Games," In *From Barbie to Mortal Kombat: Gender and Computer Games*. (Massachusetts: Massachusetts Institute of Technology, 1998) 2-45.

⁶ Tracy Camp and Denise Gurer, "Women in Computer Science: Where Have we Been and Where are We Going?," *Proceedings of the 1999 International Symposium on Technology and Society* (New Jersey: Rutgers University, 1999) 242.

⁷ Sadie Plant, *Zeros and Ones: Digital Women and the New Technoculture* (New York: Double Day, 1997) 8.

I like to call "the paper under the ink" in the history of computer development.

I use the "paper and ink" metaphor here to illustrate the way in which history, written as it were on the surface of the page in ink, is often allotted too much credit as "truth" or "fact", and that what is often excluded are women's contributions in the infrastructural role, represented by the paper. Histories focusing on the exploits of individual inventors, described as "masters, geniuses etc."⁸, tend to obscure the fact that surrounding and sustaining their efforts were many workers or aids. In the case of art history, artists often had workshops of mostly male apprentices who would grind colours, sculpt parts of the project etc. As we will see with communication and computer technology, inventors too had assistants, many of whom were female and these women would play a significant role in the development of the technology, a role which has often been neglected or forgotten.

The feminist revisionist approach to historical writings consists of the unearthing and re-evaluation of "the paper under the ink," the story of women's participation and contributions to history that have been

⁸ Griselda Pollock, "Artists Mythologies and Media: Genius, Madness and Art History." *Screen* 21 n. 3 (1980) 58.

passed over. In the case of art history, one need only look to the studies by Griselda Pollock and Roszika Parker⁹ and their push for revisionism of the art historical canon in order to acquire a more informed, egalitarian evaluation of artistic merit throughout the past. It is within the weave of the paper that the story of women and computers flourishes. Once we become conscious of the paper, we begin to be aware of an entire underground web of women, weaving underneath every screen, chip, and bite, and it is only then that a more wholistic vision of digital technology can begin to emerge.

Dial Zero for Assistance

Dialing zero for operator assistance with a phone call is rarely resorted to these days. In a world flooded with telephone books, internet directories, phone memory and OnStar, it is seldom the case that one is unable to retrieve a number oneself. It may come as a surprise to the contemporary phone user to learn that not so long ago it was necessary to place all phone calls with the assistance of a telephone operator, self-dial telephones having only

⁹ For further reading about feminist revisionist art history consult: Griselda Pollock and Rozika Parker, *Old Mistresses: Women, Art and Ideology* (London: Pandora, First Edition, 1981).

come into use in the 1920s.¹⁰ At this time, 90-95% of telephone operators were women.¹¹ It was soon decided that women were more practical for the position due to their patience and friendliness with the clients¹²; since "men and boys were temperamentally unsuited for the exacting duties of the switchboard operation, this work was destined to be performed by members of the opposite sex"¹³. The position of telephone operator, a job that required as many technical skills as service ones, became a feminized position¹⁴, as would many other clerical-type jobs involving much technical expertise that came into being throughout the first half of the twentieth century.¹⁵ By the second World War, women were recognized as communication experts, and their talents were put to use in the war effort. Indeed, during WW2 it was principally women who were set to work deciphering codes and sending out signals to organize and navigate military operations.

¹⁰ It wasn't until the 1920's, over 30 years after the telephone came into use that a customer was able to physically dial the number they wished to be connected with. Until then, all calls were placed by picking up the head set and pressing on the receiver until an operator asked what number you wanted to dial. This practice continued for long distance calls, however, up until the 1950s.

¹¹ Elyce J. Rotella, *From Home to Office: U.S. Women at Work, 1870-1930* (Michigan: UMI Research Press, 1981) 35 (table 2.13).

¹² Michèle Martin, "Hello Central?" *Gender, Technology and Culture in the Formation of Telephone Systems* (Montreal and Kingston: McGill-Queen's University Press, 1991) 52-53.

¹³ Quote from the *Bell Quarterly* 14, n. 3 from 1935 by F. B. Jewett "Electrical Communication: Past, Present, Future", quoted in Michèle Martin, 55.

¹⁴ An excellent chapter that thoroughly examines the feminization of the telephone operator can be found in Michèle Martin's book, chapter 3 "The Making of the Perfect Operator", 50-91. In addition, she discusses the decision to train the women in the technical area of the switch board beginning in the late 1880s.

From military operators to personal secretaries, women were the leading users of communication technologies, and in some cases actually came to be given the job title of "computers" for their abilities to compute data.¹⁶ In some ways, a secretary working in the first half of the twentieth century actually conducted her job in a very similar manner to that of a PC, filing similar topics together by making the necessary connections between them, in order to place the files into their appropriate context.

As the century progressed, women's involvement with computer technology increased. It was six women who programmed the first electronic computer, the ENIAC, in 1945.¹⁷ In the universities, women made up a substantial portion of the students enrolled in computer science departments until the early 80s. The percentage of women graduating with a Bachelor's degree in computer science rose by 167% from 1970 to 1983, from an enrollment of 13.6% to 36.3%.¹⁸

The increase of women in computer studies led to a blossoming of women's contributions in related artistic fields as well. In the science-fiction literature of the

¹⁵ Elyce J. Rotella's book, *From Home to Office: U.S. Women at Work 1870-1930*, provides the most comprehensive examination of American women's movement from the Victorian home to the office.

¹⁶ Sadie Plant, 37.

¹⁷ Tracey Camp and Denise Gurer, 242.

¹⁸ *Ibid*, 242.

70s there was a boom in feminist novels, depicting female techs solving digital dilemmas while constructing utopian feminist paradises.¹⁹ At the same time, women were making their presence felt in other fields of digital technology, such as the new artistic medium of video, which, when it emerged in the 60s, was celebrated as one of the first artistic mediums to be free of any masculine tradition.²⁰ Feminist video artists such as Kate Craig, Charlotte Moorman and Martha Rosler became leaders in video experimentation, creating challenging work with feminist political agendas. All in all, the image of the computer and digital technologies as perceived by the general public of the 70s was that it was gender neutral, or perhaps even a female domain.

At the beginning of the 80s, however, when computers were becoming more mainstream due to the increased accessibility of the PC, there was a major shift in the perception of computers from a gender standpoint, as a consequence of which women's participation in the field dramatically decreased. Tracy Camp and Denise Gurer conclude:

¹⁹ Examples of feminist SF from the 70s could be novels such as: *The Female Man* by Joanna Russ, *Woman on the Edge of Time* by Marge Piercy and *The Wanderground* by Sally Miller Gearhart.

²⁰ Marina Roy, "Corporeal Returns: Feminism and Phenomenology in Vancouver Video and Performance 1968-1983" *Canadian Art* (Summer 2001) 61.

[A]s computer science became more mainstream, the environment became less hospitable to women and women chose to leave or never entered it. Specifically, from 1984-1994 the percentage of women graduating with a Bachelor's degree in computer science decreased by 23.4% (from 37.1% to 28.4%).²¹

This was at the same time that the percentage of women awarded B.A./B.Sc degrees in all other scholarly disciplines continued to increase, from 49.8% in 1980-81 to 54.5% in 1993-4.²² Even in fields historically dominated by men, such as science and engineering, there was an increase in women's participation from 1980-1994.²³ We have to then question what particularity of the computer studies field caused it to experience a decrease in female participation in a period otherwise characterized by a surge in women's academic involvement. There is no simple answer to this question, but I have encountered enough evidence throughout my research to suggest that a driving force behind this decrease (known as the Incredible Shrinking Pipeline, ISP) may have been the pop-cultural phenomenon known as cyberpunk.

LINGO

²¹ Tracey Camp and Denise Gurer, 242.

²² Ibid, 242.

²³ B.A./B.S. degrees awarded to women in engineering areas increased by 45%, in physical science areas by 37%, in biology by 16% and mathematics and statistics by 10%. Ibid, 242.

There was a major shift in the public perception of computers that occurred during the 80s, and that shift had an effect on determining who should be using them. This change grew out of a new socio-political climate that was sweeping across North America in response to the unrest that had characterized the two preceding decades. The hippy movement, the civil rights movement, the gay and lesbian rights movements and the feminist movement all played a hand in this unrest through their instigation of change. Out of these movements emerged a number of government-sponsored policies which served to legislate these proposed changes, the two most important being Johnson's Executive Order #11246 and the creation of the DOL (The Department of Labour) in 1965, which began to go about implementing affirmative action and equal opportunity. Affirmative action and equal opportunity are similar, the main difference being that affirmative action refers to the proactive employment of minorities in an effort to diversify the working environment, and equal opportunity refers more directly to the illegality of preferential or discriminatory treatment of employees due to sex, race, religion, disabilities etc. Both policies became enforced (women working at the same jobs as their male equivalents were still not being paid the same wages,

so I use the term "enforced" lightly here) during the 1980s. It was these two policies in particular that I believe fueled the anti-feminist backlash of the '80s, which manifested itself at all levels of society, but which was particularly apparent in computer culture, due to the new computer-themed science-fiction genre of cyberpunk and its lack of political engagement.

Cyber-PUNKED

The publication of William Gibson's first novel, *Neuromancer* (1984), is widely considered to mark the birth of cyberpunk. Coincidentally, it was at this precise time too that women's participation in computer culture and enrolment in computer studies began to sharply decline.²⁴ Although precursors have been identified, *Neuromancer* encapsulated for the first time the ideas and style with which the genre was from then on to be identified. Cyberpunk writers proclaimed the genre to be a new, "revolutionary" one, exemplifying "the most crucial political, philosophical, and moral issues of our day."²⁵ It seems highly ironic that a genre proposing to be ardently anti-capitalist and anti-multinational would be praised by

²⁴ Ibid, 242.

such conservative, business-oriented publications as *The Wall Street Journal* and *The Washington Post*.²⁶ This alone should lead us to question cyberpunk as a revolutionary SF genre.

Cyberpunk's idea of counterpolitics - faithful male heroes with working class chips on their shoulders and biochips in their brains - seems to have little to do with the burgeoning power of the great social movements of our day: Feminism, ecology, peace, Sexual Liberation and Civil Rights. Curiously enough, there is virtually no trace of these social movements in this genre's "credible" dark future despite claims by [Bruce] Sterling that cyberpunk's futures are "recognizably and painstakingly drawn from the modern condition." However modern the zeitgeist of cyberpunk, it was clearly a reflective zeitgeist. However coherent its 'narrative symbolization' of modern technofuture trends it was clearly a limited narrative shaped in very telling ways by white masculinist concerns."²⁷

In her article "Cyberpunk: Radical or Reactionary?"

Nicola Nixon links cyberpunk's exclusion of the socio-political movements of the 60s and 70s with Reaganite politics of nostalgia.²⁸ She demonstrates how in both Bruce Sterling's (cyberpunk author and spokesperson of the genre) review of William Gibson's *Neuromancer* and his introduction to a collection of Gibson's short stories,

²⁵ A quote taken from an interview with Bruce Sterling. Nicola Nixon, "Cyberpunk: Radical or Reactionary?" *Science-Fiction Studies* 19 (1992) 221.

²⁶ *Ibid.*, 231.

²⁷ Andrew Ross, "Cyberpunk in Boystown." In *Strange Weather: Culture, Science, and Technology in the Age of Limits* (London & New York: Verso, 1991) 152.

²⁸ The politics of nostalgia encouraged the belief that the United States had fallen from a state of grace during the 1950s, insinuating that the 60s and 70s had led the country astray and thus Reagan wanted to encourage Americans to get back to the good old-fashioned values found in the 50s that had been lost

Burning Chrome (1986), he attempts to dismiss SF feminist work as redundant.²⁹ In his review, Sterling dismisses "all of the 70s SF as 'not much fun,' as in 'the doldrums,' and as a 'hibernation'."³⁰ He disparages the work of 70s SF authors, particularly those with feminist leanings, as "dogmatic slumbers," seeing their focus on politics (in particular feminist issues) as detrimental to the quality of their writing.³¹ Sterling emphasizes this dismissal by linking cyberpunk to the supposedly golden age of SF, which he locates in the late 50s and early 60s, in a nostalgic manner reminiscent of Reagan's politics of nostalgia.³² Reagan advocated a return to the America of the 50's, feeling that American values had declined in the 60's and 70's, a stance which allowed him to effectively dismiss any of the political movements of those two decades. Like Reagan, Sterling sought to discount the need for a debate on women's rights within cyberpunk by linking it to a time before the socio-political movements of the 60s and 70s.³³ This dismissal of these political developments and the lack of a socio-political background in cyberpunk novels, serves

during the last two decades. James Combs, *The Reagan Range: The Nostalgic Myth in American Politics* (Bowling Green, Ohio: Bowling Green State University Press, 1993) 22.

²⁹ Nicola Nixon, 220.

³⁰ Ibid, 220.

³¹ Ibid, 220.

³² From Sterling's preface to *Mirrorshades*. Bruce Sterling, "Preface from *Mirrorshades*," In *Storming the Reality Studio*, Ed. Larry MacCaffery (Durham & London: Duke University Press, 1991) 344.

to create a vacuum, one in which cyberpunk authors (Gibson, Sterling, Rudy Rucker, and John Shirley to name a few) were able to impose their own fixed idea of gender relations onto the societies depicted in their writing.

Cyberpunk's refusal to engage in social politics mimics Reagan's use of personalized politics in that they both, coincidentally, chose the cowboy as their symbol. Virtually every cyberpunk novel has as its protagonist a "console cowboy" (always male), an outsider (computer geek) who is confronted with a problem situation (usually involving a hack against a multinational corporation) and who will eventually end up saving the day. Both cyberpunk's and Reagan's cowboy personae follow the archetypal prerequisite of remaining outsiders even after their job is finished, since the true cowboy can never assimilate into the society that only he can save, owing to his very ability to take an outside perspective.³⁴ In this way, neither cyberpunk nor the Republican Party had to identify themselves as part of a socio-political movement or of big business, the government, and the rich or poor. They did not attach themselves to any one group in particular and were thus able to appeal to a wider audience.

³³ Nicola Nixon, 220.

³⁴ James Combs, 55.

The cowboy then became the main archetype of male power in the popular culture of the 1980s.³⁵ Dressed in different clothes, with newer toys, he transformed himself from the classic Clint Eastwood or John Wayne figure into the muscle-bound, bazooka-wielding action hero embodied by Sylvester Stallone and Arnold Schwarzenegger. In its essence, however, the persona had remained very much the same. The cowboy represented an ideal of masculine independence as an essential condition to his effectiveness in action³⁶. Box office hits such as the *Rambo* series and *Terminator*, celebrated a new hyper-masculinity through their use of overly muscular protagonists. Their exaggerated physique was in actuality a reaction to the redundancy of physical strength in an age of increased dependency on the computer.³⁷

Ronald Reagan was the driving force behind the cowboy revival, casting himself as a John Wayne-type character come to put an end to the chaos brought about by the "effeminate" Jimmy Carter in his responses to such situations as the Iranian hostage taking of 1979.³⁸ By creating this gender binary opposition of Reagan =

³⁵ Ibid, 47.

³⁶ Ibid, 48.

³⁷ Andrew Ross 152.

³⁸ James Combs, 50 and 52. Jimmy Carter's refusal to bargain with the hostage takers resulted in the murder of the hostages.

male/active/violent and Carter = female/passive/peaceful, Reagan's administration set out to reconstruct those gender norms that the social reforms of the 70s had struggled so hard to dismantle. This revival of outdated gender binary oppositions would reappear in cyberpunk from a different angle.

In "Cyberpunk in Boystown," Andrew Ross points out how cyberpunk's reaction to popular culture's backlash against feminism in the 80s, using the hyper-masculine cowboy, was to locate its own version of hyper-masculinity in techno-masculinity.³⁹ Whereas Reagan's administration had reintroduced the gender binary opposition of male/strong and female/weak, with its hyper-masculine cowboys, cyberpunk, with its techno-masculinity reintroduced the gender binary opposition of male/culture/intellectual vs. female/nature/body. In much of cyberpunk literature, the division of labour between male and female characters is clearly determined by these oppositions. The male protagonist is always the one with the intellectually based techno-ability who sets out to dominate corporeal femininity, represented in the feminized cyberspace called the matrix (Latin word for womb)⁴⁰ or in the sexually

³⁹ Andrew Ross, 152.

⁴⁰ Within cyberpunk literature, the interaction between console cowboy and cyberspace is metaphorically linked with heterosexual intercourse. The experience of jacking in is often described in as an orgasmic

objectified female characters that also tend to be responsible for the physical portions of the hacks.

The console cowboy is often described as "jacking into" the matrix, and this penetration is usually a non-consensual one.⁴¹ It goes without saying then, that for women, who are much more likely than men to be sexually assaulted, the imagery associated with being a hacker is less than appealing. The violent nature of the hacking, combined with the anti-social, outsider behaviour encouraged by the cyberpunk genre, promoted the notion that in order to be computer savvy one had to adhere to these characteristics, ones that were placed in opposition to everything that being a woman was suppose to stand for, and thus discouraging women from involvement in the computer field.⁴² This opposition did not end there, however, for cyberpunk went further in its rejection of the body as a hindrance to cyber success, meaning that women would also

release: "Disk beginning to rotate, faster, becoming a sphere of paler gray. Expanding - And flowed, flowered for him, fluid neon origami tricks, the unfolding of his distanceless home, his country...and somewhere he was laughing, in a white-painted loft, distant fingers caressing the deck, tears of release streaking his face." William Gibson, *Neuromancer* (New York: The Berkley Publishing Group, 1984) 52.

⁴¹ One can find examples of this kind of sexual interaction between console cowboy and the matrix in just about any Cyberpunk novel. Laura Miller discusses how this metaphorical rape of cyberspace is similar to that of European settlers in the new world who saw the frontier as "virgin territory to be conquered". Laura Miller, "Women and Children First: Gender and the Settling of the Electronic Frontier," In *Resisting the Virtual Life: The Culture and Politics of Information* (San Francisco: City Lights Books, 1995) 50.

⁴² This relates to Griselda Pollock's discussion how the prerequisites for being a renowned artist became qualities that were in opposition to what society deemed to be appropriately feminine, which explains why fewer women chose to pursue careers as artists. Griselda Pollock, "Women, Art and Ideology: Questions for Feminist Art Historians." *Women's Art Journal* 4 n. 1 (Spring/Summer 1983) 40.

have to shed their bodies in order to join the cyberpunk wave.

The console cowboy is supposedly able to disembodiment himself from his physical corporeal reality, projecting himself or his mind into cyberspace. Disembodiment, the act of freeing the self from corporeal existence into cyberspace, has become the most complicating factor in current cybercultural debates surrounding gender, since in an anonymous world of "make believe," it is difficult to be certain of anyone's sexual identity. This uncertainty, however, calls into question our very definitions of what makes one male or female, by exposing the performative quality of gender, and consequently calling into question the notion of reality as well. How are we to reconcile an artistic medium that allows for so much anonymity for both viewer and artist with any political agenda that focuses on identity - gender, ethnic, sexual etc.? If identity can be chosen online then what happens to the agency of situated subjects in offline existence? How is an oppressed, social body to be considered active in a cyberspace that has the prerequisite of disembodiment for entrance? Cybercultural feminists are grappling with the effects that the cyberpunk loss of the body has had on the subject. They seek to

rewrite the body back into cybercultural identity theory by revealing how it was never really lost to begin with.

Chapter Two: Disembodiment

The main debate in cybercultural feminist theory, and consequently the subject of much cyberfeminist visual culture, focuses on the possibility of disembodiment: the ability to leave one's body behind by projecting the mind into a digital outlet. The possibility of leaving the body behind conjures up many other questions for cybercultural feminist theorists such as: How does disembodiment affect gender identity and subjectivity? What is reality and consequently what is gender reality in a disembodied cyber state? The following is an attempt to sort through these problematic issues with the hope of illustrating how a gender identity is situated in a constantly fluctuating space that is situated in relation to gender constructs that cannot be perceived as separate from the body but rather engage with the body at all times. I hope to demonstrate how the anonymity online that allows for gender subversive performances, greatly enhances our understanding of gender not only in cyberspace but in offline life as well.

As we have seen in the previous chapter, in computer culture hyper-techno-masculinity replaced the hypermuscular

bodies of film stars owing to the obvious redundancy of the body in the age of digitized labour.⁴³ The disappearance of physical exertion in the everyday lives of most of the inhabitants in the Western world further increased, in my opinion, a sense of general distance from the body and its original use as a means of "making ends meet", freeing it up to be increasingly seen as an object to be manipulated and altered in order to satisfy aesthetic prerogatives. The citizens of wealthy countries⁴⁴ are collectively transferring physical labour from their bodies onto their maids' bodies, onto their off-shore assembly plant workers' bodies, onto the workers who pick the coffee beans for Starbucks, onto the workers who assemble the hard drives and their components.⁴⁵ The bodies of the wealthy consequently become status symbols than physically labouring machines, as is essentially the case for the most underprivileged members of the working classes. In the digital age, excessive physical labour has not disappeared, it has been shifted onto those economically incapable of riding the cyber wave, and it is they who have become the

⁴³ Andrew Ross, 152.

⁴⁴ Admittedly, not all citizens in wealthy G-8 countries are wealthy on an individual basis, and thus the advantage taken of the poor exists within and without poor countries.

⁴⁵ This idea was influenced by Donna Haraway's emphasis on female off shore workers participation in the digital economy and Sadie Plant's *Zeroes and Ones*, where she too emphasizes how there is an underground weaving network of women who have left their fingerprints all over technology. She uses the women who assemble the keyboards and harddrives in Malaysia and Taiwan as an example. I would like to

corpo-reality of the labour force in our contemporary society.

The body has been perceived as a hindrance rather than an intricate part of identity as a result of the Cartesian dualism that has dominated Western thought for the past four centuries. This notion of a binary opposition between mind and body has been aggravated by a society that increasingly spends its time on the web, both at work and at home, and that has granted the mind the hierarchical high ground in human/computer interaction, with the body often left out of the equation entirely. In the space we call cyber, a space where we may believe we have shed the encumbrance of the corporeal in favour of greater cognitive disembodied heights free of disease and injury, these supposedly liberated beings roam light-heartedly across the cyber webs of immortality, until, that is, they must stop to eat, or to use the washroom.

Cybercultural Feminist Debates

To begin with, I should mention that throughout my research I have yet to come across a single cyberfeminist argument in favour of disembodiment. Disembodiment itself appears to

suggest here as well that wealthy countries are increasingly and jointly disembodimenting themselves from physical labour through the increased use of off shore plants for cheap labour.

be a specifically cyberpunk notion that based its success on riding the Cartesian divide and the escapist desire to shed one's corporeality. There is a general agreement among cyberfeminists that there needs to be rearticulating of the body in cyber interaction, and a variety of different positions have been taken relative to how the ostensible loss of the body should be reconciled with feminist discourse. Cybercultural feminist debates about disembodiment, therefore, are directly related to gender identity theory.

Since the publication of Judith Butler's book *Gender Trouble* in 1991, her theories on the performativity of gender have contributed in important ways to cybercultural feminist debate and, some would argue, are responsible for the notion that on the web, "you are who you pretend to be."⁴⁶ In her argument for the recognition of the cultural construction of gender, Butler has at times been seen as perpetuating the information/matter, culture/nature or mind/body splits that are essential to debates over disembodiment.⁴⁷ Because Butler's theory tends to focus on the cultural construction of gender, she is often

⁴⁶ Sherry Turkle, *Life on the Screen*, 184.

understood to have separated gender from sexual difference and thus to have created yet another binary opposition that can be seen as fitting into the hegemonic system of other dualisms predating that of gender/sex.⁴⁸ Because binary oppositions have seriously contributed to women's oppression through their assertion that woman is defined by what man is not, binary oppositions have too often been associated with male and female, along the following lines:

<u>Male</u>	as opposed to	<u>Female</u>
Mind		Body
Culture		Nature
Information		Matter
1		0
Active		Passive

And the list goes on.

If Butler then, were seen to be constructing yet another binary opposition, one of gender/sex, some feminists worry that by re-inscribing yet another dualism within a harmful hegemony, she would be falling into the very trap she yearns to escape.⁴⁹ Butler, however, does not

⁴⁷ Diane Currier, "Assembling Bodies in Cyberspace: Technologies, Bodies, and Sexual Difference" In *Reload: Rethinking Women and Technology*, Eds. Austin Booth & Mary Flanagan (Cambridge: MIT Press, 2002) 528.

⁴⁸ Rosi Braidotti refers to Moira Gatens writing in which she suggests that gender implies a passive body and thus perpetuates a sort of hierarchical scheme in which the body and sexual difference is not considered as important as the cognitive choice to subvert gender constructs. Rosi Braidotti, *Metamorphoses*, 33.

⁴⁹ Freya Carkeek and Paul James, "The Abstract Body: From Embodied Symbolism to

see her theory as a perpetuation of this kind of binary organization, stating:

If gender consists of the social meanings that sex assumes, then sex does not accrue social meanings as additive properties but, rather, is replaced by, the social meanings it takes on; sex is relinquished in the course of that assumption and gender emerges, not as a term in a continued relationship of opposition to sex but as the term which absorbs and displaces "sex", the mark of its full substantiation into gender or what, from a materialist point of view, might constitute a full desubstantiation.⁵⁰

Here, Butler asserts that the cultural meanings attributed to sex, signified by the term gender, absorb and displace sex, since the meaning of sex or the description and definition of a sex exists solely within its gender stereotypes. Gender thus presupposes sex, according to Butler, because it always determines all meanings associated with sex.

The reason Butler's theory is sometimes wrongly perceived as perpetuating the gender/sex-information/matter binary split is simply that she has a tendency to over-emphasize her views on the cultural construction of gender, leading the reader to feel at times as though she is shrugging off the physical aspects of sexual difference as completely irrelevant to the overcoming of sexual

Techno-Disembodiment," In *Virtual Politics: Identity & Community in Cyberspace*. Ed. David Holmes. (London & New Delhi: SAGE Publications, 1997)105.

⁵⁰ Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity*, Revised Edition (New York and London: Routledge, 1990 &1999) 5.

oppression.⁵¹ Her emphasis on the performative quality of gender, an invaluable contribution to gender identity theory, can easily play into the hands of disembodiment enthusiasts, who purport that one can perform one's way around and out of a gender identity with a couple of clicks of the mouse.

The main psychologist working to clarify the gender swapping phenomenon in online gaming culture is Sherry Turkle, whose book *Life on the Screen, 1995*, sums up the Multiple-User-Domain (MUDs) gamer's perspective on the performative nature of MUDs in relation to gender as follows:

You can be whoever you want to be. You can completely redefine yourself if you want. You can be the opposite sex. You can be more talkative. You can be less talkative. Whatever. You can just be whoever you want, really, whoever you have the capacity to be.⁵²

This means you can be a female or male or non-sexed, of any race, any religion, etc. The "you" in the above quote, however, insinuates the existence of a "real you", a stable, unified subject capable of becoming another stable unified subject (which would be represented by the avatar, or character you create in the MUD). This possibility for the transformation of the supposedly unified subject will

⁵¹ Rosi Braidotti, *Metamorphoses*, 11.

⁵² Sherry Turkle, *Life on the Screen*, 184.

be considered more thoroughly later on in this discussion. Suffice it to say for now that Turkle herself sees MUDs as being of great benefit as psychoanalytic tools.⁵³ She argues that the anonymity of the web allows the user to experiment with psychological issues, particularly issues of sexuality and sexual difference, in a safe environment where there are few "real life" consequences to the gamer's actions.⁵⁴ If a man wanted to work through issues he was having with his sexuality or gender identity, for example, Turkle contends that it would be safer for him to experiment with them on the web rather than for him to dress up in drag in real life.⁵⁵ She would also argue that the social response on the web would come closer to providing the user with a relatively realistic idea of what it would really be like to be a woman than that which he would obtain by going out in drag in real life.⁵⁶

What becomes problematic for some cyberfeminists is Turkle's enthusiasm for the MUD as a provider of realistic social responses. Lisa Nakamura asserts that the notion that one can experience what it is like to be another sex or ethnicity in cyberspace is a ridiculous one, and goes on

⁵³ Sherry Turkle, "Constructions and Reconstructions of the Self," In *Electronic Culture: Technology and Visual Representation*, Ed. Timothy Druckery (New York: Aperture, 1996) 361.

⁵⁴ Sherry Turkle, *Life on the Screen*, 190.

⁵⁵ *Ibid*, 190.

⁵⁶ *Ibid*, 238.

to compare it with what she calls "identity tourism".⁵⁷ As used by Nakamura, the term identity tourism refers to travellers to foreign countries who take their experience off the beaten track to be more "authentic" than that experienced by the typical tourist.⁵⁸ Regardless of how far off the beaten path one travels, one will always remain a tourist, and thus one cannot possibly hope to understand what it is like to truly inhabit the culture one is visiting.⁵⁹ What particularly worries Nakamura is precisely the possibility that, as Turkle suggests, the player of an MUD might take her or his experience of "Otherness" to be an authentic experience, when in fact there are many mediating circumstances that can contribute to the authenticity of the experience. She concludes that the online experience can never compare to what it is like to actually navigate an "Othered" body through society.⁶⁰

Nakamura's concern that MUD users would take an experience of an online "Other" as authentic reality seems exaggerated, however, especially when we remember that anonymity and the dependency on performativity which are characteristics of internet interaction purposefully

⁵⁷ Lisa Nakamura, "After/Image of Identity: Gender, Technology, and Identity Politics," In *Reload: Rethinking Women and Technology*, Eds. Austin Booth & Mary Flanagan (Cambridge: MIT Press, 2002) 323.

⁵⁸ Ibid, 323.

⁵⁹ Ibid, 323.

highlight and call into question the authenticity of any social reaction, online or off. At some level, almost all social experiences could be accused of being staged. One has only to think of the various ways one behaves at a dinner party, at work, at home, or at a hockey game, for example. Different social occasions call for different social performances.

The lack of definite knowledge as to a fellow MUD player's physical sexual identity, remains constantly present in the mind of the MUD player, and is one of the common facts of online life, where one must remember to take everything one see, hears, and reads etc., with a grain of salt.⁶¹ This impossibility of ensuring that "what you see is what you get" on the web tells us that, as much as we may like to believe that we are getting an authentic social reaction to our avatars or handles⁶², we can never be certain since as Nakamura demonstrates with identity tourism, even in reality we can never be certain of the authenticity of our experiences. The impossibility of truly knowing anything for certain on the web could therefore

⁶⁰ Ibid, 326.

⁶¹ "Gender-swapping on MUDs is not a small part of the game action. By some estimates, Habitat, a Japanese MUD, has 1.5 million users. Habitat is a MUD operated for profit. Among the registered members of Habitat, there is a ratio of four real-life men to each real-life woman. But inside the MUD the ratio is only three male characters to one female character." Sherry Turkle, *Life on the Screen*, 212.

⁶² A handle is a pseudonym used to disguise one's real name. Instead of my real life name Cynthia, for example, I would use Plexus or Splash online.

also be seen as drawing attention to the performative nature of offline life.

In postmodernity, the "Other" is increasingly in fashion, and the status of "Others" has changed at a rapid pace and continues to do so, not to mention that it varies greatly across countries, continents and cultures. What are the supposedly non-Other members of society to do? Moreover, in a world of continually shifting power dynamics is there such a thing as a non-Other?⁶³ It seems to me that Nakamura's emphasis on the physical navigation of the "Othered" body as the definition of an authentic experience of otherness calls attention to the fact that the body has been left out of the picture altogether by disembodiment enthusiasts, and as a result needs to be rearticulated into the picture.

In relation to cyberspace, what is worrisome to cybercultural feminists like Nakamura is the idea that their bodies and the bodies of all minorities⁶⁴ could be

⁶³ I would argue that there still is a majority/minority that remains cut along gender lines, especially in the 2/3 of the world that have not undergone substantial feminist revolutions. In Western society, however, we have to acknowledge the triumphs of the feminist movement and recognize that majority/minority may still exist but it isn't necessarily cut along gender lines, I would suggest more along financial lines. That said, backlashes reappear on a continual basis, attempting to bring back outdated ideas, so we aren't free of it yet.

⁶⁴ Deleuze and Guattari's definition of minoritarian: "They express minoritarian groups, or groups that are oppressed, prohibited, in revolt, or always on the fringe of recognized institution." Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism & Schizophrenia*, trans. by Brian Massumi (Minneapolis: University of Minnesota Press, 1987) 247.

seen as up for grabs, free to be experienced by those who, for a long time were associated with the majority,⁶⁵ in particular straight, white men. In addition, that the idea of becoming a minority could be a choice for some may possibly be seen as insulting to those minorities who never had a choice as to their status in the first place. That this chosen online experience of a minority could go as far as to equate itself with an offline experience of a minority raises questions over the authenticity of minority experience in general. The debate is intense, the online gender-swappers and minority identity explorers ardently arguing for an acknowledgement of, and a respect for, their experiences, while the offline minorities call for a recognition of the hierarchical placement of their offline experience over an online one. The main issue, however, shifts from one not only of minority experience and of the desire of online users to become-woman⁶⁶ but to one over what constitutes an authentic or real experience, and finally over what defines a subject.

REALLY REAL REALITY?

⁶⁵ The opposite of minoritarian as defined by Deleuze and Guattari: "When we say majority, we are referring not to a greater relative quantity but to the determination of a state or standard in relation to which larger quantities, as well as the smallest, can be said to be minoritarian, Ibid, 291.

⁶⁶ This term illustrates the steps in the process of becoming according to Deleuze and Guattari, Ibid, 239.

A male gamer playing in an MUD all day long as a female would probably take issue with Nakamura's definition of authentic experience, since, as he perceives it, his whole life basically occurs online, where he is a woman. In Turkle's investigations of human behaviour on the web she has located what she refers to as "slippages"⁶⁷ in user online interaction, points where the player and the avatar become one, where the user begins to identify with the avatar to such an extent that s/he loses her/himself in the avatar, forgetting physical corporeality, however temporarily.⁶⁸ In these instances we have to then question what it is that in fact constitutes the "real" identity of the gamer. This is where the serious problem of person/computer interaction and sexual identity arises. One cannot place enough emphasis on how important this destabilization of reality is to debates surrounding gender, and on how this destabilization renders the web an important medium for the investigation of gender issues. For the reason that, regardless of one's status as a minority owing to corporeal demarcations as such, there are minorities who have and continue to be very successful and there are those who fit into the traditional majority camp

⁶⁷ "Slippages - places where persona and self merge." Sherry Turkle, *Life on the Screen*, 185-86.

⁶⁸ *Ibid*, 185.

who are not. Since majority experience has been pursued by minorities in the name of equality, the shifting status of majority has to be accounted for so that we do not merely inverse the old binary making minority into majority and vice versa. I believe that it is in online life and in particular with gender swapping, that this shifting status is being explored, in order to take from the online experience in order to understand offline life. The online experience becomes a trope into "reality" and is therefore a valid one for understand gender in a postmodern world.

In his book *The Internet: A Philosophical Inquiry*, 1999, Gordon Graham discusses the validity of virtual experience on the internet. Using the example of what it would be like to encounter a tiger in real life versus a virtual reality simulation of the experience, he concludes that, although a virtual experience grants the participant a closer experience of "what it is like" to encounter a tiger than a text-based account, it still isn't as "real" as the actual experience of meeting a "real live tiger."⁶⁹ This rationale, one that degrades the virtual experience by suggesting that it isn't as valid or as "real", falls short, in my opinion, in its failure to turn the inquiry on

reality itself. It posits that reality is the same for all, that it is one truth, one sought after stable absolute experience, unfluctuating and unchanging.

I would challenge those who believe in an absolute reality to question their own preconceived notions of what exactly reality consists of. I have often heard the argument that biological parenthood creates a closer or "higher quality," "real" parental bond between child and parent, even as the counter argument that biological birth guarantees no instant bond (we seem many examples on the news of biological parents killing their own children) and that adoptive parenthood can be equally, if not more successful in creating such bonds repeated just as often.⁷⁰ What concerns me with the classification of something in offline life as automatically granted a hierarchical placement over a similar experience online is that it creates another binary that cannot guarantee absolute accuracy since life does not operate within binaries!

If an MUD player stays online for fourteen hours a day, performing her or his online persona, one has to begin to question whether or not her/his online life is less real

⁶⁹ Gordon Graham, *The Internet: A Philosophical Inquiry* (New York: Routledge, 1999) 156.

⁷⁰ I recently fell in-love online and I can assure you that the experience of falling in-love online was just as if not more romantic and real as the previous experience I had falling in-love in offline life. I personally preferred it. Yet, upon announcing this news to my friends and family my experience was automatically degraded because my lover and I hadn't met in real life. We are now moving in together.

than her/his offline one. In such cases, it becomes difficult to decide where this person's "real life" ends and her/his online life begins. The seemingly common necessity of having to fit every experience into a hierarchal scheme of real and non-real seems purposefully constructed to reaffirm the life and experiences of those who maybe fear online interaction or are ignorant to it, as superior. At the beginning of the 21st century, however, it is important to come to terms with the fact that the World Wide Web has come to occupy a choice position in our offices, in our classrooms and in our living rooms, in our personal and professional lives and in the lives of our children.⁷¹ It is not something that is outside of real life but is intrinsic to it. It has real consequences both in the lives of the inhabitants of the wealthy West and of those of the poorer nations, whose populations are largely excluded from access to it. The World Wide Web has permeated many different aspects of everyday life, and there are many everyday consequences that result from this symbiotic merger with reality. Think for example of online trading, travel bookings on line, pornography, online journals, online dating leading to marriage, etc. I believe

⁷¹ Here I obviously refer to those of us privileged enough to live in wealthy countries with Internet access and who have substantial enough incomes to invest in computers and internet service providers (ISPs).

that it is time to stop comparing online experience to "real life" experience and to begin instead to treat it as an experience in its own right and, dare I suggest, as an essential part of reality.

In our world of enhanced geographical mobility, the World Wide Web is increasingly the preferred medium for people to stay in contact with one another across the planet. Online databases allow students to research beyond their libraries, to access museum collections and archives around the world. Tourists can go on online 3D tours of the hotels they will be staying at and purchase tickets all the way from another continent. Even though we still feel as if we could live without the web and other digital delights, it certainly appears as though, just as we became dependent on the train, the car, the telephone and the television set, we have now become dependent on cyberspace. As much as we would like to believe that this space exists separately from our "reality," it is increasingly apparent that this is no longer the case. For those of us whose interests lie in the art world, it is time to recognize that the internet constitutes a new art medium, one full of room for investigation, particularly due to the anonymity granted the user on the web and the resulting gender implications. In a world where gender is swapped and re-constructed

according to a player's preferences, where does the gender identity reside in a performed subject who, in one space blurs social constructs but maybe adheres to them elsewhere? How is the cyberfeminist artist to reconcile the shifting grounds of cybergender in her online artwork?

Instead of seeing the choice to explore minority experience as an attempt to steal minority experience, it would be more productive to acknowledge that in a world in a constant state of flux, one in which gender identity is constantly changing, that people may just want to try and understand their fellow humans' experiences. It would be hasty to conclude that an online experience as a minority is necessarily as authentic an experience as that of a minority offline. Yet, it seems just as hasty to ignore the phenomenon of minority exploration online and to reject the possibility that it results from offline life's ever changing status and contributes back to it. A crossfire of online and offline exploration thus conflates the binary of real/non-real since online experience can be taken and used to benefit one's understanding of offline life.

In each case the online experience is filtered back to the body since the body is always engaged in cyber interaction (brains being muscles and fingers and hands responsible for typing etc.). It would appear, therefore,

that a reemphasis on sexual difference has become a necessity, while at the same time accounting for the loss of a unified subject and a unified oppressor (men) in postmodern society. This complicates a difference structured on the binary oppositions of the sexes that has been moving more and more into a state of flux. As have our definitions of subjects. They too fluctuate from one gender construct cocktail to another in search of their own gender identities.

The fluctuating subject

Contrary to Butler's politically motivated approach to challenging gender stereotypes through performed subversions, associated with an anti-corporeal or disembodied style of cognitive choice, anti-disembodiment feminists argue for a re-embodied or materialist approach to subjectivity in cyberspace. They call for the acknowledgment that sexual difference results in the oppression of those on the lower ranks of the heterosexual hegemony, regardless of the great socio-political triumphs achieved particularly in wealthy Western societies, over the past few decades. This appeal for a recognition of sexual difference calls attention to the situations in life that we cannot solely consciously change on a performative

individual basis but only through the combination of *both* individual and collectively organized political efforts towards change. Postmodern feminists recognize as well that the once considered homogeneous group that constituted the oppressor of the minorities, the phallogocentric subject, is no longer identifiable under the umbrella term "men", and call for all citizens male and female to come together in order to overcome oppression in the continually shifting state of gender subjectivities in contemporary society.⁷²

One of the most prominent theorists working in this field is Rosi Braidotti, who calls for "enfleshed materialism"⁷³ online, a materialist approach that she links with her earlier works on nomadic subjectivity.⁷⁴ In her recent publication, *Metamorphoses* (2003), Braidotti begins by pointing out how in our contemporary, fast-paced times the "brutality of power-relations" between the sexes is not

⁷² It is important to mention that there are many feminist organizations working to increase women's participation online. Studio XX (Montreal) is a great example: www.studioxx.org. My only issue with Studio XX and the following list of cyberfeminist organization is that they refuse to allow men to participate in their political goals, a position that seems strikingly old fashioned in a postmodern world. Also, the content of the work they exhibit does not necessarily deal with the complicating issues surrounding gender identity online which makes their cyberfeminist goals solely materialist in a radical feminist manner. VNS Matrix is a group of female artist whose subject matter illustrates this kind of cyberfeminist: <http://lx.sysx.org/vnsmatrix.html>. Other cyberfeminist communities online: CyberKitchen <http://www.mi2.hr/cyberkitchen/future.htm>, Gorilla Girls BroadBand: <http://www.ggb.org/>, Women in Technology International: <http://www.witi.com/>, and Face Settings: <http://www.t0.or.at/~amazon/FACE/index1.htm>.

⁷³ Rosi Braidotti, *Metamorphoses: Towards a Materialist Theory of Becoming* (Cambridge: Polity Press, 2003) 14.

⁷⁴ *Ibid.*, 5.

done away with, but can actually intensify.⁷⁵ Braidotti wants to reintroduce sexual difference into the cyberspace debates over disembodiment in response to what she perceives as an intensification of the power struggles between the sexes.⁷⁶ She articulates this political decision through a return to the body, in order to look at how it is that we understand cyberculture and our world, without forgetting the hurdles still present for the minorities within it.

At the same time, Braidotti is a leading theorist on subjectivity and its shifting state, having coined the term "nomadic subjectivity"⁷⁷ to describe how subjects exist in constant states of flux. She suggests that we can account for these various states through the use of figurations that seek out various political locations in a sort of mapping out of the fluxing subject. This cartography takes into consideration the diversity within such generalizing terms as "feminism", "women" and "men", and of the shifting states of individual subjects. It catches them at a

⁷⁵ Ibid, 1.

⁷⁶ I would suggest that similar to how cyberpunk was a reaction to the social changes of the late 70s that attempted to liberate women and other minoritarians, today there is certainly a backlash against the strides made in the early 90s through an over sexualization of women, in particular young women through the use of teen icons (Britney Spears, Christina Aguilera, Jessica Simpson etc.) in order to reestablish new stereotypes that discourage young women from focusing on intellectual pursuits, encouraging them instead to strive at becoming the ultimate sex symbol. This phenomenon is evident in the success of shows that encourage this pursuit such as the idol shows *American Idol*, *Canadian Idol* etc.

⁷⁷ Refer to her book, Rosi Braidotti, *Nomadic subjects : embodiment and sexual difference in contemporary feminist theory* (New York: Colombia University Press, 1994).

crossroads of multiple states, and then orients the discussion or political position from there.⁷⁸ Braidotti thus accounts for the shifting state of subjectivity and the diversity amongst political groups through her ability to create an image of the politics of location of each subject before it fluctuates yet again:

Politics of locations are cartographies of power which rest on a form of self-criticism, a critical, genealogical self narrative; they are relational and outside-directed. This means that 'embodied' accounts illuminate and transform our knowledge of ourselves and of the world.⁷⁹

Braidotti's intention is to "illuminate aspects of one's practice where there were blind spots before,"⁸⁰ since she believes that there are many aspects of the self that escape self-scrutiny being so close and familiar that we are seldom aware of them.⁸¹ These blind spots in our practice, may prove vital to an understanding of our subjective positions, thus overcoming a persistent concern of Braidotti's that postmodernist theory tends toward relativism.

In relation to cyberculture and in particular to corporeal interfaces with computers, I find Braidotti's

⁷⁸ Rosi Braidotti, *Metamorphoses*, 13.

⁷⁹ *Ibid.*, 11.

⁸⁰ *Ibid.*, 13.

call for self-scrutiny similar to Katherine Hayles' emphasis on incorporating practices and their importance in formulating an embodied knowledge in computer interaction. Katherine Hayles' book, *How We Became PostHuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, 1999, successfully navigates the waters between Butler's theories of performativity and Braidotti's nomadic subjectivity and enfolded materialism through its in-depth analysis of digital history and human/machine interaction. In her analysis of embodied practice, Hayles identifies two different kinds of enculturating methods used to gender a body in relation to digital technologies. She refers to these two methods, which Hayles draws from cognitive science, as "incorporating and inscribing practices".⁸² Inscribing practices are those kinds of cognitively acted practices that inscribe knowledge, such as speaking and writing. Incorporating practices, however, are those practices which escape cognitive recognition because they become habitual and are physically incorporated into the body through repetition, thus becoming embodied knowledge.

⁸¹ Ibid, 11.

⁸² N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics* (Chicago & London: University of Chicago Press, 1999) 200.

Incorporating practices could be made up of such skills as typing or playing the piano.⁸³

Hayles believes that it is the combination of these two kinds of practices, inscribing and incorporating, that creates cultural constructs in relation to gender and digital technologies. However, desiring as she does a return to a materialist methodology with regard to human/machine interactions, she argues that the incorporating practices' ability to slip beneath the cognitive radar makes them that much more difficult to change and alter through conscious choice.⁸⁴ This recalls Braidotti's desire to place a spotlight on those practices that escape self-scrutiny. However, Hayles makes direct links to embodied/incorporating practices that escape the spotlight and that have consequently been left out of the picture in pro-disembodiment debates, owing to their seeming invisibility.

Let us recognize, then, that inscribing practices, as defined by Hayles, could very well account for Butler's theories of performativity, due to their mostly cognitive

⁸³ Hayles uses the example that one can know how to type but may not know necessarily how to read the language one types and thus it is the embodied knowledge of typing that permits the typist to successfully complete his/her task of typing. Ibid, 199. Another example comes from my own personal experience as a child raised playing the piano. After having lost access to a piano after my move to university, I'm amazed to find that I have the ability to remember songs I learned many years ago. This is not a cognitive ability, to remember the pieces but an embodied one since effort to remember cognitively tends to cause more mistakes than closing my eyes and allowing my hands to remember the piece.

nature, while incorporating practices account for Braidotti's and Hayles' own calls for an enfleshed materialism. Hayles thus demonstrates how both of these practices, inscribing and incorporating, work together to make up constructs, rather than pitting one practice against the other in a hierarchical scheme. She demonstrates that both practices tend to reaffirm the other, enculturating gendered behaviour. She uses the example of teaching children how to sit "appropriately" for their gender:

Posture and the extension of limbs in the space around the body, for example, convey to children the gendered ways in which men and women occupy space. These non-verbal lessons are frequently reinforced verbally; 'boys don't walk like that,' or 'girls don't sit with their legs open.'... Showing someone how to stand is easy, but describing in words all the nuances of the desired posture is difficult. Incorporating practices perform the bodily content; inscribing practices correct and modulate the performance. Thus incorporating and inscribing practices work together to create cultural constructs. Gender, the focus of these examples, is produced and maintained not only by gendered languages but also by gendered body practices that serve to discipline and incorporate bodies into the complex significations and performances that constitute gender within a given culture.⁸⁵

If both of these practices work together to enculturate the growing child, we could go further and suggest that the subject is situated in a crossfire of enculturating

⁸⁴ Ibid, 204.

⁸⁵ Ibid, 200.

practices that shape and mould her/him according to her or his social and cultural circumstances.

This in-between space, the crossfire, is of great importance to cyberfeminist theory, since the practices at work in our interface with the computer operate in a similar manner. In a chat with someone online, for example, what was once a text-based exchange has become one of text, audio and web cam. A Star Trek-style communication is in the here and now, and both inscribing and incorporating practices are at work on the cyber explorer (the corporeality of the subject increasingly making its presence felt online) and is at the same time being inscribed within "appropriate" practices incorporated into online behaviour. It is here, in this in-between space, that two cybercultural theorists in particular, Alluquère Rosanne Stone and Mary Flanagan, locate the cyber subject, each in a slightly different manner:

If we consider the physical map of the body and our experience of inhabiting it as socially mediated, then it should not be difficult to imagine the next step in a progression toward the social - that is, to imagine the *location* of the self that inhabits the body as also socially mediated - not in the usual ways we think of the subject construction in terms of position within a social field or of capacity to experience, but of the *physical* location of the subject, *independent* of the body within which theories of the

body are accustomed to ground it, within a system of symbolic exchange, that is, information technology.⁸⁶

Flanagan clarifies Stone's position, stating that for Stone, "participants in virtual worlds are neither tied to their own bodies or the bodies of their avatars, but are situated in information technology without relation to either."⁸⁷ To further understand Stone's argument, I feel it is important to mention that for her, the physical body itself becomes a part of information technology, due to its compression into data sent through low bandwidth. Bandwidth is a term referring to the amount of information sent through a digital system. To simulate a simple face to face encounter, for example, would require a very high bandwidth due to the large quantity of information being exchanged: posture, scent, facial expressions, voice, visual, and touch etc. High bandwidth requires less interpretation from the receiver, since almost all of the senses are engaged in the exchange. Phone sex, for example, would be a low bandwidth exchange because only verbal data is being sent through the phone. The success of such an exchange is dependent upon implied nuances and verbal directions,

⁸⁶ Rosanne Allucquère Stone, *The War of Desire and Technology at the Close of the Mechanical Age* (Cambridge & London: MIT Press, 1996) 92.

⁸⁷ Mary Flanagan, "Hyperbodies, Hyperknowledge: Women in Games, Women in Cyberpunk, and Strategies of Resistance," In *Reload: Rethinking Women and Technology*, Eds. Austin Booth and Mary Flanagan (Cambridge: MIT Press, 2002) 441.

leaving the receiver to imagine the bodily movements of the person on the other end of the line.⁸⁸

For Stone, therefore, there is no mind/body divide in which the mind is projected into cyberspace because she locates the subject as something separate from both. Instead, the subject's information is sent out into cyberspace through a relatively low bandwidth, and thus becomes its own distinct self or thing, since how it is understood through interpretation by the receiver varies from receiver to receiver. The actual flesh sitting at the terminal is therefore involved in the contribution of information but does not confine it to its socially inscribed body. In consequence, Stone is hesitant to accept that there are any serious consequences to the body as a result of a cyber experience, as she locates the body in a separate reality from that of the web,⁸⁹ where as earlier in this chapter we have seen that this is not the case.

For Flanagan, the in-between space between a materialist and disembodied approach offers a possibility

⁸⁸ As we discussed in the previous chapter, real life consequences from cyber exploration do occur. For example: Online dating leading to offline marriage, travel bookings, stock exchange etc. Although I disagree with Stone's refusal to admit to RL consequences to cyber interaction I do believe that her studies with phone sex and bandwidth are invaluable (would she acknowledge ejaculation as a RL consequence to phone sex?). Refer to her book, *The War of Desire and Technology at the Close of the Mechanical Age*.

⁸⁹ Rosanne Alluquère Stone, "Cyberdämmerung at Wellspring Systems," In *Immersed in Technology: Art and Virtual Environments*, Edited by Mary Anne Moser (Cambridge & London: The MIT Press, 1996) 115.

for feminist intervention in cyberspace due to its location in relation to both:

Extruding them creates a third way of approaching knowledge in the technological age: The shape of knowledge becomes polygonal if we combine a situated (materialist) approach with the empirical (disembodied) approach and add ideas of performativity. Thus, knowledge is no longer embodied, nor empirical, but it can be a combination of both simultaneously. This shifting space between bodies offers a gap in which new ways of identification in space and within narrative, especially for feminists, can develop, without ignoring the importance of the situation.⁹⁰

It is within this third space that Flanagan works with media arts and manages to successfully navigate the rough waters of cyberfeminist debates in her mixture of feminist activism on the web and in the computer studies field, while at the same time articulating what she calls the "feminist poetics of the computer" in her media projects/artworks.

⁹⁰ Mary Flanagan, "Hyperbodies, Hyperknowledge," 441.

Chapter 3 - Mary Flanagan's [phage]

In this chapter, we will be looking at the work of cybercultural theorist/artist/activist Mary Flanagan, placing emphasis on her media work [phage]. Mary Flanagan obtained her M.F.A. from the University of Iowa in 1994, where she studied film and experimental filmmaking. Throughout the 90s, she worked at a software development firm called Human Code in Austin, Texas, where her productions eventually earned her twenty international awards. She is now a practising multimedia artist whose work, which consists mostly of web-based installations, has been exhibited internationally. Alongside her successful artistic career, she teaches art at Hunter College, in Manhattan, and in the past has also taught at SUNY in Buffalo and at Concordia University in Montreal. Her essays on cyberculture, games and digital art have been published in numerous periodicals, and she has co-edited two important cybercultural texts, *Reload: Rethinking Women and Cyberculture*, and *_reskin_*, due to be released in 2005. I have chosen to devote an entire chapter to her work because I believe her to be one of the leading contemporary cyberfeminist artists, whose contributions both to a feminist intervention in women's digital education and to

cybercultural theory exemplify the themes I have discussed in this paper thus far.

In both her writings and artwork, Flanagan's political motivations are always quite clear: she wants to articulate a "feminine poetics of the machine"⁹¹ with the aim of exposing alternative cyber realities and encouraging an increased participation of women in computer-based media. She wants her work to operate within what she calls the "third space", a space that she locates in between the disembodiment (liberatory) and the embodied (situated) cybercultural stances within the context of gender performance and sexual difference.⁹² Flanagan does not focus on one aspect of the digital gender dilemma, however, choosing instead to work in many different ones; in whatever way she feels will best serve to achieve her artistic and political goals.

The computer games she has created are aimed specifically at girls, and include the first online computer game for girls, *The Adventures of Josie True*, in which a female protagonist goes on Nancy Drew-type adventures in which she must overcome various obstacles using her mathematical and problem-solving skills. The

⁹¹ Mary Flanagan, (2000, May) [*phage*]: *A Feminist Poetics of the Machine*, Retrieved on April 16, 2004, from <http://www.maryflanagan.com/virus.htm>, 1.

⁹² Mary Flanagan, "Hyperbodies, Hyperknowledge," 441.

concept behind this game is not only to encourage more girl gamers to go online, but also to offer an exciting approach to science and math, as well as to computer programming.

Along with students and colleagues, Flanagan has founded various programs aimed at encouraging girls to become involved with the media arts. These include the Buffalo-based *techArts* program, for girls aged 9-11, and her more recent RAPUNSEL project (Realtime Applied Programming for Underrepresented Students' Early Literacy). These initiatives, as well as her computer games, are designed to eventually overcome the ISP⁹³, the gap between the sexes in the computer studies field. This combination of activism and feminist content lends added credibility to the political messages in her artwork, since we know that she has first-hand experience as a professional software developer in a design firm in the 90s, in addition to being a professor in computer studies and media arts working to improve the imbalance of the sexes in both of these departments.

[phage]

⁹³ ISP, the Incredible Shrinking Pipeline. See Chapter One for explanation.

[phage] is a computer virus/artwork that began in 1997 and continues to spread today. It is a feminist poetic virus that infects the user's hard drive in order to create a visual and audio work. This media/artwork is downloadable at: <http://www.maryflanagan.com/virus.htm>, and, in spite of being called a virus, is in no way harmful to the user's computer. When [phage], infects a computer's hard drive, it begins by scanning the C drive to locate the files it can use to create its visual performance of the user's data. It accesses both active and inactive (also known as garbage) files to create the corpus of content for its three-dimensional (audio, visual, in motion) record of its exploration of the user's hard drive. Upon completion of the scan, randomly selected text bits from emails sent recently or many months ago and images from websites you've visited along with any images or text files you have on your computer, pop up on the screen. Thus every time the virus is activated it is a unique experience for the user. No two experiences of [phage] are identical.

What is striking upon seeing one's personal files exhibited in such a fashion is that all of the files one has forgotten about, all of the emails one wrote and forgot after having sent, the essays one handed in years ago, are suddenly staring out at you on the screen demanding re-

examination. It's as though the work ciphers through one's subconscious and the subconscious of one's personal computer at the same time. Once activated, the only way to stop the virus is to press escape.

The manner in which [phage] works harks back to Sadie Plant's revisionist approach to the history of digital technologies discussed in Chapter One. The forgotten aspects of our daily computer interaction, the emails, the websites visited for research purposes or pleasure, suddenly re-emerge in an artistic context, absolved of their status as garbage. In a way, one could say that the hard drive of a personal computer is similar to the paper from the "paper and the ink"⁹⁴ metaphor, and that [phage] calls attention to the fact that computer memory does not live in a disembodied state of grace but has its own physical presence as a recorded file.

Contrary to most viruses that erase our work, [phage] recovers the lost personal history of our interaction with cyberspace and exposes its physical state by displaying it in three-dimensional form. The three-dimensional presentation of scraps of memory transformed into images, text or audio reminds us that somewhere on our hard drive this information occupies "real" space. It has a physical

presence, and this physical presence folds⁹⁵ the Cartesian divide by its insistence that what we may have perceived to be free-floating, intangible information in cyberspace actually exists in the hard drive box right beside us, inscribed on electrical bits and bites. This folding of the information/matter binary will recall the folding of the mind/body divide when it is realized that the brain is essentially a muscle, and that information is stored physically within it.

[phage] thus folds over the divide of information/matter and exposes the materiality of stored data, while at the same conducting a revisionist inventory of lost or forgotten data. Clearly, both these aspects of [phage] relate to Flanagan's desire to articulate an alternative to a masculine-biased programming style. Her use of a virus in an atypical manner, to retrieve data rather than to delete it, reappropriates a once violent and destructive force for creative means. The success of [phage] as a cyberfeminist artwork, however, does not end here, since these elements lead to a more extensive

⁹⁴ See page 7 in Chapter One for explanation.

⁹⁵ Flanagan uses this term in order to convey how when binaries collapse a new meaning is produced. She states: "Folding is a way to birth the three-dimensional from the two-dimensional; by folding one item or concept over another, a third object or meaning is produced." Mary Flanagan, *Hyperbodies, Hyperknowledge*, 440.

exploration of the self, relatable to previously discussed theories of subjectivity.

Through the use of personal computer content, which varies according to user and hard drive, [phage] enacts a figuration in Braidotti's use of the term by illuminating aspects of our practice so close to us as to go unnoticed.⁹⁶ It's as though [phage] is able to map the politics of location of the subject through its mixture of recently accessed files and garbage files. In addition, the content that makes up this configuration is in a constant state of flux, and thus exemplifies the continually changing state of the user's subjectivity through the results of its filtering of the subject's personal and professional data. This experience forces the viewer to consider ideas and experiences that have contributed to their current political location. [phage] effectively forces the viewer to stand in a crossfire of experience that contribute to her or his subjectivity.

Flanagan also points out that the personal content accessed by [phage] raises feminist issues around spatial structuring having to do with the division of public from private space.⁹⁷ She suggests that:

⁹⁶ Rosi Braidotti, *Metamorphoses*, 13.

⁹⁷ Mary Flanagan, [phage], 5.

Because [phage] explores data in a **visual display**, it models and exposes the representation of the private relationship with the computer to the public - even if no one serves as spectator to these private experiences "gone public."⁹⁸

Indeed, even viewing this work alone in the comfort of my apartment I still felt a sensation of exposure and invasion when my photographs from recent travel journeys or personal, intimate emails were flashed upon the screen. This disruption of private/public space serves to create yet another fold in Flanagan's work, one that she uses as a point of departure for a comparison between the language of geography and computer programming.

Flanagan has linked programming languages that use commands such as "goto" and "get" with the language of geography, which she looks upon as a historic site of male power.⁹⁹ This same language allows for the user of a software program, a gamer, etc., to control the computer, making the decisions as to what goes where and how. At the same time, this control through geographical language, one that is fraught with gender implications, grants a hierarchal placement of user over machine. This power relation is similar to that created between the protagonist

⁹⁸ Ibid, 5.

⁹⁹ Mary Flanagan, "Navigating the Narrative in Space: Gender and Spatiality in Virtual Worlds," *Art Journal* 59 n. 3 (Fall 2000) 75.

and the feminized cyberspace in cyberpunk, as well as with sexual difference in its similarity to male dominance over women and specifically with forced sexual penetration, where the act of sexual assault serves as a means of control.

As we have seen in cyberpunk culture, the term "jacking in" is often used to describe a hacker's penetration into cyberspace, and cyberspace itself has been metaphorically linked with the feminine.¹⁰⁰ The female body is relegated to flesh, to the body side of the mind/body binary, and the male hacker occupies the intellectual side. However, upon penetrating the "matrix", the space that the hacker controls and manipulates becomes feminized. Flanagan thus seeks to find an alternative to this power paradigm in computer control and language by creating new forms of computer navigation that challenge the notion of omnipresent user control, and allows for what has been seen as a submissive, controllable space associated with the feminine to become an active agent in computer interface.¹⁰¹ For Flanagan, the most important means of achieving this goal is to have more women programming in cyberspace, leading to an alternative relationship between the embodied

¹⁰⁰ *Ibid.*, 77.

¹⁰¹ Mary Flanagan, [*phage*], 10.

fluctuating subject and the machine, one which is accounted for within a feminist discourse.

In *[phage]*, Flanagan successfully articulates her own version of an alternative navigation paradigm in two ways. Firstly, *[phage]* does not infect a machine unless given permission to do so by the user, rather than forcedly penetrating into the computer as would a typical virus. However, once the virus is active, it removes control from the user and takes command of the experience. This shift in the typical control paradigm forces users to contemplate their usual sense of complete dominion over online or even offline computer interaction and brings into question their views on how they relate to computers as fluctuating subjects.

Flanagan thus articulates an embodied computer experience through her ability to ground the experience of *[phage]* within the subject's location, all the while creating new and exciting navigational possibilities:

One of the most exciting possibilities of cyberspace is the uncontrolled, the live, the networked and multiple, and the dynamic and fleeting. For these potentials to manifest there must evolve a place for stories and worlds that are not centred on an ideology based on control. Perhaps, we should create designs that give users control in an uncontrolled world as a way to break the paradigm.¹⁰²

¹⁰² Mary Flanagan, "Navigating the narrative in space," 78.

Flanagan's articulation of an alternative by navigating between disembodiment and embodiment, while considering performative possibilities and sexual difference, has been an inspiration for my own media projects and has become the model for how I intend to convey my own feminist political agenda in my work.

Chapter 4: Website component- Crossfire

The empowerment of cyberspace itself has become an important issue for me as an artist working with this medium, as a direct reaction to the stereotype of cyberspace as a passive, feminized space. This is a cultural myth directly associated with that of the "uncharted territory" or of the landscape in need of domestication by the "all-knowing console cowboy".¹⁰³ Throughout my studies of cyberpunk culture I increasingly began to feel as though it were high time "she" (cyberspace herself) and I got together to assert ourselves online. All my life, I have felt excluded and discouraged from computer use, due to a gender divide I experienced with regard to computer usage within my household while I was growing up, and throughout my studies. As a result, I have too often felt a sense of powerlessness in my engagement with computers one which, too often, was "resolved" by seeking assistance from a stereotypical male "computer geek" who would quickly fix the problem rather than teaching me how to do so myself.

The role I was to take in this empowerment project was to overcome my own ineptitude with computers (at the

¹⁰³ Laura Miller, 50.

beginning of this M.A. I was at a strictly type-and-print, send-email level), and then putting these skills to use in order to create a new form of cyberspace interaction that would challenge the conventional use of omnipresent user control. This would allow for cyberspace her/itself to have more control over the experience. I suppose I decided that if cyberspace was going to be type-cast as a passive, feminized space by cyberpunk and cyberculture, then I would twist that around and make her female, but at the same time powerful, assertive and active!

My primary idea for achieving this kind of interaction between cyberspace and the viewer was to create a different kind of interaction to that typically found on the web: one that would take control away from the user. I wanted to get away from the typical point-and-click type of navigation that most websites adhere to by creating an uncontrolled experience for users. This has been achieved in *Crossfire*, located at <http://pastiched.com>, through the use of automatically selected, invisible buttons. The concept of invisible buttons was inspired by Mary Flanagan's writings on site navigation, in which she illustrated how the legacy of geographical navigation is fraught with masculine stereotypes of domination over land (associated with the colonization of the "untamed" wilderness"), and how these

stereotypes have been carried over into the computer sciences.¹⁰⁴ For Flanagan, removing control from the viewer/user would be one manner in which to create a new means of interaction that would be liberated from gender tradition, and would thus empower cyberspace itself. The auto-selection of buttons and the subsequent exposure to the content with which they link (after which the viewer is returned to the homepage of my site, thereby commencing the cycle all over again), deprives the user of control over their interaction with the site. They see whatever they happen to be shuttled off to see, and must remain either passive spectators for the duration of the movie clips and animations or as gamers whose actions are controlled in an interactive game.

The content of the website consists of three main sections: The first is an en fleshed materialist visual rearticulation of the female body into cyberspace/human interaction.¹⁰⁵ The second consists of a series of short flash animations that serve to illustrate a revised view of

¹⁰⁴ Mary Flanagan, "Navigating the Narrative in Space," 75.

¹⁰⁵ "That means that it amounts to a collective repossession of the images and representations of Woman as they have been coded in language, culture, science, knowledge and discourse and consequently internalized in the heart, mind, body and lived experience of women. Mimetic repetition of this imaginary and material institution of femininity is the active subversion of established modes of phallogocentric representation and expression of women's experience which tend to reduce it to unrepresentability. The mimetic reassertion of sexual difference challenges the century-old identifications of the thinking subject with the universal and of both of them with the masculine. The feminism of sexual difference challenges such encompassing generalizations and posits a radically other a female, sexed, thinking subject, who stands in an asymmetrical relationship to the masculine." Rosi Braidotti, *Metamorphoses*, 25.

women's contribution to the history of computers. Finally, a visual exploration of gender stereotypes is represented in the form of paper doll-type game titled *Raggedy Ann & Andy*.

Upon arriving at my website the viewer is instantly confronted with an image of the human body. This image and all the other visceral images found on the site have been taken from a 1983 video entitled *The Miracle of Life*, produced by NOVA¹⁰⁶. I purposely chose to use images from this film because it was used to teach my brother and me about reproductive organs and conception. *The Miracle of Life*, therefore, has played an important role in the development of my understanding of sexual difference and reproduction. As Judith Butler has demonstrated that all sexual difference is understood through gender constructs, the knowledge of sexual difference I acquired through exposure to this film at the early age of four would later come to be understood through a mixture of gender stereotypes used by society to explain these physical differences.¹⁰⁷

¹⁰⁶ Bebe Nixon, *Nova: The Miracle of Life* 1983 Produced and Directed by B. Erikson and Carl O. Lofman, 60 min (Boston: WGBH Education Foundation & Time Life Video, 1983) [Vidcasette].

¹⁰⁷ Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity*, Revised Edition (New York and London: Routledge, 1990 & 1999) 5.

The documentary itself was considered to be a major breakthrough in documentary filmmaking due to the photographer's ability to take photographs and film footage from within the womb and then magnify them in order to show the minuscule biological activities involved in conception, as well as the various phases of growth undergone by the foetus until birth.¹⁰⁸ Soon after this documentary was released, cyberpunk science fiction became a major influence on how computer technology was gendered.¹⁰⁹ I can't help but speculate as to whether the release of the breakthrough digital images of the interior of the womb as seen in *The Miracle of Life* had an influence on many aspects of society including cyberpunk. It seems reasonable to suggest that a documentary as popular as *The Miracle of Life*, one seen on the digital screen of television, may have created one of the main references for cyberpunk authors who were trying to illustrate how they imagined/experienced cyberspace navigation when they chose the womb as its metaphor. Since this interior female space had become a part of the cultural zeitgeist, having been exposed under the digital probe for the first time, one could surmise that an immediate connection would have most

¹⁰⁸ *NOVA: The Odyssey of Life Part III: The Photographer's Secrets* Directed by Mikael Agaton (Boston: WGBH Education Foundation, 1997) [Videocassette].

¹⁰⁹ See Chapter One for an in depth discussion.

likely been made between the images of this documentary and the literary image cyberpunk authors created for cyberspace through their use of the womb metaphor of the matrix.

It was precisely with the aim of distorting the womb metaphor that I decided to reappropriate the documentary footage, in order to articulate a specifically female, materialist presence online. By showing these images of the womb I hope to conjure up the stereotypical notion of the "matrix" but in a way that neither adheres to nor reinscribes cyberpunk notions. This is achieved primarily through controlling the accessibility of the footage by means of controlled sequences. Viewers do not have the freedom to surf through the site or to watch an in-depth exploration of the female womb as they would in NOVA's educational documentary. Rather, their desire to see more is restricted by the site itself, which exposes only as much as it wants the viewer to see. The crystal-clear images that the documentary was renowned for have been edited and distorted to a low spatial resolution to allow the site itself further restraint over the visual accessibility. The images remain recognizable for having been taken from biological interiority but have been reappropriated by a female subject (myself) for her own goal of asserting a female physical presence online. This

is in a manner very different from the usual physical presence women take online, as objects of sexual desire, as exemplified by the massive success of the web porn industry. This is not a sexually objectified space, but one that is essentially sexual because of its focus on reproduction as well as on sexual difference.

It is my hope that these images of the womb serve to create a subconscious emphatic connection between the viewer and the site, all of us having experienced being inside a womb. For a female viewer, I believe that this exposure to womb imagery creates an intense connection between her body and the computer, as the site allows her to see a part of herself that she does not have everyday visual access to, but which she carries around with her at all times. This accessibility, revealing something always there but hidden, leads the viewer to consider what lies beneath, under, and within us. In the sense proposed by Rosi Braidotti, a self-scrutiny of our corporeality in relation to computers is conjured through the display of women's innermost, specifically female reproductive practices, within the format of the World Wide Web. It is with this in mind that the viewer moves on to view images taken from women's fundamental infrastructural role in computer history.

As was discussed in Chapter One, women held many of the positions within information technologies, such as computing data and programming, which were considered to be gender appropriate to them. The clips that show photographs from these jobs are short flash animations that use, for example: a portrait of Ada Lovelace, photographs taken of women working on switchboards, key punchers, and women programming the ENIAC, in order to illustrate the many ways women have contributed to the emergence of computer technology. These small animations provide visual documentation for the issues discussed in the written component of my thesis. For those viewers who will not have read my thesis, these pieces will probably lead them to question why it is they are seeing so many images of women at work with computers and/or their precursors (switchboards, punch cards) and may very well lead them to ask ironically, where are all the men?

The final piece on my site is the *Raggedy Ann & Andy* game. Here the viewer is confronted with childhood images of cut-out paper dolls. Those viewers familiar with the images will recognize them as Ann & Andy but those who don't will nevertheless clearly recognize them as female/male paper dolls. The object of any paper doll is to be dressed, and as a child I was exposed to many a set, all

with "gender appropriate" clothing and settings. This version is rather different, however, since the Ann doll refuses to be dressed in her gender appropriate clothes, as does Andy. It is impossible for viewers to dress these dolls with their given clothes, which would probably be their first reaction when coming across the puzzle.

Instead, the Ann doll can only be dressed with Andy clothes and vice-versa: layer upon layer if desired, but only with the clothes of the opposite-sexed dolls. The point of this exercise is to force the viewer to question their primary reaction to such a situation. "Why did I automatically seek to dress Ann in the girl clothes and Andy's in the male?" Or, "Why won't Ann wear her 'appropriate' clothes?" Either way, viewers are forced to confront their preconceived notions of gender stereotypes, as well as to realize that childhood games such as paper dolls may very well have enculturated gendered notions about dress and, consequently, supposedly appropriate gender behaviours, etc.

The studio component of this thesis, therefore, works with the theory discussed in the written component in order to create a dialogue with cyberspace explorers on these cyberfeminist issues. The intent of the dialogue is to raise questions for viewers about their relation to

cyberspace as a gendered human being. If viewers haven't read the thesis and would like to pursue the meaning behind the work, a credits page is provided on the splash page (introductory page) from which they can email me for further information about the site. After approval of this thesis, a direct link to a PDF version of the written component will be added to the website in order to further satisfy curious viewers.

Conclusion

After having trod through the waters of cyberfeminist theory I hope to have demonstrated the present-day situation in which we find ourselves in interfacing with cyberspace. In part, this thesis aims to expose the obscured knowledge that women have been involved with computer technology from the very start and thus have left a long legacy of women's contributions to computer science. Ideally, Chapter One provides not only an exposé of this legacy but of a key reason behind its obscurity, which I believe to be cyberpunk and the resulting computer culture it inspired. Having located so many of the gender stereotypes associated with cyberspace interaction within cyberpunk genre, today's cyberfeminists can account for these restrictions and reply to them in their own ways.

The second chapter of this thesis navigated through cyberfeminist opposition to the cyberpunk notion of disembodiment in order to show how, by rearticulating the body into cyberspace, the cyberfeminist is deeply implicated in creating a picture of the postmodern subject and how s/he interacts with cyberspace. Since cyberspace is a space that caters to the fluctuating subject's experimentations with gender identities, understanding this

medium from any perspective let alone a cyberfeminist one is important if we are to understand how offline gender is being affected by our online ones. In other words, we may best understand our fluctuating position within the crossfire of gender stereotypes that we inhabit through an investigation of cyberspace, especially as it becomes increasingly essential to everyday life. What I hope to have demonstrated here, is how a specifically cyberfeminist approach to cybercultural investigation remains implicated in offline feminist discourse through its assertion that the physical body remains vital within this debate, rather than the cyberpunk tendency to dismiss the body in a flight towards a desire for disembodiment and a consequential re-inscription of the Cartesian divide in cyberculture.

Finally, the two case studies included in this thesis are meant to give direct examples of cyberfeminist visual culture that exemplify the debates discussed in Chapter One and Two. Both *[phage]* and *Crossfire* aim to create new ways of interfacing with computers that take cyberfeminism into account. Both the studio and written components of this thesis reflect my own journey through cybercultural debates. Having begun on dry land in a Luddite cap, I became tangled in the weave of the web, only to find I could weave myself and that the pattern was much easier to follow

than I originally thought. It had been in front of me the whole time under the ink, woven in time.

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