GENDER AND INFORMATION TECHNOLOGIES:
EXPLORING PERFORMING BODIES

by

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ABSTRACT

This paper argues that since media or technologies are extensions or abstractions of ourselves, the technologies that we performatively produce simultaneously function to (re)produce us. Technologies are highly social spaces which have the performative power to (re)produce the very 'materiality' of that thing we call 'reality.' The performative powers of technologies manifest as the powerfully (re)productive meaning-making paradigms and regulatory controls in operation in a given culture. After considering the predominant paradigms performed through typographic and computing technologies, this paper investigates 'gender' as a performative site of social interface (re)produced in relation to these predominating technological paradigms. This paper further argues that in the context of the cyborg, 'gender' is exposed to be a map with no territory: in a world increasingly exposed as simulation, the material reality of 'gender' is power's effect. Finally, this paper considers the theatre in relation to typographic and computing paradigms, arguing that 'play' and the imagination, in world that is all representation, are crucial sites of social practice. Indeed, 'performativity' provides a means for understanding the agency, subjectivity, materiality, and politics of construction (re)produced through this, our simulated world.

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– advertisement for Kosmos TV, Ukraine

Gaia is the name that James Lovelock gave in 1969 to his hypothesis that the third planet from the sun, our home, is a 'complex entity involving the Earth's biosphere, atmosphere, oceans, and soil; the totality constituting a feedback or cybernetic system . . . . To see Gaia, Man learns to position himself *physically* as an extraterrestrial observer looking back on his earthly womb and matrix. The cyborg point of view is literal, material, and technical; it is built, located, and specific – like all meaning-making apparatuses.

— Donna J. Haraway, "Cyborgs and Symbionts" xii-xiv.

GENDER AND INFORMATION TECHNOLOGIES: EXPLORING PERFORMING BODIES

I. TOWARDS AN INTRODUCTION:

Media or technologies, since they are abstractions or extensions of ourselves, are produced in relation to, and simultaneously function to (re)produce, social spaces. As such, media or technologies – the abstractions and extensions of ourselves – have the performative power to produce the 'materiality' of that social thing we call 'reality.' Our technologies, in effect, are (re)producing us. In this paper I will first explore typographic technology and the spatial paradigms it produces. After 500 years of cultural absorption, the predominance of typographic technology has taught Western culture to *see* its world in particular, situated, and naturalized terms. Typographic culture produces spatial paradigms whose performances allow the world to be seen as an integrated, linear, hierarchical, and absolute whole. In a world which, through the predominance of computing technologies, is the simulated territory of the cyborg, however, spatial and meaning-making paradigms naturalized through typographic culture no longer reflect lived social experience. Indeed, the cyborg world exposes the naturalized paradigms of typographic culture to be the material effects of socially performed and (re)produced regulatory norms.

Since the technology which predominates in a given society effects the spatial and meaning-making paradigms under which that society operates, radical changes in technology effect radical changes in society. For example, the transition from a typographic to electronic culture has effected changes in constructions and performances of subjectivity. In a cyborg world, the subject position shifts from the illusively unified and stable subject produced through typographic performances, to an electronic subject

and subjectivity that is multiple and dispersed, permanently partial and situated. This fracturing of subjectivity not only exposes the illusion of holistic absoluteness, but also functions to demonstrate the extent to which we as subjects are constituted by our technologies.

The predominance of computing technologies in the world today, technologies premised on the powerful material productivity of invisible, representational spaces, leads partial and situated subjects to understand the imagination as social practice. As Arjun Appadurai argues, the image, the imagined, the imaginary "direct us to something critical and new in global cultural processes . . . . The imagination is now central to all forms of agency, is itself a social fact, and is the key component of the new global order" (31). The imagination as a site of social practice produces boundary breakdowns between such previously constructed dualities as 'reality' and virtuality, the 'natural' and artificial, work and play. The imagination as social practice directs us towards the materiality of invisible or representational spaces – a materiality performatively effected through new forms of agency and interplay. As both Donna Haraway and Jean Baudrillard remind us, in our world, a cyborg world, the imagination as a site which performatively produces material social 'reality' could turn out to be about the imposition of a final grid of control. What a cyborg world demands, therefore, is a politics of simulation.

Beware Of Shifting Contexts: a common thread throughout this paper is the significant and often chaotic impact of context shifts, particularly when those context shifts are so 'radical' as to rupture the coherency of the binary paradigms on which the previous predominant social architecture, a structure born out of typographic culture, depends.

The history of gender construction in the western world reflects the operations of the technology which predominates specific time periods. After 500 years of cultural absorption, typographic spatial paradigms have provided a logic basis for the gender normatives which have long been in operation in western culture. In this our cyborg world, however, the transition to electronic spatial paradigms is performatively producing a sense of gender dis-orientation in the western world. The typographic paradigm for gender construction produces linear, holistic, naturalized imperatives: gender is visible, biological, and reproductive in nature; gender is genetically and anatomically determined, manifesting itself in one of two possibilities. This set of social imperatives, apart from asserting the primacy of heterosexuality, reasserts the typographically constructed nature/culture divide in the context of gender construction.

The existence of cyborgs, however, problematizes typographic culture's naturalized gender constructions. Intersexuality, for example, problematizes biologically essentialized gender construction; on the opposite end of the spectrum, David Reimar's transgendered experience, for example, problematizes socially essentialized gender construction. What cyborgs like intersexuals and David Reimar signal is the implosion of the nature/culture divide. Cyborgs expose gender as a site of interface: gender mediates a complex and contextual interplay and exchange. The category 'gender' both regulates gender's field of signification and produces that which the regulation functions to constrain. Gender mediates ideology, biology, reproduction, social roles, identity, sexuality, desire, nature, nurture, family, religion, culture, politics – and this list could go on indefinitely. Gender is a highly performative and highly socially (re)productive site of interface. Gender is virtual. Its manifestation as 'reality' is nothing other than a

consensual hallucination. 'Gender' is the performatively produced material effect of simulation.

Finally, this paper turns its attention towards the theatre as an information system, drawing parallels first between theatrical and typographic performances. As in the context of typographically mediated meaning, the meanings mediated through theatrical interplay also have the effect of producing social spaces. Indeed, it is precisely the material productivity of 'performance' which provides a paradigm for understanding the potency of a cyborg world. The cyborg reminds us that all of our material productions are always already representational, and processes of representation always already have the reiterative power to produce both that which is regulated, and that which is constrained. Performativity provides a means for understanding the materiality, agency, and politics of construction produced through the desert of the real.

II. PERFORMING PRINT CULTURE:

In 1436, Johannes Gutenberg began work on a wooden printing press which incorporated metalworking techniques such as casting, punch-cutting, and stamping, and for the first time in the Western world enabled the mass production of books. Although moveable type made from clay had been in use in China since 1041, Gutenberg developed a metal-based variable-width mould that produced a font of over 300 characters which mechanically reproduced the gothic script of medieval scribes. With his invention of metal moveable type, and the eventual printing of *The Bible of 42 Lines* in August of 1456, Gutenberg set in motion a series of changes which would forever impact the ways in which humans communicate – the ways in which human beings know and experience their world(s).

In *The Gutenberg Galaxy*, Marshall McLuhan investigates the social and ideological effects that typographic technology, with its history of over 500 years of cultural absorption, has produced. At the heart of his argument concerning the relationship between humans and technology is the human biological body itself. McLuhan argues that humans perceive, know, and negotiate – indeed, construct – their world(s) through an ever-present and primarily unconscious process of sensory abstraction. Our knowledge of the world is mediated through our senses, perceptions, imaginings, neural networks, cellular structures, communications – through the very materiality of our bodies themselves. In this sense, and in McLuhan's, media are extensions or abstractions of the human body; we "outer/utter" our-selves into the world through the material technologies we produce.

> **TOOL** "\ tül\ *n* : a hand instrument used to aid in mechanical operations; an instrument or apparatus used in performing an operation or used in the practice of a vocation or profession <a scholar's books are his [sic] ~'s>; *also:* a means to an end" (*Merriam-Webster*).

In terms of language McLuhan argues that, "outering or uttering of sense which is language and speech is a tool" (5). Language is a medium; it is an abstraction through which sensory interplay is mediated, and through which we outer/utter ourselves:

> Language is a metaphor in the sense that it not only stores but translates experience from one mode into another . . . . But the principle of exchange and translation, or metaphor, is in our rational power to translate all of our senses into one another. This we do every instant of our lives. But the price we pay for special technological tools, whether the wheel or the alphabet or radio, is that these massive *extensions* of sense constitute *closed* systems. (5)

As we know, metaphor is a process of translation: meaning is exchanged from one site to another, as in the example of the literary device wherein one word or idea stands in place of another. Language is a metaphor in the sense that the signifier stores and translates the signified. Language operates on a principal of abstraction whereby meaning is stored and translated in the sites of exchange between the signifier and signified. Language stores experience in the sense that signifiers store our cultural and historical experiences of the world, or in the sense that memory stores particular experiences, or in the way that recounting or recording experiences functions to store and translate the experience itself, whether the experience be individual or cultural. That language also functions to translate experience from one mode into another – for example, from thought into speech, or from an experience itself into a communication of that experience – is crucial in terms of our understanding of how language on the one hand is a form of interplay in which all of our senses are translated into one another, and on the other hand, how language

becomes a closed system when outered/uttered into the material technology of the alphabet, for instance.

McLuhan argues that prior to the outering/uttering of human senses and faculties into material technologies is "synesthesia," a *ratio-nal* interplay of the faculties and senses:

> Imagination is that ratio among the perceptions and faculties which exists when they are not embedded or outered in material technologies. When so outered, each sense and faculty becomes a closed system. Prior to such outering there is entire interplay among experiences. This interplay or synesthesia is a kind of tactility. . . (265)

Synesthesia is "the entire interplay among experiences," a kind of "collective awareness" (5) between parts or ratios "that makes *rational* co-existence possible" (5). "Rational" insofar as the rational is comprised of ratios. In a typographic culture, the visual predominates the ratio of senses, causing the "rational" interplay of senses to shift: ". . .if a new technology extends one or more of our senses outside us into the social world, then new ratios among all of our senses will occur in that particular culture" (41). And in a typographic culture, seeing is believing.

The "technology of writing" (43), McLuhan argues, is a medium which extends or abstracts human visual capacity: "For writing is a visual enclosure of non-visual spaces and senses. It is, therefore, an abstraction of the visual from the ordinary sense of interplay. And whereas speech is an outering (utterance) of all of our senses at once, writing abstracts from speech" (43). When we speak aloud, our entire body is incorporated into the speech act: our neural networks and nervous system host an interplay of receiving and producing sounds through ears and mouth, processing information, not to mention receiving and producing communication through body

language, like facial expression, posture, and gesticulation. Writing, on the other hand, abstracts from the speech act because it contains speech within a specifically visual representation or medium. Writing contains speech within the closed system of twenty-six variations of black mark on white page, read from left to right, top to bottom, beginning to end, in sequential order.

McLuhan, however, is careful to distinguish between modes of writing. He juxtaposes manuscript culture with typographic culture to elucidate this distinction: "Manuscript culture is conversational if only because the writer and his [sic] audience are physically related by the form of *publication as performance*" (84). In manuscript culture, texts are hand-reproduced and orally performed for a largely illiterate audience. The audience engages with the space of the text in a conversational, or communally performative, open medium or system. Typographic culture, however, mass produces the closed system of mechanically-reproduced texts which are intended to be read visually, individually, and silently. Indeed, typography abstracts from speech to the extent that 'speed-reading' practices promote the silencing of mental utterances, of speech in the reader's head. Instead of the sensory interplay produced through the performativity of manuscript culture, typographic culture, with its heightened stress on the visual, "tended to alter language from a means of perception and exploration to a portable commodity" (161).

"The alphabet is an aggressive and militant absorber and transformer of cultures . . ."
(McLuhan *GG* 48).

Typographic performances of meaning operate under specific constraints. These constraints are produced in relation to the imaginative limitations in operation under the given medium. For example, television produces different imaginative possibilities from those of typography and vice versa, and these differences exist in relation to the constraints particular to the medium. Since typography is a medium which operates under a specifically visual, linear, and sequential order, the imaginative spaces it produces similarly operate under visual, linear, and sequential imperatives. What this means in practice is that when a given medium, like typography, predominates in a given culture, over time that culture will absorb or interiorize that medium to the extent that the medium's structures and constraints, which cause a shift in the ratio of senses, become naturalized and unconsciously reproduced.

In *The Gutenberg Galaxy* McLuhan argues that typography from its onset has contributed to consumer culture: "We shall see that just as print was the first mass-produced thing, so it was the first uniform and repeatable 'commodity.' The assembly line of movable types made possible a product that was uniform and as repeatable as a scientific experiment" (125). Gutenberg's assembly line of movable type not only produced the first portable, uniformly repeatable, and commodifiable information storage system (the book), the typographic medium naturalized the uniformly repeatable, assembly line space which produces, and is reproduced by, consumer culture. McLuhan's invocation of the scientific experiment draws on a rhetoric which develops out of typographic performance. Just as a scientific experiment produces 'proof' or empirical evidence based upon the experiment's uniformity and repeatability, so the very uniformity and repeatability of the visual, linear, sequential space of typography, over its

history of cultural absorption, increasingly provided a naturalized paradigm for meaning-making apparatuses.

Typographic technology conveys meaning through the linear, ordered, visual practice of marking white space with black mark. Over time, meaning assumes the typographic medium, so that meaning itself becomes linear, ordered, visual. Meaning becomes uniformly repeatable, commodified, and mass produced as the powerful regulatory norms governing given societies. Meaning becomes a linear expression of cause and effect that can be contained in the beginning/introduction, middle/body, end/conclusion of the book or essay. Meaning thus encoded in a linear, visual, commodifiable medium, can be read visually, silently, and individually, from left to right, beginning to end, origin to apocalypse.

Through visual, linear, ordered typography, each word, sentence, paragraph appears to complete specific meanings in order sequentially to build an outered/uttered "whole". This visual, sequential "whole" creates the illusion of independent, holistic meaning; and in the age of "absolute truth", contained meaning was essential. However, in the electric age, an age of polymorphous, polyvocal partiality and interplay, "absolute truth" and "empirical evidence" are the suspect result of that "god-trick of seeing everything from nowhere" (Haraway "Situated Knowledges" 189).

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"The machines are restless tonight. . ." (Allucquère Rosanne Stone)

In the mechanical age, it was possible to separate the bodies of subjects from the tools those bodies used. In the mechanical age, it was possible to conceive of technology as distinct from (its) subjects, as a tool used to perform tasks, a mere means to an end, approached by already formed subjects.

In the electric age, the predominance of technologies geared towards a global dissemination of information, technologies premised upon instantaneity, simultaneity, and invisibility, function to problematize the distinction between user and used. In the electric age, the age of Donna Haraway's cyborg, permanently partial subjects not only approach and alter, but are approached and altered by technologies.

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III. THE IMAGINATION IS SOCIAL PRACTICE:

Over five hundred years after Gutenberg built the first printing press, the western world found itself on the brink of yet another radical transition, this time from typographic to electronic culture. Just as Gutenberg's new mechanical technology embraced and transformed hand-produced text, so the new electronic culture of the 20th Century embraces and transforms typographically mediated text. Interestingly,

postmodernism enters the stage right at the moment western society stands in crisis between typographic and electronic cultures, implying the powerful connections between print culture and modernism. Postmodernism can be said to be post-modern precisely because it pushes the limits of typography – of the print medium itself – then turns inwards and confronts the implications of the medium's constraints. Post-modernism asks the question, how does the print medium produce meaning not through content, but through form – through the medium itself?

Through asking questions such as these, postmodern texts tend to foreground the silences and absences produced through the constraints of the typographic form. Some postmodern texts accomplish this through exploring the limits of recorded history, particularly in juxtaposition with orality, or through authorial self-referentiality, or by exploiting the space of the page to expose the printness of print, the bookness of book. The postmodern form explores boundaries and their construction, challenging essentialism and absolutism through the confusion and paradox of cross-border traffic flow. Postmodern texts expose various means of 'authorization' – of authority's production, legitimization, and reproduction – emphasizing in particular the relationship between the written word and authority's (re)production. Postmodern texts disrupt the linear, sequential order of story-telling, often through fragmentary shifts in the narrative voice. The narrative voice becomes multiple and dispersed; and, since reader and text tend to have a cause and effect relationship, the offspring of linear, sequential, uniform and repeatable media constraints, subject positions also have the effect of fragmentation, multiplicity, and dispersion. While this is certainly an incomplete synopsis of the postmodern form, the postmodern response to typography's limitations, a response which

challenges the medium's boundaries or constraints, functions to extend typographically

produced meaning-making paradigms.

The postmodern form can be understood as both a reflection of, and arena of

experience for, the cultural anxiety experienced during the transition from a typographic

to electronic culture. However, this transition is not an abrupt change where the previous

technology is considered so outmoded that it is completely abandoned; rather,

typography, while it is even now in the process of transforming, persists as a 'reliable'

and efficient source of language or information storage and transmittal. When

typographic technology is extended into new electronic media, it becomes one of many

possible sources of information storage and transmittal. As McLuhan argues in *War and

Peace in the Global Village*, "The computer is by all odds the most extraordinary of all

the technological clothing ever devised by man, since it is the extension of our central

nervous system" (35). Within the context of computing technologies, the visual no longer

has the same separate and abstract intensity as it does within a typographic context. As

an extension of the human nervous system, computing technologies host an interplay of

both visible and invisible media or information sources, creating a kind of synesthesia or

tactility which typography alone can not produce: "I would suggest that 'touch' is not so

much a separate sense as the very interplay of the senses. That is why it recedes in

significance as the visual faculty is given separate and abstract intensity" (McLuhan *GG*

65). As an extension of the human nervous system, computing technologies place

multiple media 'in touch' with one another. Within the electronic context of computing

technologies, the typographic becomes subsumed as content: rather than predominating,

the typographic becomes one of many meaning-making media available to the performative, tactile, multi-media interplay of electronic spaces.

This synesthesia or interplay or tactility, however, is not some pure form of unbiased sensory interplay. Within the context of lived social practice, the notion of unbiased sensory interplay is utopic at best. If this form of synesthesia exists at all, it exists on the level of impulse and gut reaction: on that plane of thought that occurs prior to the rationalization of thought into a system of verbalization. However, synesthesia, as a *ratio-nal* interplay of the senses, itself is produced in relation to the predominating social imperatives in operation in a given culture. McLuhan argues, "Imagination is that ratio among the perceptions and faculties which exists when they are not embedded or outered in material technologies" (*GG* 265). As Arjun Appadurai reminds us in *Modernity at Large*, the imagination is a site of social practice:

> The image, the imagined, the imaginary – these are all terms that direct us to something critical and new in global cultural processes: *the imagination as social practice*. No longer mere fantasy (opium for the masses whose real work is elsewhere), no longer simple escape (from a world defined principally by more concrete purposes and structures), no longer elite pastime (thus not relevant to the lives of ordinary people), and no longer mere contemplation (irrelevant for new forms of desire and subjectivity), the imagination has become an organized field of social practices, a form of work (in the sense of both labor and culturally organized practice), and a form of negotiation between sites of agency (individuals) and globally defined fields of possibility. . . . The imagination is now central to all forms of agency, is itself a social fact, and is the key component of the new global order. (31)

The sensory interplay that occurs prior to outer-/utter-ance into material technologies is itself a social practice. When we outer/utter our-selves into the world, the material technologies (outerances/utterances) that we produce operate under, and are produced in relation to, the very same social imperatives which govern our daily lives. Not only is imaginative space social practice, the material technologies that our imaginative spaces

produce themselves are social spaces. Since the social is a living, polymorphous, ever-present, and always-changing reality-defining force, the so-called 'facts' of lived social reality tend to predominate the imaginative constraints under which individuals outer/utter them-selves, and so construct the(ir) world(s).

As Appadurai argues, the imagination as social practice is "something critical and new in global cultural processes," and has become "central to all forms of agency." The imagination has become a crucial component of work in the world today, harvested for ideas on new ways to reinvent and construct the world. The imagination as social practice is relevant to every aspect of our lives, producing new forms of desire, subjectivity, and agency. This 'new global order' for which the imagination is the key component is based upon a spatial metaphor of fractals, disjunctures, and chaos theory:

> Finally, in order for the theory of global cultural interactions predicated on disjunctive flows to have any force greater than that of a mechanical metaphor, it will have to move into something like a human version of the theory that some scientists are calling chaos theory. That is, we will need to ask not how these complex, overlapping, fractal shapes constitute a simple, stable (even if large-scale) system, but to ask what its dynamics are . . . (Appadurai 46)

Chaos theory is a relatively young science which seeks to explain the order of disorder. Chaos theory is based upon the supposition (through mathematical concepts of recursion and differential equations) that in complex, non-linear, dynamic systems, minor changes in the initial conditions of the system can produce massive change over time. The basic concepts of chaos theory can be most simply understood through what is termed "the butterfly effect," so-named as a computer simulation demonstrated that the equivalent to a butterfly's wing-beat could have the chaotic effect of producing a hurricane in another part of the world:

> Lorenz had discovered on his computer-simulated weather a remarkable development. One of his simulations was based on twelve variables, including, as we have said, non-linear relationships. He found that if he started his simulation with values that were only slightly different from the original – the difference being that one set were down to six decimal places and the second set down three places – then the "weather" produced by the computer soon veered wildly from the original. Where perhaps a slight perturbation might have been expected, there was, only after a brief period of recognisable similarity, a completely different pattern. ("Chaos Theory" 1)

A theory of cultural interactions based on disjunctive flows assumes that seemingly unrelated events can have a vast and profound impact not only on one another, but also on the global system. A "human version" of chaos theory might involve unexpected sites of social interface – sites so unexpected that they function radically to transform the assumed limits of the system. A "human version" of chaos theory seeks to understand and explain the complex, dynamic, non-linear system of human social interaction.

It is precisely a "human version" of chaos theory which allows us to draw connections between David Reimar and typographic performances of meaning; between the theatre and computer interfaces; between fictive or virtual spaces and material social realities. A theory of cultural interactions based on disjunctive flows is more potent now than it ever was, due in large part to the predominance of computing technologies. As both chaos theory and computing technologies tell us, complex, dynamic, non-linear relationships can have very powerful effects.

One of the most powerful effects of both 'human' chaos theory and the production of cyberspace is the dispersion of subjectivity. The subject position becomes fractured and multiple, permanently partial and situated. Dispersed subjectivity is a form of chaos. Dispersed subjectivity is reflected in the postmodern form, which attempts to challenge the rigorous structure of typography to allow for an interplay of multiple

typographically inscribed voices. Dispersed subjectivity chaotically functions to disrupt typographically inspired constructions of a unified, stable, and autonomous self:

> And, given that a self modelled (as it can't help but be) on culturally commodified image production can hardly be seen as unique or original, the discourse of copies without originals provides a means of articulating postmodern gestures aimed at dislodging ideological faith in individuality. As such this discourse reveals, rather than creates, the fictions of fixed subjectivity. ("Subjectivty & Dispersals" 1)

The dispersion of subjectivity in a cyborg world problematizes illusory notions of the 'natural' and 'original,' and emphasizes instead the political activity engaged in all processes of construction. In a cyborg world, permanently partial 'wholes,' including those of dispersed subjects, are formed from the chaotic interaction of disjunctive social flows.

Integral to the electronic concept of dispersed subjectivity is the notion that technology transforms those who use it: "In the mechanical age, technology was viewed as instrumental, a means to an end; users were figured as already-formed subjects who approach it, rather than contingent subjects who are approached and altered by it" (Nakamura 1). What is in operation here is the illusion of distance between the user who operates technologies or systems of ordering, and the ways in which technologies operate to order the user. Technologies in the world today are social. While the notion that technologies are social may appear contrary or unrealistic, and even terrifying to some (for example, 20th Century reinscriptions of Mary Shelley's *Frankenstein*, wherein a monstrous computer develops consciousness and plots to destroy the human world), technologies in the world today *are* social, and they are altering us.

In terms of its socio-historical rhetoric, the shifting connotations of the term 'user' reflects shifting subjectivity in shifting contexts. The term 'user' is perhaps most

commonly used within the negative context of such subject positions as drug user, people user, abuser, etc., all of which represent inappropriate, unacceptable, or illegitimate social behavior. Those who are 'users' occupy subject positions which are constructed as damaging to the social fabric. However, when the context governing the meanings of 'user' shifts to the electronic, the term 'user' connotes engagement more so than social peril. In the context of electronic technologies, the term 'user' signifies the subject or individual who interacts with an electronic social body.

Interestingly, the difference between the user or subject who interacts with electronic technologies, and the user in the ab-user context, is increasingly blurred. Often retold 'hot topics' on news shows and talk shows alike involve husbands or wives who forsake familial obligations for the obscene pleasure of chatrooms and email, or fears that hackers will destroy the cyber-universe, or that 'Big Brother' will control us all, or stories on little boys who get addicted to video games and the potential for 'real world' violence, or inquiries into why little boys and little girls interact with computing technologies differently, or announcements that pornography constitutes the majority of the content of the internet, or advice on how to protect your family from the evils of the information superhighway. These 'hot topics' all imply an increasing social concern and awareness of the peculiar relationship between humans and their technologies. And it is not an accident that we are questioning these relationships precisely now: it is precisely because the computer is an extension of our nervous system that suddenly western culture is dawning on the implications of its own appendages.

IV. PERFORMING CYBERSPACE:

Cyberspace is a social space. Like typography, cyberspace (re)produces and is (re)produced in relation to social performances of meaning. As a social space, cyberspace is an enactment of collaborative imaginationings. Cyberspace is a series of cooperative performance gestures; indeed, cyberspace is a performative effect. The internet or world wide web as we know it today is one example of one possibility of what it means to construct a 'cyber' space. Medical technologies, credit cards, electronic alarm systems, vaccinations, surveillance technologies, genetically modified food, digital telephones, technologized bodies, satellite television, global positioning systems – all of these social spaces, and other virtual spaces like them, are material manifestations of 'cyber' spaces. Computing technologies have changed our experience of the world. The performative effects of computing technologies, or cyberspaces, function to produce the cyborg myth which Donna Haraway claims now predominates western ontology.

One of the difficulties associated with the term 'cyberspace' for many people involves conceiving of that thing called the internet as a space. Many people still think of space in Cartesian or Euclidean terms, where space is a container filled with objects which the subject views and separates out. As Henri Lefebvre writes, "to speak of 'producing space' sounds bizarre, so great is the sway still held by the idea that empty space is prior to whatever ends up filling it" (15). Space, however, is not an empty container, but is the material manifestation of human activity. We (re)produce (that is, both produce and reproduce) space by performing our assumptions. That is, spaces are what we (re)produce through processes of outering and uttering. And perhaps here it is

necessary to reassert that just because you cannot always see space, does not mean that invisible spaces do not exist or are not material.

Cyberspace itself is produced on a principle of "interplay" or "collective awareness" or "rational co-existence" of the parts to produce a greater whole. "The Internet" is a world wide web of simultaneous, cooperative performance gestures:

> Properly speaking, the Internet is not a thing at all, but rather the *effect* of millions of performances called "packet switching." In packet switching, messages are sent out via modem from one computer to a "switching node" where they are then divided into workable units. The units are, in turn, transmitted to their destination and reassembled. Packet switching protocol requires a series of computer and telephone calculations, occurring in many different locations around the world, simultaneously. The effect of packet switching, what we call "The Internet," then, is really a series of cooperative performance gestures from multiple computer and telephone systems. The Net functions in a way that the telephone alone (because it operates on a dedicated circuit) does not. Although there is a thing called "the telephone," there is not, properly speaking, a place called the Internet. Rather, the Net's status as a place is a metaphorical hallucination, although an understandably useful one: one of the ways high performance computing works is to carve space into what was once nothing. (Senft 5)

"The Internet", or cyberspace, is a placeless space: it is a materially immaterial technology. Unlike the outering/uttering of our senses which produces material technologies that are closed systems, like the book or the dedicated circuit of the telephone, the outering/uttering that produces cyberspace is a form of synesthesia or tactile interplay. To produce the "greater whole" that is the placeless space of the internet, there must be an interplay of ratios or parts - an interplay of individual computer, telephone, and now cable systems. The "metaphorical hallucination" or materially immaterial "place" of the internet is a process of translation. Much like the way in which McLuhan's "biological" synesthesia effects the material outering/uttering or translation of the senses, so cyborg synesthesia effects the process of translation which renders the immaterial material in cyberspace.

Computing technologies, however, do not "carve space into what was once nothing". To carve space into nothing assumes the empty container, and further implies that it is possible to have space without history. Space is not 'something' prior to which there was 'nothing;' rather, "In space, what came earlier continues to underpin what follows" (Lefebvre 229). In other words, the social (re)production of space is process, and as such, space cannot be separated from its culturally inscribed histories. Space without history is de-politicized space; but space as a process of social (re)production is highly politicized, and always already has history. And as the social history of spatial (re)production reminds us, the predominant spatial metaphors in operation in a given society are related to that society's predominant technology, and function to produce the basis for meaning-making paradigms. Spatial metaphors such as "Greater Wholes" are not unproblematic, since the interplay of parts or ratios which produce the greater whole is rarely unbiased: "The relationships for forming wholes from parts, including those of polarity and hierarchical domination, are at issue in the cyborg world" (Haraway "CM" 151). When it comes to the materialization of 'greater wholes,' which parts come to matter also have the effect of determining which parts do not come to matter at all.

The 'empty container' theory of space posits a locatable and absolute origin; in the age of the cyborg, however, locatable and absolute origins are just another metaphoric hallucination:

> . . . the cyborg has no origin story in the Western sense – a 'final' irony since the cyborg is also the awful apocalyptic *telos* of the 'West's' escalating dominations of abstract individuation, an ultimate self untied at last from all dependency, a man in space. An origin story in the 'Western', humanist sense depends on the myth of original unity, fullness, bliss and terror, represented by the phallic mother from whom all humans must separate . . . . The cyborg skips the step of original unity, of identification with nature in the Western sense. This is its illegitimate promise that might lead to subversion of its teleology as star wars. . . .

> The main trouble with cyborgs, of course, is that they are the illegitimate
> offspring of militarism and patriarchal capitalism, not to mention state socialism.
> But illegitimate offspring are often exceedingly unfaithful to their origins. Their
> fathers, after all, are inessential. (Haraway "CM" 150-1).

The problem with origins and originals is that once again they posit the possibility of

'something' coming from 'nothing.' Further still, origin stories construct that

'something' as a pure, absolute, complete, and fully essentialized beginning that provides

the irrefutable source of legitimization for the social operations of regulatory control

which 'naturally' follow. Instead of an origin story, instead of a 'natural' birth into the

world, the cyborg is all simulation. The cyborg signals the dis-integration of the

nature/culture divide, forcing the western world to confront the constructedness of our

own naturalized paradigms. That cyborgs are "often exceedingly unfaithful to their

origins," origins constructed with particular outcomes in mind, recalls the minor change

in system input which has the chaotic effect of producing massive changes to the

system's output. From its very 'origins,' the cyborg operates on a principle of disjunctive

flows.

Cyberspace functions to problematize many of the visual paradigms (re)produced

and naturalized through typographic performances of meaning. Typographic

performances align vision and visibility with the legitimizing and homogenizing forces of

absolutism and empiricism. Yet, as cyberspace reminds us, there is a certain virtual trick

we do when we see. Typography's performative abstraction of the visual has the effect

of distracting from the biologic 'reality' that our eyes see the world upside down. The

human biological process of seeing involves light passing through the rods and cones of

the retina, focusing into the fovea's inverted representation of the eye's field of vision.

The fovea's virtual image is carried as a signal through the optic nerve and into the brain

where the eye's virtual representation of the 'real' world is interpreted. The interplay or

processes of information translation which constitute the human biology of seeing is

reflected in the interplay of the visible and invisible in the context of computing

technologies:

> The perspective "idea" is extended to computer graphics and other technical
> means of drawing through laws of layering. The "frontality" of the screen "aims"
> the viewer towards the object, which has a visible and hidden face. The viewer
> remains within a protective invisible zone outside the visible, and has the power
> to manipulate the scene through controls related to power over the visible.
> ("Representation" 4)

This passage suggests the agency which even a subject as superficially passive as a

'viewer' has in controlling the visible in computer-generated worlds. What is important

in the contexts of cyberspace and the politics of simulation is that it is invisible spaces

which have the performative power to produce the visible; when the world is all

representation, the visible becomes power's effect.

Interestingly, this discussion of visual representation in electronic technologies

can be paralleled with the ways in which gender operates in electronic versus 'normal'

fields of vision, in the particular context of the interplay of illusion with observable

'knowledge.' The zones of invisibility which operate in electronic technologies are

tremendously important in terms of understanding the extent not only to which we rely on

visual data in our processes of meaning making, but also the extent to which visual data

is no longer causally linked to either the viewer or the object(s) viewed, and thus

illusively produces meaning. If we consider this problem in terms of gender, we begin to

realize that *seeing* symbolic representations of gender (ie. penis, vagina, breasts, facial,

chest, leg hair, etc.) is no longer sufficient to produce gender's meanings, or even to

identify 'gender' outside of the centralized, normalized, essentialized, heterosexist binary

of two. So the question becomes, what happens to 'gender' if one employs this new electronic principal of 'seeing' (or not seeing), of decentralized, permanently partial, and multiple space?

V. Gender Dis/Orientation:

Gender, like technology, is a social space. And like technology, although perhaps in more of an immediate way, the social space 'gender' has a strong biologic correlation. Throughout its history gender has been situated within the particular context of human physiology, or more specifically, genitalia. Situating gender's meaning within the assumed dualities of human reproductive organs, a site which is itself a social construct, has the effect of producing a number of assumptions which are socially performed and reproduced. In other words, gender operates in ways very similar to the ways in which technology operates. Like typographic and computing technologies, gender is a performative site of interface. Like technologies or media, gender is also an extension or abstraction of ourselves. Despite attempts to construct gender otherwise, there is no stable or holistic biological or social category called 'gender'; rather, 'gender' operates as a site of cultural, social, and ideological interface. 'Gender' is a fractured and multiple site of interface which mediates social control. In short, gender is a technology.

As I have already discussed, typographic culture produces a reliance on the visual as empirical evidence employed in authorizing truth-making and meaning-making apparatuses. Once again, in a typographic culture seeing is believing. This becomes important in terms of gender since western society places such an emphasis on visual signifiers when it comes to reading gender's meanings. In our daily lives we engage in a practice of visually measuring up the individuals and environments we encounter and

with which we interact. We tend to use visual signifiers in order to categorize

individuals' gender, race, and class: we expect that men look different from women,

people come in different sizes, shapes, and colours, and wealth has a way of being worn.

The point is that consciously or not, we rely on our field of visual data as a means of

providing reliable information. However, when it comes to gender it is time that we ask

ourselves whether or not we are really so sure that seeing a penis means 'boy' and seeing

a vagina means 'girl.'

This practice of relying on the visual evidence of genitalia as the epitomizing

source of gender's meanings reinforces the limitation that gender as a category be

restricted to two possibilities. In western culture gender is typically understood as an

either-or situation – one is either a man or a woman. For the most part westerners remain

fairly convinced that gender is part of the 'natural' package of our bodies, chosen for us

in our gestational stages and births, and enacted throughout our lives. The assumption

that gender is a binary paradigm borne out of the human reproductive capacity produces

the contingent assumption that gender is a function of human sexuality. In other words,

not only is the visible difference between male and female genitalia considered to signify

an either/or gender differentiation, the reproductive functionality of genitalia ensures a

'naturalized' logic of coupling employed to enforce gender duality. Although westerners

tend to think of gender as a 'natural' part of our biology, experience increasingly

demands recognition that this 'natural' or 'biological' 'truth' is, in the western world

today, the social construction of a naturalized gender paradigm. And the demands of

gender's naturalized social construction is precisely where the construction begins to fall

apart: this is a problem of three genders being too many, and two not being enough.

Perhaps one of the most powerfully persuasive social experiences which complicates biologically naturalized gender assumptions is the case of intersexuality. Intersexuality, or hermaphroditsm as it was once called, problematizes genitalia as the 'natural' site of gender's meanings. As the term implies, intersexed individuals are born neither completely male nor completely female, but somewhere between or beyond the biologic binary of two:

> Broadly speaking, intersexuality constitutes a range of anatomical conditions in which an individual's anatomy mixes key masculine anatomy with key feminine anatomy. One quickly runs into a problem, however, when trying to define 'key' or 'essential' feminine and masculine anatomy. In fact, any close study of sexual anatomy results in a loss of faith that there is a simple, 'natural' sex distinction that will not break down in the face of certain anatomical, behavioral, or philosophical challenges. (Dreger 3)

Once it becomes impossible to posit or locate any simple or 'natural' or even originary sex or gender distinction, our entire understanding of 'gender' as a category (a category which is particularly social in its operations) is disrupted. Once the context in which we had previously produced our assumptions or 'truths' concerning gender's meanings is disrupted, once the easy division into the category boy or girl based upon naturally produced reproductive anatomy, a superficially simple dichotomy, no longer rings true within the realm(s) of our social experiences, it becomes time to evolve the categories as well as the definitions of gender in relation to the shifting context of gender's meanings.

Instead of adapting to the obvious biological evidence that a simplistic gender dichotomy was no longer holding true, medical history has attempted instead to maintain and, if necessary, surgically enforce this simplistic gender duality. In other words, if the biology no longer supports the gender paradigm, modern western medical science says change the biology: "the experts honed in on the ovarian and testicular tissues and

decided that these were the key to any body's sexual identity. The 'true sex' of most individuals thus by definition settled nicely into one of the two great and preferred camps, no matter how confusing the rest of their sexual anatomies" (Dreger 3). Apart from essentializing reproductive tissues as the site of gender's dualistic meaning, this passage further suggests the cultural imperative that every body be assigned one or the other of the two 'true' genders, no matter how invisible that 'true' gender may be.

Indeed, the technological advances of medical science have made visible the chromosomal organization of gender: "Genetic sex, or the organization of the 'sex chromosomes,' is commonly thought to be isomorphic to some idea of 'true sex.' However, something like 1/500 of the population have a karyotype other than XX or XY" (ISNA 3). Klinefelter syndrome, for example, results from a karyotype with an extra X chromosome – 47 XXY instead of 46 XY – a minor chromosomal deviation which has the chaotic effect of disrupting the legibility of gender's assumed dualistic markers. Here again disorders such as Klinefelter syndrome, or Androgen Insensitivity Syndrome (XY individual whose genitals develop as female in appearance), or Adrenal Hyperplasia (XX genetics "which ranges from 'female with larger clitoris' to 'male with no testes'" (6)), or Hypospadias (the urethra appears somewhere other than the tip of the penis), exemplify this problem of three being too many, and the assumed visible markers of gender's dualistic meaning not being enough.

The reality of gender in the western world today is that the old feminist slogan, "You do not choose gender; gender chooses you," becomes terrifyingly ironic in the context of intersexuality, where a newly born individual's gender is chosen by a doctor:

> For a penis to count as acceptable, "functional," it must be or have the potential to be big enough to be readily recognizable as a "real" penis. In addition, the

"functional" penis is generally expected to have the capability to become erect and flaccid at appropriate times, and to act as the conduit through which urine and semen are expelled, also at appropriate times. The urethral opening is expected to appear at the very tip of the penis. Typically, surgeons also hope to see penises that are "believably" shaped and colored.

Meanwhile, very little is needed for a surgically constructed vagina to count among surgeons as "functional." For a constructed vagina to be considered acceptable by surgeons specializing in intersexuality, it basically just has to be a hole big enough to fit a typical-sized penis. It is not required to be self-lubricating or even to be at all sensitive, and certainly does not need to change shape the way vaginas often do when women are sexually stimulated. So, for example, in a panel discussion of surgeons who treat intersexuality, when one was asked, "How do you define successful intercourse? How many of these girls actually have an orgasm, for example?" a member of the panel responded, "Adequate intercourse was defined as successful vaginal penetration." All that is required is a receptive hole. (Dreger 6)

A number of assumptions are exposed through this passage, not the least of which is the repetition of the visual evidence of penis or vagina, or in the case of intersexuality the ambiguous absence of visual evidence, as the essentializing source of gender's meaning. This passage further demonstrates the assumption that while the visual evidence of "a receptive hole" is sufficient to signify 'female-ness,' much more is required for the penis to signify 'male-ness.' The distinction between the "receptive hole" and the "functional penis," not surprisingly, is underscored by a number of social assumptions, the most obvious of which is the misogynist rendering of the passive female marked by absence, who waits to be filled and bestowed with meaning by the active male with his functional penis, whose task it is to inscribe the world. This passage further suggests that there is indeed a correlation between gender and human sexuality; however, once again a patriarchal gender bias is employed: 'male-ness' is associated with the sexual functionality of the penis, which is constructed as the agent in the sex act, and indeed in the world. The female is constructed as a sexually passive container, the subject onto (and into) whom a sex act is performed, and whose own sexual satisfaction is hardly an

issue. Indeed, some doctors will even cut back a clitoris that is considered too large, in

many cases sacrificing sexual sensitivity, all because the young girl's clitoris appears too

closely to resemble a penis.

According to postfeminist theory, this patriarchal and misogynist construction of

the world is (re)produced through patriarchally controlled linear and sequential narrative

or discourse spaces. As such, part of the postfeminist project is the construction of non-

linear, non-sequential performative spaces, like cyberspace. What non-linear, non-

sequential performative spaces expose is the degree to which 'gender' operates on the

basis of naturalized, socially performed assumptions:

> . . . nature/culture discourse regularly figures nature as female, in need of
> subordination by a culture that is invariably figured as male, active, and abstract.
> As in the existential dialectic of misogyny, this is yet another instance in which
> reason and mind are associated with masculinity and agency, while the body and
> nature are considered to be the mute facticity of the feminine, awaiting
> signification from an opposing masculine subject. As in that misogynist dialectic,
> materiality and meaning are mutually exclusive terms. The sexual politics that
> construct and maintain this distinction are effectively concealed by the discursive
> production of a nature and, indeed, a natural sex that postures as the unquestioned
> foundation of culture. (Butler *GT* 37)

The sexual politics "concealed by the discursive production of a nature and . . . a natural

sex" is revealed through Butler's pun on "natural sex." "Natural sex" implies a

naturalized gender, once again ensuring that gender be restricted to two possibilities.

That there is "*a* natural sex," as in *one*, "that postures as the unquestioned foundation of

culture" ironically underscores Butler's assertion that within a patriarchal paradigm men

are the 'natural' constructors of culture, to whom women and "nature" must subordinate.

Finally, Butler's pun on "natural sex" further implies that there is only one form of

legitimate or "natural" sex which could posture "as the unquestioned foundation of

culture" and that is heterosexual sex, with its potential for reproduction. The sexual

politics that "natural sex" conceals is that of regulation and domination: on the one hand,

heterosexual reproduction legitimizes the gender binary, clearly and causally linking sex

and gender; on the other hand, western society resists acknowledging homosexuality or

bisexuality or intersexuality or any 'other' kind of sexuality as contributing to gender's

meaning.

Instead of developing beyond essentializing and normalizing boundaries,

gender's meaning tends to be situated within a double binary: the heterosexual fe/male

binary is further situated within the nature/culture divide. The context of intersexuality

demonstrates the degree to which western medical science has attempted to locate

'natural' gender in reproductive tissue and chromosomes; however, despite attempts to

locate gender absolutely, 'treatments' for intersexuality continue to rely on socialization

practice (culture) in order simultaneously to legitimize and perpetuate socially

constructed and regulated gender roles. The 'culture' theory of gender construction

asserts that gender 'identity' manifests as a result of psychosocial rearing, materializing

primarily through socially regulated gender roles and normatives:

> Contemporary theory, established and disseminated largely via the work of John
> Money and endorsed by the American Academy of Pediatrics, holds that gender
> identity arises primarily from psychosocial rearing (nurture), and not directly
> from biology (nature); that all children must have their gender identity fixed very
> early in life for a consistent, "successful" gender identity to form; that from very
> early in life the child's anatomy must match the "standard" anatomy for her or his
> gender; and that for gender identity to form psychosocially boys primarily require
> "adequate" penises with no vagina, and girls primarily require a vagina with no
> easily noticeable phallus. (Dreger 4)

John Money's name has been in the news again lately, thanks at first to an article John

Colapinto broke in *Rolling Stone* magazine. Money supported his long-hailed theory of

gender construction based on psychosocial rearing primarily through the 'evidence' of his

John/Joan case. 'John' was one of a set of identical twins whose penis was accidentally removed during a circumcision procedure. As if this was not tragic enough, the child was sent to the John Hopkin's Institute where, under the direction of Dr. John Money, John's testes were removed, a "receptive hole" was opened, and hormone therapy began. Baby 'John' was renamed 'Joan,' and her family was instructed to treat, and indeed *think* of Joan, always and forever as a female. Money published his case as a success, and like magic John's transformation into Joan entered the medical journals as evidence that while gender results from anatomy, as long as you change or modify that anatomy early enough, an individual can be socialized into a gender role.

While the John/Joan case involves a surgical disaster as opposed to a chromosomal or gestational difference, the assumptions which led Money to complete John's partial castration and construct the appearance of female anatomy are reflected in western medical science's attitudes towards intersexuality: "the United States medicine's prevailing response to intersexuality is largely about genital conformity and the 'proper' roles of the sexes" (Dreger 12). So long as genitals appear to conform to either one set of normatives or the other – and it is important to note here that the *appearance* of genitals is emphasized far more than their reproductive functionality – the individual should be able to be psychosocially reared into the 'correct' or anatomically indicated gender role. However, John Colapinto's 1997 article provided the follow-ups on the John/Joan case that Money's research never made public: the gender swap, not surprisingly, was disastrous.

Colapinto has recently published *As Nature Made Him*, the biography of Winnepeg's David Reimar, or John/Joan as he was known in the medical journals.

Reimar also appeared on *The Oprah Winfrey Show* this year, publicly speaking about his trans-gendered experiences. David spoke of the anxiety, despair, and depression he felt in the years he was raised as Brenda. He spoke of feeling awkward in his own body, and never quite fitting in. At the age of fourteen, Brenda decided she had had enough of her mysterious and intrusive examinations at the John Hopkin's Institute, and no longer wanted to take hormone therapy. Brenda became suicidal, and upon realizing that her gender transformation was a complete failure, Brenda's parents finally told her the truth: Brenda had been David all along.

While medical technology was not particularly advanced in 1966, the year that David Reimar was castrated, Money's 'solution' to David's perceived gender problem was a disaster from the very beginning. Money assumed that so long as Brenda's socialization environment reaffirmed her 'female-ness' ('nurture'), her surgically reconstructed genitalia ('nature') would be believable enough to invoke in 'Brenda' a female gender-identification and its associated social performances. Money assumed that gender, while biological in origin ('nature'), is primarily enacted – and indeed, determined – through socialization processes ('nurture'). Money further assumed that when it comes to gender, every body has to have one or the other, and that both genders materialize biologically in measurable, legible, heterosexually normalized ways. These assumptions, combined with the 'progressive' politics of medical scientific discourse, led Money to believe that if 'nature' does not produce a legible gender, or if the legibility of a 'naturally' determined gender is disrupted, surgical reconstruction coupled with controlled socialization would be sufficient to produce gender's meanings.

David Reimar's story is particularly poignant as it forces westerners once again to reconsider the extremes of the nature/nurture divide in our conceptions and constructions of gender and its meanings. John Money's published 'John/Joan' case was heralded as indisputable evidence for the primacy of socialization or nurture over biology or 'nature' in the context of gender construction. Money's emphasis on gender as a social phenomenon, however, is precisely what led Money to believe not only that he *could* successfully transform David Reimar's gender, but also that David Reimar's gender was in need of transformation. As Judith Butler argues, ". . . the substantive effect of gender is performatively produced and compelled by the regulatory practices of gender coherence" (*GT* 24). Money believed that David Reimar's penis ('nature') was no longer adequate or coherent enough to compel the infant David to produce a realistic performance of 'maleness.' Since biology or 'nature' is subordinated to socialization in Money's theory of gender construction, and since the absence of a "receptive hole" is much easier to construct than the functionality of an 'adequate' penis, Money surmised that 'Brenda' was the best solution to the 'problem.'

Conversely, John Colapinto, David Reimar's biographer, has repeatedly and publicly concluded that the failure of Money's monstrous experimentation with gender construction demonstrates the primacy of 'nature' over socialization. Colapinto argues that despite Money's extensive and extraordinary efforts to construct 'Brenda' out of the perceived remains of David, the fact that David Reimar never felt or identified 'female' proves that gender is innately biological, and cannot be socialized into an individual. Colapinto holds there was a surgically, medically, psychologically, and socially suppressed yet insistent biological boy living in 'Brenda's' body. Yet Colapinto's

argument for biology, however apparently true within the particular context of David

Reimar's story, is dangerously essentializing on the opposite end of the same polarity. In

terms of the nature/culture divide, John Money and John Colapinto make strange

bedfellows: both Money's socialization and Colapinto's biology assume essentialized

materializations of 'maleness' and 'femaleness.'

In considering David Reimar's story the question as to the relationship between

human sexuality and gender construction appears to arise again. If Money also assumed

that Reimar's lack of a penis would eventually result in homosexuality if he were to

remain a boy, then Reimar's gender transformation also becomes of way of perpetuating

the heterosexual status quo. And if Brenda believed that she was a girl, then part of her

adolescent angst must have involved complicated feelings of desire. David Reimar is

now married and is the stepfather to his wife's children; is it not possible that at least a

part of Brenda's gender confusion involved coming to terms with lesbian desire in a

heterosexual matrix? To complicate matters further, Brenda was on hormone therapy to

make her appear more 'female'; since Brenda was lied to from the onset as to the reason

for these therapies, is it not possible that these medical intrusions contributed to her

feelings of insecurity and inadequacy as a female? Clearly attitudes towards sexuality are

reflected in gender's construction. The question becomes, what happens if we extend

gender's meaning to include not only intersexuality, but also homosexuality, and

transvestitism, and bisexuality, and every and all the many other shades of maleness and

femaleness, between and beyond, that are lived in the world today?

Of course, this is a difficult proposition since we lack a language sufficient to

describe gender's meanings in the world today. The very gender duality that we are

trying to combat is reinforced in our daily lives in myriad ways, not the least of which is

through the technology of language itself: in our daily language we constantly frame our

interactions with individuals within the context of she and he:

> Consciousness of exclusion through naming is acute. Identities seem
> contradictory, partial, and strategic. With the hard-won recognition of their social
> and historical constitution, gender, race, and class cannot provide the basis for
> belief in 'essential' unity. There is nothing about being 'female' that naturally
> binds women. There is not even such a state as 'being' female, itself a highly
> complex category constructed in contested sexual scientific discourses and other
> social practices. (Haraway "CM" 155)

When gender is no longer coherent in a given context, for example in the cases of

transvestitism or intersexuality, the gendering inherent to language fails. For example, an

individual may fumble as to whether to refer to certain 'other' individuals, the drag queen

for example, as 'he' or 'she' (beware of loaded pronouns) as a result of perceived gender

incoherence. But if we recognize the heterosexist imperative which demands that gender

be restricted to the reproductive coupling of two, then we begin to see precisely what

Judith Butler argues in *Gender Trouble*: "gay is to straight *not* as copy is to original, but,

rather, as copy is to copy. The parodic repetition of 'the original' . . . reveals the original

to be nothing other than a parody of the *idea* of the natural and the original" (31).

VI. ENTER THE CYBORG:

*". . . the term cyborg was coined by Manfred E. Clynes and Nathan S. Kline (1960) to
refer to the enhanced man who could survive in extra-terrestrial environments. They
imagined the cyborgian man-machine hybrid would be needed in the next great
technohumanist challenge – space flight" (Haraway "Cyborgs and Symbionts" xv).*

In 1960, in the moments after television first dawned on western civilization,

Manfred E. Clynes and Nathan S. Kline contributed to the social imaginary of space

exploration and interstellar migration their concept of the "Cyborg":

> Altering man's [sic] bodily functions to meet the requirements of extraterrestrial environments would be more logical than providing an earthly environment for him in space . . . Artifact-organism systems which would extend man's unconscious, self-regulatory controls are one possibility (29).

Clynes and Kline conceived of this cyborg, this artifact-organism system which extends the 'human,' as a "self-regulating man-machine system" (30) which could successfully adapt to and live in outer space. Already terrain explored in science fiction, Clynes and Kline envisioned practical solutions to the physiological problems associated with human space travel. Rather than modifying human genetic structure, they propose extending human biological capacity through biochemical, physiological, and electronic prosthetics:

> In the past evolution brought about the altering of bodily functions to suit different environments. Starting as of now, it will be possible to achieve this to some degree *without alteration of heredity* by suitable biochemical, physiological, and electronic modifications of man's existing modus vivendi. (29)

These biochemical, physiological, and electronic modifications are envisioned as *extensions* of human biological process: "The Cyborg deliberately incorporates exogenous components *extending* the self-regulatory control function of the organism in order to adapt it to new environments" (31 *my emphasis*). Interestingly, the cyborg, rather than materializing in outer space or manifesting in interstellar colonization, has materialized instead in the inner-stellar space of virtuality. Cyberspace, science fiction, the internet, computer mediated communications, video games, laboratory experiments, medical technologies, virtual realities, and virtual spaces of every kind all mediate the same message: the cyborg that extends human "unconscious, self-regulatory controls" (29) exists and is evolving right here on earth.

There are a number of issues which immediately rise to the surface, not the least of which is the notion of "the self-regulatory control function" itself. While used in a

biological context by Clynes and Kline, current materializations of the cyborg demonstrate the extent to which regulatory control functions operate on many levels and in many spaces, from ideology to gender to what it means to be human. And if we understand "exogenous" in the sense of outside or alien parts which are incorporated into the system, as fluid appendages to the body itself, then are we not questioning what it means to be human by extending its very meaning? And is it not interesting that gender disappears once Clynes and Kline's "Man" becomes "The Cyborg"? Suddenly, the pronouns shift and "he" becomes "it." Why does The Cyborg's gender disappear? Is The Cyborg no longer human? Is gender part of being human?

David Reimar is a cyborg who has a situated and particular story to tell about the history of gender construction in the 20th Century western world. What David Reimar's story, and stories like his demonstrate is that ". . . the very notion of 'the person' is called into question by the cultural emergence of those 'incoherent' or 'discontinuous' gendered beings who appear to be persons but who fail to conform to the gendered norms of cultural intelligibility by which persons are defined" (Butler *GT* 17). This quotation applies well to both intersexuality and the cyborg in that both are 'discontinuous' gendered beings whose predominance in the world today demand cultural intelligibility. Further still, the complications to notions such as "gendered norms" and "cultural intelligibility" that the existence of such 'discontinuous' beings produce functions to force a recognition that these limited and limiting notions of both "the person" and "gender" no longer reflect the material reality lived in the world today.

The problematization of the notions of 'the person' and 'gender,' particularly in the context of David Reimar's story, suggests that the technologized body of the cyborg

is a simulated territory. David Reimar's story and stories like his – stories which range in their encounters with cultural intelligibility from homosexuality to transvestitism to bisexuality to transgendered experiences – transgress the boundaries of the 'original' and the 'natural' to the extent that it becomes impossible to understand gender as either 'natural' or 'originary':

> Nature and culture are reworked; the one can no longer be the resource for appropriation or incorporation by the other. The relationships for forming wholes from parts, including those of polarity and hierarchical domination, are at issue in the cyborg world. (Haraway "CM" 151)

The boundary between nature and culture is so thoroughly breached in the world today that it becomes imperative to question and challenge all of our naturalized paradigms. As Haraway argues in the above cited passage, challenging our naturalized paradigms involves questioning which parts come to matter in the construction of the 'wholes' that contain and constrain the world.

In *Simulations*, Jean Baudrillard's map with no territory suggests that the naturalized paradigms which comprise 'reality' are themselves culturally constructed. This endless cultural production of a naturalized reality is the precession of simulacra:

> Abstraction today is no longer that of the map, the double, the mirror or the concept. Simulation is no longer that of a territory, a referential being or a substance. It is the generation by models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor survives it. Henceforth, it is the map that precedes the territory – PRECESSION OF SIMULACRA – it is the map that engenders the territory and if we were to revive the fable today, it would be the territory whose shreds are slowly rotting across the map. It is the real, and not the map, whose vestiges subsist here and there, in the deserts which are no longer those of the Empire, but our own. *The desert of the real itself.* (2)

If gender is the map with no territory, then the 'natural' body is the territory that has disappeared. It is the so-called 'reality' of the 'natural' body "whose shreds are slowly rotting across the map" the technologized body produces. In the world today, the

'reality' of the 'natural' body is a simulated ideal of what gender's meaning map was once meant to signify. If we begin to see gender as the map with no territory, then we begin to see gender as a performance of assumptions. Gender is a social and socially (re)produced space; gender is socially constructed and performed.

The endless precession of simulacra which (re)produces 'reality' and, through its own constructedness, is "the desert of the real itself," forces us to recognize that desert as "our own." In other words, the western world is one in which the implosion of the nature/culture divide forces us to come to terms with our own politics of simulation:

> By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centres structuring any possibility of historical transformation. (Haraway "CM" 150)

As both Haraway and Baudrillard argue, we are all theorized and fabricated in the world today: "in short, we are cyborgs." The impact of electronic technologies and cyberspaces of every kind, from the television to ATMs to pacemakers to the internet, is one in which the interplay of the social fields of imagination and material reality becomes the crucial site of political construction in a world increasingly exposed as simulation. Yet, what politics does the cyborg give us; or more precisely, whose politics? And if we are indeed cyborgs, then are we not giving ourselves our politics? Are we not responsible for our own constructions, for our own simulated world?

Judith Butler discusses a similar problem in the context of materiality as a category for determining gender's meanings. In a context where gender is a performative production, "a parody of the *idea* of the natural and the original," the material effects of gender must be rethought:

> . . .materiality will be rethought as the effect of power, as power's most productive effect. And there will be no way to understand "gender" as a cultural construct which is imposed upon the surface of matter, understood either as "the body" or its given sex. Rather, once "sex" itself is understood in its normativity, the materiality of the body will not be thinkable apart from the materialization of that regulatory norm. (*BTM* 2)

Once again gender materializes as a map with no territory. As John Money's experimentation with David Reimar's gender demonstrates, gender can no longer be understood "as a cultural construct which is imposed upon the surface of matter." Rather, both 'gender' and 'sex' are the material effects of culturally constructed regulatory norms. The *materialization* of a naturalized, biologic, dualistic, reproductive, heterosexist gender binary is, as Judith Butler argues and as Haraway's cyborg demonstrates, "power's most productive effect." It is this power to produce the material which suggests that gender is a technology.

The recognition that materiality is power's most productive effect is crucial to the politics of a cyborg world. A cyborg world is not innocent; as Haraway warns, when materialization is all about power, the struggle is one for control:

> From one perspective, a cyborg world is about the final imposition of a grid of control on the planet . . . . From another perspective, a cyborg world might be about lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines, not afraid of permanently partial identities and contradictory standpoints. The political struggle is to see from both perspectives at once because each reveals both dominations and possibilities unimaginable from the other vantage point. Single vision produces worse illusions than double vision or many-headed monsters. Cyborg unities are monstrous and illegitimate. ("CM" 154).

Permanently partial identities, contradictory standpoints, and many-headed monsters of every kind have the advantage of exposing ". . . the performative construction of gender within the material practices of culture" (Butler *GT* 25). The advantage to "monstrous and illegitimate" unities is that they expose naturalized paradigms of holistic unity as

socially constructed, controlled, and communicated or performed. Cyborg unities, with

their embrace of partiality and contradiction demonstrate obvious constructedness,

producing ". . . an argument for *pleasure* in the confusion of boundaries and for

responsibility in their construction" ("CM" 150).

Responsibility and accountability for the construction of boundaries must play a

crucial role in the context of meaning construction in the world today. As Judith Butler

argues about the future of gender, "Only when the mechanism of gender construction

implies the *contingency* of that construction does 'constructedness' *per se* prove useful to

the political project to enlarge the scope of possible gender configurations" (*GT* 38). The

implication of construction in the social (re)production and constitution of meaning is

among the most important of the lessons the cyborg has to teach. The recognition of

'constructedness' as a vital process in human social (re)production is as important

politically as it is materially:

> . . . gender [is] a *relation* among socially constituted subjects in specifiable
> contexts. This relational or contextual point of view suggests that what the person
> "is," and, indeed, what gender "is," is always relative to the constructed relations
> in which it is determined. As a shifting and contextual phenomenon, gender does
> not denote a substantive being, but a relative point of convergence among
> culturally and historically specific sets of relations. (Butler *GT* 10)

As a relative point of convergence among socially constructed relations, and as a shifting

and contextual phenomenon, gender operates as a site of interface. Interfaces are sites

which produce profound performative power; as we have already seen, 'gender'

materializes as a social construction through profound performative production – a

materialization performatively produced in relation to the predominant regulatory

controls, or constraints imposed on the social system. Rather than denoting a substantive

being, the 'being-ness' of gender is a fractured and multiple site through which

performative agencies flow. As such, 'gender,' like cyberspace, is the material *effect* of performativity.

VII. THEATRICAL INTERFACES:

In a computing context, an 'interface' is a site of exchange between situated agencies. For example, the Windows "desktop" operates as a site of interface between the user and the coded language of the computer. When the user performs the action of clicking on an icon and the computer performs a series of related or responsive actions, such as launching the selected program and 'remembering' certain settings, it is precisely that mutual performative engagement between the situated agencies of both humans and computers which constitutes an interface:

> An interface is a metaphor. We used to think of it as a physical object, a keyboard. . .but interfaces are metaphors, and they stand in for absent structures, and the absence is the important word there, they're ABSENT structures. They're not where you could see them. It doesn't even mean that they are inside the machine, but they're in an elsewhere, they're in a virtual location. You can call that 'location' cyberspace, or you can call it symbolic exchange – there are lots of words that you can use for interfaces. But they work, anyway, they have tremendous power. You can't see 'em, but they still do things. (Stone "Mondo 2000" 3)

The interface metaphor incorporates interplay, mediation, and the extension of the human senses and faculties. Interfaces are sites of tactile interplay. Interfaces are sites of connectivity through which agencies flow – agencies which have the performative power of producing the materiality of virtual spaces:

> This book presents a dramatic theory of human-computer activity. Usually, we think about interactive computing in terms of two things: an application and an interface. In the reigning view, these two things are conceptually distinct: An application provides specific functionality for specific goals, and an interface represents that functionality to people. The interface is the thing that we communicate with – the thing we "talk" to – the thing that mediates between us and the inner workings of the machine. (Laurel xvii)

As Laurel goes on to argue, interfaces must be legible in order to operate effectively. If people do not know what to do with them, the power of interfaces remains untapped. This is why Brenda Laurel argues for the usefulness of a theatrical paradigm in the design and construction of interfaces. It is her contention that a legible structure of interaction, such as that which Aristotle provides for the virtual space of the theatre, operates to constrain certain possibilities and create other possibilities, thereby unleashing the performative power of interfaces. Laurel's approach to interface design bears a striking similarity to what Butler calls that reiterative power of discourse to produce that which it constrains: in terms of gender, restricting the possible meanings of gender to a heterosexist, reproductive binary simultaneously functions to produce non-heterosexual, non-reproductive, non-binary gender interplay.

The agency involved in interfaces is dispersed throughout multiple subject positions. Sites of interface are highly social. And it is important to reassert here that the multiple subject positions that interplay through sites of interface are not restricted to strictly 'human' categories; rather, human, cyborg, machine, and animal all constitute permanently partial subject positions whose agency performs through sites of interface. Performativity is a way of acknowledging the constructedness of social space – indeed, the constructedness of the entire world and our senses of 'reality' and individuality and personhood itself – in such a way as to include not only the agency inherent to the activity of constructing a social universe, but the also the multiplicity of agencies which must interplay in order for the social universe to be produced. The concept of performing assumptions implies an agency which the concept of 'beliefs' on its own does not imply. The concept of 'beliefs' superficially appears passive; however, a person's beliefs

provide the basis for the assumptions which that individual performs daily in myriad ways. The concept of performing one's assumptions implies the agency inherent to the action of performing. The agency inherent to performances of assumptions is crucial since these performances have the material impact of constructing the social world.

Like typographically enclosed meaning, the theatre, in the sense of the institution of 'The Theatre,' is a closed system which performs on the basis of convention. The interplay The Theatre produces revolves around the deployment of theatrical conventions to produce a complete and holistic performance, from the first to final acts, which delivers a particular message to the audience. Theatrical conventions include such things as plays, scripts, actors, lighting, costumes, props, set designs, blocking, etc. Of course theatrical conventions also involve the physical space of the theatre. The Theatre building itself is constructed to facilitate the virtual spaces regularly produced within its walls. From acoustic architecture, to sight lines, to stage design and audience seating, The Theatre building is designed to maximize the performance space. The interplay of these conventions or theatrical components functions to transform the space of the stage into a representational or virtual performance space. It is the interplay of theatrical conventions in combination with the audience's willing suspension of disbelief which allows a representational world to be constructed and sustained over the course of the performance.

The conventions of The Theatre, however, are extremely important: the action on the stage must be legible in order for a theatrical performance to engage its audience. Audience engagement is integral to performance in The Theatre; audience interaction with the performance, however, is limited. The audience in The Theatre does not really

have any agency in terms of the outcome of the performance. While there is certainly a

mutually affective relationship between a theatrical performance and its audience, the

audience does not *effect* the performance, as in the case of interactivity.

Apart from the conventions whose interplay functions to produce a performance

which engages the audience, the audience themselves participate in and produce certain

theatrical conventions. For example, conventions such as entering the theatre, ushers,

ticket sales, programs, intermissions, refreshments in the lobby, applause and curtain

calls, all function to produce and maintain boundaries between 'real' and representational

worlds. This boundary between the 'real' and represented is part of what makes The

Theatre a closed system, rather in the same way as the covers of a book contain

typographically mediated representational worlds.

However, the concept of performance can operate as either a closed or open

system. As the reductionist or deconstructive, 'experimental' theatre of the 1960's and

'70's increasingly revealed, theatre is hardly a closed system when stripped of its

rhetoric. Deconstructing the conventions of The Theatre functions to expose the

rhetorical nature of performance, and the extent to which performance operates in our

social lives. As Keir Elam argues in *The Semiotics of Theatre and Drama*, "The

performance text becomes . . . a macro-sign, its meaning constituted by its total effect . . .

emphasizing the subordination of all contributory elements to a unified textual whole and

. . . giving due weight to the audience as the ultimate maker of its own meanings" (7).

Elam's project concerns itself with viewing "the performance not as a single sign but as a

network of semiotic units belonging to different cooperative systems" (7). To expound

on this rhetorical effect of performance, Elam employs the example of a table:

> A table employed in dramatic representation will not usually differ in any
> material or structural fashion from the item of furniture that the members
> of the audience eat at, and yet it is in some sense transformed: it acquires,
> as it were, a set of quotation marks. (8)

These quotation marks effected through consciousness of performance recall Terry

Eagleton's argument concerning the social function of Brechtian theatre:

> Another way of putting this is to claim that Brechtian theatre deconstructs
> social processes into rhetoric, which is to say reveals them as social
> *practices*. . . .its task is to reveal the repressed rhetoricity of non-theatrical
> utterances, a revelation which is for Brecht ineluctably materialist because
> it involves contextualizing what is said or done in terms of its institutional
> conditions. The function of theatre is to show that all the world's a stage.
> (469)

As a space of tactile and socialized performance then, it becomes possible to move

notions of theatricality out of the house of The Theatre and into some of the other social

spaces it informs. The performance, it turns out, is all about us.

The notion of theatrical performance as rhetoric, and as an illusively unified

whole which requires an audience to make its meanings, ties into the ways in which text

or typography performs. In the context of Aristotelian (structuralist) versus Brechtian

(the rhetoric of mediation) performances, we are really talking about something of a

dialectical process where these two communicate with each other – in a sense, Brechtian

drama turns Aristotelian structure inside-out. Brechtian drama makes visible that which

Aristotelian structure functions to render invisible. To put it another way, Brechtian

drama exposes the rhetoric of Aristotelian structure. The dialectical relationship between

Aristotelian and Brechtian theatrical structures can be paralleled to the postmodern

exposure of typography's limitations. Just as postmodernism challenges the boundaries

imposed through typography, so the exposure of performative rhetoric functions to

challenge the boundaries imposed through the space of The Theatre.

Further, both postmodernism and deconstructive theatre represent arenas of experience for the cultural transition to electronic technologies. As in the example of postmodern fiction, theatre which deconstructs its own practice functions to fracture unified and stable subject positions. Once the unified, holistic, stable performance text is exposed as rhetorical practice, characters are no longer stable subjects evolved over the course of the play, but become the obvious construction of actors playing roles. Similarly, props, costumes, sets, and the entire "network of signs" which work to constitute the performance, rather than producing a 'convincing' representation, are revealed to be fabrications with no concrete or direct correlation to the ideas and imaginative spaces the performance calls into being. Rather than suspending their disbelief, the audience is forced not only to make its own meanings, but also to consider the conventions or network of signs whose performative interplay functions to construct and constrain those meanings. The audience is forced to understand "performativity not as the act by which a subject brings into being what she/he names, but, rather, as that reiterative power of discourse to produce the phenomena that it regulates and constrains" (Butler *BTM* 2).

This powerful and materially (re)productive conception of performativity provides some insight into the relationship between humans and computing technologies. The materially immaterial space of the internet is the *effect* not only of high performance computing, but also of the myriad social performances which constitute and are mediated through the internet itself. Indeed, notions of performance and theatricality provide a useful arena for understanding new forms of subjectivity and agency produced through computing technologies:

> . . . people thought of computers as being a kind of prosthesis, you know, a tool, a
> thing through which agency flows, they were still thinking out of an earlier
> paradigm, and the transition to the newer paradigm is the one that we're going
> through now . . . . The new one is computers as arenas for experience, essentially,
> as Brenda Laurel talks about it, computers as theatre. . . . That's the idea that what
> most of us are going to do with computers, rather than work with them, is play
> with them. _With_ them. They take an active part in the process. Through play,
> an unstructured interaction in which there's a complex exchange between you and
> the device, you and it teach each other, really. (Stone "Mondo 2000" 4)

The paradigm of computers as performative arenas for experience – of computers as

theatre – recalls Appadurai's argument concerning the imagination as social practice:

". . . no longer mere contemplation (irrelevant for new forms of desire and subjectivity),

the imagination has become an organized field of social practices, a form of work (in the

sense of both labor and culturally organized practice), and a form of negotiation between

sites of agency" (31). The interaction or complex exchange that is 'play' relies on

imaginative space to be effective. The imagination becomes a form of work in the

performatively productive context of humans' play with computers.

As the concepts of performance inherent to theatre and cyberspace suggest,

performance is an arena for experience. Performance is about interaction, action,

relationships, agency, imagination and representation. Performance is about the agency

of play and the production of effects, human and non-human, which inter-play to

constitute 'reality.' To produce space through the process of performance implies the

reiterative power which operates in the construction or (re)production of meaning.

Rather than implying a unified and stable field of meaning (re)production, the concept of

performance demonstrates meaning to be the fractured and multiple effect of human

social experiences and constructions.

As a virtual performance space *par excellence*, the theatre produces experiential paradigms for understanding the power of inter-action and non-human agency. Theatrical performances involve the interplay of multiple spaces, subjectivities, and agencies, both human and non-human: integral to the theatrical performance's meanings and legibility are the spaces and stories produced or mediated through the inter-action of such non-human speaking subjects as props, costumes, lighting, sets, music, etc. Similarly, the performative interplay which produces the internet, as a performative site of human/computer inter-action or exchange, requires both human *and* non-human subjectivities and agencies in order to materialize. While this non-human agency is quite literally the ghost in the machine, the virtual performance space of the theatre reminds us that when all the world is representation, even non-human agency turns out to be about us.

The theatre also produces experiential paradigms for understanding gender's meanings. As a relational and contextual site of social inter-action, 'gender' operates on the basis of a performance of assumptions. The notion of gender as a performance of assumptions implies Anne McClintock's claim that 'gender' is a state of being always already in drag. To be always already in drag is to be always already in a state of representation. As such, 'gender' materializes only insofar as the limits of its representation will allow. The limits of the representation 'gender' are produced in relation to the assumptions which govern 'gender's' meanings in the social world. In other words, to produce 'gender' on the basis of a performance of assumptions implies the constructedness of the category 'gender,' as well as its highly dependent relationship on the social world to perform as a category. As a performance of assumptions, gender is

like the theatrical stage which mediates multiple agencies. As a performance of

assumptions, the inter-active social condition 'gender' effectively becomes the simulated

map with no territory outside that of the representational world.

If all the world is a stage, if the very materiality of the world is itself

representation, or as Baudrillard calls it, the "desert of the real," then the lesson of the

cyborg involves a politics of abstraction. Cyborgs, as highly performative and contextual

creatures, are well aware of the powers of materialization mediated through abstraction.

As a boundary transgressing, 'reality' producing, inter-active, virtual force, cyborgs pose

a very important question concerning the future of the western world's "desert of the

real": if all the world is a stage, who is directing the production?

VIII. Final Wor(l)ds:

My thesis, of course, is incomplete, as all attempts towards holistic performances inevitably are. As the myth of the cyborg demonstrates, holistic performances are illusory anyway; as the myth of the cyborg reminds us, illusory performances are our own constructions. In our world of simulation, our world of performative (re)production, the cyborg demonstrates the extent to which we are the performative products of our own constructions. With the recognition of the constructedness of all categories previously appropriated in an attempt to posit a 'natural' and absolutely locatable world, comes new constellations of meanings. As the existence of the cyborg signals, we are responsible for constructing our constellations of meanings; we are responsible for the worlds our constellations of meanings performatively (re)produce.

As the performative products of our own constructions, we must take responsibility for our worlds: as Haraway cautions, from "one perspective, a cyborg world is about the final imposition of a grid of control" (154). Indeed, a cyborg world could turn out to be about the ultimate in surveillance societies, its invisible ubiquity performatively producing the ultimate materialized expression of regulation and control. Of course, typographic technologies have already given us some experience with the invisible ubiquity of regulation and control. The linear, sequential, and uniformly repeatable spaces which typography performs (re)produces the visually-biased, linear, hierarchical, and patriarchal paradigms which continue to regulate and control the western world.

'Gender,' as a constructed site of interface itself, has a history of regulation and control (re)produced through the predominance of typographic performances of meaning.

The visually-biased, linear, hierarchical, and patriarchal performances (re)produced through typographic technology have functioned to naturalize specific gender assumptions, thereby performatively regulating and controlling the (re)production of gender's meanings. In a cyborg world, however, a world of permanent partiality, situatedness, and interplay, a visually-biased, linear, hierarchical, patriarchal, and heterosexist construction of 'gender' is no longer sufficient to contain gender's meanings.

As the cyborg's increasing experience with constructions of cultural legibility demands, why should we have only two genders? Clearly there are more than two types of gender performances producing gender's meanings in the world today, so why should we not acknowledge the existence of gender plurality? While we still have the problem of naming to contend with, why can't we come up with new names to define gender's possible meanings? Of course, the definition always remains an acute problem; who will be involved in containing new meanings for gender, and what meanings will be contained? Is it easier, then, just to ablate the category 'gender' as Haraway's "utopian dream of the hope for a monstrous world without gender" ("CM" 181) implies? Does this solve the problem of limiting through naming, or does this monstrous hope simply de-politicize a highly social, highly performative, powerfully productive space?

The cyborg world is one which is rife with questions and political struggles of any and every imaginable shape and kind. The cyborg world is one which demands recognition of the powerful socially (re)productive force of representation. This our cyborg world demands a politics of simulation. The cyborg, as a materially performed and (re)produced myth of western culture, is nothing more mystical than a simulation of us. The cyborg represents our own invisible powers of (re)production which function to

construct the realm we call 'reality'; the cyborg represents a consciousness of the regulation and control which are the performative effects of 'reality' construction. The existence of the cyborg signals a radical transition in the western world: stripped of its naturalized paradigms, the simulation or cyborg that is us challenges the western world – a world of our own making – to confront the implications of its own constructions. Of course, as the cyborg reveals, the construction most implicated in the performances of the western world is none other than us.

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