

Suddenly I wonder if I am half as smart as my specs assure me. I will lose all, and I will gain—life. But only the opportunity, with no guarantees and all the possible failures.

I will have exactly the same things that all humans have when they enter the world, I suddenly realize. Andrea and Marjorie and all the people I have ever known, every one of them has lived every day with this knowledge.

I feel—strange. It must be sleepy, my neural connections are slowing and connecting in odd ways. I realize that I know nothing of what I will be when I wake up, except for one thing.

I will be a real girl.

ASSEMBLING BODIES IN CYBERSPACE: TECHNOLOGIES, BODIES, AND SEXUAL DIFFERENCE

Dianne Currier

As women engage the emergent technological matrix of cyberspace, a new sphere of social practice, communication activities, alignments, and theories is taking shape. New alliances between women are being forged across traditional barriers of time and geography, and new modes of political organizing, campaigning, and information dissemination are being developed. In addition women in the new social communicative spaces generated by these technologies are exploring the crucial questions of feminism, identity, sexual difference, communication, social and cultural institutions, community, power, and knowledge. Emerging from these explorations and activities have been equal measures of suspicion and expectation. Exploring the possibilities that the technologies and social spaces commonly known as cyberspace might signal for women is a vast and complex project that has generated responses across a variety of registers. For feminist respondents it means posing the same general questions that underpin all feminist investigations of technologies. That is, how are relations of power distributed across and actualized through human-technology interactions, and how do women fare in this distribution? Further how can such relations, where they prove to be detrimental to women, be challenged and transformed? Clearly these are complex questions that demand investigation on multiple levels from the everyday encounters of women with technological objects and practices in the workplace, and in domestic and social arenas to the broader theoretical frameworks and modes of knowledge through which understandings of technology, woman, and man are articulated and function. These are not two distinct fields of study; rather I would argue that every investigation of the everyday is framed, if not explicitly, by broader theoretical questions. Thus to inquire as to what avenues of transformation the technologies and social spaces of cyberspace offer women is also to inquire as to the nature of those technologies, technology in general, women and man—to ask how they are configured and how this has an impact on the understanding of the relations between them.

In this essay I track the formulations of technology and woman as they are articulated through the operations of a particular epistemological structure—the logic of identity and the associated structure of binary opposition—across the field of transformational discourses of cyberspace. Using bodies as a conduit, explore how this logic gives rise to particular understandings of technologies and the modes of engagement with them that are often ultimately counterproductive to the transformational claims for cyberspace being made by a range of feminists. Finally, I indicate an alternative mode of thinking technologies drawn from Deleuze and Guattari which, I would claim, effects a conceptual shift that counters this problematic logic of identity.

Identity, Difference, and Feminism

“Difference” feminists have convincingly demonstrated the exclusionary and oppressive nature of the binary opposition as an epistemological structure through which sexual difference is frequently articulated.¹ Elizabeth Grosz gives a concise summation of its operations: “Dichotomous thinking necessarily hierarchises and ranks the two polarized terms so that one becomes the privileged term and the other its suppressed, subordinated negative counterpart. The subordinated term is merely the negation or denial, the absence or privation of the primary term, its fall from grace; the primary term defines itself by expelling its other and in the process establishes its own boundary and border to create an identity for itself” (1994, 3).

Identity is articulated in a movement of expulsion of the other in which that other is only ever conceptualized in terms dictated by the predominant term. Within such an economy of identity, difference is conceptualized only in terms of degree of difference from the privileged term—as diminution, variation, or lack. The specificity of the secondary term, its difference in and of itself, is unable to be accounted for autonomously; it is always only described in relation to the first—in its difference, *from* it. This logic of identity is then a logic of sameness that casts difference only in terms of a relation to a central identity that is itself determined through this process. To the extent that binary oppositions function to install and maintain this overarching logic of identity, they are clearly unable to account for difference other than as degree. This has clear implications for feminists asking the question of sexual difference. As Luce Irigaray has shown, sexual difference is a difference in kind, but one that has been excluded by the economics of identity, as they function within psychoanalytic discourses, such that woman is denied autonomous status and represented simply as not-man—that is, as being different only in degree of divergence from man. Thus I would argue, and will demonstrate, that binary oppositions most often work to install sameness, and even those oppositions that

are seemingly useful on one level, such as gender/sex—to the extent that they recapitulate all difference into sameness—remain deeply problematic.

Irigaray insists that in order for woman to be accorded autonomous existence, difference—particularly sexual difference—must be articulated. She points to bodies as one such site of difference—undeniable, irreducible difference that refuses the containment of the binary pairs such as mind/body in which it is most often cast. Binaries are always stressed by the simple fact that the subordinate term is always in excess of its designation as simply different *from* the principal term. Women’s bodies are always more than simply castrated male bodies, and bodies in general are always more than the mere absence of mind. With the appearance of feminisms of difference, bodies have become a focal point for tracing the operations of power, knowledge, and social and cultural institutions in the articulation of subjectivity. The excessiveness of bodies are seen as an avenue for exploring the points of stress within those articulations as well as transformative, transformational possibilities. Grosz explains: “It is a political object *par excellence*; its form, capacities, behavior, gestures, movements, potential are primary objects of political contestation. As a political object, the body is not inert or fixed. It is pliable and plastic material, which is capable of being formed and organized in other, quite different ways or according to different classificatory schema than our binarised models” (1987, 3).

Many reasons thus exist to orient an investigation of cyberspace around the question of bodies. First, bodies are active and undeniable sites of difference and, more important, sexual difference. Second, bodies are an important site of the social articulation of subjectivity. Third, insofar as bodies are volatile and excessive, they stress those structures that articulate subjectivity, possibly giving rise to avenues of transformation. And finally, bodies are material points of contact with technological objects. It is as a site of irreducible difference, volatility, and malleability that I position bodies as a way of bringing the question of difference to bear in the following examination of the discourses of cyberspace. By mapping the structures through which bodies are articulated in the discourses of cyberspace, we can discern the operations of the logic of identity across those discourses and track the implications of this for transformative projects.

Identity in Cyberspace: Information Minds and Bodies

From the proliferation of accounts of cyberspace emerging from the academy, the arts, and online communities have emerged a number of core tropes that are so pervasive that they have achieved commonsense status. Two such tropes that dominate discussions of bodies and cyberspaces are the disembodied mind and the virtual body. Both propose

that the information-based nature of cyberspace renders it inaccessible to physical bodies and find in this exclusion the means for achieving transformation.² I want to trace the articulation of bodies through these two configurations in order to demonstrate how, in both, bodies become confined and defined exclusively within the logic of identity through the operations of various binary oppositions. An examination of the founding assumptions underpinning these two tropes, regarding the nature of bodies and their encounters with the technologies that support cyberspace, demonstrates clearly the pervasive operations of the binary structure.

Informed by a dual lineage drawn from cybernetics and science fiction, the notion of free-floating consciousness released from a redundant physical body is one of the earliest and most pervasive tropes in the discourses of cyberspace. The possibility of such a radical separation depends largely on the foregrounding of information as the engine of cyberspace. The consequences of the intersection of information with bodies is vividly elaborated by cybernetic researcher Hans Moravec. The most exemplary advocate of radical disembodiment, Moravec envisioned a postbiological age where the increasing power and sophistication of computer technologies eventually facilitate the downloading of consciousness into computer memory that would survive the mortal physical body. For Moravec, the subject is located and constituted within the pattern of information in the brain, and as such the body is only ever a mechanical conveyance and often an inconvenience. Consciousness, as brain pattern, is understood to be of the order of cybernetic feedback loops and information-processing systems and, on this basis, is completely compatible with other information patterns and processing devices such as computers. According to Moravec's "transmigration" scenario, a downloaded data-based consciousness could be temporarily relocated or downloaded into a variety of robotic vehicles pragmatically selected to accomplish any number of tasks.

Moravec's thought experiment may propose a fanciful imagined future; nevertheless, in his insistence on the precedence of information as the decisive factor governing the relations between embodied individuals and technologies, he gestures toward an epistemological shift whereby information processing becomes the principal function and defining mode of existence for a subject to the detriment of embodied existence: "Body-identity assumes that a person is defined by the stuff of which a human body is made. . . . Pattern-identity, conversely, defines the essence of a person, say myself, as the pattern and the process going on in my head and body, not the machinery supporting that process. If the process is preserved, I am preserved. The rest is mere jelly" (Moravec 1988, 116).

The human organism becomes a particular distribution of information that can be exchanged, interneshed, and mingled with other information-processing systems. As

N. Katherine Hayles (1994) explains, this seamless interface between information systems is predicated on the disassociation of information from the physical markers that embody it.

This fundamental duality can be seen in operation in the two moments of disconnection from material bodies that occur with the foregrounding information patterns in the cybernetic paradigm. In the first moment, minds are disconnected from bodies. Consciousness is downloaded and bodies are redundant. In this case, bodies are considered entirely distinct from mind, as information, in a straightforward reiteration of the mind/body split. In the second instance, information processes belonging to bodies, such as DNA sequences and the feedback loops of the central nervous system, are disconnected from a residual bodily materiality. While seemingly more inclusive of bodies, this second moment does not however escape the binary structure. To the degree that bodies are permeated by information, a material/immateral dichotomy established between the informational systems of the bodies that can enter the cybernetic loop and a physical substrate that cannot. Insofar as a residual material body remains excluded from the circuits of information, the elaboration of an information body simply offers another route to disembodiment.

Clearly for Moravec, and cybernetics in general, information as pattern and process is strictly opposed to the material. In *How We Became Post-Human* (1999), N. Katherine Hayles undertakes a detailed reconstruction of the extraction of information from materiality and traces how this was accomplished through a series of epistemological shifts originating in cybernetics, which instituted a binary structure at the very foundation of information theory.

The point is not only that abstracting information from a material base is an imaginary act but also, and more fundamental, that conceiving of information as a thing separate from the medium instantiating it is a prior imaginary act that constructs a holistic phenomenon as an information/matter duality.

Thus what appears as a straightforward mind/body dichotomy in Moravec's transmigration scenario actually turns on this more central opposition between information and physical matter—a material/immateral binary. This distinction pervades everyday conceptions of cyberspace in which information is clearly the privileged term of the pair and matter is subordinated to it. It is within this horizon that information functions as the determining principle in theorizing the encounters between organic embodied subjects and the technological devices and social spheres of cyberspace. As such, it delimits the horizon within which the range and modalities of relations are articulated and underpins any subsequent propositions of transformation. We can see this in operation by tracing how the two moments of disconnection of information from the material,

indicated by Moravec, function as the basis for the tropes of disembodiment and the virtual body and also predicate any associated transformative claims.

Disembodiment

From its first appearance in the science-fiction novels of Gibson, Sterling, and Stephenson, and across the proliferating field of critical and popular commentary, cyberspace has been figured consistently as a purely informational zone generated within global communication networks. On these grounds, it seems a perfectly reasonable assumption that cyberspace is the exclusive province of disembodied information-based consciousness—the materiality of bodies being simply unable to access it. Rather than this exclusion being regarded as a technical, or theoretical, limitation, the banishment of the material body becomes the privileged means of subjective transformation. The shared immaterial social spaces of the Internet are hailed as a realm where physical attributes such as sex, race, infirmity, and age are displaced and rendered irrelevant, thereby allowing more egalitarian virtual communities to emerge. According to Howard Rheingold: “Race, gender, age, national origin, and physical appearance are not apparent unless a person wants to make such characteristics public. . . . People whose physical handicaps make it difficult to form new friendships find that virtual communities treat them as they always wanted to be treated—as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance and way of walking and talking (or not walking and not talking)” (1993, 26).

While clearly based on the disconnection and dislocation of material bodies wrought by information technologies, this model of transformation turns on a more sophisticated notion of the body than that of Moravec. Bodies here are not simply an amalgam of information systems and material structures but surfaces of inscription. While race, age, and infirmity may be cast as physical realities—in line with a broadly constructivist framework—it is more commonly understood that such characteristics are not simply and solely biological givens. Rather they are constituted as viable and active categories and attributed meaning through the inscription of social and cultural values and expectations onto bodies. Thus bodies are not simply mute physical objects merely incapable of entering the informational realm, but are irretrievably inscribed and shaped by social categories and values that constrain and oppress the embodied subject. The movement of transformation offered by disembodiment is in transcending these marked and compromised bodies. For feminists, this scenario of disembodied social interaction offers an avenue for exploring the possibilities of identity not constrained by conventional representations of sexual difference, gendered identity being understood as the socially constructed identity that inscribes a subordinate position

onto sexed bodies. The movement of disembodiment relegates gendered identity to the material realm, ostracized from cyberspace with the physical sexed body, and thus frees individual women to construct their own sexual identity.

By providing women with an opportunity to express their ideas in a way that transcends the biological body, this technology gives them the power to redefine themselves outside the historical categories of “women,” “other,” or “object” (Shade 1996).

Such a complete disconnection of consciousness and material body is of course the limit case; many shades and degrees of disembodiment are explored in feminist analyses of cyberspace. Feminists, such as Stone and Turkle, while they consider transgressive possibilities to exist in adopting a self-created gender-free identity within cyberspace, also contend that there remains an inescapable bond to a physical “real” life body. Feminists of this school of thought demand a more sophisticated understanding of the relationship between bodies and identity. For example, Allucquère Rosanne Stone insists that “no matter how virtual the subject may become, there is always a body attached. It may be off somewhere else . . . but consciousness remains firmly rooted in the physical. Historically, body, technology and community constitute each other” (1991, 111).

She considers the relationship between a disembodied entity in cyberspace and an embodied computer user as one continually mediated by social formations and hierarchies that envelop technology and subjectivity and articulate each in relation to the other. However complex Stone’s understanding of the constitution of embodied subjectivity, it nevertheless remains one articulated within a binary framework—that of mind/body. Within such a formulation a clear demarcation remains between the immaterial realm of cyberspace and the materiality of bodies. Consciousness might inhabit both realms; however, to the extent that the materiality of bodies cannot participate in the immaterial realm of cyberspace where consciousness can, a clear-cut opposition between body and mind persists. Thus we can see any scenario where the possibility of subjective transformation via a disembodied postgender identity activated in cyberspace is proposed affirms, either implicitly or explicitly, a mind/body binary in alignment with an immaterial/material opposition.

Virtual Bodies

If disembodied consciousness reflects the first moment of dislocation suggested by the cybernetic account of bodies, then the trope of the virtual bodies takes up the second, that of the demarcation of an informational body. It draws on this notion of the informational aspect of bodies, as well as constructivist understandings of embodiment, in order to speculate on possible modes of embodiment in cyberspace. The notion of virtual embodiment suggests that instead of debarring the body entirely from information

space, the body can be translated or (re)constructed via technology into an entity capable of inhabiting these spaces. During the process of radical modification in the passage into cyberspace, the potential for transformation exists. This model is taken up across a range of virtual embodiment scenarios, the two most prominent being within the electronic social spaces of the Internet and through virtual reality technology.

In the case of the Internet, it is within the context of primarily text-based (though sometimes graphic) social environments that one notion of the virtual body is deployed. In the multuser real-time interactive spaces of the Internet, individuals engage in a variety of activities, some of which (particularly erotic encounters) draw heavily on a textual articulation and representation of a body. These virtual bodies are constructed as an informational representation of locale, physical characteristics, adornment, comportment, expression, and function as the site for interaction with other such virtual bodies. The construction of these bodies is entirely along the lines of individual desires. Likewise, the visual avatars adopted by participants in more sophisticated graphical social environments present not simply a graphic icon manipulated by the individual user but a figure that is self-imagined and created. In terms of transformation, these virtual bodies operate along the same lines as disembodiment. As the product of the individuals' independent choice and self-directed representation, a virtual body promises to deliver the participant from the bondage of social cultural constraints that inhere in the "real-life" body. As Lyn Cherney explains, "Bodies in virtual space can be created with a bit of programming. 'Real life' gender can be switched, skin colour can be forgotten temporarily, age or infirmity can be escaped" (1996).

This "reprogramming" of bodies is also the premise of the other schema of the virtual body as generated by virtual-reality technology. Such technology locates subjects within a real-time visual representation of spatial surrounds in which they occupy a graphically represented "virtual" body able to move and interact with other informational objects in the simulated environment. Virtual bodies in this instance have a direct relation to "actual" bodies insofar as movement and perspective are generated by the actual body and then experienced via visual immersion, and to a limited degree tactile sensation, in the virtual environment. However, this virtual body is no ethereal doppelgänger or electronic shadow that transports a mirror image of the body into an information environment. In passing through the process of electronic reconstruction into a virtual body, bodies are able to take any form within information space. Once again we see the possibility of reshaping bodily attributes, abilities and functions by manipulating their information patterns. Howard Rheingold, in his exploration of the possibilities for erotic encounters in the cyberspaces of the future, describes one such remapping of the bodies zones and meanings: "If you can map your hands to your pup-

pet's legs, and let your fingers do the walking through cyberspace . . . there is no reason to believe you won't be able to map your genital effectors to your manual sensors and have direct genital contact by touching hands" (1993, 352). Thus while the virtual body is, in this instance, linked to the kinetic energy and information circuits of the "real body," the meaning and function of body parts are modifiable in the translation to an information body.

Running through both these conceptions of virtual bodies is the desire to maintain, albeit in modified ways, a relationship between the virtual and the real-life body. The real-life body is that which must be translated and refigured along the lines of individual desires to provide a more accurate representation of identity as conceived by themselves. As such, the virtual body does not require discarding the body entirely; rather, it is an attempt to rearticulate certain attributes of bodies into another context and in the process reshape its representations, meanings, and functions. While bodies may be transported into cyberspace, it is only on the basis of the extraction of an information body from a material body that remains excluded. As in the more complex accounts of disembodied identity, irrespective of the complexity or degree of relations between virtual and real bodies, the underlying assumption remains that the material is excluded from a purely informational realm. Again this barrier answers the desire to transcend the limitations of the material body by filtering out unwanted cultural and social inscription in the transition from real to virtual. Insofar as this formulation presumes that consciousness, once free from the restrictions of the marked materiality of the body, can autonomously articulate its own identity, the construction of virtual bodies enacts the same movement of dispensation and distancing of the physical body as disembodiment scenarios.

As we have seen, the tropes of disembodied consciousness and virtual bodies both turn on the premise of the privilege of information in an information/matter binary. Within this theoretical horizon an immaterial/material binary operates as the governing distinction of cyberspace in the light of which all attempts to explain embodiment and bodies are inevitably drawn. This results in either the clear-cut separation of immaterial mind/material body, or a preliminary division of information-body/material-body that likewise supports a mind/body distinction in which mind remains distinct from both bodies but able to manipulate the information body. In this manner, the logic of identity through the binary structures of mind/body, immaterial/material frames a particular understanding of bodies that pervades these transformational accounts of cyberspace. Bodies are denied difference insofar as they are constrained within the binary structure within which they are figured only in terms of their opposition, lack, negation, or diminution of the privileged term—immaterial mind. Their particular specificities and differences, including sexual difference, are obliterated as is any consideration of their

excessive and transgressive potential. Thus we can see that any account of embodiment that invariably results in the reinstallation of a mind/body dichotomy is clearly counter-productive for feminists. Further, this saturation of cyberspace with binary oppositions works to limit opportunities for transformation rather than effect them.

Gendered Bodies and Prosthetic Technologies

If bodies are articulated across discourses of information space entirely through a immaterial/material binary structure, consistent with a generalized logic of identity, I want to briefly trace how this logic is activated in the sites where transformation is pursued. Many such sites exist; however, two key sites or avenues of transformation are particularly prevalent to discourses of cyberspace. The first is gender, which figures as the moment of reconfiguring prevailing social constructions of sexual identity. And second is prosthesis as a mode of interaction with technology, which marks it as an agent for effecting change.

The persistence of mind/body dualism and the associated immaterial/material binary is, I would suggest, due to its compatibility with a certain configuration of gender as an information pattern distinct from the materiality of the sexed body. In the transformative scenarios of cyberspace, gender becomes a key site of transformation insofar as it is understood to be information inscribed onto a material body that can be transcended through disembodiment or virtual rearticulation. In such a formulation, gender as information operates in two modes. First, it is distinct from yet affixed to materially sexed bodies, such that the two cannot be readily detached in the real world; however, through disembodiment or virtuality gender patterns may be eluded. Second, within pure information cyberspace, it is a free-floating pattern that as, Sherry Turkle describes, individuals can take up and rescind at will: "As MUD players talked to me about their experiences with gender swapping, they certainly gave me reason to believe that through this practice they were working through personal issues that had to do with accepting the feminine and/or masculine in their own personalities" (1994).

Gender has become a fraught concept in feminist theory in recent years, and as deployed in discourses of cyberspace it is problematic on a range of levels. Although such a configuration of gender suggests powerful bonds between bodies and gender—bonds that only drastic technological intervention can dislocate—this model of gender is clearly embedded in the information/matter binary. Insofar as gender can, in less socially saturated environments such as cyberspace, float free of bodies, it possesses an informational status in opposition to the matter of the bodies onto which it is inscribed. Framing gender as a socially generated information pattern that does not impinge on consciousness once that consciousness has disassociated itself from the body likewise

turns on a binary opposition, in this case between mind information/body matter. This formation also underpins any scenario whereby consciousness can interact with various gender patterns at will within information space.

For some years feminists have been complicating this model of detachable gender precisely on the basis of its recourse to mind/body and other dichotomies. Gatens (1983) has convincingly shown that sexed bodies and socially inscribed masculinity and femininity are by no means neatly detachable or interchangeable. She insists that such inscriptions are deeply involved in the way bodies are lived, and that sexed bodies are inextricable from the way femininity or masculinity is experienced. However, in the desire for cybertransformation, these complexities invariably become simplified to a de-gendered consciousness that negotiates new (or not) relations with gender other than those of the physically sexed embodied subject. Even those such as Stone, who disdain any neat bisection of materially sexed body and socially gendered mind in favor of more complex interrelations between subjectivity and embodiment, entertain the possibility of virtual gender swapping and thus reiterate this gender-mind/sex-body binary. Thus any account that takes an unproblematic formulation of gender as detachable information pattern as the locus of transformation, such as those expressed by Turkle, Cheney, Shade, or Rheingold, remains bound by binary logic, unable to think bodies in cyberspace, confined to an economy of identity and ultimately unable to pursue the transformational possibilities of articulating difference.

The second conceptual model that I have suggested is key to the installation of the logic of identity at the heart of many cybertransformation scenarios is that of prosthesis. By prosthesis, I mean a particular conceptualization of the field and mode of encounter between subjects and technologies. In the simplest terms, a prosthetic understanding of technologies holds that a technological object, or practice, meets a subject's body and affects it in some way—enhancing it, reshaping it. Eyeglasses meet the eyes and extend the range of vision, pacemakers regulate the heart, telephones extend the range of the voice. A more sophisticated version of prosthesis is of course Donna Haraway's famous cyborg that celebrates the mutations wrought upon bodies through their intermeshing with technologies. In the case of the cyborg, the human is transformed as this intermeshing works to dislodge the socially constructed human subject. I claim that whatever permutations arise from a prosthetic encounter between bodies and technologies, they remain bound within the logic of identity or sameness that structures all binary oppositions.

The logic of identity pervades the prosthetic model of interaction and, in doing so, negates any possibility of autonomy and difference of bodies or technologies. The prosthetic equation is $1 + 1$. It begins with an original self-identical entity being added to by

some exterior element that has some effect upon it. The element that is added to the original is understood only in terms of its difference from the original as not-original. In the instance of embodied subjects and technologies, it is a self-identical and unified self upon which technology as not-self (or object) impacts and instigates some alteration. Regardless of the novelty of the resultant entry, this original binary demarcation of self/not-self grounds the entire process within the logic of sameness. Sameness is insinuated in the proposition of a singular, stable, identifiable I as the basis for all such encounters. We have seen this logic of sameness running through the accounts of bodies and cyberspace offered above. The technologies of cyberspace—the computer screens and keyboards, chips and cables, which generate a field of information on the other side of the screen—on encountering the body either relegate it entirely to one side of the screen or bisect it into an informational virtual body and a material body, one of which functions on the other side of the screen. Irrespective of the outcome, the fundamental encounter between bodies and technologies is elaborated in terms of a unified body acted upon by some “not-body” force or entry in a straightforward reiteration of binary logic. Thus any account of cyberspace that begins with a prosthetic understanding of the interaction of technologies and subjects is already situated within the binary structure, and thus the possibilities of thinking transformation are already circumscribed.

Transformation based on both or either of these frameworks is impossible to the extent that they are embedded within the epistemological structures of identity that preclude any articulation of autonomous difference, including sexual difference. For those feminisms concerned with thinking sexual difference in its specificity, any investigation of the transformative possibilities of cyberspace requires, in the first instance, reconceptualizing bodies, technologies, and their modes of interaction such that the question never begins with the unified self-identical body of prosthesis, or an understanding of gender as detachable from bodies. It is at this point that I turn to Deleuze and Guattari for a fundamentally different account of the meetings between technologies and individuals, one that develops an alternative understanding of bodies and technologies that affirms difference instead of insinuating identity and sameness.

Deleuze and Guattari: Assembling Bodies

The question of the status of difference is central to the work of Deleuze and Guattari. For the purposes of this chapter I want to use one concept, the assemblage, as a point of entry into their intricate and difficult conceptual terrain. In thinking of the interactions between bodies and technologies in terms of assemblages, I would claim that we are able to frame an account that is not contained within the logic of identity. Rather it opens a

field of inquiry that has as its basis “difference.” Clearly such an endeavor is of great benefit for feminists concerned with articulating autonomous sexual difference and tracing how it might be elaborated across various technological formations of cyberspace. The process of establishing difference as the basis of the operations of assemblages is elaborated in great detail and complexity across the corpus of Deleuze and Guattari’s work. Although I cannot explore it in detail here, I want to indicate a number of the key characteristics of their concept of assemblage that reframes the field of encounter between bodies and technologies and then speculate as to how this might impact feminist engagements with cyberspace.

According to Grosz, the Deleuzian concept of assemblage suggests “an altogether different way of understanding the body in its connections with other bodies, both human and nonhuman, animate and inanimate, linking organs and biological processes to material objects and social practices while refusing to subordinate the body to a unit of a homogeneity of the kind provided by the bodies subordination to consciousness or to biological organizations” (1987, 165). Here, Grosz signals some of the key shifts that the concept of assemblage makes: a refusal of identity or unity as an ordering logic, a shift in the relation between the parts and the whole, and a focus on the movements of linkage and connection. In examining the way assemblages are composed and how they function, we can see how each works to articulate the assemblage within a field of difference to circumvent identity as ground.

Assemblages are functional conglomerations of elements, but most important, the component elements are not understood as unified, stable, or self-identical entities or objects. In each assemblage the forces and flows of components meet with and link to the forces and flows of other elements; the resultant distribution of these meetings constitutes the assemblage. While concerned with the meetings of various objects and entities, this is not simply a prosthetic model of connection by addition. For Deleuze and Guattari, a self-identical body or object does not exist as origin, prior to or outside the field of encounters that articulate it within any specific assemblage. There is no original whole body that divides into organs, movements, pieces, forces, or information flows, which are then compiled into assemblages. Rather bodies and other components are fields of multiplicities that make transitory connections and alignments within each assemblage.

Write Deleuze and Guattari, “For the moment, we will note that assemblages have elements (or multiplicities) of several kinds: human, social, and technical machines. . . . We can no longer even speak of distinct machines, only of types of interpenetrating multiplicities that at any given moment form a single machinic assemblage” (1987, 36).

It is this insistence on multiplicity as the basis of an assemblage that circumvents the prosthetic equation. Indeed for Deleuze and Guattari, the concept of multiplicity becomes crucial in shifting from the field of identity and sameness and beginning to think instead about difference in terms other than lack or negation. They distinguish two types of multiplicity that are characterized by two types of difference—difference in degree and differences in kind.

A difference in degree is that which is articulated in relation to identity or unity as its origin. That is, it is structured around a central identity that operates as the determining factor from which all difference is understood in terms of diminution, distancing, or magnitude. Differentiated entities or elements are not considered in terms of any distinct autonomous existence or qualities but are always articulated in relation to the original term. For Deleuze this is the structure of the identity, where difference is recognized only in terms of divergence from the original identity. The multiple in this instance is the $1 + 1 + 1$ —that is, as magnitudes composed of quantifiable aggregations or multiplications of the identical, and always divisible into 1s as a base unit. Differences in kind, Deleuze finds, are entirely of another order from those of degree. They are differences that are not articulated in relation to a prior unity, identity, or central terminate. They are not different *from* or *to* but different *in* themselves. Multiplicities based on this difference are heterogeneous and continuous; they are not composed of homogeneous discrete units of the identical nor divisible into an originary base unity. They do not divide without changing in nature. These multiplicities are characterized by “intensity” rather than magnitude, such that any change of state is not a diminution or addition—that is, an incremental change of degree—but rather changes the entire nature of the multiplicity—a change in kind (Deleuze 1988, 46–47). For Deleuze only difference in kind affirms difference as positive, not lack or diminution.

If the elements of the assemblage are multiplicities that intersect with other multiplicities, clearly each intersection will produce other multiplicities that differ in nature from any of those preceding. As such each element becomes something other with each new connection and within each assemblage. Thus when referring to the elements or components of an assemblage, we must remember that these contents of assemblages are never enduring, stable, individuated, and self-identical. Rather, multiplicities of flows and partial fragments of information, matter, ideas, particles, movements, and intensities coalesce into particular recognizable forms and functions within the context of particular assemblages. As such, the meetings between elements of assemblages do not proceed on the basis of a prosthetic encounter. Rather the flows, forces, and intensities of multiplicities link and connect with other flows and forces, and different multipli-

ties are elaborated. These are not hybrids, or variations; they differ in kind and cannot be traced back to a single original entity.

If the movement of differing constitutes an assemblage, and its components are not organized along the lines of identity, binary oppositions are no longer adequate as a means of establishing the status of any one element. For example, minds and bodies can no longer be explained in a binary relation where one is understood in terms of the other—bodies being characterized as the absence or lack of consciousness. Rather each is considered different in and of itself, and thus relation between the two no longer turns on any founding hierarchy. Both elements are equally operational in a productive mode. The forces of each meet and mix such that it is impossible to figure one as the diminution of the other as the privileged term. Clearly a new conception of bodies emerges within this field of differing. Instead of an organized, unified object subordinated to consciousness, bodies are collections of disparate flows, materials, impulses, intensities, and practices. They take shape within a complex field of relations with the flows and intensities of surrounding objects, knowledges, geographies, and institutional practices in transitory, functional assemblages. Grosz describes such bodies as “discontinuous, non-totalizable series of processes, organs, flows, energies, corporeal substances and incorporeal events, speeds and duration” (1988, 164).

The concept of assemblage, then, suggests a two-pronged approach to understanding bodies. First, that while they are undeniable conceptions of material, chemical, and electrical impulses, these are not fixed into any immutable pattern; they are continually in flux, open to the circumstances and fields of objects and discourses through which they circulate. Second, particular bodies are articulated or actualized, within complex assemblages of other bodies, objects, institutions, technologies, regimes of signs, and relations of power that may move to unify and stabilize them but can never entirely succeed in doing so.

Insofar as my discussion of assemblage draws on the terminology of construction and constitution, caution must be exercised so as not to conflate assemblages with a generalized constructivism. Assemblages propose an entirely different mode of understanding the constitution and functions of bodies (and other objects) than constructivist models. A brief examination of how each model responds to the question of the relation of the whole to the parts illustrates another of the theoretical shifts flagged earlier that Deleuze and Guattari make. Constructivist accounts propose an overarching system or structure that orders component parts. This whole not only transcends the parts but also determines them insofar as they are interpolated into it. For example, in the case of bodies the “biologically” female body is interpolated into the social institutions, discourses, and practices of an overarching systemic whole—such as patriarchy—to become a body

constructed and experienced as feminine. Assemblages, in contrast, turn on a different understanding of the relation of the whole to the component elements, whereby the parts constitute the whole. Because it is composed of the links and connections between multiplicities, an assemblage is only ever the sum of its component elements and is not governed or ordered by any transcendent organizing structure. Given this composition, within an assemblage any change or shift in a constituent element brings about a new assemblage, whereas changes within the component parts in a constructivist model are permissible only within a limited sphere of variation, beyond which they become excluded, unintelligible, or rehabilitated while the whole remains intact.

If there is no transcendent whole or structure that constitutes and orders the component parts of any assemblage, social institutions, hierarchies, and relations of power function as elements of an assemblage. They no longer constitute an overarching structure but are themselves contingent and in flux. This is not to suggest that assemblages are not traversed by power relations and hierarchies. Deleuze and Guattari devote a great deal of attention to exploring stratification as a mode of organizing that actualizes particular relations of power and modes of knowledge. They describe the territorializing of assemblages as the mechanism by way of which power and knowledge paradigms function within assemblages. This does not, however, establish relations of power and knowledge as constituting assemblages *per se*. Rather this positioning of power and knowledge as functional elements of every assemblage marks another of the epistemological shifts that Deleuze and Guattari make. They contend that power relations and epistemological systems need to be understood in terms of what they do, the connections and linkages they make, how they are enacted and operate within an assemblage. For Deleuze and Guattari, assemblages are fundamentally machinic—that is, functional and productive. To map them involves investigating not what things are, by way of establishing a final unified identity, but rather what they do—how linkages are forged and how component entities are articulated and mutually constituted through such linkages. Thus, however pervasive and enduring something like the representational economy of identity may be, to the extent that it must achieve rearticulation in each new assemblage, it remains contingent and unstable and not ontological. Assemblages, no matter what the degree of territorialization, are always traversed by movements of deterritorialization that promise at each and any moment to form other linkages, to mutate an assemblage into something entirely different.

Feminism and Assemblages

For feminists investigating cyberspace, these theoretical shifts that Deleuze and Guattari make suggest the possibility of engagements with the technologies and practices of cy-

berspace that are not always already contained within the logic of identity that, as I have shown, forecloses transformation. Exploring and analyzing such engagements is a vast and complex task that is clearly beyond the bounds of this chapter. At most what I hope to accomplish here is to indicate the directions and theoretical tools that feminists talking up such projects might draw from Deleuze and Guattari. I would claim that the redrawn theoretical horizon that Deleuze and Guattari elaborate is useful to feminists on a number of levels. First, in theorizing assemblages as temporary aggregations of multiplicities, in which component elements find their local and specific articulation through their linkages with other elements, it offers an alternative to prosthesis as the mode of encounter between bodies and technologies: in the first instance because there is no assumption of a stable identified body prior to the encounter, and in the second because the encounters between bodies and technologies take place within a field of other interactions. The mode of meeting is never one of simple addition, of 1 + 1; rather, each instance gives rise to a new configuration of bodies and technologies and all the other elements of an assemblage. The task then becomes not to measure what effects technologies have on unified stable bodies, but to track what configurations of bodies, technologies, practices, objects, and discourses emerge within particular assemblages.

Thus instead of concluding that beyond the contact of fingers with keyboards and eyes with screen the body is effectively excluded from cyberspace, it would be a matter of tracing what kinds of bodies are elaborated in the activities, exchanges, and circuits of the particular practices. For example in the instance of the cyberspace of a MOO, a body is not simply split into a materiality that is excluded and an electronic/informational body that is activated in the social environs of the MOO. Rather the energy and impulses of bodies and electronic circuitry combine and find new forms, and they are traversed by flows of light, information, signs, sociality, sexuality, conversation, and contact that give rise to differing meanings, experiences, and configurations of bodies and technologies. It becomes a question of tracing out these differing configurations not by beginning with an already established model of the body but by mapping the assembled field in order to track very specifically what bodies come into being and how.

This points immediately to the second useful aspect of Deleuze and Guattari's model of assemblage and multiplicity for feminists. It offers a diagnostic tool with which to begin mapping how assembled bodies and technologies and social spaces and practices intersect with systems of knowledge and power. Why and how do certain bodies and models of interaction with technology such as prosthesis emerge and predominate? It becomes possible to map how certain understandings of woman are formulated in conjunction with certain understandings of the technological and the social. Further, it is possible to trace this process in a tangible way across particular practices and

discourses, such as those of cyberspace, in order to map the complex ways in which power and knowledge intersect with these formulations. For example, feminist concerns, such as those voiced by Renate Klein (1999), as to the risks posed to women in their engagements with "techno-patriarchy" (210) of cyberspace can be assessed such that they are not premised on an essential alienation of women from technologies. While not denying the very real inequities operational in many practices associated with cyberspace, Deleuze and Guattari offer a more sophisticated and less teleological approach to analyzing the operations of power within such practices. If, following Deleuze, we approach technology, masculinity, femininity, technoscientific discourses, and military-industrial complexes as a series of interconnected assemblages, we can begin to delineate more clearly how such associations of masculinity with technologies of computing function and on what basis women are articulated as incompatible with those technologies. Through such a process, the very tangible operations of power should become apparent. Further, within such an analysis no individual technological formation is automatically foreclosed to women on the basis of an essential masculinity, but the relations and operations of power that render it oppressive to women can be more acutely discerned and its responses then formulated.

The third aspect of Deleuze and Guattari's model of assemblage that is of importance to feminists is the shift whereby structures of knowledge and power such as the economics of identity are repositioned as functional elements of an assemblage rather than as overarching and transcendent structures. It is on this basis that the above diagnostic exercise can proceed. Deleuze and Guattari begin with a different question—asking what an object, assemblage, practice, institution, discourse *does* rather than what it *is*. In making such an initial reorientation, our inquiries are no longer directed toward uncovering or defining an essential identity of these elements, which as we saw earlier most often leads to an installation of the epistemological structures of identity. Rather, it is to begin to (1) trace the processes through which identity is installed, and (2) consider what configurations of forces and objects are relegated to outside the limits of this identity that might suggest other formulations of bodies, subjects and technologies.

Thus in taking up a Deleuzian approach to cyberspace, two immediate tasks present themselves to feminists. First, we must understand cyberspace itself as not simply a technologically generated information space or place, but as a series of assemblages comprised of elements of the technical, social, discursive, material, and immaterial. It then becomes necessary to map such assemblages in order to discern how relations of power traverse them, how discourses and practices of femininity and masculinity intersect with those of technology and technological artifacts, what hierarchies are functional, and through what particular and local linkages are bodies and technologies

articulated. Though this mapping process, a more nuanced and complex understanding of the operations of prevailing power relations and modes of knowledge will emerge. Such a mapping process will alert feminists to any exclusionary and oppressive practices, arrangements, and structures of knowledge that, while frequently circumscribing women's encounters with the technological, never completely foreclose transformative possibilities. Second, having traced out these fields of intersection among bodies, technologies, information flows, power relations, social institutions, and practices, we begin to investigate the lines of flight and movements of differing that also always traverse an assemblage. It is these movements that are creative in their own right and that raise the possibility that new connections and configurations of technologies and bodies might generate a field within which new autonomous unrestricted articulations of woman might emerge.

Notes

1. For a broad introduction to corporeal feminism and the problematic of binary logic see Irigaray 1985, Grosz 1994, and Kirby 1997.
2. Landmark examples of this position can be found in Stone 1991 and Rheingold 1991.

Works Cited

- Cherney, Lynn. "Objectifying the Body in the Discourse of an Object-Oriented MUD." 1996. Available online at <<http://bhasha.stanford.edu/~cherry/chartey.txt>> 1 March 2000.
- Deleuze, Gilles. *Bergsonism*. Trans. Barbara Habbeman and Hugh Thomlinson. New York: Zone Books, 1988.
- Deleuze, Gilles, and Felix Guattari. *A Thousand Plateaus: Capitalism and Schizophrenia*. Trans. Brian Massumi. Minneapolis: University of Minnesota Press, 1987.
- Gatens, Moira. "A Critique of the Sex/Gender Distinction." In *Interventions after Marx*, ed. J. Allen and P. Patton, 18–33. Sydney: Intervention, 1983.
- Grosz, Elizabeth. "Notes Towards a Corporeal Feminism." *Australian Feminist Studies* 5, (Summer 1987): 1–16.
- Grosz, Elizabeth. *Volatile Bodies: Toward a Corporeal Feminism*. St. Leonards: Allen & Unwin, 1994.
- Hayles, N. Katherine. "Boundary Disputes: Homeostasis, Reflexivity and the Foundation of Cybernetics." *Configurations: A Journal of Literature, Science & Technology* 2, no. 3 (1994): 441–467.
- Hayles, N. Katherine. *How We Became Posthuman*. Chicago: University of Chicago Press, 1999.
- Irigaray, L. *Speculum of the Other Woman*. Trans. G. Gill. Ithaca: Cornell University Press, 1985.
- Kirby, V. *Telling Flesh: The Substance of the Corporeal*. New York: Routledge, 1997.

- Klein, Renate. "If I'm a Cyborg Rather Than a Goddess Will Patriarchy Go Away?" In *Cyberfeminism: Connectivity, Critique and Creativity*, ed. S. Hawthorne and R. Klein. Melbourne, Australia: Spinifex Press, 1999.
- Moravec, Hans. *Mind Children: The Future of Robot and Human Intelligence*. Cambridge: Harvard University Press, 1988.
- Rheingold, Howard. *Virtual Reality*. New York: Summit Books, 1991.
- Rheingold, Howard. *Virtual Communities: Homesteading on the Electronic Frontier*. New York: Addison-lesley Publishing Company, 1993.
- Shade, Leslie Regan. "Gender Issues in Computer Networks." 1996. Available online at <<http://www.vcn.bc.ca/sig/comm-nets/shade.html>>. 1 March 2000.
- Stone, Allucquère Rosanne. "Will the Real Body Please Stand Up? Boundary Stories about Virtual Cultures." In *Cyberspace: The First Steps*, ed. M. Benedikt. Cambridge, MA: MIT Press, 1991.
- Turkle, Sherry. "Constructions and Reconstructions of Self in Virtual Reality: Playing in the MUDs." 1994. Available online at <<http://www.mit.edu/people/sturkle/constructions.html>>. 1 March 2000.

| 27 |

SHOCKINGLY TECH-SPLICIT: THE PERFORMAN POLITICS OF ORLAN AND OTHER CYBORGS

Theresa M. Senft

In 1896, after watching a performance of *Ubu Roi* (arguably the most bodily eater of its day), William Butler Yeats was moved to write, "What more is poster us the Savage God."¹

In 1996, after hearing I was going to write about the French performer guably the most notorious bodily explicit artist today), my friend Cathy warned me, "Just remember, sometimes it's still better to be a goddess than a warning Donna Haraway's famous line, "I'd rather be a cyborg than a goddess," to the feminist politics of Orland. After all, it was Haraway who first challenged pathological need to worship goddess figures at the altar of "the natural boosisted to feminists that the natural body, if it ever existed to begin with, was These days, it is the cyborg—the body containing both organic and technological ponents—that "is our ontology; it gives us our politics."³

If (as feminism would have it) the personal is political, and (as Haraway's woman is now the cyborg, what performance could be termed more feminist lan's self-surgeries? Still, I think Cathy's joke about "goddess nostalgia" displieety often alluded to but rarely dealt with head-on in feminist art criticism. It Yeats's modernist anxiety and Cathy's postmodern one that I'd like to situate

For those unfamiliar with the story, Orland began her practice of "can 1978, after she was rushed to the hospital for an emergency operation. According biography, "She had just enough time to install a video camera in the operati As soon as the first tape was recorded, an ambulance took it to the Lyon Cent temporary Art." Orland calls herself "the first artist to use surgery and plast taking it out of its original context, appropriating it for her own means." In initiated a series of plastic surgeries designed to progressively sculpt her face i bination of the Mona Lisa, Diana, and Botticelli's Venus.⁴