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CYBERPUNK, BIOMEDICINE, AND THE HIGH-TECH BODY

MOLLY MILLIONS OF WILLIAM GIBSON'S CYBERPUNK NOVELS *Neuromancer* and *Mona Lisa Overdrive* has artificially enhanced vision, a modified nervous system, and electro-prosthetic razor blade fingertips. For her, body modification is an endless process of customizing and upgrading. As she warns another character in *Neuromancer,* one can't let others "generation-gap you," or surpass your own body modifications with the newest gadgets and technologies, lest you lose the competitive edge.[1] Millions is a samuri, a hired gun whose modifications are more than helpful. In Millions' universe, body modification technologies are not controlled by the dictates of biomedicine nor guided by cosmetic surgery experts. Customizing the body is rather a quotidian and populist project of survival and success. Millions' existence is structured by the demands of a high-tech, post-industrial cyber-universe, and her fate depends upon constant adaptations.

The development of cyberpunk as an iconic futurology began with the science fiction of the 1980s—most importantly the work of Gibson—that narrated imaginaries of post-humanism. Because of their status as human-machine hybrids and the ontological implications of always being under

construction, Molly Millons and other Gibson cyborgs have become tropes for post-human subjectivity. In post-humanism, human ontology is disrupted by the "disappearance of the unified, organic human body into ever more complex relations with technology," as David Brande puts it.[2] Cyberpunk assumes a world in which endless body transformation, and the hybridity of humans and machines, is taken for granted. Gibson's work is sometimes read as critical in its depiction of high-tech post-industrial society. As Brande reads it, Gibson's novels address the "sense of the future that crowds the present . . . [where] characters struggle to make sense of this rapidly changing technocultural environment."[3] More often, though, cyberpunk is criticized as post-ideological, for envisioning life beyond politics, as Andrew Ross has argued.[4] The very limitlessness of the cyberpunk world in terms of space, consumption, innovation, and embodiment seems to suggest the dissolution of all material and symbolic barriers, creating a state of freedom to choose one's body and identity.

As Brande points out, post-human visions overlap with those of postmodernism. The denaturing processes of technoscience, the shifting of the body past presumed "natural" constraints, can be seen to make literal postmodernism's celebrated deconstruction of the subject. Postmodernism's insistence on denaturing and deconstructing identity means that the subject undergoes reconstruction, which could "fundamentally alter[] what it means to be human."[5] The unmaking of modern identity into multiple postmodern possibilities parallels post-human visions of cyborgian freedom and limitlessness; the postmodern/post-human subject is perceived to be freed from both modern and human constraints. For this reason, the cyberpunk character, or the cyborg, has been received with great ambivalence. The post-human vision excites, on the one hand, ideas of a liberal, post-ideological relativism in which the norm is one's individual freedom to choose a body and identity. It also inspires, on the other hand, critical, materialist, and feminist theories in which cyborgs become agents of social change by resisting or subverting forces of power.

These issues are increasingly pressing as high technology, which now includes cyberspace, information technology, virtual imaging, virtual reality, and biomedical methods of body reconstruction, is rapidly influencing the ways we inscribe our bodies and narrate our identities. The past 15 years have seen the advance of "actual" post-human bodies in the expansion of biomedicine and cosmetic surgery, the development of hacker and game-player cultures on the Internet, new forms of performance art, and the explosion of body mod communities. Body modification cultures, where the body's status as a work in progress is celebrated, are particularly salient places to investigate the cyborgian body. In a sense, the body modification movement as a whole is a post-human experiment. All facets of the body modification community identify the body as a space of self-writing, including those linking their bodies to those of indigenous peoples, rebelling against traditional gender norms, eroticizing the body, or embracing cutting-edge fashions. They accept, to varying degrees, a denaturalized notion of the body, often pointing to the rich cultural and historical diversity of embodiment as evidence of its malleability.

Cyberpunk body modification is distinct, though, in its futuristic aims to exploit the denaturalization of the body and escalate the literal deconstruction of the body's limits. Cyberpunk is an aesthetic that pursues futuristic, high-tech body projects beyond the limits of fashion, history, and culture. Cyberpunk body artists are distinguished by their use of biomedical, information, and virtual technologies; by their interest in body experiments and inventions; and by discursively positioning the body as a limitless frontier of exploration. In cyberpunk fashion, they unblinkingly assume the technologized body and champion its possibilities.

Having emerged in the 1990s out of body modification, punk, performance art, and cybersubcultures, cyberpunk body artists are often called "extreme," even from within body mod communities. The modifications in Gibson's novels—tooth reshaping, subdermal implants, neural extensions, body/Internet hook-ups, among others—have been

actualized by cyberpunk-inspired body artists in the performance art and body modification communities. Among these is Stelarc, an Australian performance artist who earned early renown for his "suspensions," in which his body hung from wires and hooks in a number of seemingly impossible poses. In other instances, he made himself a neurally connected "Third Hand" that he could write with, and turned himself into an Internet-wired robot. Cyberpunk body modifiers also include the performance artist Orlan, as well as other body modifiers such as those who participate in creating a cyber-subcultural community on the Internet. Here and elsewhere in the body modification communities, cyberpunk has begun to materialize in the flesh, radically extending the denaturing of the body that already characterizes postmodern body projects.

In this chapter, I explore the politics of cyberpunk body modification. High-tech body modifiers often interpret their body projects through the highly individualist languages circulating in cyberpunk and post-human discourse. I will suggest, however, the many ways in which high-tech body modifiers engage in highly social and ideological contests over the body. I will argue against the individualist vision that there is an inextricable link between technologies of the body and knowledge/power in postmodern culture. Following feminist, queer, and postcolonial theories of technoscience, I position high-tech body art in a contest of power over the colonization of new territories of identity and the body.

IMAGINING CYBORGS:
FROM TECHNOINDIVIDUALISM TO FEMINISM

High-tech body modification has been hailed in cyber discourse—in science fiction, theory, and cyber subcultures—as freeing the body-subject from the constraints of biology, language, and history. The cyberpunk model rejects the Enlightenment understanding of the body as biologically fixed, presenting the body rather as always already

shaped by human technologies. It also eschews bodily conventions and norms, pursuing instead technological inventions and interventions to expand or transform the body's performance, appearance, longevity, and purpose. Its futurism envisions high-tech hardware and software as tools for change and customization, and it assumes and sometimes champions the breakdown of traditional categories of subjectivity that are seen to be located in the body, such as sex and race.

Beginning with this celebration of technology's denaturing of the body, cyberpunk for some approaches a highly individualist, post-ideological fantasy of limitless (virtual) space and technological transformation. In place of the natural body or the socially constructed body over which the individual has no control, the cyberpunk aesthetic often hails the modified body as a harbinger of, and vehicle for, individual freedoms. For instance, even as it has painted a generally dismal picture of life in the future, cyberpunk science fiction has created iconic, celebratory images of high-tech body modification. Hard-wired characters have been rendered psychologically, physically, and intellectually super-heroic through biomedical and electronic modifications. Cyborg heroes and heroines are celebrated for their ability to leave the "meat" behind by "jacking" the body into cyberspace. Their creativity and agency in fashioning new bodies through customization often gives them a competitive edge. While writers like Gibson have envisioned worrisome aspects of cyborg technology, such as the pressures for individuals to subject their bodies to continual upgrading, they have also presented body technologies as sites of cyborg rebellion. Amid worries about the dystopic possibilities of a high-tech future, the cyberpunk aesthetic often celebrates "mythical feats of survival and resistance" through the personalization and embodiment of technology, as Ross puts it.[6]

In cyber subcultures on the Internet, the cyberpunk trope has emerged as the opposite of the passive subject of technological manipulation or as the passive consumer of mass media. The cyberpunk figures instead as someone "who thinks clearly and creatively" about technology, in Timothy Leary's terms.[7] Leary describes cyberpunks as

mavericks, self-starters, nonconformists, and troublemakers who use technology to rebel and trouble authority:

> The "good person" today is the intelligent one who can think for him/herself. The "problem person" in the Cybernetic Society of the 21st century is the one who automatically obeys, who never questions authority, who acts to protect his/her official status, who placates and politics rather than thinks independently.[8]

One important example is the hacker. Hackers represent enormous trouble for authorities and are perceived as social problems, but they are also admired. They are seen, writes Ross, as "apprentice architects of a future dominated by knowledge, expertise, and 'smartness.'"[9] And as Ross argues, they perform a social service by demonstrating the vulnerability of systems and discourses "that might otherwise be seen as infallible."[10]

In addition to computer, electronic, and surveillance networks and industrial, government, and corporate sites, the body is now beginning to be seen as such a system. Technology's potential to change actual bodies and customize them may allow humans to transcend our physical limits. Further, it may appear to dislodge us from our social limits, or our embeddedness in social constructions. Body customization might suggest for some a sort of "hacking" of the body toward a radically individualist self-construction. Even though cyberpunk science fiction has often depicted body customization as a social (even corporate) process that creates new patterns of cyborg kinship, high-tech subcultures have celebrated customization as a highly differentiated process of individualization, as Tiziana Terranova, Mike Featherstone, and Roger Burrows have described.[11]

For instance, the Extropians, a cyber subculture, have articulated a utopian and libertarian version of the post-human body. Terranova has examined the Extropians' Internet discourse of post-humanism. The Extropian Manifesto, published on-line by the Extropy Institute in California, describes post-humans as "persons of unprecedented physical, intellectual, and psychological ability, self-programming and self-

defining, potentially immortal, unlimited individuals."[12] Rather than fearing technology as taking over the human, Extropians celebrate the potential of a human-machine hybrid, which they see as the next stage in human evolution. Terranova writes:

> The story-line underlying . . . [post-humanism] can be summarized in this way: there has been a huge ontological shift not only in the nature of human society, but in that of our very bodies. The "invasion" of the human body and psyche by the machine is destined to increase over the years (it is already doing so spectacularly) and give rise to a potentially new race of human beings whose symbiosis with the machine will be total.[13]

Extropians argue in their manifestos that those who seek to become post-human are already *trans*-human, to the extent that they envision human life beyond the biologically given. Post-humanism would embrace science and technology to "seek the continuation and acceleration of the evolution of intelligent life beyond its currently human form."[14] Extropians suggest that evolution through science and technology will be a matter of individual choice and individual planning. Evolution, in other words, will be personally customized. They describe themselves in another text as experimentalists who actively follow the research and development of new body-transforming technologies and who are willing to explore untried forms of self-transformation. They see this as a rationalist project of self-development: "Shrugging off the limits imposed on us by our natural heritage," they announce, "we apply the evolutionary gift of our rational, empirical intelligence as we strive to surpass the confines of our human limits."[15] The scenario outlined here is of the individual on a journey of self-customization through technology. This self-customization is the product of individual will combined with a vast expansion of technological choices for transforming embodiment.

These visions of the high-tech body raise questions about how trans- or post-human individuals are located in social relations, and whether technology can be used to free individual bodies from social inscription. Will we all have the ability to choose our own bodies? How will

we use our enhanced abilities? To what extent is body modification a personal matter, and to what extent is it a social and political one? For their part, Extropians assert that this will be a post-ideological age. They presume that heightened intelligence, reason, and self-customization will disengage the body from politics and render questions of power irrelevant. For instance, they define their "extropia" not as utopian, but as an "open, evolving framework allowing individuals and voluntary groupings to form the institutions and social forms they prefer."[16] These presumptions rely on libertarian ideas of individual rationality, choice, and voluntarism.

In contrast to this techno-individualism, there are also critical discourses that embrace high-tech bodies. For instance, the denaturing of identity implied in the high-tech body is also a point of departure for cyberfeminism, which emphasizes the presence of power relations in embodiment and is concerned with deconstructing them.[17] Cyberfeminist enthusiasm for technology centers around the possibilities of reworking embodied roles such as gender and sexuality, although it does not assume these outcomes as inevitable. Cyborg technologies, for instance, might free women from biologically based roles such as pregnancy. They also can denaturalize other gendered roles. Transsexual surgery, for example, a twentieth-century cyborg technology, has already challenged the fixity of nature-based sex and revealed the ways in which femininity and masculinity are scripts that can be learned. (Transgenderism, a much older body project, more radically disturbs the taken-for-grantedness of the dominant sex/gender formula. Transgenderism implies that gender does not automatically follow from biological sex, and so unfixes the meanings of biological differences.) Theoretically, cyberspace also offers opportunities beyond traditional limits of the body to denaturalize gender and explore new forms of embodiment. Cyberspace has been embraced by a number of feminist and queer theorists as a privileged space for radical sexualities and genders. Because the body in some ways disappears in cyberspace, it takes a backstage to gender as a performance that can be re-scripted and modified across virtual space

and time. In cyberspace, new bodies and sexualities might be represented, imagined, and created outside of physical contraints.

Yet, the enthusiasm surrounding cyberculture has been tempered with acknowledgements that cyberculture has not achieved freedom from normative gender constraints, or from racism and other oppressions related to identity.[18] As Caroline Bassett suggests in her study of a virtual "city" in which participants can choose their own on-line genders, *actual* on-line gender performance involves *both* gender play and "rigid adherence to gender norms."[19] For instance, homophobia has not disappeared from the gender-experimental on-line universe, and Bassett finds "extreme conformity" in some of the body images employed.[20] Neither does race disappear in cyber culture. Among many other examples, the expansion of neo-Nazi and other reactionary cybercultures on the Internet suggest that cybersubjects can simply map their notions of the body and identity onto virtual spaces, and use information technology to circulate racist, patriarchal, and heteronormative discourses.

Nonetheless, cybersubjectivity in its many forms may lend itself to an identity that is fluid, mobile, and unfixed. It may favor, cyberfeminists hope, a consciousness that breaks down the dominant cultural narratives governing social life. As Donna Haraway argues in her foundational text of cyberfeminism, "A Manifesto for Cyborgs," a cyborgian consciousness may reject the dualisms of dominant Western discourses that construct problematic oppositions of mind and body, female and male, nature and civilization. Haraway writes:

> High-tech culture challenges these dualisms an intriguing ways . . . [a cyborg] does not seek unitary identity. . . . Up till now . . . female embodiment seemed to be given, organic, necessary; female embodiment seemed to mean skill in mothering and its metaphoric extensions. Only by being out of place could we take intense pleasure in machines, and then with excuses that this was organic activity after all, appropriate to females. Cyborgs might consider more seriously the partial, fluid, sometimes aspect of sex and sexual embodiment. Gender might not be global identity after all, even if it has profound historical breadth and depth.[21]

In a cyborgian consciousness, bodies, borders, and boundaries appear to be displaced. That these displacements can be multiple, ongoing, and in flux raises cyberfeminist hopes for a culture free of gender and further, for the deconstruction of all binary oppositions naturalized in the body.

For cyberfeminists, technology can "queer the ontic," in Patricia Clough's phrase, meaning that it can reveal subjectivity as always impermanent and moving, and identity always partial and negotiable.[22] It offers politically radical possibilities borne out of its insistence on change, as Chela Sandoval writes in her essay on "cyborg feminism."[23] But in contrast to the visions of individual freedom endorsed by the Extropians and others in cyberculture, feminists have also recognized that technology and technologized bodies cannot ever be conceived as outside of power. The individualist rhetoric often dominant in cyberpunk discourse belies the ways in which technology is linked to hierarchies and systems of power.

Feminist theorists of technoscience have argued that technologies are never neutral and apolitical. Rather, they are structured by their economic, political, and social contexts, and they are "haunted," in Clough's terms, by our histories, languages, memories, and unconscious desires.[24] Further, technologies create privileges and constraints, and access to and control of technology are highly political matters. For instance, high technology is characterized by speed, movement, and the breakdown of borders. These impact upon the abilities of individuals and groups to define themselves and their bodies, and thus are forms of cultural capital. As Clough argues, the technology of self-writing "is not only about movement; it is about negotiating with the speed of movement as a way of knowing and not knowing, as a way of being and not being exposed, over- and under-exposed."[25] Thus, cyborg bodies—bodies connected to machines and/or restructured through technology and no longer "reducible" to human bodies—are saturated with power relations in a culture that increasingly links human agency to invention, knowledge, and speed.[26]

HIGH-TECH BODY ART

The discourse of high-tech body art often embraces the themes of individualism celebrated by the Extropians and other cybercultures, although high-tech body modifiers are unique in having "put speculation to the test and engaged in the process of actualising hypotheses," as Jane Goodall puts it.[27] To varying degrees, cyberpunk body artists link high-tech body projects to personal freedom and depict them as a matter of individual choice, self-expression, and self-customization. But the actualities of body modification—of putting "the body on the line," in Goodall's terms—also suggest that high-tech body customization is a deeply social process.[28] As their rhetoric sometimes acknowledges and sometimes obscures or denies, high-tech body modifiers experience a constant engagement with issues of identity, culture, and power. Following feminist theory's insistence on the inherently political nature of the body-technology interface, I argue that cyberpunk practices reflect the ways in which high technologies of self-representation are inextricably linked with power and saturated with sociality.

STELARC: INDIVIDUALIZING EVOLUTION

Australian performance artist Stelarc's vision of the human body as a frontier of innovation foreshadowed the rise of cyberpunk. Beginning in the mid-1970s, he achieved a wide repertoire of bodily suspensions, including hanging the body by metal hooks inserted into the flesh and having it moved and "flown" by a machine.[29] His later work has focused primarily on pursuing the hybridity of humans and machines. For instance, he has wired his body up electrically as a human-robot hybrid, adding a "Third Hand" controlled by neural networks connected to the legs and abdomen. He has also used medical technologies to film his body's interior, rendering visible its internal structure and interior movements and recording its sounds, as cultural critic Mark Dery writes. Dery describes in detail one of his performances that explore the

visibility and audibility of the interior body, as well as the breakdown of the interior/exterior distinction:

> On occasion, his events take place in the midst of sculptural installations of glass tubes crawling with plasma discharges or flashing and flickering in response to signals sent by his body. A cage-like structure perched on the artist's shoulders emits argon-laser pulses. Synchronized to throb in time to his heartbeat, the beams are made, through eyeblinks, facial twitches, and head movements, to scribble curlicues in the air. . . . The artist's heartbeat, amplified by means of an ECG (electrocardiograph) monitor marks time with a muffled, metronomic thump. The opening and closing of heart valves, the slap and slosh of blood are captured by Doppler ultrasonic sound transducers, enabling Stelarc to "play" his body.[30]

In interviews and other writings, Stelarc has outlined a literal and mechanistic vision of high-tech body modification. Stelarc has described his projects as pursuing "the general strategy of extending performance parameters by putting the body into cyber-systems, technological systems, networks, machines that in some way enable the body to function more precisely or more powerfully."[31] Although he is interested in pursuing it only through actual embodied experience and experimentation rather than speculation, his work echoes the Extropians' interest in evolution that radically expands human capacities. He also agrees that this evolution should be individual and customized:

> I'm not talking about redesigning species, or creating a master race. I'm saying that you may decide, either for aesthetic, ritualistic or medical reasons to have implants. It was just to make the distinction between the notion of post-evolution as being more one of choice.[32]

In Stelarc's vision, "miniaturized, biocompatible technologies will one day make each individual a species unto him or herself," as Mark Dery puts it.[33] At the same time, Stelarc argues for updating our notion of human individuality, given the complications to it promised by human-machine symbiosis. His recent Internet Upload projects aim to electronically link his own body motion to remote, random sensors on

the Internet. This means that his body becomes activated not through his own agency, but through the collective activity of the Internet. Through remote control and feedback loops, he pursues breaking down the distinction between the individual and technology, and ultimately, the obsolescence of the human body as a coherent boundary between self and other. According to Stelarc:

> The muscle stimulation system [of Internet Upload] enables the possibility for the body to become a host for remote and spatially separated agents. Metaphysically and historically we've considered the grounding of our humanity to be the coherence of our individuality. To be individual means to be human, to lose our individuality means to be a machine, to be somehow sub-human. But consider a body with a multiplicity of agents. The pathology of that sort of a body . . . would not be a pathology but rather a new complexity and multiplicity of choice that one would have.[34]

Stelarc denies any ideological underpinnings to his work. He argues that he is interested in pursuing what is possible and likely in the body-technology interface rather than what is politically desirable. More important, it is clear that he sees in the breakdown of boundaries between individual bodies and between bodies and machines the increasing irrelevance of power:

> When technology stretches the skin, pierces the body, the skin in effect is erased as a significant . . . Foucauldian site for inscription of the social and of the gendered. It's no longer the boundary of the container of the "self," and skin is no longer the beginning of the world. It's no longer the site of collapsing the personal and political if it's no longer there.[35]

Stelarc's notion is that the breakdown of the body's boundaries implies the dissolution of relations of power in controlling the activities, identities, and social meanings of bodies. While his work diverges from the excited hypothetical rhetoric of some post-human cybercultures in its insistence on embodied praxis, at the same time, in his insistence on literal and technical interpretations of his work, and on the irrelevance

of power, he earns some of the same criticisms—including that he ignores or represses the complexities of social life that structure technological choices. Even though the Upload project challenges the integrity of the boundaries between individuals, his interest in the cyborg as a project of customization and self-designed evolution emphasizes liberal notions of choice and individual freedom uncomplicated by social hierarchies and inequalities. In Dery's words, Stelarc posits the notion of "ideation unperturbed by ideology, of the social space in which the collision of bodies and machines takes place outside 'the politics of power.'"[36]

ORLAN: SERENITY AND DISTANCE

If Stelarc sees in high-tech body modification the dismantling of the socially inscribed self and the opening of a "multiplicity of choice" for human ontology, the French artist Orlan situates such choices in a long socio-historical context. Like Stelarc, Orlan has pursued medical technologies in body modification performance art. Since 1990, she has been undergoing filmed, photographed, and televised cosmetic surgeries. The surgeries are not conventional, directed toward normalizing or beautifying her visage, but rather are aimed at exploring the meaning of femininity, appearance, technology, and the body in relation to her subjectivity. The famous series entitled "The Reincarnation of St. Orlan" included a chin implant and lip, nose, and brow reconstruction. The surgeries developed a face that signifies Western images of beauty—the chin is from Botticelli's *Venus,* the brow from the *Mona Lisa.* The effect is not the perfect face, but a slightly bizarre look, resulting from the incongruence of the new features, which is exaggerated by "bumps," or implants she had inserted into her temples in 1993. In contrast to the earlier surgeries that seem to represent the negotiation of historical and cultural body norms, the implants radically underscore her individuality and uniqueness. Taken together, the modifica-

tions seem to assert a sense of individual agency to be found in negotiating (and surpassing) historical regimes of representation.

Her work is highly controversial, but has been hailed by some as deeply radical and feminist. Many feminists, including Kathy Davis, are offended by what seems to be Orlan's cavalier use of cosmetic surgery, but many, including Davis herself, have also been keen to understand her work as rebellious, critical, and radical. Davis writes,

> Hers is not a sociological analysis which explicitly attacks the evils of cosmetic surgery and its pernicious effects on women (Lovelace 1995). Nevertheless, her project is an *implicit* critique of the dominant norms of beauty and the way cosmetic surgery is being practiced today.[37]

Beyond the obvious radical feminist horror at Orlan's use of cosmetic surgery, much of the debate about Orlan has centered on just what is the artist's aim. Davis writes that even though Orlan's work can be interpreted as radical, feminists should worry that the artist's attitude is self-serving, in that it dismisses ordinary women's suffering in relation to cosmetic surgery. Anthony Shelton's reading is exactly the opposite: in sum, his argument is that what Orlan is trying to do is *spare* women from cosmetic surgery by showing us in graphic, unsettling ways how horrible it really is. Shelton argues that she "consciously demonstrates that the image of the ideal woman is untenable, and promotes public attention to the physical horror of the process used by women to attain patriarchal images of female perfection."[38] This reading acknowledges the grotesqueness of her performances, which includes all the horrors of viewing surgery—much blood, tissue, and inner-body exposure. Yet, even though her work is designed to make the viewer squeamish, Orlan is not opposed to cosmetic surgery. In fact, she appears to celebrate the potential of cosmetic technology and she aims to reflect "serenity, happiness, and distance" during cosmetic surgeries by avoiding any pain and suffering:

> There are still two surgical operations that I'd like to do . . . not plastic surgery, but something that is intended to change my appearance much less, but which is intended to heighten my faculties . . . a first in the medical world . . . the other one simply consists of opening of the body to produce images like this one on the front of the *Collection Iconotexte* book: of my body opened up with me at the same time having a completely relaxed and serene expression as I watch these images being transmitted by satellite with my surgeon. I'll be able to answer any questions asked. It'll be "opening up and closing the body" and it'll be a perfect illustration of my manifesto of body art which, in particular, denounces pain.[39]

Rather than aiming to be a martyr to a feminist anti-technology cause, her work appropriates high technology to pursue extremes of customization. Like Stelarc, Orlan presents a cyberpunk attitude toward technology—she unblinkingly assumes that the body is already technologized, and pursues individual agency within that context.

On the other hand, her work is radically divergent from Stelarc's in its insistence on acknowledging the ways in which our choices about appearance and beauty are social and historical. Her surgeries and the performances surrounding them have made reference to Western aesthetics, Judeo-Christian symbolism, French literature, and other cultural mythologies. She describes her new work, *Self-Hybridation,* which digitally modifies her face, as a "world tour of standards of beauty in other cultures, civilizations and epochs."[40] The images she creates, with the help of Photoshop and a technician, digitally map photographs of her face onto representations of faces of other cultures. Her image is virtually modified with scarifications and skull deformations according to the standards of pre-Columbian, Egyptian, and African cultures, among others. In this project, Orlan seems to want to demonstrate the relativity of ideals of beauty. In her words, "it's simply the idea of saying that beauty can take on an appearance that is not usually thought of as beautiful."[41] By saturating her work with history and culture and by highlighting gender as a powerful social category, she acknowledges,

rather than denies, the relevance of power on the body. At the same time, she asserts the possibility of individual choice to navigate through history's imperatives and move the body beyond them.

BME AND "EXTREME" BODY ART

The interface between high technology and the body is also pursued by body modifiers who gather in cyberspace, for example in *Body Modification Ezine (BME),* an on-line body modification community and electronic magazine. Not only do readers post photos and stories of their own body modifications, but they also participate in on-line chat to debate, discuss, and create ongoing discourse about the personal and social meanings of body modification. Diverse factions of the body modification community meet at *BME*—male and female, gay and straight, tribalist and fetishist, as well as those interested in high-tech and surgical forms of body modification.

Shannon Larratt, the founder and editor of *BME,* began the site in 1994 and saw it thrive in the late 1990s. Through his promotion of *BME* (which is now recognized as the leading body mod site on the Web), his display of his own "extreme" body modifications on the site, and his editorial writing, he is recognized by insiders as part of the vanguard in the body modification movement. Shannon credits *BME,* and other sites on the web, with the spread of body modification as a subcultural movement. He describes the purpose of *BME* as building a community of body modifiers that may be geographically dispersed but share a common sense of alienation from mainstream society. As he puts it, *BME* "lets people know that what they're doing is OK, that it might just not be insanity."[42]

In keeping with its aim to provide support to body modifiers who elsewhere might be highly stigmatized, body modifiers who use *BME* find there a high level of tolerance for the most radical body modification practices. *BME* publishes photos and stories of all kinds of body modifica-

tions, including what it calls "extreme" body modifications.[43] These include high-tech practices such as subdermal implants in which metal, bone, and plastic items are surgically inserted into the face, arms, head, and elsewhere, and Western, high-tech versions of indigenous practices, such as aboriginal subincisions, or surgeries of the genitals. Shannon's own modifications include not only the subincision, but also multiple body piercings, tribal tattoos, stretched earlobes, brandings, and a tongue splitting. Shannon's description of the latter reveals a highly deviant appropriation of medical technology. Shannon describes multiple techniques for tongue splitting. One involves the assistance of a willing dentist (he describes, for instance, an Italian dentist who has performed this surgery). The dentist uses a scalpel to create small (5mm) cuts, and then uses a cautery agent to stop the bleeding. After healing, this procedure is repeated again and again until the tongue is split down the middle to the desired length. Another process involves using tongue piercings and fishing line. A third technique, the one he used for himself, involves the assistance of an oral surgeon and a laser. Shannon reports that he after his surgery, his tongue still has its original sense of taste, and that the tongue remains at least as agile: "In most cases," he writes, "separate control of the two halves [of the tongue] can be achieved."[44]

Shannon's vision of body modification embraces the cyberpunk attitude of bodies without limits, provocatively asking, "do we really need bodies? What kind of bodies could we create?"[45] In his essays and editorials, he focuses on the techniques of body modification and, like Stelarc, on what is technically possible. He embraces the denaturalized body and, in post-humanist fashion, resolutely denies any moral or ethical limits to body modification, arguing that "all of us" are modern primitives.[46] His argument is that the worldwide, diverse use of body modifications across cultures means that it is "normal" for us to modify ourselves. He argues for diversity and "would like to see more extreme visible modifications happening," which, as he puts it, "makes the world interesting."[47]

The discourse of *BME* denaturalizes the body and endorses an ethic of individualism: we should neither be forced to conform to the dictates of our own culture nor be limited to body modifications that have already been invented. Echoing others' embrace of choice through technology, there is a liberal emphasis on customization, individuality, and personal freedom. At the same time, it is clear that *BME* members need to address the body's sociality in ways that others—those for whom extreme body modification remains only a theoretical possibility, or those who are able to make a living as performance artists—may not. For many members of *BME,* extreme body modification carries social and material consequences with which they have to cope. Shannon warns that being heavily modified will significantly affect one's job marketability and social acceptability, and describes implants, stretched earlobes, and facial tattoos as "a permanent stigmatization to most."[48] The highly individualistic discourse of *BME* is tempered with these acknowledgments that members of subculture face social and material consequences for what they do with their bodies. Although the aim of customization is often articulated as the expression of personal freedom and individuality, body modifiers are measured against social norms that provide ideal and proper models of embodiment.

Meanwhile, *BME* addresses another social pressure for body modifiers: commercialization. Subcultural style is often commodified by the fashion and culture industries as not only acceptable, but self-consciously hip forms of fashion. In fact, as David Bailey and Stuart Hall have described, the same features of subcultural style that for some exemplify anti-fashion status are also valued for their "authentic" expressions of nonconformity and for their shock appeal, both qualities which have high marketing value in contemporary culture.[49] Punk, for instance, was "highly vulnerable to the modification,"[50] in Ken Gelder's words, and began to be seen as an expression of middle-class consumerism, as "the almost-routine route of individuation and resistance" for youth.[51]

Tattoo culture is already "rapidly losing its deviant status," as Angus Vail puts it, and some of the newest cyberpunk inventions and

neotribal appropriations are readily consumed in the popular culture marketplace.[52] Even Orlan's modifications have found commercial appeal, having been mimicked by fashion designers on the catwalk.[53] While Orlan appears flattered by this "tribute," she also expresses disdain for the popularization of her body modifications, and she isn't as happy to be the inspiration for subcultures:

> I wasn't surprised to be imitated by people who have body piercing and tattoos. I'm not against these things, but it's quite obvious that the majority of people who are into those things believe that they're liberating themselves from the dictates of a certain society, but in fact it all boils down to the same thing because they are conforming to the dictates of a smaller, mini-society . . . someone told me they had recently seen a San Francisco group on TV who have bolts and plaques on their heads, as well as needles. They were just punks, or they might as well has been.[54]

Orlan's disdain for punks seems to reflect, to my mind, a surprising lack of appreciation for the creative aspects of subcultural fashion. Certainly, her dislike of subcultural body art reveals her reverence for individualism: although cyberpunks might be rebellious, the collective nature of their rebellion is, for her, unacceptable. For their part, subcultures draw the line at fashion; they have long been concerned about commercialization and often attempt to distance themselves from it. (In his well-known work on subcultures, Howard Becker described such a process in 1963.[55]) As Shannon puts it in a *BME* editorial called "Rejection of Current Trends in Pop Culture," there has been what he terms a "ridiculous surge" in the popularity, newsworthiness, and marketability of body modifications.[56] Opposed to conformity, *BME*'s anti-fashion discourse applauds a willingness to provoke disdain, accept risk, and push the envelope of body aesthetics.[57] In this vein, Shannon asserts that of all body modifications, his favorites are "facial implants, because I admire people who are willing to make that kind of *pioneering social sacrifice.*"[58]

Among those who make such "sacrifices" is Andrew, a well-known body piercer in his mid 20s who has been celebrated on *BME* and other sites for his extreme approach to body modification. Like other body modifiers, Andrew links the body and technology to personal agency, and envisions that both natural and social constraints can be surpassed through body modification. Andrew argues that through technology, "we can take control of what we otherwise could not." While his body modifications are aimed at self-empowerment and individual customization, he acknowledges that this vision is threatened by fashionalization: "when you can go into JC Penney's," he argues, "and get a body piercing." Through experimentation and invention, Andrew has pursued self-customization far beyond the limits of fashion. He has appropriated biomedical technologies, endured physical risk, and provoked stigma in the project to customize his body.

Andrew has undertaken over one hundred body piercings, hundreds of hours of tattooing, multiple brandings and scarifications, and several self-surgeries. His first body modification was a full-piece back tattoo. The tattoo took many weeks to complete, and he undertook a night job to cover the financial cost. The most important cost, though, was that he "traded in skin," in his words, to create a unique modification. Later, he began to explore more extreme modifications, which include scars on his face. These were undertaken, he suggests, to express his commitment to self-customization.

> *VP:* So which was your first cut?
> *ANDREW:* My face.
> *VP:* Your face? Why your face?
> *ANDREW:* It is the commitment to being true to myself . . . you can't dress like me, *you can't be me* (emphasis mine).

As a body piercer and body modification artist, his turn toward high-tech experimentation and invention has earned him some renown in the subculture. He has experimented with quasi-medical techniques

such as self-surgeries, the use of lasers to make precise, cauterized brands, and body piercings in highly difficult places, such as the uvula in the back of the throat. Like other "extreme" body modifiers, his narrative reveals a fascination with biomedical and technical knowledge. The following is part of his own list of his body modifications:

> I've had bipedal flap surgery below the erectile ligament and trans-scrotal surgery, a bipedal flap surgery on the anterior wall of the scrotum, a subincision that's two weeks old, three 10-inch long chest cuts, a full upper chest brand with a cautery scalpel, three facial cuts echoing the contours of the chest cuts that are respectively 4 $\frac{1}{2}$ to 3 $\frac{1}{2}$ inches, a symbol scarified on the forehead with a scalpel, two equilateral frenums to balance a center frenum, three other frenums, a ladder of eight 6-gauge scrotum piercings at once . . . a fullback piece as the first tattoo, and tribal jewelry bands [tattoos] on all appendages.

Andrew's aesthetic of body modification combines a modern primitivist interest in cultural appropriation with a cyberpunk fascination for high technology and biomedical knowledge. Among his other self-surgeries, Andrew conducted a subincision on himself. The slicing of the penis was modeled after a traditional aboriginal practice. However, he fused his understanding of traditional uses of the practice (beginning with *National Geographic*) with knowledge gained from studying the anatomy textbooks ordinarily used by medical students, and he used a topical anesthetic, sutures, and scalpels.

> I had a working knowledge of anesthetics both topical and injectible. I had everything down, done all my homework, tested [the topical anesthetic] on different areas of the body. I tested on genital tissues, no problems—it's standard in the [medical] industry to be used for this.

This kind of experimentation involves physical risks as well as fears of stigma. Andrew's subincision, a procedure he has successfully performed on others, did not proceed without incident. Alarmingly, he experienced a reaction to the anesthetic and had internal bleeding. Yet

given the highly stigmatized nature of this practice, he found himself unable to seek medical attention. He explains,

> I'm not going to go [to the hospital] because I'm not an Australian aborigine am I? You can't take the chance to explain yourself. You have to weigh [the situation]. . . . I had a second degree chemical burn in reaction to an anesthetic that ended up burning some of my urethra . . . had an allergic reaction, and coupled with the fact that the vessels that had been sealed off had become uncauterized, I had large blood vessels draining inside subcutaneous tissues. I blew up and that's a real bad scene. So either go there [to the hospital] with an inch and a half split among the underside of the phallus, and ex-plain that, or try to surgically [fix it myself].
>
> *VP: So you didn't go to the hospital?*
>
> *ANDREW:* I didn't go to the hospital . . . I've had to do about 25 small surgeries [to fix it]. . . . Now it's fine. Your body can do anything . . . I'm doing fine.

Andrew's cyberpunk attitude toward body modification is reflected in his highly deviant appropriation of medical procedures to create im-plants and conduct self-surgeries, as well as his insistence on the body that can "do anything"—a remarkable point of view given his experi-ence with subincision. His pursuit of the body as a site of exploration and experimentation presumes both the denaturalized body and the body at risk.

> It's amazing. . . . There are [indigenous] cultures that have been there decorating themselves . . . they are not afraid of scars, they're not afraid of it not working out, they're not afraid of getting infected and dying. That happens anyway . . . but it's a moment of divine clarity if you get to come up with something new.

Indigenous cultures, he argues, have experimented with the body for so long that there are few body modifications in contemporary culture that are truly new inventions. For him, high-tech body modification opens up the possibility of "coming up with something new." In con-

temporary culture, high-tech body modification also promotes self-individuation, which he sees as integral to self-ownership and self-control. "You get your body. It's the one thing you get to have still . . . you can be you. You can stay true to yourself."

THE PSYMBIOTE

Often, but not always, conceptions of the customized body and the cyborg champion the individuality, survival, functionality, appearance, or competitiveness of the human self. Sometimes, though, the cyborg appears to take on a subjectivity of her own. Since January, 2000, body artists Isa Gordon and Jesse Jarrell have been building what they call the "Psymbiote," a cyborg created through merging Isa's body with an interactive, computerized performance suit and corresponding cybernetic units that are worn with it. These units include a computerized data input glove, which has mechanical joints and sensors that connect it electronically to other elements of the suit. A prosthetic "pedipalp" is another unit, which Isa describes as a "mandible-like device" that protrudes in front of the face or can be worn folded up behind the head.[59] For the project, the Psymbiote will appear in public spaces, at times unannounced. The performance art engendered by the Psymbiote's appearance is aimed at creating opportunities for public debate over cyborgian interventions into the human body's boundaries. As Isa describes in the on-line lecture, "The Psymbiote Speaks: On Generating A Cyborg Body," their progress so far raises a number of questions about the human body's functions and boundaries. Isa and Jesse aim to push the technologized body toward "new and unexpected" forms of technological hybridity:

> [W]e have been exploring innovative ways to extend the body's capabilities, building elements that will eventually add both function and aesthetic appeal. [The pedipalp] could be used as a feeding device (when you're busy or on the run), an expressive element (like our hands), or

perhaps in performance as a way to touch audience members in an intimate gesture that lacks skin-to-skin contact. . . . [The data-input] glove will give me new tools, and will provide triggers for other functionality. But how will it affect my ability to use my hands in the ways we're accustomed to using them? To reach and grasp, to interact with my environment, to touch a friend or caress a lover? How will this change me? The glove is fully articulated, but still it alters my means of function, and the body itself. These are some of the interactions we hope to test in our work, and in public performance.[60]

Isa and Jesse argue that the body has already been technologized—through, for instance, the use of the keyboard, the cell phone, and contact lenses—and that a "deeper intergration of the interface into our bodies" can correct what are often clumsy or otherwise problematic connections between bodies and technology. Eventually, they suggest, cybernetics will be individualized, personal, and will seem "naturalistic" rather than mechanistic and cumbersome. Moreover, they will extend the body's functions. The Psymbiote has been conceived, like other cyberpunk projects, with an interest in the body's evolution, customization, and self-development. Isa argues that ultimately, we must "accept our ability to improve [the body] as a necessity, cease to define our beings by the formalities of the vehicle we currently use, and reconsider the boundaries of the self."[61]

Isa and Jesse's aims, to generate high-functioning, electronic bodies through technological invention, are pure cyberpunk. However, unlike the Extropian project and other cyborgian conceptions in which the human's individual and rational will has the prominent role, the Psymbiote is articulated with a keen sense of the personal subjectivity and intimacy of cyborgian technology. For Isa, the Psymbiote is a "strange creature" that is still premature but growing and evolving. The Psymbiote has a learning curve, and she may eventually have an independence. In Isa's terms, she is "like any newborn" who must "discover herself in her environment":

> She will take time to learn control of her functions, and to speak for her-
> self. She still speaks only through my voice. . . . [But] I feel her devel-
> oping energy swelling inside me. We have built so many of the
> components directly on my body, creating a personal and intimate link
> between my self and this embryonic apparatus.[62]

In articulating the Psymbiote's potential, Isa gives her cyborg a voice
and a female subjectivity, and also acknowledges a sense in which her
own subjectivity is transformed by creating/becoming her. In this con-
figuration, technological evolution is not deployed only at the behest of
the rational individual's will, nor is the cyborg only the tool of a human
master. The Psymbiote ultimately appears as a hybrid identity who has
her own powers of influence. She becomes a temptress who attracts the
human and makes promises of transformation. As Isa-as-Psymbiote
calls to us in a poem, "let me extend myself into you / we can blur the
edges together / i can make you more / i can build you into something
new / let me under your skin / and i will make you whole."[63] As cy-
berfeminists like Donna Haraway have imagined, the fixity of human
identity is challenged here. The body-subject is transformed, and the
movement toward cyborgian subjectivity is not predictable but messy,
"blurred." And here, in terms that theorists like Haraway, Patricia
Clough, and Sadie Plant might appreciate, the technology itself appears
seductive, promising to transform human identity into something bet-
ter—something new, more, whole.

   If the cyborg has a transformed, transforming subjectivity, she also still
has a body. Rather than champion the obsolescence of the body or charge
it as "meat" to be left behind, Isa describes a deep ambivalence about
mechanizing the flesh that is rooted in an acknowledgement of the per-
sistence of the material body. She describes what might be a highly gen-
dered difference between herself and her male collaborator—who already
designs subdermal implant surgeries for aesthetic body modifications—
in regard to the prospect of implanting machines under the flesh:

> Jesse and I have often discussed our own personal future integration with technology. He is much more eager to put micromachines beneath the skin; he can't wait for the medical technology to catch up to his imagination. I have not been so certain. Machines are unreliable I say. So are bodies he says. I can't argue there. But I think about having surgery every time my hard disk crashed. I'd be living in the hospital. This is the fear, of melding imperfect technologies into my body, of forever trying to fix the problems that the last fix created.[64]

Isa's fears, confirmed in Andrew's experience of self-surgeries described above, are understandable. For all the risks, though, Isa's answer, of course, is not to avoid technological intervention, but to "face it head on" and embrace it. The interface between humans and machines, as she sees it, is already well underway, and the interdependence of humans and machines is inevitable. The cyborg, she says, is a product of our "techno lust," or our fascination with technology. As she sees it, "we all [already] have a psymbiote gestating inside of us, and it will be a personal matter for each one of us whether or not to encourage the seed to maturity, and whether to birth this hybridization from the inside out or from the outside in."[65]

CUSTOMIZING BODIES

The high-tech body modifiers described here share an enthusiasm for technology's capacity to facilitate self-customization. Stelarc, Shannon, and Andrew employ radically individualist language to describe the meaning of their body projects. Stelarc affirms some of the enthusiastic rhetoric for high-tech body customization that circulates in cyberculture by advocating individual self-evolution, which employs individual will and choice to shape, improve, and customize the body. Shannon and Andrew pursue self-customization that outpaces fashion, and embrace a body that is, in Shannon's words, "anything you want." Andrew's scars announce that "you can't be me." Orlan, too, seeks to

break down natural boundaries and to customize her body, aiming for a new body modification that is a "first in the medical world."

This individualism is partly predicated on the disappearance, shrinkage, or obsolescence of the material body through technological intervention. For instance, Orlan's "serenity, happiness, and distance" during cosmetic surgery implies at least the temporary repression of bodily functions. She explores the possibility of calmly watching her body being literally opened and closed during surgery. (In an inversion of more traditional feminist approaches, her "denouncement" of pain depends upon, rather than avoids, bodily intervention.) Other body modifiers expand this possibility by performing the surgeries and procedures themselves. Further, high-tech body projects are narrated with language that often denies the body. Shannon asks whether we really need bodies, and Stelarc argues for the obsolescence of the body altogether. Shannon, Andrew, and Stelarc employ metaphors of loss to describe their body projects. As Stelarc puts it, cyberpunk body modifiers "take the physical consequences" for exploring and inventing the human cyborg.[66] Shannon describes the "pioneering social sacrifice" undertaken by extreme body modifiers, and Andrew refers to "trading in skin" as the ultimate cost of extreme body modification.

The disappearing body is often equated with freedom from the effects of power. For instance, Stelarc's notion of customization as a matter of individualizing evolution, or making each individual "a species unto him or herself," suggests that technology is a vehicle for liberating the self from the social, a view also endorsed by cybercultures like the Extropians. In his words, the body is "no longer the site of collapsing the personal and political if it's no longer there."[67] He implies not only that technology itself is a neutral instrument of individual agency, but also that the socially marked body is increasingly irrelevant. He suggests that embodied categories of power such as race, gender, sexuality, and class are both uncoupled with the body-subject and denied by technology. In an interview with Ross Farnell, Stelarc explains that the high-tech world has less at stake in terms of gender politics and other issues:

 FARNELL: Do you see your work addressing racial and gender difference
  in any way?

 STELARC: Well, not really. . . . Of course there are some gender distinctions
  [between the ways males and females utilize technologies], but the
  other thing that one has to realize in the world of ambiguous gender,
  in a world of gay and feminist rights, in a world of transgendered op-
  erations, gender becomes a blur of lots of shades of subtle distinctions
  rather than male and female, a heterosexual or gay, polarization.[68]

Stelarc envisions a world of postmodern relativism, in which all identi-
ties and bodies are denatured, liberated from any inevitable effects of
power. To my mind, although Stelarc describes some of the radical pos-
sibilities of techno-ontology, this relativism problematically denies his
own social situatedness.

 While the body is named "obsolete" and its barriers and borders are
deconstructed, it is also situated as a *frontier* that is "an advance" and a
"not fully explored region" of ideas, as well as a "border of civiliza-
tion."[69] A frontier suggests the body's expansion, its limitlessness,
rather than its contraction. Stelarc's claims about the mechanical possi-
bilities of technology are rooted in knowledge, trial and error, and
physical risk, rather than in speculation. When Stelarc captures images
of his internal body on camera, he has already endured the arduous
process of swallowing a recording instrument, as Goodall points out.[70]
Despite the rhetoric that denies the body, his practices are deeply em-
bodied, as he admits when he criticizes the speculative aspects of cy-
berpunk ideologies:

 It's not enough to speak in metaphors and paradigm shifts, with the no-
 tion of empowering the human. . . . For me, it's inadequate simply to
 postulate or simply to theorize, or simply to write SF because . . . for me
 the authenticity of an idea is made concrete by the constraints and un-
 predictable possibilities of practice.[71]

The narratives of *BME* also catalog attempts at painful, pleasurable,
and otherwise affective experiences of bodily invention and experimen-
tation. Individual narratives list dozens of bodily procedures and often

reflect hundreds of hours of body work. Orlan, Stelarc, Isa and Jesse, Andrew, Shannon, and others all aim to enhance the body's capacities and to discover something new.[72] The body, then, is far from removed from cyborg technology. As Isa puts it,

> I agree that we can evolve ourselves but I do not believe that we can distance the body or our humanity to do so. The body is our launching pad. A point of departure. The soil in which to germinate our psymbiotes. The womb in which she gestates.[73]

Frontierism not only demands physical pioneering and risk, but also implies struggles over jurisdiction and contests over naming. The naming and writing of the body-subject, a deeply political matter, is what is at stake in cyberpunk. While cyberpunk body art often articulates a liberal, relativist view of the body, with the body as potentially free from any natural and social constraints, it also reveals a constant engagement with social pressures and power relations. Cyberpunk body modifiers gain and employ technical knowledge to engage in strategies of self-representation. Despite Stelarc's insistence on the increasing independence of individuals, these strategies are inextricably linked to issues of power. For instance, cyberpunk body artists appropriate medical technologies, challenging the authority of medical experts to define, control, and distribute these technologies. They face, and sometimes resist, the commercialization and fashionalization of their practices. They face the material and social consequences of stigma. They circulate and contest cultural signs, such as those of civilization and primitivism, technological progress and naturalism. These contests take place on unchartered territories of the body.

TECHNOLOGY, REPRESENTATION AND POWER

Access to technology influences the methods and speed of representation and self-representation as expressions of cultural capital. In the

high-tech world, empowerment is often a matter of controlling knowledge, and disempowerment is often lack of control over the creation of meaning, or being dependent on and within the flow of information, as Alberto Melucci argues.[74] One way of being dependent is to be subjected to Western, patriarchal, hetero-norms of beauty and fashion; another is to be subjected to biomedical surveillance and pathologization. Postmodern culture links information, representation, and power. Access to what Melucci terms the "power of naming" is differentiated between classes and genders, as well as races and nations. When identities and bodies are exposed as constructed categories, the extent to which they can be named and represented becomes a power struggle for participants in all sites of culture.

Cyberpunk expresses a deep interest in appropriating and circulating power/knowledge over the new geographies of the body. Like other body modifiers, cyberpunks appropriate technologies from indigenous and non-Western cultures. When Western subcultures and other groups appropriate these practices, they might establish "traitorous identities" while at the same time expressing privilege in naming cultural Others. Identity tourism is as much a part of futurist cyberpunk body modification as it is of more nostalgic versions. The notion of spanning epochs and cultural geographies for creative inspiration is consistent with the frontierism of cyberpunk. As it breaks down borders and speeds up the circulation of information, representation, and bodies, cyber-technology may accelerate the possibilities of identity tourism. As Mike Featherstone describes,

> We no longer need to travel to see and understand the other, the images flow into our living rooms. . . . The development of the new information technology in the direction of virtual reality and cyberspace have added to this problem through the potential which will soon be available, to access all the information and images in human history.[75]

Orlan's "world tour of beauty," for instance, extends cultural appropriation through many civilizations and epochs. Since the body modifica-

tion itself is virtual, Orlan's tour expands exploration while eliminating the physical costs.

Cyberpunks simultaneously appropriate forbidden practices from within their own cultures. The use of the hypodermic needle for piercing, as Karmen MacKendrick points out, is already an appropriation of medical tools. High-tech body modification extends such appropriations to lasers, scalpels, sutures and anesthetics, implants, and inner-body surveillance equipment. The subversive effect lies in using technology in inefficient and culturally unauthorized ways. MacKendrick suggests that this "technology never intended for pleasure, certainly such mischievous pleasure, is turned away from its aims."[76] Andrew's subincision, for instance, appropriates medical technology to an extent that would be startling to the medical experts. In studying anatomy textbooks, acquiring anesthetics, handling scalpels and lasers, and conducting surgery on himself, Andrew is an outlaw robbing his own cultural elites of their control over high technologies. He not only subverts the authority of experts to define body norms and acceptable body practices, but also even to govern the handling and use of medical tools. This is quite a daring body project. All surgeries have physical risks, but this surgery presents social risks as well, not the least of which is Andrew's understandable fear of being pathologized by medical experts.

I agree with MacKendrick that these practices, so personally risky for participants, can create important critical effects. Cyberpunk can be seen as a subversive response to the corporate/capital colonization of the high-tech body, raising crucial questions about who owns and controls it. Eugene Thacker writes of cyberpunk science fiction that it can critique the authority of biotechnology and biomedicine, highlighting "the contingencies and limitations in biotech's self-fulfilling narrative of future medicine."[77] Cyberpunk body art does this in ways more material than fiction. As a potential hacker of the body, the cyberpunk body artist might interfere with the new body designs created by the corporate/medical/fashion industries, and with the authority of these institu-

tions to control body norms. For instance, in choosing iconic (and male) representations of female beauty with which to reconstruct her face in her "Reincarnation," Orlan creates a highly contentious intervention into the high-tech creation of female beauty in cosmetic surgery. In many respects, her designs can be seen to counter the hegemonic dictates of medicalized beauty.

However, high-tech body modifiers do not wholly eschew dominant ideologies in their body projects. For instance, both cyberpunk and cosmetic medicine link the denatured body to the liberal subject who can personally choose her identity. The vision articulated by cyberpunks that a person can "be who you want to be" is also the mantra of high-tech cosmetic culture. As Anne Balsamo describes, the cosmetic industries are served well by this liberal sense of identity freedom:

> [These industries] have capitalized on the role of the body in the process of "identity semiosis"—where identities becomes signs and signs become commodities. The consequence is the technological production of identities for sale and rent. Material bodies shop the global marketplace for cultural identities that come in different forms, the least permanent as clothes and accessories worn once and discarded with each new fashion season, the most dramatic as the physical transformation of the corporeal body accomplished through surgical methods.[78]

Cyberpunk surgeries have a lot in common with their culturally legitimized counterparts. They are informed by a sense of identity as ontologically freed by the breakdown of the body's limits. Cyberpunk subjectivity, like that of the cosmetic surgery consumer, is seen as the product of individual choice to shop, invent, and create bodies and identities through technological means.

My likening of nonmainstream body art to cosmetic surgery is not meant to paint them with one brush. Cyberpunk body art can radically question the ownership of both the body and medical and cyber-technologies, and so offers critical potential as an outlaw(ed) practice.

Yet, the radical aspects of cyberpunk body art often coexist with a liberal rhetoric of self-customization, rhetoric not inconsistent with the corporate model of the postmodern consumer whose shopping for identity is her primary expression of freedom. In both cases, empowerment and freedom are often imagined as highly personal matters that appear to be no longer tethered to embodied power relations.

An alternative reading identifies the making of high-tech bodies as always a social process, rather than solely one of individual persona. The frontier of the high-tech body is not post-ideological, but rather an emerging site of cultural and political struggle. As Orlan's "Reincarnation" suggests, while body technologies can be used as tools to invent personal style and imagine new bodies, they are artifacts of cultural capital. Cyber-technologies, medical technologies, and technologies of representation are now methods of moving and shifting identities and bodies across cultural and subcultural borders. They are resources for identification and pleasure, and the ability to shift the meanings of these is an expression of power to which people have differential access. In many ways, cyborg technologies may express personal choice, but even when employed by the nonmainstream, their appropriations of technology are marked by power through the assertion, contesting, and appropriation of privilege. I would argue, for instance, that by exploring the historic forces informing the construction of the ideal female body, Orlan does not claim an unimpeded ability to name herself. Rather, she wrests such agency out of the grip of historically powerful regimes of representation.

We need what we might think of as an "ontological-epistemological humility," or an acknowledgement of the limits of our abilities to declare the truth and essence of our individual selves, whether they be based on nature or invention. This might be generated from, but is no means guaranteed by, nonmainstream consciousness and practice. Such practice may have the potential to transform ways of knowing and seeing our connections to others as well as our definitions of self. I think the techno-bodied subterfuge that takes places within attempts to pio-

READING THE POSTMODERN TECHNO-BODY

THE TECHNOLOGIZED HUMAN OR THE "CYBORG" IS BECOMING increasingly visible in postmodernity with the acceleration of high-tech body practices, such as those being undertaken in conventional medicine, gene therapy, transsexual surgery, in vitro fertilization, cloning, cosmetic surgery, pharmacological interventions, and so on. In addition, the explosion of information technology, linked to what Mike Featherstone calls "global compression," has accelerated the possibilities of exposure to "the various others around the world," such that we see increasing "mobility, movement, and border-crossing" of bodies and identities.[1] This mobility has ushered in a cultural relativism in the West, such that classical ideals of the body are no longer unchallenged as the only aesthetic option for embodiment. Together, these developments, which find themselves so spectacularly expressed in street-level and subcultural style as well as in high fashion, art, and medicine, are forcing us at this historical moment to face the technologized and cultural character of our bodies.[2]

Because of its theoretical access to material and representational technologies, the postmodern body is often seen as unlinked from traditional

ontologies and identities. Technology is often represented as a resource to free us from what are seen as the natural constraints of the body, transforming the body into a "purely discursive entity," as Anne Balsamo puts it. The limits of the embodied self, such that it must be connected to place, that its movements and actions are limited to how much it can literally shuffle itself back and forth in "real" space, that it can live only with its birth-given organs and parts, visibly showing its age and background, seem already outmoded in high-tech culture. Relatedly, technology has also been imagined as freeing us of *cultural* constraints, so that the postmodern body appears as a highly flexible, unmapped frontier upon which an ontologically freed subject might explore and shift identities. The body is theoretically freed then from its traditional miredness in the cultural constructions of race, gender, and sexuality, among others. At its most extreme, as Balsamo describes, this view sees a body reduced to its surface, and ultimately, the disappearance of the body altogether, such that we are left only with "designer subjectivities," or self-created identities that are "floating sign-systems" with no fixed meanings.[3]

A political reading of technologized bodies, though, problematizes a view of the body as purely discursive as much as it problematizes one of the body as purely "natural" or material. A feminist reading, for instance, identifies constraints to subjectivity that are linked to the rootedness of bodies in the material, lived realities of gender, race, and other power relations. Unless race, class, and gender stratifications actually disappear, individuals are limited in the ways in which they can imagine themselves and shape their bodies and identities—even within a culture that celebrates such choice and freedom. From a critical feminist perspective, what might appear to be emerging freedoms offered up by new technological practices are instead seen as new subject positions forged *within* power relations, rather than outside them. Such a reading would insist that technologized bodies are not outside of culture and power, nor are they uniformly meaningful. Rather, bodies are conceived, technologized, and debated within politically and socially meaningful contexts by people who face different and multiple situa-

tions of power. This renders postmodern bodies multiply, heterogeneously significant.

Postmodern subjects are, for instance, differentiated in their acknowledgement of, desire for, and embeddedness in sociality, which Balsamo sees as linked to gender. In her analysis of Pat Cadigan's science fiction novel *Synners* (1991), Balsamo describes how male and female cyberpunks interact with and conceive of technology in multiple ways. For instance:

> Where Sam hacks the net through a terminal powered by her own body, Visual Mark actually inhabits the network as he mutates into a disembodied, sentient artificial intelligence (AI). Although both Gina and Gabe travel through cyberspace on their way to somewhere else, Gabe is addicted to cyberspace simulations and Gina merely endures them.[4]

Balsamo differentiates the characters along gendered lines between those that use technology to produce the "body-in-connection" (feminine) and those that use it to produce the "body-in-isolation" (masculine). Bodies seeking connection, as Balsamo has it, are bodies that "actively manipulate the dimensions of cybernetic space in order to communicate with other people."[5] The *Synners* characters, she argues, are gendered in their relation to technology, such that while the females use technology in ways that seek connection and link themselves to others, the male characters "are addicted to cyberspace for the release it offers from the perceived limitations of their material bodies."[6] Balsamo's point is that these differences—the individualism of male cyberpunk and the sociality of female cyberpunk—show how broader social relations like those of gender find themselves reflected in technologized bodies and body projects. Women are encouraged to see themselves and their bodies relationally, "in connection" to others, while male socialization has been profoundly more individualistic, and these differences influence the uses of, and ultimately the meanings of, technologies. We might think about how technologies are employed differently along such lines in real, rather than fictional, body projects;

how they are gendered in terms of their framing and production in connection with—or in isolation from—others.

As Balsamo points out, body technologies are differentiated because of the various ways in which, to begin with, bodies are differentiated, such as through their gendering. But body technologies are also differentiated through the stratifications woven into the technologies themselves. As critical scholars of technology have argued, the deployment of technologies by individuals, groups, and nations both reflects and creates privileges and constraints, and access to and control of technologies are highly political matters. Technologies are high- or low-tech, are outmoded or updated, are widely accessible or controlled by experts. They are characterized by speed and acceleration, such that some technological practices are inserted more quickly into the ever-changing matrix of culture, politics, and economy. In the age of information overload, they are engaged in contests over the extent of visibility and exposure, how they are sorted, and whether they surface on the radar screens of culture. In the media-saturated environment of postmodern culture, technological practices are linked to struggles over framing and defining social problems and groups identities. They are appropriated—as, for example, cyberpunks and performance artists have appropriated cosmetic surgery—and they are reappropriated, for example by the fashion and culture industries. Bodies become territories for technological innovation, for politics and for trafficking goods, and are fought over by social movements as well as medical, cosmetic, fashion, and culture industries, among other interests.

These aspects of technological society—speed, exposure, and processes of territorialization and reterritorialization—impact upon the abilities of individuals and groups to define themselves and their bodies. The ability to self-define is not only, then, about how flexible are bodies and identities in postmodern societies. Rather, as technoscience feminist Patricia Clough describes, "it is about negotiating with the speed of movement as a way of knowing and not knowing, as a way of being and not being exposed, over- and under-exposed."[7] Self-definition is linked

to technological power. From this perspective, body projects must be conceived not only as planned or unplanned, conscious or unconscious acts of the subject who negotiates among an increasing number of technological and cultural options for body styles, self-definition, and group identity. They must also been seen as practices that are cybernetic—situated in a flow of images and information—and that may be unfixed but are nonetheless socially stratified.[8]

The Italian social theorist Alberto Melucci describes how collective action in the information age involves a whole host of acts of "challenging codes." By "codes" he means the agreed-upon meanings of bodies, identities, and cultural and social issues. Challenging codes can involve breaching the "limits of compatibility of the system of social relationships within which the action takes place,"[9] or pushing the limits and boundaries set by established norms and social interests. There is a whole range of codes challenged by the body art movement. Its display of the spectacular body is created through the manipulation of primary categories of identity—ethnicity, gender, and sexuality among them. For instance, neo-tribal body art not only appears to represent political affinity with indigenous cultures, but also poses ethnicity as an elective identity for largely white, urban body-subjects. The use of deviant body practices by women appears to subvert gendered norms of female docility and beauty. Body modification is also perverse in its exploration of sexuality. The affective pleasures of body modification breach the ways sexuality is ordered in heteronormative culture. Such infractions are "inventions," in Foucault's sense of the word, because they break the orderedness/ordinariness of bodies and pleasures.[10]

But the radicalism of body modifiers is limited by social forces—sometimes the very same forces they seek to oppose, including patriarchy, Western ethnocentrism, symbolic imperialism, pathologization, and consumerism. Even the most radical body art does not rescue the body from these. Radical body artists, for instance, share with consumer capitalism an interest in the ever-changeable inscription of the body. In other ways, too, rebellious body projects echo powerful historical regimes. In the

deployment of images of the primitive, for instance, we see an ironic, powerfully symbolic tactic, but also uncertain and problematic political effects. The "primitive" as described here, despite the stated aims of neotribal body modifiers themselves, remains an image of colonialism: nostalgic and characterized as natural, uncivilized, sexualized, and wholly Other. Thus, the intentions of body artists are limited in how much they themselves produce the meanings of their practices. Bodies and technologies are not ever fully authored by individual subjects, but are always experienced and understood through the historical forces that shape them.

Body technologies, including those that are said to express self-narration, have methods and speeds of representation and self-representation that express cultural capital, resources and status. As Melucci argues, in the high-tech world empowerment is often a matter of controlling knowledge, and disempowerment is often lack of control over the creation of meaning, or dependence in the flow of information.[11] These stratifications not only *reflect* our subject positions within relations of power, but, as Clough argues, also participate in *creating* them. As Clough describes, categories like race and gender are not givens, "not simply matters of identity and surely not of authentic subject identity."[12] Instead, we need to think about how they are continually constructed through body practices and the inscriptions of culture, which in postmodern societies are linked to the media and culture industries, to information technology, and to economic and political relations. Some bodies, such as those of women and people of color, are more vulnerable to "territorialization" than others, to underexposure (in terms of their own definitions of self) or overexposure (in terms of their usefulness as spectacles and commodities). This means that political struggles now involve "the when, where or how of acknowledging, elaborating, resisting or refusing," as Clough puts it, the ways in which bodies and identities are coded within high-tech and consumer culture.[13] The "when, where, and how" of participating in how one's identity is marked and produced is precisely what is at stake for all of us as we participate regularly in body projects, radical or so-

cially acceptable. What a critical perspective on body projects points to is how our bodies and identities are constructed and reconstructed with differing levels of technological access, speed, and visibility in a postmodern and transnational, *but highly stratified,* social world.

Body projects can be seen to highlight how self-narration is linked to techno-representational access. Body art practices link the denatured body to the subject who can choose her identity. The practices are informed by a sense of freedom or liberation that is accomplished by the breakdown of both the material and the symbolic limits of the body.

As it breaks down borders and speeds up the traffic of information, representation, and bodies, however, technology not only increases possibilities of claiming and naming identity for those who find themselves so positioned, but also decreases the chances of self-definition for others. Virtual technologies, medical technologies, and technologies of representation are now among the methods of trafficking and producing identities and bodies across cultural boundaries. Cosmetic surgeries, botox and collegen injections, endlessly paraded in the media as part of the high-tech beauty ideal, are among the "medical" technologies on offer by high-tech consumer culture. The Internet offers space—through chat rooms, personal web pages, and digital photographs—to imagine and play out cyberidentities, as well as to surf the world's fashions, cultures, and styles for an astonishing range of information about bodies, from medical to cultural to spiritual. "Multicultural" fashion spreads, televised *National Geographic,* and the Travel Channel bring us exotic images of indigenous Africans, Asians, and others, while news programs, talks shows, MTV, and "reality" cop shows present people of color at home in variously sensationalized and damaging ways. These representations and technologies can all be used as resources for identification, but the ability to participate in creating the meanings of these is a function of power, to which people have widely differential access.

In the consumer model, self-narration is a highly personal matter, where shopping for identity and style is an individual's primary expression of freedom. A critical reading, however, must insist that the

fashioning of the body is always a social and political process, rather than one of individual choice and persona. In this view, the technologies of body projects are forms of cultural capital. "Technologies" here would not mean *only* the literal, materially transforming practices, such as the cosmetic surgery in Orlan's "Reincarnation" and the digital technology in her "Self-Hybridation," but also the technologies of making *visible* her body art projects, and of speeding up her identity "shopping." What Orlan accomplishes, beyond reshaping the material body, is the appropriation of various images of bodies of multiple cultures and epochs, as well as an ability to create a public spectacle, to be seen. What privileges does Orlan take in representing the bodies of indigenous people (in "Self-Hybridation")? What privileges does she challenge when she uses cosmetic surgery in ways that would shock most surgeons and the culture industries that champion such practices (in "Reincarnation")? How does being a woman and also a white Western European with a great deal of technological resources affect her ability to name and rename herself and define her bodily boundaries? What speeds of access, degrees of exposure, and points of representational insertion and interruption in the trafficking of images of various bodies are accomplished? How do they insert themselves, or make themselves visible, and at what speed, in the flow of "codes" or information that inform the lives and mark the bodies of women, people of color, radical queers, and others? How, and when, are these technologies of meaning themselves interrupted? When we can think of body art projects as processes of asserting, contesting, and appropriating various forms of privilege, we can ask these questions of them.

Thus, in critically thinking through how body projects and technobodies are differentiated, we can focus on a number of lines of stratification, including how they reflect or achieve: access to the flow of information, or the ability to navigate cultural systems to "borrow" images from multiple cultural options; visibility, or to what extent they command the social gaze in one's direction; speed, or the rate at which they can accomplish all this; and also how they are gendered in their

deployment of access, visibility, and speed along the lines of connection and isolation, to the extent that they acknowledge their social situatedness, their social and political linkages.

I see women's reclaiming projects, for instance, as interrogations of the individual body's ownership and governance, but also as ritualized in practices that both literally gather women together and mark women's collective position in gendered relations of dominance and violation.[14] Thus, these are body projects that put women in connection with each other, that make social what might have otherwise been solely private and silent sufferings, and that insist upon a political and to some extent "visible" reading of bodily and sexual victimization.[15] In reclaiming projects, agency is conceptualized as surmounting internalized oppression, perceiving that oppression as political rather than personal, and healing with the help of others.

I would also describe agency in these instances as the practice of commanding the social gaze, including the clinical gaze, such that the insertion of women's own meanings of surviving victimization usurp, at least temporarily, the experts' role in naming women's bodies—as in defining beauty, or diagnosing and treating victims. The task of "put[ting] symbols on our bodies to show that in fact we have been actively involved in taking our power back," to quote the tattoo artist Lamar Van Dyke, involves *interrupting* the circuits of meaning in what Melucci would call "symbolically wasteful" ways. "Symbolic wastefulness" is the ability to *slow down* the circuits of information flow, to interrupt the meanings being generated, to force a gaze upon oneself in ways that breach the system's symbolic limits. As he describes it,

> [symbolic wastefulness] serves . . . as the expression of an irreducible difference, of what is "valueless" because it is too minute or partial to enter the standardized circuits of the mass cultural market. The symbolic extravagance of female output [in cultural practices of the women's movement] introduces the value of the useless into the system, the inalienable right of the particular to exist, the irreducible significance of inner times which no History is [otherwise] able to record. . . . [16]

When women engage in anomalous body projects, meanings can be produced outside of what is functional, efficient, or otherwise fruitful for the social order. The circulation of norms can be, at least temporarily, interrupted, so that the ordinary relations of power over women's bodies, including those governing beauty, consumption, health and mental health, are challenged. The minute, partial, marginal "inner" histories of women's bodies can be made visible and inserted into the flow of information, such that the dominant ideologies are forced to confront their subjugated knowledges.

Modern primitivist projects, which sometimes overlap with reclaiming projects but are also uniquely deployed (often by straight, white men), also produce symbolic wastefulness, but I find them more masculinist, to use Balsamo's understanding, in terms of their *non*-recognition of connectedness. Modern primitivism emphasizes the global connection of bodies, the meeting of cultures, and the historical roots of all humans in tribal societies. To the extent that this represents connection, though, it is an *ideal* of connection that is not reflected in existing global cultural politics. Modern primitives participate in the historical, global economies of representation, which are highly stratified between producers and consumers, such that white Westerners have more technological access in terms of generating cultural meanings and defining selves and groups than those whom they seek to emulate. Melucci writes of such groups,

> The true exploitation is not the deprivation of information; even in the shantytowns of the cities of the Third World people are today are exposed to the media, only they do not have any power to organize this information according to their own needs. Thus, the real domination is today the exclusion from the power of naming.[17]

Ironically, the production of the modern primitive depends upon a sense of elective identity unfettered not only by one's personal or collective social history, but also by the cultural hierarchies within the "power of naming." In its refusal to acknowledge the relational politics

of identity and meaning production, modern primitivism embraces a "body-in-isolation." Like cyberpunk, modern primitivism is a trope of postmodern liberalism: we can be who we want to be, personal and social history notwithstanding.

Although as a feminist I want to privilege notions of the body that offer possibilities of recognizing others and their relatedness to ourselves rather than those that do not recognize them, there are no fixed, guaranteed political meanings generated out of either conception. These notions of the body, as connected and isolated, located and dislocated, traffic across cultural sites in multiply significant ways, and I would argue that myths are operating on both ends. I hope that bodies-in-connection have the potential to produce a politics of recognition, such that technologies of representation are linked to their larger historical, social, and/or political contexts. Such recognition is generated, for instance, in the anti-globalization movement when consumer bodies (those that wear Nike shoes and the Gap clothing of urban and suburban America) are linked to the laboring bodies of exploited women, men, and children. The recognition of our linked histories and futures may be required for any democratic attempt at sharing cultural, technological, and social resources, and for creating the conditions that might allow us to use body technologies in ways that multiply our existential possibilities rather than further stratify us culturally, economically, and socially. The danger of connectedness, of course, is that such a vision can easily contain essentialist myths, such as that women are really "one body," a distinct class with a defined set of bodily and social values and needs, as radical feminists have asserted (or that we are all really "primitives" underneath).[18] In working out the unification of women (or other groups) based on such unitary notions of the body and subject, we can problematically naturalize our bodies and ontologies, infusing them with dominant values to the detriment and marginalization of others.

Bodies-in-isolation, alternatively, are born out of an individualism that celebrates disconnection, distinction, and difference. Sometimes Romantic, other times meritocratic or even social Darwinian, bodies-in-isolation

are underwritten with a myth of non-locatedness, the dream of freedom from the tethers of body, culture, group identity, and history. The body-in-isolation is, of course, a privileged body. Such a refusal to recognize the social, economic, and political links that tie us together, and that inform our body technologies, encourages the myths of individualism that makes consumer capitalism so appealing to so many. The "right" to individuality, to standing alone, negotiating to get one's own, self-defined needs met through technological access, is a powerful force operating in the world of body technologies and one that is much broader than I have addressed in this book. It is the source of a great deal of the ethical crises in biotechnology, in cloning and "designer genes," in increasingly popular cosmetic surgeries, in increasingly high-tech, expensive, and economically stratified health care. Enough cannot be said, in my opinion, about the problems of individualism when it comes to such issues, especially since what are ultimately at stake in body technologies are not only appearance, style, and identity, but also material and cultural survival, human equality and dignity. For instance, the increasingly high-tech quest for beauty in the United States, and even our hailing of expensive, high-tech medical breakthroughs that will prolong life for the few who will have access, are part of a global stratification of economies, technologies, and health resources that also include health crises of astonishing proportions. Many of these, such as starvation and malnutrition, do not necessarily require high-tech, but rather political and economic, solutions; others involve redrawing rights of ownership to life-prolonging drugs, such as in the controversy over the use of AIDS drugs in poor nations.[19] The framing of technologies as individualized problem-solvers and as producers of individualized bodies and identities comes, I think, at great social and ethical expense in the context of a world that contains both impressive bodily luxury and great bodily suffering.

The "postmodern" bodily style of flexibility and choice is part of a larger capitalist-driven ideology of consumption, and this is partly what gives the global stratifications of economies and technologies their means and justification. What I have tried to show in this book,

though, is how the Western flexible body, or the body-seen-as-project, described here in one of its more startling subcultural permutations, is saturated with political meanings and is symbolically, culturally, and even materially stratified. It is differentiated by these stratifications, and so the flexible postmodern body is really many bodies and deployments of body technologies. The flexible body is a body of privilege. At the same time, under consumer capitalism, it is a body under contract, so to speak, to produce its own identity through consumption practices. So *how* the body is composed can become a matter of recognition and non-recognition, avowal and disavowal of its social and political meanings and consequences.[20] One promise of dislocating the body-subject from the most sedimented of cultural meanings might be that she could disavow categories of identity that have primary roles in cultural stratification, that she might symbolically invert or overturn the naturalization of the body, or that she might queer ontologies that participate in producing the stratification of bodies/selves across naturalized lines of race, gender, and ethnicity. And so, such bodies—such cyborgs and monsters, in Donna Haraway's terms—remain in some ways rebellious, unfixed, unclosed to possibilities that might be contained within and without them. They fiddle with cracks in technology's stratified systems of function, purpose, and ownership. Perhaps they open paths for other challenges to myths of bodily integrity, identity's nature, and technological expertise. The body technologies described here—technologies that are deployed to queer the body—also queer technology in terms of its expertise and purpose.[21] Such bodies are disruptive not because they are wholly unintelligible, but because they remain partly unintelligible while also speaking the common language of consumption, flexibility, and technological invention/intervention. They are haunted with ordinary relations of power while they so spectacularly contest them.

83. Ibid.

84. Ibid., 226.

85. Steele, 1996.

86. Mascia-Lees and Sharpe, 1992: 2.

87. Editorial, *ITF* vol. 1, no. 2, May 1996.

88. Chandra Mohanty and Jacqui Alexander, *Feminist Genealogies, Colonial Legacies, Democratic Futures* (New York: Routledge, 1997), xvii.

CHAPTER 5

1. William Gibson, *Neuromancer* (New York: Ace Books, 1984), 59. David Brande's article first directed me to this passage. See David Brande, "The Business of Cyberpunk: Symbolic Economy and Ideology in William Gibson," *Configurations* vol. 2 no. 3 (1994), 511.

2. Brande, 1994: 510.

3. Ibid., 511.

4. See Andrew Ross, "Hacking Away at the Counter-Culture," in *The Cybercultures Reader,* ed. Bell and Kennedy, 2000.

5. Katherine Hayles, 1990: 266, cited in Brande 1994: 510.

6. Ross, 2000: 258.

7. Timothy Leary, "The Cyberpunk: The Individual as Reality Pilot," in *The Cybercultures Reader,* 530.

8. Ibid.

9. Ross, 2000: 259.

10. Ibid., 266.

11. Tiziana Terranova, "Post-Human Unbounded: Artificial Revolution and High-Tech Subcultures," in *The Cybercultures Reader;* Mike Featherstone and Roger Burrows, eds., *Cyberspace/Cyberbodies/Cyberpunk: Cultures of Technological Embodiment* (London: Sage, 1995).

12. *Extropian Manifesto,* cited in Terranova, 2000: 273.

13. Ibid., 270.

14. *Extropian FAQ,* cited in Terranova, 2000: 273.

15. "EP3.0," http://www.extropy.org.

16. Ibid.

17. For Donna Haraway, technology, power, and consciousness are interconnected, and the advancement of a more pluralist culture depends not only upon the former but also the latter.

18. See, for instance, Mary Flanagan and Austin Booth, eds., *Reload: Rethinking Women + Cyberculture* (Cambridge, Mass.: Massachusetts Institute of Technology Press, 2002).

19. Caroline Bassett, "Virtually Gendered: Life in an On-Line World," in *The Subcultures Reader,* ed. Gelder and Thorton, 1997: 549.

20. Ibid. See also Howard Rheingold, *The Virtual Community: Finding Connection in a Computerized World* (London: Secker and Warburg, 1994).

21. Haraway, 2000 [1991]: 315.

22. Clough, 1998: xxii.

23. Chela Sandoval, "New Sciences: Cyborg Feminism and the Methodology of the Oppressed," in *The Cybercultures Reader.*

24. Clough, 1998: xxv.

25. Ibid., xxii.

26. Ibid., xxv.

27. Jane Goodall, "An Order of Pure Decision: Un-Natural Selection in the Work of Stelarc and Orlan," in *Body Modification,* ed. Featherstone, 2000: 151.

28. Ibid., 168.

29. This draws interesting parallels to the more culturally reverential flesh hangings used by modern primitives.

30. Mark Dery, "Ritual Mechanics: Cybernetic Body Art," in *The Cybercultures Reader,* 578.

31. From Zurbrugg's interview with Stelarc, 1995: 46, cited in Nicholas Zurbrugg, "Marinetti, Chopin, Stelarc and the Auratic Intensities of the Postmodern Techno-Body,*"* in *Body Modification,* 109.

32. Stelarc, interview in Farnell, 2000: 144.

33. Dery 2000: 580.

34. Stelarc, interview in Farnell, 2000: 134.

35. Ibid., 131.

36. Dery, 2000: 583.

37. Davis, 1997: 29, emphasis mine.

38. Shelton, 1996: 107.

39. Orlan, interview with Robert Ayers, "Serene and Happy and Distance: An Interview with Orlan," in *Body Modification,* 182.

40. Ibid., 177.

41. Ibid., 180.

42. "Interview with Shannon Larratt," by Raven, *Body Modification Ezine* (*BME*), http://BME.FreeQ.com/culture/wb/wb/wb000.html-wb014.htm.

43. Although the body modifiers on *BME* are highly tolerant, these are usually the focus of the hate mail that *BME* receives from outsiders.

44. "Interview with Shannon Larratt," *BME.*

45. Personal correspondence between the author and Shannon Larratt, September 1998.

46. "Interview with Shannon Larratt," *BME.*

47. Shannon Larratt, "Editorial: Extreme Modifications: Why?," *BME.*

48. Ibid.

49. David Bailey and Stuart Hall, "The Vertigo of Displacement," *Ten.8* vol. 2 no. 3 (1992), 15.

50. Gelder, 1997: 374.

51. Munoz, 1997: 81.

52. Vail, 1999: 271.

53. As Orlan says in an interview: "The fashion industry has now caught up with me. My work appeals to many fashion designers. One in particular uses it in a very literal way—perhaps you saw it in his catalogues?—and there is one who pays tribute to my work by making up his models with the same bumps as me" (interview in Ayers, 2000: 180).

54. Ibid., 182. She also argues here that she is "not in favor of fashion and its dictates."

55. In body modification's subcultural discourse, "real" body modifiers are contrasted to kids, rock stars, and supermodels. Although it is clear by now that there *isn't* a clear line between fashion and subcultural style, that practices might carry symbolic weight either as authentic subcultural practices or as inauthentic commercial knock-offs might reveal how members "classify themselves" in relation to "how much they give in to outsiders." Howard Becker, "The Culture of a Deviant Group: The Jazz Musician," in *The Subcultures Reader,* 57.

56. Shannon Larratt, "Rejection of Current Trends in 'Pop Culture,'" *BME.*

57. The visibility, risk, and quantity of body modifications in cyberpunk is not universally embraced among all subcultural body modifiers, of course, but has subcultural capital among those whom Raelyn Gallina, in her interview with the author, identified as a "certain subset . . . taking this to the farthest extreme, to the edges . . . It's already an edge thing, as now they're taking it even further. . . . There are those edges that are going so extreme that it's . . . like the image is breaking up."

58. "Interview with Shannon Larratt," *BME* (emphasis mine).

59. Isa Gordon, "The Psymbiote Speaks: On Generating a Cyborg Body," http://www.isa@psymbiote.org.

60. Ibid.

61. Ibid.

62. Ibid.

63. Ibid.

64. Ibid.

65. Ibid.

66. Stelarc, interview in Farnell, 2000: 130.

67. Ibid., 131.

68. Ibid., 142–43.

69. *Webster's New Collegiate Dictionary* (Springfield, Mass.: G & C Merriam Co., 1959); *Oxford English Dictionary* (Oxford: Oxford University Press, 1978).

70. Goodall, 2000:167.

71. Stelarc, interview in Farnell, 2000: 136.

72. And Isa defends the body: "I do not agree with . . . the Extropian camps who say we can download our consciousness into a box or translate its electrical signals into a program thereby capturing our essence in some immortalized form so that we can exist in the complete absence of body. I feel that our consciousness, memories, perceptions, ideas, emotions, desires, etc., are not phenomena localized to the brain, but exist throughout this complex system. When we extend or modify the system, it is likely these things will transform too, but I see no point in replacing or even dampening the system itself. For me, the Cartesian mind body split is completely bankrupt" (Gordon, "The Psymbiote Speaks," http://www.isa@psymbiote.org).
73. Ibid.
74. Melucci, 1996: 182.
75. Featherstone, 1995: 128.
76. MacKendrick, 1998: 16.
77. Eugene Thacker, "The Science Fiction of Technoscience: The Politics of Simulation and a Challenge for New Media Art," *Leonardo* vol. 34 no. 2 (2001), 155.
78. Balsamo, 1995: 225.

Conclusion

1. Featherstone, 1995: 128.
2. As Donna Haraway (1991) has argued, our bodies and selves have always been technologized, since there have always been various means by which we have materially as well as representationally constructed and shaped them.
3. Here Balsamo (1995: 223) is citing from Arthur Kroker and Marilouise Kroker, *Body Invaders: Panic Sex in America* (New York: St. Martin's Press, 1987).
4. Balsamo, 1995: 216.
5. Ibid., 223.
6. Ibid.
7. Clough, 1998: xxii.
8. Price and Shildrick, 1999: 10.
9. Melucci, 1996: 24.
10. See Michel Foucault, "The Subject and Power," Afterword in Hubert Dreyfus and Paul Rabinow, *Michel Foucault: Beyond Structuralism and Hermeneutics* (Chicago: University of Chicago Press, 1982).
11. Melucci, 1996: 182.
12. Clough, 2000: 135.
13. Ibid.

14. In a different sense, Orlan's high-tech body projects can be also read as so-cial and connective. While Orlan's projects are highly abstract and conceptual compared to women's reclaiming rituals, her appropriation of major iconic images of feminine beauty constructed in the male art world might also be seen as linking her body to the bodies of others. Such appropriation links her art to a larger history of gendered relations of beauty. I suggested earlier that it is this historical dimension that can support claims that her work is "feminist," because the historical references to normative standards of beauty are what situate her work in a social and political and thus potentially critical context. On the other hand, Orlan-as-artist maintains a fierce individualist stance; she scoffs, for instance, at the "punks" who are engaging in body modifications to "conform" to subcultural membership. Her insistence on the uniqueness of her vision is, I think, in tension with what I see as the feminist aspects of her work. Her personal agency is predicated on publicity, self-promotion, and the spectacular individualization of her body-self.

15. I would also place the AIDS grieving ritual (described in chapter 3), a group-designed body modification and performance event aimed at a collective expression of loss and healing, as highly connective. The anti-assimilative practices of radical queers are both social and highly rebellious. They are more individualist than the deeply connective practices of women's reclaiming projects, but they are political in creating dialogic struggles with the powerfully heteronormative social order. The in-your-face tactics of queer body modification, in particular those of the gay and transgendered men I described in chapter 3, are responses to the stigmatizing gaze of experts on "normative" sexuality, and they both engage with and simultaneously reject the latter. Of course, desire and pleasure also play a part in sexualized body modification practices. Pleasures range from the mutual to the individual and fall along a connection/isolation continuum at many different points. However, in many examples, such as the public branding event at an SM club (Matthew) and that at a sex-positive bookstore (Dave), it is difficult to unlink pleasure and rebellion, desire and stigma. The blatant, public nature of the events was part of the desire, and the meaningfulness, of the performance. The inversion of stigma, the claiming of rights to unorthodox pleasures, politicized the experiences as anti-assimilative gestures.

16. Melucci, 1996: 142.

17. Ibid., 182.

18. Or, that we all transnationally share the same vision of democracy, citizenship, and individual rights, as liberal global feminists have been accused of assuming. See, for instance, Clough, 2000; Chandra Mohanty, "Under

Western Eyes," *Boundary* nos. 2 and 3 (1984), 333–58; and Nira Yuval-Davis, "Gender and Nation," in *Space, Gender, Knowledge: Feminist Readings,* ed. Linda McDowell and Joanne P. Sharpe (London: Arnold, 1997), 403–408.

19. Even though we often use ideas of individual rights and meritocracy to defend the economic system that contributes to these problems, I believe that we in the West allow ourselves some comfort in the status quo partly based on deeply held ideas biases about cultural Others and what they need and deserve. If I am right, then this is another reason to be worried about notions of the "primitive" that are operating throughout popular culture.

20. I mean composure in the sense of both following an orchestrated script and in the sense of the self's composure in the doings of social interaction. This dual definition of composure comes from Stevi Jackson and Sue Scott, "Putting the Body's Feet on the Ground: Towards a Sociological Reconceptualization of Gendered Embodiment," in *Constructing Gendered Bodies,* ed. Kathryn Backett-Milburn and Linda McKie (London: Palgrave, 2000), 9–24.

21. See Clough (2000) for more on queering technology.