13 Signal to Noise: On the Meaning of Cyberpunk Subculture

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"MORE PR THAN VR"

Virtually every major channel of mass communications in the U.S. has buzzed with the "news" about virtual reality (VR).[1] Whereas early reports in science magazines such as *New Scientist* and *Scientific American* explored pragmatic applications of VR, more recent media pieces proclaim that VR holds the key to the technological reinvention of the mundane world of late capitalism. *Business Week* (Virtual Corporation, 1993) offered a cover story on "The Virtual Corporation"—a new capitalist formation that would be able to reconfigure itself in response to a rapidly changing business environment by using "technology to link people, assets, and ideas in a temporary organization." In its report on the more titillating topic of "virtual sex" and "teledildonics," *Playboy* used a graphic rendition of a "Virtual Madonna" to suggest another figuration of the term *safe sex*. Apparently this rush of media attention is not entirely welcomed by the computer scientists and programmers who work on the technoscientific aspects of VR such as computer visualization, three-dimensional sound, and robotic telepresence. "More PR than VR," one scientist grumbled in his posting to the sci-virtual worlds newsgroup in response to early media reviews of the 1992 film, *Lawnmower Man*.[2] According to the various press

[1]For an illustration of the range of articles on VR, see the list of titles in the reference section of this chapter.

[2]By the end of 1992, at least four new science fiction films were released that featured virtual reality special effects. Where the mainstream film, *Lawnmower Man*, constructed its plot

reports, the range of potential applications include everything from medical simulations of virtual surgery to home VR systems to educational theater. The reality of VR is a bit more delimited in that, thus far, fully immersive, interactive VR applications are mostly restricted to expensive "touring" video game installations, a few computer-assisted rendering programs, and flight and tank simulations used by the U.S. government. But *reality* is really beside the point in discussing the cultural reception of VR; it is *exactly* because of its "virtuality" that Virtual Reality has animated our collective technological imagination.

Far more broad-ranging than even the discussions about potential marketable VR applications is the discussion about cyberspace as the form of reality that VR technologically enables. Cyberspace, too, is a virtual construct, more fictional than real in any material sense. Technically, the term was first invoked as a speculative construct in cyberpunk science fiction novels to name the space of human–computer data exchange. By the early 1990s it has devolved into one of the keywords of a new subculture generated by cyberpunk fans that has, in turn, splintered and evolved into other (sub)cultural formations. The broader cultural formation constructed in and around cyberspace is multidimensional in that it includes more traditional forms of leisure activity such as masquerade and role-playing, as well as popular discursive forms such as 'zines and comic books, and newly emergent sociotextual forms such as electronic newsgroups and MUDS (Balsamo, 1993). In short, VR has become inextricably bound up with the emergence of cyberpunk as a new youth subculture.

Although several studies of cyberpunk subculture already exist in the form of journalistic reports on the early development of computer culture and interviews with infamous computer hackers and "hacker trackers,"[3] I

centrally around virtual reality and the use of nootropic "smart drugs," the art-house film, *Till the End of the World*, directed by Wim Wenders featured an "experience recorder" that resembles the head-mounted stereoscopic display systems of current real-time VR rigs. Two other less well known films also invoked the specter of VR: the film *Interceptor* (1992) involved a chase scene in VR piloted stealth bombers, and *Prototype 29A* (1992) teased the audience with a sequence on virtual sex. These films join a long list of others that feature special effects which invoke the virtual landscape of cyberspace: *Tron* (1982), *Videodrome* (1982), *Brainstorm* (1983), *Circuitry Man* (1989), and *FreeJack* (1992).

[3]Steven Levy (1984) traced the history of hacker identity back to the student members of the Tech Model Railroad Club at MIT; Levy was the first to codify the subcultural code of ethics that govern "true" hacker conduct. In their book called *Cyberpunk: Outlaws and Hackers on the Computer Frontier*, Katie Hafner and John Markoff (1991) interviewed three computer hackers who received extensive media attention in the 1980s for their computer transgressions. In addition to providing important historical background on the development of telephone system hacking, Bruce Sterling's book (1992), *The Hacker Crackdown*, includes a detailed discussion of the three groups involved in the most recent spectacle of computer law enforcement: the digital underground, the computer network police, and the civil libertarians.

want to discuss aspects of this new youth subculture from a perspective informed by cultural studies, and, in particular, by Dick Hebdige's and Angela McRobbie's studies of youth (punk) subcultures in the 1970s. The aspect I focus on most closely is the notion of narratives of cyberpunk identity, which allows me, in turn, to speculate about the construction of what Scott Bukatman (1993) called "terminal identity" in postmodernity. At the broadest level, this essay discusses the social noise created by cyberpunk subculture. At each turn, we can see how this subculture is marked by contradiction and cultural dissonance. I begin by describing how cyberpunk takes shape as a virtual subculture, popularized by the hip, high-tech magazine *Mondo 2000* and Internet newsgroups like alt.cyberpunk. In an effort to situate this new subculture within an historical context, I argue that cyberpunk identity is, in part, a generational identity that emerges with the coming of age of those who, born after the baby-boomers, have come to be known as "Generation X." For the members of the first generation to grow up with computers in their homes, technological access to electronic information networks is a natural condition of the domestic scene. Having claimed cyberspace as their own private frontier, cyberpunks resent the imposition of limits on their cyberspace travels. At one level, cyberpunk identity is about resistance to a capitalist social order; many cyberpunks critique the dominant ideology of the information age that naturalizes the commodification of information and the surveillance of network access. But at another level, we can discern a submerged logic of gender that structures on-line cyberpunk interactions. If on the one hand, cyberpunk subculture popularizes a fantasy of resistance and opposition to corporate information control, it also projects a fantasy world where the material body—the race, gender, and ability-marked body—is technologically repressed. Thus we can see multiple tensions at work in cyberpunk subculture and in the construction of postmodern identities.

SIGNAL/NOISE: SUBCULTURE STUDIES

Dick Hebdige's work on subcultures (1979) is useful for a discussion of cyberpunk subculture for two reasons: most directly, he delineated a theoretical framework for the analysis of subcultures as a cultural formation. In this sense, I borrow from Hebdige the focus on subcultures as an expressive cultural form that embodies and re-presents the central, historically specific contradictions and preoccupations of the parent culture. But another reason for the return to Hebdige's work on the youth subcultures of the 1970s is that cyberpunks, to differing degrees, borrow icons and stylistic tropes from their Punk elders. Reflecting on the similarities in aesthetic sensibilities of punk music and cyberpunk fiction, Larry McCaffery (1991)

argued that both "should be seen as subversive metaforms" (p. 292). Although McCaffery was talking about punk themes in cyberpunk as a science fictional form, these thematic connections exist also in the broader cultural formation that cyberpunk has become. Hebdige's observation about punk culture in the 1970s is strikingly true of cyberpunk subculture in the 1990s:

> Subcultures represent "noise" (as opposed to sound): interference in the orderly sequence which leads from real events and phenomena to their representation in the media. We should not therefore underestimate the signifying power of the spectacular subculture not only as a metaphor for potential anarchy "out there" but as an actual mechanism of semantic disorder: a kind of temporary blockage in the system of representation. (p. 90)

Subcultures create semantic and social disorder when members challenge, contest, or, in the case of network-savvy cyberpunks, evade the mechanisms designed to maintain social order. According to Hebdige, this disorder is created at the level of signification as well as the level of social structure; he argued that subculture style (fashion, posture, music) *signifies* resistance to dominant ideological formulations. In discussing the sociological structure of Hebdige's investigation into youth subculture, Angela McRobbie (1981) charged that his focus on *symbolic* resistance elides the issue of practice: what exactly are these youth doing in their subcultural interactions? More specifically, she challenged Hebdige's exclusive focus on male youth and his oversight, not only of female participation in subcultures, but also of the sexist treatment of women by male punks:

> In documenting the temporary flights of the Teds, Mods or Rockers, however, they fail to show that it is monstrously more difficult for women to escape (even temporarily) and that these symbolic flights have often been at the expense of women (especially mothers) and girls. The lads may get by with—and get off on—each other alone on the streets but they did not eat, sleep or make love there. Their peer-group consciousness and pleasure frequently seem to hinge on a collective disregard for women and the sexual exploitation of girls. And in the literary sensibility of urban romanticism that resonates across most youth cultural discourses, girls are allowed little more than the back seat on a draughty motor bike. (McRobbie, 1981, p.115)

In examining subculture practices through a feminist lens, McRobbie illuminated how seemingly resistant "youth" subcultures embody sexist behaviors characteristic of the dominant culture. Although these subcultures may be resistant at the level of style and rhetoric, in other ways they clearly mimic traditional gender divisions and practices of sexual disrespect.

Thus she argued for the importance of attending to the gender politics inherent in subcultural practices.

To anyone who has participated in computer-communication networks or bulletin boards, the term *noise* also refers to senseless, trivial, or off-the-topic electronic commentary. Users commonly sign off of discussion lists with the complaint that the noise-to-signal ratio is too high. In some cases, teenage computer users—some of whom identify themselves as cyberpunks—have been condescendingly accused of interfering with the "serious" discussions-in-progress on certain Internet newsgroups. As a counter response, the alt.cyberpunk newsgroup was started as a place to discuss such "noisy" topics as the status of Gibson's various film screenplays or whether the character Deckard in the film *Bladerunner* is a replicant. It becomes apparent that woven into the very fabric of cyberpunk identity is a commitment to interfere with the corporate management of online culture. Hebdige's use of the term *noise* to describe how Punk "style" expressed a symbolic challenge to a dominant symbolic order is equally applicable to the ways in which cyberpunks challenge the dominant informational order of a U.S.-based computer culture. Instead of staging their opposition primarily through style though, as did Hebdige's punks, cyberpunks create "noise" by transgressing the newly emergent norms of computer network communication. But if cyberpunk online culture is noise in one sense, it is "signal" in another. Cyberpunk culture often reproduces dominant gender stereotypes, both at the level of expression, that is, in the topics of communication, and at the level of practice, in the form of exchange. Upon closer examination, it becomes clear that this is only one of the many contradictions at play in the construction of cyberpunk identity.

VIRTUAL SUBCULTURES AND CYBERPUNK NARRATIVES OF IDENTITY

Mondo 2000 has emerged as the premier magazine of cyberpunk subculture. Three features stand out: its visually confusing, techno-art layouts, the frequent reports from cyberspace pioneers, and its mediated interviews with the high priests of street tech, notably William Burroughs and Timothy Leary. In the pages of the first seven issues readers were introduced to the reigning new visionaries of cyberspace, Jaron Lanier and John Perry Barlow, as well as to other cultural cybercritics such as Kathy Acker, Avital Ronell, and Ted Nelson. *Mondo 2000* does its best to report on the important features of the new subculture by identifying founding fathers, offering fashion and style tips, interviewing cyberpunk artists, and advertising new, and usually expensive, cybernetic technologies. In short, *Mondo 2000* popularizes the worldview of those addicted to the possibilities of life

in the microworld. And yet, in spite of its technolust(er), *Mondo 2000* oddly evokes a countercultural rhetoric of the 1960s. In part, this reflects the more widespread 1990s nostalgia for 1960s fashions and fads, but it is also the case that its countercultural tone is a consequence of the fact that it is involved in the business of articulating a subcultural identity that mimics the iconoclastic postures of the earlier subculture of punk rockers. Thus, an issue of *Mondo* might include retro-topics such as "on the road" stories, drug synthesis instructions, mod fashion icons, and reports from the underground—the difference is, in the 1990s, the drugs are intended to make us "smart," hallucinogens are replaced with hallucino*genres*, the "Underground" is a band, and the best sex is virtual. As a statement about the current cyberpunk scene, *Mondo* projects a curious fusion of countercultural iconoclasm and technological elitism. The magazine's editors offer no pretense of democracy and make no attempt at accessibility. Unsolicited manuscripts are burned at the full moon, we are told, and "unsolicited art work will be electronically scanned and altered and appear uncredited in other magazines." But the pleasure of recognition is high; if you get it, you've got it. Articles demonstrate the appropriate attitude toward the "New World DisOrder" while they tell you who/what you need to know/to read/to buy/to be a member by imitation only.

Sometime after its 7th issue, *Mondo* reinvented itself as a literal guidebook to cyberpunk subculture in the form of the *Mondo 2000 User's Guide to the New Edge*; the table of contents confirms the impression that *Mondo* has set itself up as the definitive handbook on this new popular culture by including chapters on cyberpunk science fiction, cyberspace, artificial life, the computer industry, electronic music, smart drugs, the Net, raves and rants, street tech, virtual reality and virtual sex, and 'zines.[4] Lest any reader forget that this subculture is situated within the broader postmodern (consumer) culture of the 1990s, an appendix, titled "The Shopping Mall," provides information about how to buy the products described in the book. In fiction and in practice, cyberpunks continue to be fascinated with (and covetous of) the high-tech commodities of the dominant computer culture.

As the *Mondo* guide laments, the term *cyberpunk* has come to be used as a general name for anyone who felt a "rapport with the worlds created by [William] Gibson" and other cyberpunk sf writers (Rucker, ed., 1992, p.64). The popularization of the label—which reached its apotheosis in the February 8, 1993 *Time* magazine cover story— has, in turn, stimulated a

[4]Rucker, (1992), *Mondo 2000 User's Guide to the New Edge*. The discussion of cyberpunk science fiction is expanding rapidly. A representative sample of historical accounts and scholarly discussion includes the following: Gilmore (1986), Delany (1988), and McCaffery (1991).

heated debate about the "true" identifying characteristics of cyberpunks (as well as a heated debate about whether "the movement" is dead already). In the course of these debates, a number of narratives emerge that claim to map the defining contours of cyberpunk identity. They are all, to different degrees, *mythic* narratives of identity in that they stake out the polemical beliefs that subculture participants should adopt if they want to be considered authentic cyberpunks.[5] What becomes apparent in the course of reading these debates is that there is actually a continuum of identities available to "wanna-be" cyberpunks. At one end of the continuum—elaborated in traditionally mythic dimensions—is Timothy Leary's (1988) report on "Cyberpunk as Reality Pilot." Leary grounded his account of cyberpunk identity in a discussion of the etymological distinction between two root terms of the word *cybernetics*. Apparently, the Greek word *kubernetes* means "pilot," but when translated to Latin it comes out as

[5]These narratives of identity are disseminated through different media channels: in films, comic books, magazines, e-zines, bulletin boards, music, fashion, television, and newspapers. There are any of a number of ways in which cyberpunk narratives are taken up by subculture subjects. In the most literal form, cyberpunk science fiction novels offer multiply dense narratives of identity, expressed through characters both physical and virtual. Other sources include the many manuals that describe cyberpunk role-playing scenarios that hack cyberpunk science fiction stories for dramatic structure and character suggestions. The best known of these role-playing guides is probably the *Gurps cyberpunk high-tech low-life roleplaying sourcebook* by Loyd Blankenship (1990) produced by Steve Jackson games. This is the document that was seized by the U.S. Secret Service as part of an investigation of computer crime referred to as "Operation Sun Devil." (For a detailed description of the cultural and political events surrounding this police action see Sterling, 1992.) In the "Introduction," Blankenship described how cyberpunk as a genre aspires to a kind of realism in roleplaying scenarios:

> Roleplaying in a cyberpunk environment can be very different from playing in traditional genres such as fantasy or supers. Cyberpunk, more than any other genre, tries to accurately reflect "real-world" human nature. Traditional ideas such as loyalty with the party may be questioned or tested. Betrayal and deceit are common in the real world—just read any issue of the *Wall Street Journal*—so why should they be less so in the game? . . . Characters in cyberpunk literature are constantly committing unethical, illegal or immoral acts, but they sometimes do so for purposes we would define as "good." Conversely, a repressive government may define behavior as "good" that stifles the human spirit and grinds individuals into dust. In cyberpunk there are rarely blacks and whites, but there are many shades of gray. (Blankenship, 1990, pp. 4–5)

Here Blankenship laid out the basic premise of cyberpunk fictions: Characters may do unethical or illegal things for good reasons, just as repressive governments may promote actions and laws in the name of the "common good" that, in actuality, "stifle the human spirit and grind individuals into dust" (Blankenship, 1990, p. 5). But beyond setting up the basic dramatic tension in cyberpunk games, Blankenship also offered a literal description of how cyberpunk science *fiction* gets transformed into subcultural *reality*: Fictional narratives structure role-playing campaigns played by those who may or may not actually adopt a cyberpunk identity for any time longer than the duration of the game. This is an example of how a subcultural practice articulates a mass-mediated identity for the role-playing gamer.

gubernetes, which means "governor" or "director." This is not an insignificant slippage for Leary who argued that "cyberpunk/pilots [must] replace governetics/controllers" (Leary, 1988, p. 249). In contrast to those who use cybernetics as a system of control, Leary argued that cyberpunks can use cybernetic systems as a navigational medium of self-direction: "cyber-punks use all available data-input to think for themselves." Thus Leary reinvents the classically romantic myth of the empowered, embattled hero within the electronic frontier. Leary is not alone in his construction of cyberpunk as postmodern hero. As other critics have pointed out, much cyberpunk science fiction renarrates traditional myths of transcendental individualism from within a postmodern context of cybernetic information exchange.

At the other end of the continuum is the film *Slacker* (Linklater, 1991), which is populated by characters who aimlessly articulate the heteroglossic discourse of a post-baby-boomer generation, and who appear, at first glance, to be the most unlikely participants in cyberpunk culture. As Jack Bankowsky (1991) described it in his *ArtForum* film review: "A subject without a mission, fate or even a subjectivity . . . the slacker inhabits an atomized universe: everyone speaks a debased or hybrid argot, worships at their own jerry-built altar, proselytizes for a private religion. . . . Slackers are beatniks without a beat—a lost generation minus a sustaining poetics of loss" (Bamkowsky, 1991, p. 97). If Leary's cyberpunk reality pilot is uninhibited by historical determinations, slackers, at the other end, can do nothing more than mindlessly channel a historically specific and topically tedious flow of information and discourse; for Leary's "Reality Pilot," identity is entirely self-determined, for the slacker, entirely mass-produced. Leary's cyberpunks speak their culture, and believe themselves to be the entirely self-determined "authors" of their own tales of heroic deeds; slackers show instead how culture speaks them. Identities are always already written for them by the cacophonous discourses of media culture. This tension between the myth of self-determination and the reality of media-saturated identity electrifies the theoretical interzone that cyberpunks negotiate on a regular basis.

In between these extremes are the two identities explicitly described in the *Mondo User's Guide*: Hackers and Crackers. Where both of these terms name those who are more comfortable in front of a computer terminal than a television screen, Crackers are considered "dark-side Hackers," computer operators who perpetrate illegal breaking and entering schemes. Whereas the original MIT hackers of the 1960s were considered no more dangerous than any other group of students and hobbyists, hackers in the 1990s are plagued by a demonized media image that is a consequence of the mass media's failure to differentiate between phone phreaks, credit card criminals, and other subversive and malicious computer operators. This is not to say that hackers don't assert a critical, countercultural attitude. On the

contrary, many hackers, who often explicitly identify themselves as cyberpunks, have readopted the original hacker's ethic from the 1960s that asserts, among other things, that (a) "access to computers should be unlimited and total," that (b) "information should be free," and that hackers should (c) "mistrust authority and promote decentralization."[6] This is the identity of those who have been responsible for the digitizing cyberpunk subculture through their participation on bulletin boards and computer networks. Using network systems like the WELL, MindVox, and Internet newsgroups, cyberpunks have spread their subculture throughout the rest of the United States. In this sense, cyberpunk-hacker subculture is, in large measure, a *virtual* subculture: a widely distributed network of people who connect with one another most often not "in-the-flesh," through the more traditional forms of mass media fandom such as science fiction fan conventions and role-playing games, but virtually, through computer networks and bulletin boards. Howard Rheingold offerd an apt description of the social structure of cyberpunk subculture in his definition of a "virtual community" as a "group of people who may or may not meet one face to face, [but] who exchange words and ideas through the mediation of computer bulletin boards and networks."[7]

Late in 1989, a polemical statement about cyberpunk identity was posted to the Internet newsgroup, alt.cyberpunk. The subject line of the posting read: "I am Cyberpunk," and was signed by someone called "Tesuji." The rant was rhetorically addressed to the cyberpunk wanna-bes who were not, according to Tesuji, cyber*punks*. It was time, Tesuji asserted, that a real Cyber*punk* set the story straight as to what cyberpunk identity was all about:

> This is where I come in. . . . I am a cyberpunk. . . . That is, I usually dress in black monochrome, my hair is shaved on one side, I have a skin-tone whiter than bleached flower, and I'm an Anarchistic Technofetishist (and a bad speller). . . . We have an average IQ of 130 and we are primarily nocturnal. We are dark and we are fast and we are tech.[8]

Tesuji goes on to admit that cyberpunks exist as a reactionary underground who are self-righteously power hungry; unlike hippies and skinheads,

[6]The Hacker ethic is elaborated in the Steven Levy (1984) book, *Hackers*. Other information about 1990's hackers comes from Andy Hawks' compilation about FutureCulture, an electronic discussion list.

[7]Howard Rheingold, *A slice of life in my virtual community* (1992, June). Available online from ftp.eff.org.

[8]The message was originally posted on October 17, 1989 to the alt.cyberpunk Internet newsgroup. It appears to have originated from a computer science major at SUNY Binghamton. Although the Internet address does identify a name for the posting, I'll honor the pseudonym that Tesuji signed.

cyberpunks are into the future. Fans of capitalism and corporate control, they believe that they will be able to change the system "from the inside out." Cyberpunks love computers: "Life is cheap, information is the goal. The most valuable commodity (besides a spell-checker :-) is data." In this statement, Tesuji fused the image of the computer hacker, who possesses elitist technological expertise, with the attitude of the countercultural punk, who is mistrustful of all forms of authority, and yet remains hungry for power.

It is difficult to discern the media origin of Tesuji's identity narrative. By the time of this posting, cyberpunk science fiction was receiving media attention outside of the usual science fiction channels, and Robert Morris had already unleashed his Internet worm. Although Tesuji structured this posting as a statement of individualized identity, the narrative he or she offered highlights several key elements of the popular media representations of cyberpunk identity. Aesthetically, cyberpunks adopt signature elements of punk style: black on black clothes, shaved heads, and pale complexions. Their musical tastes include techno-rave and postindustrial "anti-muzak." But unlike punks, who wanted to turn technology against itself, cyberpunks are "technofetishists" who desperately depend on computer equipment and network access to participate in their virtual subcultures. This points to one of the central contradictions of cyberpunk identity: according to Tesuji, cyberpunks are "Anarchistic Technofetishists" who are at the same time "fans of capitalism and corporate control." Where their disregard for authority provokes them to transgress cyberspace boundaries by (sometimes illegally) hacking their way past corporate security measures, their ultimate goal is to secure a legitimate position within the very same corporate system in order to gain reliable access to computer workstations and global information networks. In this sense, Tesuji invoked the contradiction that Hebdige (1979) argued faces every subculture: "a fundamental tension between those in power and those condemned to subordinate positions and second-class lives" (p. 132). Like the punks of the 1970s this tension is in part generational; the various cyberpunk identities that evolve are partially determined by the historical situation of their birth cohort. Generational experiences, in turn, structure how subcultural identities symbolically manage these cultural contradictions.

THE NEXT GENERATION OF CYBERSPACE CITIZENS

It is a bit ironic to try to retrace the media birth of the generational identity of cyberpunks because its originating moment was forged through the act of recognizing the absence of a name for itself. At the same time that the trailing edge of the baby-boomer cohort was turning "Thirtysomething,"

both *Time* and *Newsweek* featured cover stories about the lost generation destined to follow those aging baby-boomers who were identified simply as the "Twentysomethings." Douglas Coupland (1991) simply called them *Generation X* in his novel by the same name. In yet another popular account of this lost generation, Neil Howe and Bill Strauss identified this census group as the "13th Generation"; a mass of lost souls born between the years 1961–1981 who are chronologically situated between the baby-boomers and their "babies on board" born in the U.S. during the Reagan years.[9] This is the group in the United States who confront the possibility that they will never achieve the lifestyle of their baby-boomer elders. In this sense, the 13th Generation is culturally situated similarly to the British punks of the 1970s: these are urban youth who, growing up in the midst of massive unemployment, face diminishing opportunities and increasing banality. The difference between them is that, in contrast to the punks who self-consciously identified with working-class culture, 13ers enjoy what Howe and Strauss (1993) (borrowing a phrase from sociologist Jerald Bachman) identified as "premature affluence":

> Much of this "premature affluence" is, of course just image. Very few 13ers really do cruise to school in Land Rovers or vacation in Bermuda. . . . Even where this affluence is real, moreover, the bustling youth economy masks [several] harsh truths about the 13ers' economic condition. First, much of it is not really "theirs" in the sense that it reflects any ability to provide for themselves. . . . [I]ts the cash or clothes or car that busy, well-off parents give their kids as a "reward" for time they have to spend alone. . . . But little of this wealth serves any long-term interest of the kids themselves—such as helping them to become future wealth producers. Instead it can make teenagers feel like bored retainers milling around in some opulent palace, having momentary, hopeless fun with whatever baubles the Rajah leaves lying around. (p. 103)

This affluence, as many have learned, is short lived, tied to their tenure living in their parent's houses; once they leave home or school, they encounter few well-paying job opportunities that allow them to continue to enjoy the lifestyle they experienced as parent-supported mall crawlers. For some, diminished economic opportunities force them to return home: "Meet the 13er 'boomerang child'. . . . Today, more unmarried children under age 30 are living with their parents than at any time since the Great Depression" (Howe & Strauss, 1993, p. 105). Although the rallying cry of

[9]According to most demographic accounts of the baby-boomers, their historical birth dates fall between 1946 and 1964. Neil Howe and Bill Strauss (1993) argued that the cut-off date should be 1961; people born after this date show the characteristics of the 13th generation that they write about in their book.

the 13th generation is that they suffer anonymously in the shadow and waste of the baby boomers, these are the children who materially benefited from the baby-boomer-driven decade of abundance. The problem is that members of the 13th generation are not likely to easily attain such a level of affluence again because they will spend a disproportionate amount of their resources to pay for basic living expenses and to indirectly support an aging baby-boomer population. But there is a more significant dimension of their "premature affluence." This is the generation of teenagers who, in growing up in the 1980s, have had liberal access to expensive home computer systems—bought by parents either for their own domestic computing needs, or as an educational tool for video-literate teenagers. With access to video games and modems, 13ers are the first generation to claim the electronic frontier as their neighborhood playground. Cyberpunks are one of the subcultural groups to emerge from this 13th generation for whom the virtual reality of online culture is their primary social milieu. And although not all video game players become cyberpunks, most cyberpunks are avid game players, having grown up playing either Dungeons and Dragon™ roleplaying dice games or any of the hundreds of interactive video games made for home systems.

MULTIPLE IDENTITIES IN THE MICROWORLD

The 13th generation is certainly not the first generation to grow up in an electronic environment; the baby-boomers, too, were weaned on television. But this is the first generation of Nintendo™ video game players who encounter the electronic environment as a fully interactive, albeit simulated, microworld that they can play endlessly in the privacy of their parents' homes. According to Sherry Turkle (1984), video gaming and computer programming are not, for this group, simply alternative leisure activities; they are instead the very media through which this generation encounters the world. In her analysis of the relationship between children and computer gaming, Turkle illuminated the message of the video game medium:

> Video games encourage identification with characters—from science fiction, or sports, or war stories—but leave little room for playing [those] roles. . . . [T]he video simulations put you "in the place" of the spaceship pilot or the missile commander or the adventurer in the Tolkien world. But you are not allowed to play the part. . . . you identify with an alter ego as you play your role in the dungeon, but the process of play is mathematical and procedural. Beyond the fantasy, there are always the rules. (p. 78)

Identifying with a simulated character is the genesis of the "second self" that Turkle argued is a metaphysical aspect of computer encounters. Thus these

"virtual" media enable the simultaneous enactment of multiple identities; in video games, this occurs through the identification with the gaming character; in cyberspace, through the projection of an online identity. Turkle's analysis offers one account of how the adoption of multiple media(ted) identities becomes naturalized through repeated technological encounters with computers and video games. But Turkle went on to point out that although it is true that the "second self" is a fictional entity of action within the microworld of the video game, the range of the agency of this simulated actor is constrained by the rules already programmed into the game. So too is the cyberpunk hacker constrained by the codes of access already established for a system. Thus Turkle implicitly argued that one of the contradictions facing the 13th generation cyberpunk—between self-determination and structural contingency, or between power and subordination—is built into the individual-computer interaction itself. Thus it appears that cyberpunks are subject to forces of determination well outside their control, generationally and technologically.

Cyberpunks, of course, believe differently. For them, hacking is not simply a *gesture* of defiance against technological limits on cyberspace agency, it is a literal act of transgression against normative forms of social control. To the cyberpunk, the computer is the technological means of disavowing and transcending social determinations. For example, some people believe that, in enabling the adoption of multiple identities, computer-communication networks establish the infrastructure for new forms of social interaction that are free from traditional markers of identity and status. Howard Rheingold (1992), for one, optimistically argued:

> . . . we who populate cyberspace deliberately experiment with fracturing traditional notions of identity by living as multiple simultaneous personae in different virtual neighborhoods. We reduce and encode our identities as words on a screen, decode and unpack the identities of others. The way we use these words, the stories (true or false) we tell about ourselves (or about the identity we want people to believe us to be) is what determines our identities in cyberspace.[10]

More specifically, Rheingold claimed that because people who communicate through computers can't see or hear one another, they are "unable to form prejudices about others before we read what they have to say: Race, gender, age, national origin and physical appearance are not apparent unless a person wants to make such characteristics public." In saying this, Rheingold amplified the *fantasy* element of computer-mediated communi-

[10]Howard Rheingold, *A slice of life in my virtual community* (1992, June). Online document file.

cation to imply that users have extensive, if not total, control over the identity they project in their virtual worlds. Leary's "Reality Pilot" narrative provides a conceptual coherence to Rheingold's account. It is noteworthy to this feminist reader that gender is one of the "identity markers" that is most routinely mentioned when people launch into a discussion of the fluid possibilities of online identity construction. According to this argument, computer interactions are gender-neutral and race-blind. Because these interactions are disembodied, the argument goes, these signs of a material body are no longer necessary aspects of individual identity.

But is gender really so easily jettisoned from online identities? If we look at the microworlds already populated by cyberpunks, in video games, for example, what becomes clear is that there is a strong gendered dimension to cyberspace encounters. So that although many men claim to be able to leave gender identities behind—like a piece of excess baggage—it returns in subtle and sometimes not so subtle ways. In the process we witness how the logic of gender difference continues to structure virtual realities. In his investigation of the most popular video games produced for Nintendo gaming systems, Eugene Provenzo (1991) analyzed the narrative structure of dozens of games to conclude that most games included themes of social violence, female passivity, and male aggression. Female characters are cast as victims to be rescued or evil agents to be vanquished, whereas male characters are always cast as the active, adventuring heroes who are the agents of action in the fantasy microworld. Female characters, in contrast, are often the prize at the end of the adventure. Provenzo argued that as vehicles of gender socialization, video games reinforce the notion that females are "individuals who are acted upon rather than initiating action." (p. 116). Provenzo was careful to assert that video games are not the only form of gender discrimination in contemporary culture, but they are a part of the broader computer culture that remains largely male-dominated. Thus he concludes that "video games are instruments of information that serve important hegemonic functions in their perpetuation of bias and gender stereotyping." The issue of gender identity comes into even sharper focus when we look more closely at how cyberpunks interact in their virtual worlds.

ONLINE TECHNOBODIES

The Jargon File offers a "comprehensive compendium of hacker slang" that illuminates many aspects of cyberpunk subculture.[11] The entry on "Gender and Ethnicity" admits that although "hackerdom is still predominantly

[11] *The Jargon File* (1992, July 1) version 2.0.10. Available online from: ftp.uu.net. Also published as *The hacker's dictionary*.

male," hackers are gender- and color-blind in their interactions with other hackers due to the fact that they communicate (primarily) through text-based network channels. This assertion rests on the assumption that "text-based channels" represent a gender-neutral medium of exchange, and that language itself is free from forms of gender, race, or ethnic determinations. Both of these assumptions are called into question not only by feminist research in electronic communication and interpretive theory, but also by female network users who participate in cyberpunk's virtual subculture.[12] Hoai-An Truong (1993), a member of the Bay Area Women in Telecommunications (BAWIT) wrote:

> Despite the fact that computer networking systems obscure physical characteristics, many women find that gender follows them into the on-line community, and sets a tone for their public and private interactions there—to such an extent that some women purposefully choose gender neutral identities, or refrain from expressing their opinions.[13]

This was dramatically, or rather textually, illustrated in an exchange that occurred on FutureCulture, an electronic discussion list devoted to cyberpunk subculture. The thread of the discussion concerned a floating utopia called "Autopia." The exchange about women in "Autopia" began innocently:[14]

> From the cyberdeck of student . . .
>
> It may just be my imagination, but it seems that the bulk of the people participating in the Autopia discussion are men.
>
> And hasn't anyone else noticed that most people on FutureCulture are men? Not to mention the over-all population of the net generally speaking. I'd like to get women into this discussion but I'm not even sure if there are any women on FC.
>
> Are there?

In response, a male participant pointed out:

> IF you haven't noticed, the bulk of the people on these networks are men. It is about 80% male with higher percentages in some places.

[12] See also Nickerson (1981), Kiesler, Sproull, and Eccles (1985), Benston (1988), Perry and Greber (1990), Turkle and Papert (1990), and Bernstein (1991).

[13] Hoai-An Truong, *Gender Issues in Online Communication* (1993) CFP (Version 4.1). Available online from: ftp.eff.org.

[14] This exchange took place over several days in the late months of 1992 on a discussion list called Future Culture (futurec@uafsysb.uark.edu).

> Yeah. Clearly the Internet is dominated by men. It just seems that some outreach to women might be in order. Hanging out on a ship with hundreds of male computer jocks isn't exactly my idea of utopia. :)

A female participant wrote back:

> Now, this is a loaded question. A lot of women will not open themselves to possible net harassment by admitting they are listening. Of course, if they've come this far, they are likely to be the more bold/brave/stupid type.
>
> Which leaves me where?
>
> Cuz, yes, I am a woman & I hang out on the internet, read cyberpunk, do interesting things with locks and computers. I don't program, I don't MU*/D/SH. I do technical work/repair. I write. I read. I'm a relatively bright individual.

This posting was followed by a self-acknowledged sexist statement from a male participant who asked others if they too found that women on the net were extremely unattractive. After being flamed from several other men in the discussion, one reply rebuked the original poster:

> "Concepts of physical beauty are hold overs from 'MEAT' space. On the net they don't apply. We are all just bits and bytes blowing in the phosphor stream."

Concepts of physical beauty might be a "meat thing," but gender identity persists in the "phosphor stream" whether we like it or not. Eventually, the thread returned to the question of what a woman might say about "Autopia," the floating utopia idea. Several postings later, the same female participant responded:

> And, would you like to know why, overall, I am uninterested in the idea of Autopia? Because I'm a responsible person. (Over-responsible, if you want to get into the nit-picky psychological semantics, but that's another point). As a responsible person, I end up doing/am expected to do all the shit work. All the little details that others don't think of; like setting up laundry duty, dishes, cooking, building, repairs, and handling garbage. This is not to say that I fall into the typical "FEMALE" role, because both women and men have left these duties to fall in my lap. And, it's not a case that if I leave it, it will eventually get done either – you'd be amazed at how long people will ignore garbage or dishes; at how many people can't use a screw driver or hold a hammer correctly.
>
> Plus, how about security? There is a kind of assumption that goes on, especially on the net, that folks on whatever computer network are a higher

> intelligence, above craven acts of violence. If you end up with 50 men for every woman, how are you going to insure her safety?
>
> So, talk about security issues, waste disposal, cooking and cleaning duties, the actual wiring of whatever ship for onboard computers, how you're planning on securing hard drives for rough seas, how you're going to eat, in what shifts are you going to sleep, who's going to steer, how you are going to get navigators.
>
> Where will you get the money for the endeavor? If you decide against a ship, and go for an island, how are you going to deal with overrunning the natural habitat? What are you going to do if you cause some species that only lived on *that* island to become extinct? What are you going to do with refugees from the worlds of hurt on this planet, who are looking for someplace to escape to?

As one other (male) participant in the discussion pointed out, these are imminently practical concerns, but not ones that were raised until the female participant emerged from the silence she was lurking in. Her original point was passed over quickly, even as it was enacted in the course of the subsequent discussion: electronic discussion lists are governed by gendered codes of discursive interchange that are often not hospitable to female participants. In a similar exchange, not among cyberpunks, but rather among postmodern scholars, women's contributions to an electronic conference were routinely ignored in the excessive word production of male participants (Kramarae & Taylor, 1993; Landow, 1993). This suggests that online communication is structured similarly to communication in other settings, and is overtly subjected to forms of gender, status, age, and race determinations.

Clearly, cyberpunks who participate in virtual subcultural routines aren't alone in the way in which offline gender identity influences online interactions. What is particularly true of cyberpunks, though, is that their subculture revolves around the myth of corporeal transcendence: the belief that it is technologically possible to "factor out" the material body and the cultural meanings it signifies. This is even reflected in one of the statements of The Hacker's Ethic: "Hackers should be judged by their hacking, not bogus criteria such as degrees, age, race, or position." Of course, it finds the fullest expression in cyberpunk science fiction novels that explore the possibility of "leaving the meat behind" in the giddy exploration of cyberspace. Andrew Ross (1991) identified this as a symptom of the "crisis of masculinity" that erupted in the 1980s that was expressed through the Arnold Schwarzenegger/Pumping Iron cult of the body:

> [T]hese exaggerated parodies of masculine posture in the age of Reagan were at once a response to the redundancy of working muscle in a postindustrial

> age, the technological regime of cyborg masculinity; and, of course, to the general threat of waning patriarchal power. Cyberpunk male bodies, by contrast, held no such guarantee of lasting invulnerability, at least not without prosthetic help. . . . If the unadorned body fortress of the Rambo/Schwarzenegger physique expressed the anxieties of the dominant male culture, cyberpunk technomasculinity suggested a growing sense of the impotence of straight white males in the countercultures. (p. 152–53)

To manage such a sense of impotence and diminishing authority, male cyberpunks symbolically manage what they can. Just as the material body is deconstructed in cyberpunk science fiction, it is also repressed in subcultural practice. This corresponds with what the Jargon File describes about hacker physical activity and sports participation: "Many (perhaps even most) hackers don't follow or do sports at all and are determinedly anti-physical." In this sense, the subcultural practices of cyberpunks, that is, their cyberspace encounters with virtual realities, do not remove them from the everyday world, but rather are yet another (everyday) place where they must negotiate the troubling contradictions and experiences of disempowerment that plague not only themselves but also their parent culture.

VIRTUAL SOLUTIONS TO CULTURAL DILEMMAS

This brief review of the narratives of cyberpunk identity illuminates the contours of the oppositional noise produced within our newly emergent cybernetic culture. Although the signal is quite strong—that computer technologies and cybernetic culture form an advanced, liberating milieu for postgendered humans—the noise produced by cyberpunks suggests otherwise. Recall Hebdige's (1979) delineation of the relationship between a subculture and its parent culture:

> Subcultures represent "noise": interference in the orderly sequence which leads from real events and phenomena to their representation in the media. We should not therefore underestimate the signifying power of the spectacular subculture not only as a metaphor for potential anarchy "out there" but as an actual mechanism of semantic disorder: a kind of temporary blockage in the system of representation. (p. 90)

In saying that subcultural style signifies resistance, Hebdige was careful to elide the question of the ontological status of such resistance. It would be difficult to assert that style is, by itself, an effective means of resistance. Angela McRobbie reminded us to look at the practices of those who inhabit or project subcultural identities, where we will find strong, and often disturbing continuities between the gender politics of the subculture and the

parent culture. This is certainly the case with cyberpunk identity in which the manifest narratives of identity signify resistance to a dominant parent culture whereas the latent subcultural practices reveal a closer affinity between the two. In terms of its gender politics, cyberpunk subculture is less sanguine; it remains, for all of its iconoclastic rumblings, a male-dominated subculture that serves as a stage for gender posturing. In part we can read this gender posturing as a displaced reaction to the fact that cyberpunks are caught in the midst of several cultural contradictions; they live on that edge where the mythology of technological transcendence crashes headlong into the reality of historical determinations.

Popular media do more than simply record the technological projection of multiple identities; they also provide the mechanism for managing the contradictions among identities. As Hebdige asserted, the role of the media is precisely to manage contradictory identities: "it is primarily through the press, television, film, etc. that experience is organized, interpreted, and made to cohere in contradiction as it were" (Hebdige, p. 85). Virtual media such as video games or computer programming are, like McLuhan (1964) said of other media, "extensions of social man and of the body politic":

> Both games and technologies are counter-irritants or ways of adjusting to the stress of the specialized actions that occur in any social group. As extensions of the popular response to the workaday stress, games become faithful models of a culture. They incorporate both the action and the reaction of whole populations in a single dynamic image. . . . A game is a machine that can get into action only if the players consent to become puppets for a time. For individualist Western man, much of his "adjustment" to society has the character of a personal surrender to the collective demands. Our games help both to teach us this kind of adjustment and also to provide a release from it. (p. 208, 211)

Here McLuhan pointed out that as a "faithful model of culture," games not only embody the preoccupations of a society, but also the means of easing the dis-ease of such preoccupations. In more critical terms, games represent cultural contradictions, as well as a range of ideological resolutions of the tensions inherent in the contradictions. Cyberpunks embody the contradiction at the heart of the debate about the cultural significance of personalized computer technology; they live on the microedge between thinking of the computer as a tool of human creativity or condemning it as a mechanism of dehumanized rationalism and social alienation. Although they enjoy privileged access to the tools that enable them to interact with (and sometimes construct) virtual worlds, they are not the ones making the rules that govern the cyberspace system. Although they enjoy a measure of power through the acquisition of technical expertise, at the same time they

rail hopelessly against overdetermined economic dependence and rapidly increasing rates of technological obsolescence. What many cyberpunks have discovered is that for all of its immateriality, cyberspace is primarily an interzone of capitalist reterritorialization. The political question cyberpunks address is to what extent is it possible to subvert the hyperrationality of the computer program, the computer network, or, more broadly conceived, the global computerized bureaucracy that serves as the infrastructure of the information age?

Using computers to "surf the net" provides a displaced release from the reality of historically determined limits on individual agency; and yet, in exploiting this measure of freedom made possible by computer-communication networks, cyberpunks get confused about the dimensions of that freedom. They conflate the networked immanence of cyberspace with the fluid mechanics of postmodern identity construction, as if both were without limits, without history, and without politics.

In this sense, cyberpunks embody the identity crisis at the heart of postmodernity. We've come to a point where we appreciate the fluidity of identity formation; theoretically this represents a significant development in our thinking about the relationship between cultural forces of determination and individual manifestations of cultural identities. Postmodernists understand keenly how human identity itself is a virtual reality, as much a technological artifact as it is an expression of individual agency. But it is a mistake to conclude that the fluidity of identity posits a blank slate—there is no ground-zero in the identity-construction game. Even in the use of gender-neutral nicknames or in seemingly anonymous screen-to-screen communication it is impossible to transcend social identities, multiple or otherwise. Cyberpunk identities are signed not so much by bodily marks of race and biological sex, nor by economic signs of class position, but by the more subtle tracks left by gendered communication patterns/habits and institutional access addresses. It is difficult to be more precise in specifying the tension that thwarts cyberpunks in their project of forming identities for themselves in a cybernetic world. They are, like the rest of us, suspended between the mythologies of technological self-determination and historically specific forms of cultural determination. Cyberspace role playing and online interactions exploit the pleasure of liquid identity, but it remains a highly delimited pleasure accomplished through the repression of the material body and the regressive projection of masculinist narratives of gender transcendence.

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14 Communication Issues and Policy Implications

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The development and diffusion of virtual reality (VR) raises some unusual questions about the technological future and about the potential of his new medium to produce profound cultural change. Given the impending debut of VR in the public communication environment, there is some urgency in taking a fresh look at how national media policy is made in general and the special problems we face in dealing with virtual reality.

Perhaps the most breathtaking concept of all is the realization that, should VR and other online communication systems take their place as fully integrated members of the American media environment, it won't be long before the gap between those born in the "Information Age" and those participants in both world and American culture who were born in the pre-personal computer era, but who have fled, stumbled or deliberately immigrated to the new communications wonderland, will widen into a true and possibly political chasm. If VR takes hold the way its champions predict, it will usher in a world in which computer-based communications technology will provide human beings with the ability to perceive or to experience, at least in primitive form, that which is physically impossible. In that "online" world, the creation of new "realities"—and, one presumes, the destruction of old or out-of-fashion "realities"—will become a routine cultural assumption, and an entire generation of computer users will no more question the technology's availability or their own right to use it, than they will wonder if there will be water waiting when they turn on the tap.

Related to VR's potential to reshuffle the cultural cards in America's political game are social and legal issues associated with evolving media technologies, such as the need for a re-evaluation of First Amendment

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