



INTRODUCING CYBERCULTURE

Looking Backwards, Looking Forward: Cyberculture Studies 1990-2000

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Originally published in *Web.studies: Rewiring Media Studies for the Digital Age*, edited by David Gauntlett (Oxford University Press, 2000): 19-30.

While still an emerging field of scholarship, the study of cyberculture flourished throughout the last half of the 1990s, as witnessed in the countless monographs and anthologies published by both academic and popular presses, and the growing number of papers and panels presented at scholarly conferences from across the disciplines and around the world. Significantly, the field of study has developed, formed, reformed, and transformed, adding new topics and theories when needed, testing new methods when applicable.

In an attempt to contextualize the chapters found in this volume, this essay traces the major works of scholarship on cyberculture from the last ten years, seen in three stages or generations. The first stage, *popular cyberculture*, is marked by its journalistic origins and characterized by its descriptive nature, limited dualism, and use of the Internet-as- frontier metaphor. The second stage, *cyberculture studies*, focuses largely on virtual communities and online identities and benefits from an influx of academic scholars. The third stage, *critical cyberculture studies*, expands the notion of cyberculture to include four areas of study -- online interactions, digital discourses, access and denial to the Internet, and interface design of cyberspace -- and explores the intersections and interdependencies between any and all four domains.

I. Popular Cyberculture

Our disciplinary lineage begins with what I call *popular cyberculture*, a collection of essays, columns, and books written by particularly wired journalists and early adapters. Starting in the early 1990s, these cultural critics began filing stories on the Internet, cyberspace, and the "information superhighway" for major American newspapers and magazines. Significantly, what began as an occasional column in a newspaper's technology section soon became feature articles

appearing on the front page, in the business section, and in lifestyle supplements, as well as within the new media/cyberspace beat of many mainstream magazines. Between 1993 and 1994, for example, *Time* magazine published two cover stories on the Internet while *Newsweek* released the cover story "Men, Women, and Computers." Moreover, in 1994, the second editions of the popular how-to books *The Internet for Dummies* and *The Whole Internet* became bestsellers.

The popular cyberculture writings were generally descriptive. Usually required to follow the term Internet with the parenthetical phrase the global computer network system, these journalists had the unenviable task of introducing non-technical readers to the largely technical, pre-World Wide Web version of cyberspace. Accordingly, much of this work included lengthy descriptions, explanations, and applications of early Net technologies such as file transfer protocol, gopher, lynx, UNIX configurations, telnet, and Usenet.

In addition to being overly descriptive, early popular cyberculture often suffered from a limited dualism. As a number of scholars (Jones 1997; Kinney 1996; Kling 1996; Rosenzweig 1999) have noted, early popular cyberculture often took the form of dystopian rants or utopian raves. From one side, cultural critics blamed the Net for deteriorating literacy, political and economic alienation, and social fragmentation. For example, Birkerts (1994) warned that the Internet, hypertext, and a host of electronic technologies would produce declining literacy and a less than grounded sense of reality. Sale (1995) drove home the points he made in his book *Rebels Against the Future: The Luddites and Their War on the Industrial Revolution: Lessons for the Computer Age* by smashing computers while on a promotional tour, and Stoll (1995), upon shifting career tracks from a cyber-hyper computer hacker to a cyber-griper Cassandra, begged cybernauts to log off, reminding us that "life in the real world is far more interesting, far more important, far richer, than anything you'll ever find on a computer screen" (13).

Conversely, a vocal group of writers, investors, and politicians loosely referred to as the technofuturists declared cyberspace a new frontier of civilization, a digital domain that could and would bring down big business, foster democratic participation, and end economic and social inequities. While finding platforms within major American newspapers and popular magazines, among nascent organizations like the Electronic Frontier Foundation, and throughout newsgroups, listservs, and Web sites, their primary pulpit was a new line of technozines -- glossy, visually-impairing magazines with names like *Mondo 2000*, *bOing bOing*, and *Wired*. Encapsulating the utopian rhetoric of the technofuturists, *Wired's* publisher Louis Rossetto likened cyberspace to "a new economy, a new counter culture, and beyond politics"; the magazine's executive editor Kevin Kelly proclaimed "technology is absolutely, 100 percent, positive" (Keegan 1995: 39-42); and contributing editor John Perry Barlow argued "with the development of the Internet, and with the increasing pervasiveness of communication between networked computers, we are in the middle of the most transforming technical event since the capture of fire" ("What Are We Doing Online?" 1995:

36).

Not surprisingly, many politicians joined their ranks. Speaking at a conference in Buenos Aires, Vice President Al Gore (1995) remarked:

These highways -- or, more accurately, networks of distributed intelligence -- will allow us to share information, to connect, and to communicate as a global community. From these connections we will derive robust and sustainable economic progress, strong democracies, better solutions to global and local environmental challenges, improved health care, and -- ultimately -- a greater sense of shared stewardship of our small planet.

Finally, in addition to its descriptive nature and rhetorical dualisms, early popular cyberculturalists employed the frontier as its reigning metaphor. William Gibson (1984) famously coined the term cyberspace in his groundbreaking novel *Neuromancer*: "Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators . . . A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity" (51). In *Neuromancer* a new frontier emerges, one whose currency rests less in geographic space and more in digital information.

It did not take long for activists, writers, and scholars to latch on to and reify the metaphor. In the now canonical essay "Across the Electronic Frontier," Kapor and Barlow (1990) described the Net in the following terms: "In its present condition, cyberspace is a frontier region, populated by the few hardy technologists who can tolerate the austerity of its savage computer interfaces, incompatible communication protocols, proprietary barricades, cultural and legal ambiguities, and general lack of useful maps or metaphors." The frontier metaphor stuck. Rheingold (1993a) observed: "The pioneers are still out there exploring the frontier, the borders of the domain have yet to be determined, or even the shape of it, or the best way to find one's way in it" (58). Rushkoff (1994) noted, "Nowhere has the American pioneer spirit been more revitalized than on the electronic frontier" (235). Whittle (1997), discussing the future of the Internet, waxes poetic: "The pioneers, settlers, and squatters of the virgin territories of cyberspace have divided some of that land into plots of social order and plowed it into furrows of discipline -- for the simple reason that is natural resources can only be found in the mind and have great value if shared" (420).

II. Cyberculture Studies

Like most generations, mine bleed. Indeed, a significant portion of our second generation of cyberculture scholarship, *cyberculture studies*, can be characterized by its descriptive nature, binary dualism, and frontier metaphors, and, as such, could easily be referred to as popular cyberculture. Conversely, some of the early journalists made important explorations into and observations about cyberspace, thereby allowing them membership into the second generation. One such journalist was Julian Dibbell, whose

provocatively titled "A Rape in Cyberspace; or How an Evil Clown, a Haitian Trickster Spirit, Two Wizards, and a Cast of Dozens Turned a Database into a Society," appeared in *The Village Voice* in 1993. In the article, Dibbell presents the now-endlessly-recounted tale of "Mr. Bungle," a member of LambdaMOO (a popular multi-user domain, or MUD) who uses a voodoo doll -- a program that allows one user to control the online "actions" of another -- to rape, violently attack, and force unwanted liaisons upon a number of LambdaMOOers. Dibbell describes the attack, the violated users' emotional reactions, the community's outrage, and the public discussion of Mr. Bungle's punishment, including the possibility of 'toading,' a process by which a MUD wizard turns a player into a toad, eliminating the player's identity and description. Noting that the chief wizard of the MUD recently revoked the toading process in an attempt to foster self-governance, Dibbell traces the steps of one user, JoeFeedback, who decides on his own to eliminate the Mr. Bungle character. Besides offering readers a provocative glimpse into the online environment, Dibbell brilliantly portrays the complex individual and social negotiations existing within LambdaMOO, negotiations which, when viewed together, constitute very real identities and communities.

Using Dibbell as a starting point, we can characterize our second generation with a single passage by cybertheorist Allucquere Rosanne Stone (1991) who defines cyberspace as "incontrovertibly social spaces in which people still meet face-to-face, but under new definitions of both 'meet' and 'face'" (85). In other words, while cyberspace may lack for the most part the physical geography found in, say, a neighborhood, city, or country, it offers users very real opportunities for collective communities and individual identities. It is upon these twin pillars -- virtual communities and online identities -- that cyberculture studies rests.

One of the earliest and certainly the most referenced articulators of the virtual communities idea is Howard Rheingold (see his chapter in this book). Building upon Stone, Rheingold (1993a) defines a virtual community as

A group of people who may or may not meet one another face-to-face, and who exchange words and ideas through the mediation of computer bulletin boards and networks. In cyberspace, we chat and argue, engage in intellectual discourse, perform acts of commerce, exchange knowledge, share emotional support, make plans, brainstorm, gossip, feud, fall in love, find friends and lose them, play games and metagames, flirt, create a little high art and a lot of idle talk. We do everything people do when people get together, but we do it with words on computer screens, leaving our bodies behind (58).

A few months later, Rheingold published *The Virtual Community* (1993b), a significant expansion upon his earlier essay which would quickly become one of the principal texts of cyberculture studies. In the book, Rheingold provides a brief history of the Internet, a social history of a particular online community -- the Whole Earth 'Lectronic Link (the WELL) -- and countless examples of online

interactions which take place within both the WELL and the Internet. Although the author concludes with a cautionary chapter detailing the potential perils of an overly commodified Internet, online surveillance, and cyber-induced hyper-reality, Rheingold's enthusiasm dominates:

We temporarily have access to a tool that could bring conviviality and understanding into our lives and might help revitalize the public sphere. The same tool, improperly controlled and wielded, could become an instrument of tyranny. The vision of a citizen-designed, citizen-controlled worldwide communications network is a version of technological utopianism that could be called the vision of "the electronic agora" (14).

If Rheingold's *The Virtual Community* is the first pillar of cyberculture studies, the second is Sherry Turkle's *Life on the Screen: Identity in the Age of the Internet* (1995). Turkle addresses the idea of online identities by exploring ethnographically a number of virtual environments, including Multi-User Domains, or MUDs. She finds that while some users use cyberspace to repress an otherwise less-than-functional "real" or offline life, most use the digital domain to exercise a more true identity, or a multiplicity of identities. In each case, users are free to pick and choose genders, sexualities, and personalities within what Bruckman (1992) labels an "identity workshop."

Like Rheingold, Turkle's take on cyberspace is largely enthusiastic. Through a number of case studies, the author reveals how users of MUDs create online identities to help navigate their offline lives. For example, Turkle introduces Ava, a graduate student who lost her leg in a car accident. During her recuperation process, Ava began to MUD, and created a one-legged character. Soon after, her character became romantically involved with another, and they began to make virtual love, or, as it was then commonly referred to, have "tinysex." According to Turkle, these online interactions led Ava to become more comfortable with her offline body, leading her to note: 'Virtuality need not be a prison. It can be the raft, the ladder, the transitional space, the moratorium, that is discarded after reaching greater freedom. We don't have to reject life on the screen, but we don't have to treat it as an alternate life either' (263).

By the mid 1990s, cyberculture studies was well underway, focused primarily on virtual communities and online identities. Further, as a result of the enthusiasm found in the work of Rheingold and Turkle, cyberculture was often articulated as a site of empowerment, an online space reserved for construction, creativity, and community. Fortunately, however, this simplification was matched by the richness found in the nascent field's welcoming of interdisciplinarity. With the growing popularity of user-friendly Internet service providers such as AOL and CompuServe and the widespread adoption of Netscape, by the mid 1990s, the great Internet rush was on. Significantly, the introduction of the Web was not only a *technological* breakthrough but also a *user* breakthrough. Replacing tricky file transfer protocol and burdensome gopher with a simple,

point-and-click graphical interface, the Web helped to foster a less technical, more mainstream Internet populace. Coupled with these technological breakthroughs were academic considerations. In addition to a concerted effort on the part of university administrators to get faculty wired, scholarly conferences, papers, archives, and discussions came online, leading all but the most technophobic academics to the Net.

As expected, new scholars brought new methods and theories. For example, while some sociologists approach virtual communities as "social networks" (Wellman 1997; Wellman et al 1996), others employ the sociological traditions of interactionism and collective action dilemma theory (Kollock & Smith 1996; Smith & Kollock 1999). Within anthropology, scholars began formulating a new subfield, cyborg anthropology, devoted to exploring the intersections between individuals, society, and networked computers (Downey & Dumit 1998; Escobar 1996). Researchers from a related field, ethnography, took their cue from Turkle and began to study what users do within diverse online environments, ranging from online lesbian bars and Usenet newsgroups to Web-based "tele-gardens" and online cities (Baym 1995a, 1995b, 1997; Correll 1995; McLaughlin et al 1997; Collins-Jarvis 1993; Silver 2000).

At the same time, linguists began to study the writing styles, Netiquettes, and (inter)textual codes used within online environments (Danet et al 1997; Herring 1996a, 1996b, 1996c). Similarly, feminist and women's studies researchers have used textual analysis and feminist theory to locate, construct, and deconstruct gender within cyberspace (Cherny & Weise 1996; Consalvo 1997; Dietrich 1997; Ebben & Kramarae 1993; Hall 1996). Further, a collection of community activists and scholars began to explore the intersection of real and virtual communities in the form of community networks, including the Public Electronic Network (PEN) in Santa Monica, California, the Blacksburg Electronic Village (BEV) in Blacksburg, Virginia, and the Seattle Community Network (SCN) in Seattle, Washington (Cisler 1993; Cohill & Kavanaugh 1997; Schmitz 1997; Schuler 1994, 1996; Silver 1996, 1999, 2000).

III. Critical Cyberculture Studies

By the late 1990s, the study of cyberculture had arrived. Indeed, in the second half of the 1990s, many academic and popular presses have published dozens of monographs, edited volumes, and anthologies devoted to the growing field of cyberculture. Reflecting this growth, recent scholars take a broader view of what constitutes cyberculture. No longer limiting the field to merely virtual communities and online identities, a third generation of scholarship, or what I call *critical cyberculture studies*, has emerged. As with all emerging fields of study, the landscape and contours of critical cyberculture studies are, at best, chaotic and difficult to map. That said, I wish to argue that critical cyberculture studies contains four major areas of focus, each, as we will see, interdependent on one another.

As revealed in the last few pages, the perspectives and priorities of

the first and second generations of cyberculture scholars differ significantly. Instead of approaching cyberspace as an entity to describe, contemporary cyberculture scholars view it as a place to contextualize and seek to offer more complex, more problematized findings. In general, four dominant areas of focus have emerged. Taken together, these areas serve as the foundation for critical cyberculture studies:

- Critical cyberculture studies explores the social, cultural, and economic interactions which take place online;
- Critical cyberculture studies unfolds and examines the stories we tell about such interactions;
- Critical cyberculture studies analyzes a range of social, cultural, political, and economic considerations which encourage, make possible, and/or thwart individual and group access to such interactions;
- Critical cyberculture assesses the deliberate, accidental, and alternative technological decision- and design-processes which, when implemented, form the interface between the network and its users.

Critical cyberculture studies, in its most rich manifestation, explores the intersections between any and all four of these focal points.

Contextualizing Online Interactions

While critical cyberculture studies scholars acknowledge the importance of virtual communities and online identities, they take a step back and contextualize their topics. For example, Jones (1995) sets the stage for what could be called the social construction of online reality. Unlike so many cyberculturalists who approach their topic as a brave new world, Jones contextualizes cyberspace within the more traditional paradigms of communication and community studies, including James Carey's work on the electronic sublime, James Beniger's notions of pseudo-communities, and David Harvey's theories of postmodern geographies. From there, the author reminds us of the cultural construction of cyberspace and warns us not to celebrate uncritically its potential. Two years later, Jones (1997) continued this necessary process of contextualizing by problematizing some of the key definitions and directions of cyberculture studies. Drawing upon the work of Benedict Anderson, Richard Sennet, and, once again, James Carey, Jones historically locates popular rhetoric heralding the Net's potential to transcend time and space. Next, commenting upon Rheingold's *The Virtual Community*, he questions the all-too-unproblematized notion of virtual communities. Substituting Neo-Luddism with critical caution, Jones calls for a healthy re-evaluation of cyberspace, noting that the "Internet is another in a line of modern technologies that undermine traditional notions of civil society that require unity and shun multiplicity while giving impressions that they in fact re-create such a society" (25).

In addition to contextualizing virtual communities and online identities, many scholars have gone beyond merely recanting the findings of Rheingold and Turkle to make critical explorations and discoveries of their own. For example, McLaughlin et al (1995) attempt to establish general, online codes of conduct by collecting all messages posted to five newsgroups within a three week period and analyzing them for normative discourse. From the data, they deduce seven categories of reproachable behavior, including novice use of technology, bandwidth waste, ethical violations, and inappropriate language. Next, they note the ways in which "rules of conduct on Usenet as currently constituted can be understood as a complex set of guidelines driven by economic, cultural, social-psychological, and discursive factors" (107). Much more than a simple set of "netiquette," the authors' findings trace the intricate parameters and factors that help to support the relative success or failure of online communities. Similar scholarship (Kollock and Smith 1996; MacKinnon 1998, 1997, 1995; Phillips 1996) focuses on the parameters and punishments that serve to establish acceptable and unacceptable behavior within online environments.

At the same time, Baym (1995) has used ethnographic methods to better understand the nature of virtual communities. Baym explores the well-trafficked Usenet newsgroup rec.arts.tv.soaps, or r.a.t.s., and suggests that online communities emerge out of a complex intersection between five factors: external contexts, temporal structures, system infrastructure, group purposes, and participant characteristics. Applying such factors to r.a.t.s., Baym concludes that

participants in [computer-mediated communication] develop forms of expression which enable them to communicate social information and to create and codify group-specific meanings, socially negotiate group-specific identities, form relationships which span from the playfully antagonistic to the deeply romantic and which move between the network and face-to-face interaction, and create norms which serve to organize interaction and to maintain desirable social climates (161).

Another important yet largely unexplored element of contextualizing online interactions is to trace the history and development of virtual communities. While past scholars approached online communities as already existing digital environments, critical cyberculture studies scholars (Dibbell 1998; Horn 1998; Silver 1996, 1999) have begun to analyze their brief yet crucial histories.

Discoursing Cyberspace

Like all forms of culture, cyberculture is, in part, a product of the stories we tell about it. Indeed, the tales we tell over coffee, read in *Wired*, *Newsweek*, and *The New York Times*, and watch in movies like *The Net*, *The Matrix*, and *Disclosure* inform the ways in which we engage in cyberculture. Further, these stories -- and lack of stories -- can potentially discourage and dissuade would-be cybernauts from going online. Thus, for some scholars (Borsook 1996; Sobchack

1993; Ross 1991), cyberspace is not only a site for communication and community but also a generator of discourse, a very real and very imagined place where a variety of interests claim its origins, its myths, and its future directions. As many third generation cyberculture studies scholars have noted, two disturbing discourses of cyberspace have emerged: the Net as frontier and cyberspace as boystown.

For example, Miller (1995) notes the ways in which the Net-as-frontier metaphor serves to construct cyberspace as a place of manly hostility, a space unsafe for women and children. She argues: "the idea that women merit special protections in an environment as incorporeal as the Net is intimately bound up with the idea that women's minds are weak, fragile, and unsuited to the rough and tumble of public discourse" (57). Further, as Doheny-Farina (1996) argues, the metaphor reinvoles the American myth of the individual and "conjures up traditional American images of the individual lighting out from the territories, independent and hopeful, to make a life" (16).

In addition to the Net as frontier metaphor, a dominant discourse found in magazines and movies is cyberspace as boystown. Understanding cyberculture to be not only online interactions but also the stories told about such interactions, scholars have performed feminist readings on such technozines as *Wired* and *Mondo 2000*. For example, Borsook (1996) analyzes the ways in which the trendy magazine has appropriated countercultural themes in the name of testosterone-driven commercialism:

Wired has consistently and accurately been compared in the national media to *Playboy*. It contains the same glossy pictures of certified nerd-suave things to buy -- which, since it's the nineties, includes cool hand-held scanners as well as audio equipment and cars -- and idolatrous profiles of (generally) male moguls and muckymucks whose hagiography is not that different from what might have appeared in *Fortune*. It is the wishbook of material desire for young men (26).

Online Access and Barriers

While cyberculture studies celebrates the existence of online communities, critical cyberculture studies seeks to better understand their participants. Although important work in the field of online marginality has begun, much more is needed. Indeed, while scholars from across the disciplines flock to the general topic of cyberculture, few have made their way into the margins to explore issues of race, ethnicity, and sexuality online.

One step in the right direction is the work of the National Telecommunications and Information Administration, or NTIA, an agency of the U.S. Department of Commerce. In a three-part series of studies titled "Falling Through the Net," the NTIA examines what they call the "digital divide," a growing gap between information haves and have-nots, and the economic, social, cultural, and

geographic elements contributing to the gap. For example, in "Falling Through the Net: A Survey of the 'Have Nots' in Rural and Urban America" (1995), the NTIA concludes that class, race, age, and education contributed significantly to online access. In "Falling Through the Net II: New Data on the Digital Divide" (1998), the NTIA expanded their study to find that although Americans, as a nation, accessed the Internet in increasing numbers,

the "digital divide" between certain groups of Americans has *increased* between 1994 and 1997 so that there is now an even greater disparity in penetration levels among some groups. There is a widening gap, for example, between those at upper and lower income levels. Additionally, even though all racial groups now own more computers than they did in 1994, Blacks and Hispanics now lag *even further behind* Whites in their levels of PC-ownership and on-line access.

Finally, in "Falling Through the Net: Defining the Digital Divide" (1999), the NTIA reveals that the digital divide had increased further, leading Larry Irving, assistant secretary of Commerce for Telecommunications, to remark: "America's digital divide is fast becoming a 'racial ravine.'" As before, the report notes that while Americans, as a nation, continue to flock to the Net, disparities based on race, class, and region contribute to the growing gap between information haves and have-nots.

In addition to the barriers discussed by the National Telecommunications and Information Administration, there are other, more cultural ones. Performance artist and writer Guillermo Gomez-Pena (1996) recounts his and his collaborator Roberto Sifuentes' 1994 entrance into cyberspace, a digital space already largely "settled" by ethnocentrism:

We were also perplexed by the "benign (not naive) ethnocentrism" permeating the debates around art and digital technology. The unquestioned lingua franca was of course English, "the official language of international communications"; the vocabulary utilized in these discussions was hyper-specialized and depoliticized; and if Chicanos and Mexicans didn't participate enough in the Net, it was solely because of lack of information or interest (not money or access), or again because we were "culturally unfit" (178).

Along similar lines, Bailey (1996) argues that shared customs such as netiquette and acronyms constitute "newbie snobbery," producing an unwelcoming terrain for marginalized cultures. He notes: "The Net nation deploys shared knowledge and language to unite against outsiders: Net jargon extends beyond technical language to acronyms both benign (BTW, 'By the way') and snippy (RTFM, 'Read the fucking manual'). It includes neologisms, text-graphical hybrids called emoticons, and a thoroughgoing anti-'newbie' snobbery. Like any other community, it uses language to erect barriers to membership" (38).

This is not to suggest that traditionally marginalized cultural groups have not taken to the wires as a means for communication, community, and empowerment. Indeed, a number of contemporary cyberculturalists explore marginalized cultural groups' attempts to establish self-defined, self-determined virtual spaces. For example, Mitra (1997) analyzes the discursive practices of contributors to the Usenet newsgroup, soc.culture.indian. While acknowledging strong "segmenting forces," especially when users crosspost messages to soc.culture.pakistan, Mitra argues that the online community generates "centralizing tendencies" for Indian users: "these diasporic people, geographically displaced and distributed across large areas, are gaining access to [internet] technologies and are increasingly using these technologies to re-create a sense of virtual community through a rediscovery of their commonality" (58). Other scholars (Shaw 1997; Correll 1995) make similar arguments regarding gay and lesbian online communities.

As many scholars have noted, males tend to dominate online discussions, regardless of the topic. Recently, however, female users have countered this domination -- not to mention hostility -- by creating online spaces of their own. As Camp (1996) recounts, *Systemers*, a mailing list of women in computer science and related disciplines, was established in response to male-dominated discussions about women taking place in Usenet newsgroups like soc.women. The solution was to 'withdraw to a room of our own -- to mailing lists' (115). Able to control and moderate the list, members of *Systemers* discuss the issues most relevant to them. These online spaces also include, of course, the Web. These sites are as diverse as the population they hope to represent, ranging from academic sites like the Women's Studies Database (www.inform.umd.edu/EdRes/Topic/WomensStudies) and the Center for Women and Information Technology (www.umbc.edu/cwit), to hipper, do-it-yourself sites like *geekgirl* (www.geekgirl.com.au) and *AngstGrrl!* (www.angstgrrl.com). Not to be left out of growing markets, feminist-leaning Web sites like *iVillage.com* (www.ivillage.com), *Oxygen* (www.Oxygen.com), and *Women.com* (www.Women.com) fuse timely women's issues with targeted cyber-marketing.

Digital Design

Second generation cyberculturalists admirably explored the kinds of communities and identities found on the Internet. Yet too often they all but ignored the ways in which the digital design of online spaces informs the types of interactions made possible. One exception is the significant attention literary scholars paid to hypertext, or what is commonly referred to as *hypertext studies*. Focusing more on early hypertext software like HyperCard than on online networks such as the Internet and the Web, hypertext scholars (Bolter 1991; Landow 1992, 1994) compared the new media to contemporary critical theory and considered the ways in which hypertext reconfigures the text, writer, and reader.

More recently, however, conversations between computer scientists, community activists, and ethnographers have produced new insights

into the complex relationships between humans and computers. Commonly referred to as *human-computer interaction*, or HCI, such work approaches the interface as a critical site for interaction. The design of an interface -- as designers have known for years -- can have a substantial impact upon the relative success of a site's intentions. For example, as Kollock (1996) notes in "Design Principles for Online Communities," online environments should be designed to encourage user cooperation, maintain a community-based institutional memory, and include elements of the physical environment through which users travel. Currently, a number of scholars (Baecker 1997, Kim 1999) are developing models for discussing and assessing online interfaces. The pursuit has also been one of the key sites of study for a number of research institutes, including the Graphics, Visualization and Usability Center (www.cc.gatech.edu/gvu) at the Georgia Institute of Technology, the Human-Computer Interaction Lab (HCIL) (www.cs.umd.edu/hcil) at the University of Maryland, and the Knowledge Media Design Institute (www.kmdi.org) at the University of Toronto.

Issues of design and participation come together in the relatively new field *participatory design*, an approach pioneered in Scandinavia and currently making waves in the United States. As Schuler and Namioka (1993) note, participatory design "represents a new approach towards computer systems design in which the people destined to use the system play a critical role in designing it" (xi). With support from the Computer Professionals for Social Responsibility, participatory design has been debated and adopted by both scholars and designers (Muller et al 1992; Shneiderman & Rose 1997; Trigg et al 1994).

Conclusion: Bringing it All Together

As previously noted, critical cyberculture studies at its best does not focus simply on one of its four key areas. Instead, it seeks to comprehend the relationships, intersections, and interdependencies between multiple areas. To better understand this point, we turn quickly to the work of Nakamura (1999) and Collins-Jarvis (1993). Brief yet penetrating, Nakamura's "Race In/For Cyberspace: Identity Tourism and Racial Passing on the Internet," explores the ways in which race is written within the popular MUD, LambdaMOO. She observes that while users are required to specify their genders, there is no such option for race: "It is not even on the menu," Nakamura notes (444). Instead, the formation of racial identity is limited to the selection of already-established characters. Focusing specifically on Asian identity formation, Nakamura notes that the vast majority of such characters -- Mr. Sulu, Bruce Lee, Little Dragon, and Akira, for example -- fall within familiar discourses of racial stereotyping: "The Orientalized male persona, complete with sword, confirms the idea of the male Oriental as potent, antique, exotic, and anachronistic" (445).

Countering optimists who view cyberspace as a space where race does not matter, Nakamura argues that not only does it matter, but it has been designed out of the network, or what I call routed around. Significantly, this process is largely a *design* issue; the

interface of LambdaMOO is designed without race-based user identities. Instead, users are forced to assume one of the default identities -- identities which for Asian Americans reinforce stereotypes. Nakamura's work is important, therefore, because it reveals the interdependent relationships between interface design and user identities.

The issues of access, discursive communities, and insider/outsider dynamics come together in an article on one of the first community networks in the world, Santa Monica's Public Electronic Networking system, or PEN. In her article "Gender Representation in an Electronic City Hall: Female Adoption of Santa Monica's PEN System," Collins-Jarvis examines the reasons why the percentage of female PEN users (30 per cent) was, for the early 1990s, unusually high. Significantly, Collins-Jarvis offers three answers: PEN's public terminals, the availability of socially- and politically-related discussions and forums related to "female interests," and the ability for women to take part in the network's design and implementation.

According to Collins-Jarvis, female users of PEN required not only access to get involved, they also needed a reason to participate: "Computing systems which appeal to women's norms and interests (e.g. by providing a channel to enact participatory political norms) can indeed increase female adoption rates" (61). Further, when faced with often hostile flaming and a dearth of "women-specific" forums, female users of PEN assumed the responsibility of reinventing rather than rejecting the network. This reinvention took the form of creating a number of conference topics and user groups devoted specifically to issues of their own. Like Nakamura, Collins-Jarvis correctly understands online interactions to be a product of many offline factors, including design, content, and outreach.

As Nakamura and Collins-Jarvis suggest, cyberculture is best comprehended as a series of negotiations which take place both online and off. In this light, it is crucial to broach issues of discourse, access, and design. In the new millennium, it is the task of cyberculture scholars to acknowledge, reveal, and critique these negotiations to better understand what takes place within the wires.

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