Technicolor

Race, Technology, and Everyday Life

EDITED BY

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Introduction
Hidden Circuits

Alicia Headlam Hines, Alondra Nelson, and Thuy Linh N. Tu

The pronouncements of a color-blind future that characterized the early days and utopian impulses of the digital revolution are giving way to more pragmatic discussions of race and technology. The "digital divide" has become popular shorthand for the myriad social and cultural factors that shape access to technological resources. The last few years have seen the release of a report from the Commerce Department on the status of race, class, and technology in the United States, the airing of a PBS film documenting how race and gender have come to shape the ways computer technology gets used and by whom, and the establishment of the digital divide as a regular topic of political debate.

Among the strategies that have been developed to bridge this gap in technological access are the creation of community technology centers (CTCs) that provide low-cost access to technology in comfortable and convenient environments, and the free (though usually time-restricted) access to information resources through the Internet and the World Wide Web at public libraries. But how will we know when the digital divide has been mended? When every poor and working-class family has a computer at home? And how much technological access amounts to equality?

Solutions to the digital divide often fail to address problems that we can't solve by simply placing a computer in every home or classroom, problems that include social barriers, subtle hurdles that look

more like glass ceilings than impassable divides, and the dearth of content that reflects the experiences of all potential users. Moreover, the digital divide has become a self-fulfilling prophecy, confirming that people of color can't keep pace in a high-tech world that threatens to outstrip them. The divide—unbridgeable, unequivocal—unwittingly confirms that poor and working-class people of color have a technophobia that's hard to shake.

But there are other theories about race and technology, some of which run counter to the current prognosis, and others that confirm it. *Technicolor* reveals the many hidden circuits that link race and technology. Not content to wring our hands about the digital divide, we sought out the many interfaces where technology and race intersect.

Theorizing Technology

The cultural and social significance of new information technologies has been a constant topic of debate for scholars and cultural critics since the 1980s.[1] In just a few decades, these debates have produced an extensive body of literature and social commentary; so much, in fact, that it is often difficult to avoid inflated notions of how technology has impacted our lives, for better or for worse. But there have always been critics who move beyond the two poles of high-tech extremism—technophilia and technophobia—to more realistically assess lived experience in an increasingly technological world, including such important issues as access, economic and social inequalities, cultural identity and subjectivity, gender, and class.

Scholars of work and labor have pointed out that current technological developments have done little to address the recurring economic disparities produced by a capitalist economy.[2] Some worried that the American labor force would see a "jobless future" in which meaningful work is phased out by high-tech restructuring.[3] Many feared that technology would bring about heightened levels of exploitation on a global scale, most notably in the form of downgraded service sector work in the centers of capital and export processing in their peripheries. Manuel Castells theorized a "network society," in which the expansion of an information economy in powerful countries depends on

the work of those who labor on the geographic periphery but whose efforts are centrally important.[4]

But as feminist studies of technology have revealed, technological inequalities are not simply economic issues. Narrators of the information revolution have regaled us with tales of hackers and geeks, and in the process have constructed technology as a site of white male superiority. Cyberfeminists have worked hard to reveal the hidden relationships between women and technology.[5] In her important work *Zeros and Ones*, Sadie Plant rewrites the computer's originary history and argues that computational logics are indebted to women's weaving in the nineteenth century. She also creates a new avatar of technology, Ada Lovelace.[6] But even among these thoughtful witnesses who analyze how technological artifacts circulate in the social world, there is a strange silence around how the experiences of people of color might recast technocultural theory.[7]

Most often when attention is turned to the implications of race for theorizing technology, people of color are cast as victims. We witness this most commonly in discussions about the digital divide, which characterize people of color—predominantly blacks and Latinos—as victims of either economic and educational constraints, cultural priorities, or their own fiscal irresponsibility. And historically people of color have been casualties of technologically enabled systems of oppression, from colonial expansion, to the racial sciences of craniology and phrenology, to surveillance and information gathering.[8]

These narratives of victimization demonstrate that technologies and racism have a long and complex history. But unfortunately these accounts sometimes become rationalizations for why people of color fail to have "productive" relationships with technology, and justifications for the still uneven distribution of technological resources and knowledge. After all, if people of color are seen only as victims, then there is very little reason to entrust them with the tools of the future. But to see technology as only a problem for people of color is to present but one aspect of a multifaceted story. *Technicolor* moves beyond the binary logic that insists that race and technology are always at odds with each other.

New Narratives

Technologies have become ubiquitous in our everyday lives, leaving very few sectors untouched. They have become integral to such commonplace activities as shopping and banking, and they have irrevocably transformed interpersonal communication. In their banality these artifacts have been integrated into our everyday lives.

The theorists of everyday life, like Henri Lefebvre and Michel de Certeau, while not directly addressing issues around technology, have provided an important model for understanding our daily experiences.[9] Everyday life theorists broke with the traditional Marxist focus on work and the laborer by asserting that human experience must be considered in its totality; they insisted that work and leisure operate dialectically with each other. The study of leisure allows one to see people's own critiques of their working condition. In a world that elevates productive labor above all other realms of activities—family life, personal life, leisure—people's ability to "distract," "entertain," or "compensate" for the difficulties of their work lives is seen as a critical response.[10] For Lefebvre, leisure is in fact a social need:

> [M]odern industrial civilization creates both a *general need for leisure* and differentiated *concrete needs* within that general framework. . . . In response to such new needs, our civilization creates techniques which nevertheless have an "extra-technical" meaning and character. It produces "leisure machines" (radio, television, etc.). It creates new types of play which transforms the old ones, sometimes conflicting . . . sometimes overlapping.[11]

In this way, leisure becomes its own productive force; its products and practices offer the means to move beyond a life of alienation. The everyday life approach provides an important theoretical model for understanding both the ubiquity of technologies in our daily lives and the multifaceted ways we use them. As Lefebvre himself notes, technologies are imbued with an "extra-technical" meaning, and it is precisely the search for that meaning that we are concerned with here.

For us, understanding this extra-technical meaning requires understanding how race operates in everyday life. Race, in interplay with gender, class, and sexuality, is a crucial category by which people define themselves, form their communities, and reflect on their cultural histories. Racial communities bring these reflections to bear on

their use of technologies in work and leisure, and their approaches reveal more than just an antagonistic relationship to technoculture.

Technicolor presents a full spectrum of stories about how people of color produce, transform, appropriate, and consume technologies in their everyday lives. In order to locate these stories, we found it necessary to use a broader understanding of technology, and to include not only those thought to create revolutions (e.g., information technologies), but also those with which people come in contact in their daily lives. For when we limit discussions about technology simply to computer hardware and software, we see only a "digital divide" that leaves people of color behind. Casting our nets farther and wider allows us to more fully realize the different levels of technical knowledge and innovation that individuals and communities bring to their work, play, and creative expression.

It is incomplete, however, to look only at how technologies are used; here we also ask to what ends. As these essays reveal, contests around technology are always linked to larger struggles for economic mobility, political maneuvering, and community building. While we refuse essentialisms (i.e., the idea that people of color inherently use technologies differently than the majority), we do recognize that individuals and communities employ technologies for very specific goals, linked often to their histories and social locations. The essays here show that for disadvantaged communities, technologies have been used to address historical exclusions and continuing inequalities—sometimes to offer more democratic alternatives, other times to manufacture profit, most often simply fill a need. This is of course not to suggest that these are all progressive undertakings. Contradictions abound here; often lines blur between a self-interested search for pleasure and profit and a movement for more equitable distribution of technological resources and knowledge.

And certainly we do not want to suggest that people of color all share the same relationship, historically or structurally, to technology. Techno-savvy Asian whiz kids, for example, have always had a place in the high-tech hierarchy. While quick scans of any registry of media moguls reveal very few nonwhite male faces, the Asian presence in programming, management, and data processing is undeniable. Hardly at odds with technology, as implicitly is the case with blacks and Latinos, they seem the heirs apparent to the technological revolution. Yet to acknowledge the differences is not to understate the

commonalities; people of color share histories of racial oppression and disenfranchisement that can be exacerbated by new technologies.

Nowhere is this more apparent than in the technological workplace, where superexploited labor is used to create the tools that promise freedom. This collection looks at three crucial sites of high-tech labor—production, programming, and content/design—to make known the many levels of work with which people of color are involved. Examining these sites also reveals the additional vulnerabilities to which they, particularly women of color, are subject.

In her essay, Karen J. Hossfeld makes visible the hidden labor of immigrant Asian and Latina women in technological production, calling attention to the high costs of progress. Women in Silicon Valley have long been at the forefront of production, while having very little access to technologies as spaces of creative expression and self-representation. But at the same time that these women are the obvious casualties of our technological revolution, they also employ various workplace strategies in order to resist their daily exploitation. South Asian programmers, Amitava Kumar argues, share a similarly troubled relationship to their work. These immigrants have parlayed their technical skills into U.S. visas, but find that life here is not what they expected. At the same time that they enjoy the benefits of programming work, including relatively high pay, they also frequently find themselves mired in a morass of immigration policy, intraracial class politics, and labor exploitation.

While these workers are the hidden circuits of technical labor, the most vaunted figure in new media is the digital entrepreneur. But McLean Mashingaidze Greaves, who counts himself among this group and whose company Virtual Melanin has been creating urban content for many years, shows that even technological work at this level is not free of barriers and stereotypes. In their interview, Andrew Ross and McLean Greaves explore the limits and possibilities of entrepreneurship and the creation of communities of color on the Web. They discuss the tensions between creating ethnic content that reflects the needs and desires of a particular community and the profit-making imperative of the entrepreneur. These tensions reveal that interventions by people of color are rarely purely oppositional. Yet what Greaves's work does is to trouble the long-standing myth that abstractness in cyberspace is both possible and desirable (though, admittedly, that particular fantasy has recently given way to a belief in the

importance of differentiation). But perhaps more important, sites like his give commonly underserved communities a reason to log on and to create an online presence bound by shared interests and racial identities.

Mimi Nguyen shares Greaves's ambivalence (if not his profit-making goals) about the promise of abstract citizenship offered by the Internet. Inspired by the same desire to assemble an online community she could not readily find, Nguyen started an Asian American feminist Web site. But she soon discovered that when she made her identity visible by narrating her physical body into the supposedly disembodied zone of cyberspace, she was accused of being impolite and agitational. Here she discusses the transition of her 'zine *Slant* from its low-tech Xerox version to its high-tech Web version and reveals how race and gender implicitly function in this public arena.

While "virtual communities" have long been the Web's most obvious selling point, less often acclaimed are the "real" communities that have formed around struggles for access to and enjoyment of technologies. Here Logan Hill looks at both the universal access movement, taking place on Capitol Hill and in the pages of national news media, and the local efforts of community technology centers. It is often assumed that we can easily remedy the problem of unequal access by placing computers in low-tech communities, but Hill shows that barriers to access operate on many levels and therefore solutions must take multiple approaches. He sees great promise in a variety of efforts: allocating federal funding for computers in schools and libraries; empowering individuals through technological training, mentorship, and job opportunities; and encouraging online participation by the creation of racial/ethnic Web sites.

Complementing Hill's observations, Guillermo Gómez-Peña and Beth Coleman note that exclusions from technological resources and skills often happen tacitly. Gómez-Peña stresses that, along with a dearth of hardware, one of the main barriers to Chicano participation on the Web is language. For the many who do not read and write English, the Web is incredibly difficult to navigate. Gómez-Peña emphasizes the importance of discursive interventions into cyberculture: "What we want is to 'politicize' the debate; to 'brownify' virtual space; to 'spanglishize the Net'; to 'infect' the lingua franca." Only then can we combat "tecnofobia" and the commonly shared assumption that Latinos lack the intellectual capabilities to deal with technology.

In her discussion with Tricia Rose, Beth Coleman talks about a similar unspoken—and often unrecognized—process of exclusion. It is often the case that technical skills are gained through casual use of technologies and through networks of informal "apprenticeships," where friends demonstrate to each other their techniques. This is particularly true with music technologies, in which the types of knowledge needed to create innovative sounds are rarely taught in formal education. For women, however, it can be extremely difficult to gain entrance into the social spaces where this type of technological knowledge is shared, like the music studio, because, for a variety of reasons, it is implicitly a male space. This form of gendered exclusion has had profound effects on women's participation in music production and in DJ-ing.

While access to technology remains one of the most pressing obstacles for people of color, they have often overcome this challenge by making do with what they have. By "refunctioning" old/obsolete technologies or inventing new uses for common ones, communities in many places have fashioned technologies to fit their needs and priorities.[12] In the process, they have become innovators, creating new aesthetic forms (art, music), new avenues for political action, and new ways to articulate their identities.

Ben Chappell shows that the practice of lowrider customization is in fact a highly technical process, requiring a great amount of skill. By refunctioning the car to provide maximum visibility, Chicanos in Texas and California are asserting their own ideas about the preferred function of the automobile—to serve as an object of beauty and display. The adornment of the car to reflect their urban, working-class Mexican American identity takes precedence over alterations for speed and efficiency. Not only do lowrider modifications mess with the cars themselves, they also trouble ideas about the "appropriate" uses of the automobile.

The documentary filmmaker Vivek Bald urges people of color to ignore ideas about what is appropriate and to instead "appropriate technology" for their own purposes. In his two most recent projects, *Taxi-vala/Auto-biography* and *Mutiny: Asians Storm British Music*, he demonstrates how working-class South Asians have made do and made new their everyday technologies. In the former, the CB radio, a throwback trucker gadget made famous in the 1970s by *BJ and the*

Bear, has been retooled as an instrument that facilitates community formation and political action among South Asian cab drivers in New York City.[13] In the latter, simple music technologies—at least by today's music production standards—become tools by which British Asian youth gain technical and artistic skills. At youth centers in East London, funded in part by successful Asian bands like Asian Dub Foundation, Asian kids are taught how to use sampling and DJ-ing equipment and encouraged to utilize music to express their political voice. The brand of cultural politics stressed at these centers is crucial for youth who often have very little access to formal channels of political protest.

Chinese immigrants in the metropolitan New York area use another type of music technology—the karaoke machine—for other purposes: as a tool of pleasure and social activity and as a means by which to communicate across class and regional differences. Karaoke participants draw from and reinterpret "traditional" Chinese music and American "classics" to tell stories about their specifically Chinese American experiences. For Chinese in New Jersey, Queens, and Chinatown, the karaoke "scenes" allow them to blend memories of their past with their contemporary lives, making the formation of a diasporic identity possible.

In deindustrializing Detroit, African Americans articulated new black diasporic subjectivities expressed through technological innovations. They fashioned techno, an electronic musical form, by assembling a variety of sources: African American musical history, the economic and cultural history of Detroit, and a global music import culture to create a unique sound. In their music, techno-pioneers like Juan Atkins, Derrick May, and Kevin Saunderson married myths and technical skills to create what Ben Williams identifies as "black secret technology."

Combined, these essays provide a much-needed first step toward a fuller understanding of race and technoculture. Of course they are not meant to be definitive or comprehensive; rather, they are suggestive of some of the more relevant issues in this emerging field. Here we have tried to point out some of the most pressing problems, including workplace inequalities and racial divides in technological access, as well as some of the more promising interventions. By looking at everyday life and a wider range of technologies, we are able to affirm

our roles as producers and innovators, as members of various technological communities, and as participants in the creation of a wired world.

NOTES

1. While the large volume of literature on this topic prevents us from making an exhaustive list, some texts that have shaped debates about technology in the social world include Stanley Aronowitz, ed., *Technoscience and Cyberculture* (New York: Routledge, 1996); Michael Benedikt, ed., *Cyberspace: First Steps* (Cambridge: MIT Press, 1991); Gretchen Bender and Timothy Druckery, eds., *Culture on the Brink: Ideologies of Technology* (San Francisco: Bay Press, 1994); Wiebe E. Bijker, *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change* (Cambridge: MIT Press, 1995); James Brook and Iain Boale, eds., *Resisting the Virtual Life: The Culture and Politics of Information* (San Francisco: City Lights, 1996); Scott Bukatman, *Terminal Identity: The Virtual Subject in Postmodern Science Fiction* (Durham: Duke University Press, 1993); Manuel Castells, *The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process* (Oxford: Blackwell, 1989); Manuel Castells, *The Rise of the Network Society*, vol. 1 (Oxford: Blackwell, 1996); Verena Andermatt Conley, ed., *Rethinking Technologies* (Minneapolis: University of Minnesota Press, 1993); Jonathan Crary and Sanford Kwinter, eds., *Zone 6: Incorporations* (New York: Zone Books, 1992); Mark Dery, ed., *Flame Wars: The Discourse of Cyberculture* (Durham: Duke University Press, 1994); Gary Downey and Joe Dumit, eds., *Cyborgs and Citadels: Anthropological Interventions in Emerging Sciences and Technologies* (Santa Fe: School of American Research Press, 1997); Donna Haraway, *Simians, Cyborgs and Women* (New York: Routledge, 1991); Donna Haraway, *Modest_Witness@Second_Millennium. FemaleMan©_Meets_OncoMouse™: Feminism and Technoscience* (New York: Routledge, 1997); David Hess, *Science and Technology in a Multicultural World* (New York: Columbia University Press, 1995); Donald MacKenzie and Judy Wajcman, eds., *The Social Shaping of Technology* (Philadelphia: Open University Press, 1985); Aihwa Ong, *Spirits of Resistance and Capitalist Discipline: Factory Women in Malaysia* (Albany: State University of New York Press, 1987); Constance Penley and Andrew Ross, eds., *Technoculture* (Minneapolis: University of Minnesota Press, 1991); Howard Rheingold, *Virtual Reality* (New York: Simon and Schuster, 1992); Tricia Rose, *Black Noise: Rap Music and Black Culture in Contemporary America* (Hanover: Wesleyan University Press, 1994); Andrew Ross, *Strange Weather: Culture, Science and Technology in the Age of Limits* (New York: Verso, 1991); Richard Sclove, *Democracy and Technology* (New York: Guilford, 1995); Clifford Stoll, *Silicon Snake Oil: Second Thoughts on the Infor-*

mation Highway (New York: Doubleday, 1995); Sherry Turkle, *The Second Self: Computers and the Human Spirit* (New York: Simon and Schuster, 1984); Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon and Schuster, 1995); Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (Chicago: University of Chicago Press, 1986).

2. Herbert Schiller, *Information Inequality: The Deepening Social Crisis in America* (New York: Routledge, 1996); Herbert Schiller, *Information and the Crisis Economy* (Norwood, NJ: Ablex, 1984); William Wresch, *Disconnected: Haves and Have-Nots in the Information Age* (New Brunswick: Rutgers University Press, 1996); Stoll, *Silicon Snake Oil*.

3. Stanley Aronowitz and William DiFazio, *The Jobless Future: Sci-Tech and the Dogma of Work* (Minneapolis: University of Minnesota Press, 1994). For other discussions of class, labor, and technology, see Stanley Aronowitz and Jonathan Cutler, eds., *Post-Work: The Wages of Cybernation* (New York: Routledge, 1998); Castells, *The Rise of the Network Society;* Barbara Garson, *The Electronic Sweatshop* (New York: Simon and Schuster, 1988); Ong, *Spirits of Resistance and Capitalist Discipline;* Andrew Ross, "Jobs in Cyberspace," in *Real Love: In Pursuit of Cultural Justice* (New York: New York University Press, 1998), 7–34.

4. Castells, *The Rise of the Network Society*.

5. For discussions of gender, feminism, and technology, see Ann Balsamo, *Technologies of the Gendered Body: Reading Cyborg Women* (Durham: Duke University Press, 1996); Berner, Boel, ed., *Gendered Practices: Feminist Studies of Technology and Society* (Linkoping, Sweden: Department of Technology and Social Change, Linkoping University, 1997); H. Patricia Hynes, ed., *Reconstructing Babylon: Essays on Women and Technology* (Bloomington: Indiana University Press, 1991); Gill Kirkup and Laurie Smith Keller, eds., *Inventing Women: Science, Technology, and Gender* (Cambridge: Blackwell, 1992); Cheris Kramarae, ed., *Technology and Women's Voices: Keeping in Touch* (New York: Routledge and Keegan Paul, 1988); Sadie Plant, *Zeros and Ones: Digital Women + the New Technoculture* (New York: Doubleday, 1997); Jennifer Terry and Melodie Calvert, eds., *Processed Lives: Gender and Technology in Everyday Life* (New York: Routledge, 1997); Joan Rothschild, *Machina ex Dea: Feminist Perspectives on Technology* (New York: Pergamon Press, 1983); Judy Wajcman, *Feminism Confronts Technology* (University Park: Pennsylvania State University Press, 1991).

6. Plant, *Zeros and Ones*.

7. For example, the edited collection *Wired Women: Gender and New Realities in Cyberspace* begins with the following disclaimer, "None of the few women of color we were able to find online were available to write, a mirror of the extremely white nature of the medium at this time." They unwittingly assume

the female version of the white geek icon even as they try to undo its implicit maleness. See Lynn Cherny and Elizabeth Reba Weise, eds., *Wired Women: Gender and New Realities in Cyberspace* (Seattle: Seal Press, 1996).

8. Scientific racism and eugenics have been supported in part by technology's ability to "mark" racial differences. Further, as Michael Adas argues, the presumed lack of technologies in certain parts of the world, including Africa and India, have been used to support a theory of racial inferiority and as a justification for colonial domination. See Michael Adas, *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance* (Ithaca: Cornell University Press, 1989). On surveillance and information gathering, see Mike Davis, *City of Quartz: Excavating the Future in Los Angeles* (New York: Vintage, 1992); James Lyon, *The Electronic Eye: The Rise of Surveillance Society* (Minneapolis: University of Minnesota Press, 1994); and Oscar Gandy, Jr., "The Panoptic Sort," in Brook and Boale, *Resisting the Virtual Life*.

9. See Michel de Certeau, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984); Henri Lefebvre, *The Critique of Everyday Life* (London: Verso, 1991); and Kristin Ross, *Fast Cars, Clean Bodies: Decolonization and the Reordering of French Culture* (Cambridge: MIT Press, 1996).

10. As Lefebvre points out, the emphasis on work and productivity that has marked the modern world is ironically reinforced by Marxist theorists who see any struggle outside the class struggle as irrelevant:

> By starting from an abstract notion of the class struggle, some Marxists have neglected not only to study the recent modifications of capitalism as such, but also the "socialization of production," and the new contents of specifically capitalist relations. Such a study could perhaps have modified the notion of class struggle, leading to the discovery of new forms of struggle.

Lefebvre, *Critique of Everyday Life*, 38.

11. Ibid., 32–33.

12. See Penley and Ross, *Technoculture* for other examples of technological "refunctioning." We borrow the concept "cultural priority" from Tricia Rose; for further elaboration, see Rose, *Black Noise*, chap. 3.

13. *BJ and the Bear* was a popular television show about a trucker and his chimpanzee.