Bohemian Technocracy & the Countercultural Press

Fred Turner

IN 1973, EMINENT SOCIOLOGIST DANIEL BELL PUBLISHED A 507-PAGE VOLUME BUILT
AND TITLED AROUND A SINGLE IDEA: *The Coming of Post-Industrial Society.* The high-industrial
order that had dominated the nineteenth and early twentieth centuries was beginning to melt away, he claimed.
In the past, men had wrestled with mechanical monsters on the floors of giant factories and sold the goods
they made for profit. Now, Bell argued, the real money would be made through the application of scientific
acumen to already existing ways of thinking and acting. Under the pressure of new forms of knowledge and
new information technologies, manufacturing would give way to service industries; science would drive the
invention of new devices; and finally, a new technocratic elite would take its place at the forefront of American
society (fig. 4.1). According to Bell, the "axial principle" of the new order would be "theoretical knowledge"; its
defining technology, the computer.[1]

On its face, Bell's account of new modes of labor and manufacturing would seem to have little to do with the
rise of the American counterculture. After all, by the time Bell wrote his book, students had been marching
against the military-industrial complex and its war in Vietnam for nearly a decade. Tens of thousands of
young Americans had turned their backs on professional life entirely and packed themselves off to communes
on the plains of Colorado and the hills of Vermont. Even Bell himself argued that the counterculture was a
"counterfeit culture" and an attack on "a shared moral order."[2]

Fig. 4.1. **HP 9600C RTE-C: A Core-Based Real-Time Multiprogramming System for Your Applications** (Hewlett-Packard, 1973), cover

Yet, a closer look at two exceptionally influential publications of the era, the *Whole Earth Catalog* (fig. 4.2) and *Radical Software*, reveals a very different arrangement of forces. Far from rejecting mainstream culture, these two publications actually embraced its technocratic ideals, its faith in expertise, and even its information technologies. In their view, mainstream America offered a cornucopia of high-technology tools; given the proper instructions, readers could use these tools to transform their collective consciousness and thereby build a new, more collaborative society. Though it is tempting today to recall the youth movements of the 1960s as a single antinomian uprising, these publications remind us that at a fundamental level, parts of the counterculture were not countercultural at all. On the contrary: in the pages of the *Catalog* and *Radical Software* and their many imitators, the technocratic ideals of Daniel Bell's postindustrial society and the bohemian dreams of the counterculture became one.

THE *Whole Earth Catalog*
AND THE
DREAM OF BOHEMIAN TECHNOCRACY

To understand the appeal of this fusion, we need to return to Berkeley, California, on October 15, 1965. On that day, Ken Kesey, novelist and leader of the Merry Pranksters, had been invited to address a gathering of antiwar marchers before they took to the streets. Less than a year earlier, a rolling series of free-speech protests had roiled the campus of the University of California nearby. Meantime, LSD was still legal, and across the bay, in San Francisco's Haight-Ashbury district, the psychedelic scene was just beginning to blossom. For the leaders of the march against the war, Berkeley's free-speech movement and the Haight's burgeoning hipster
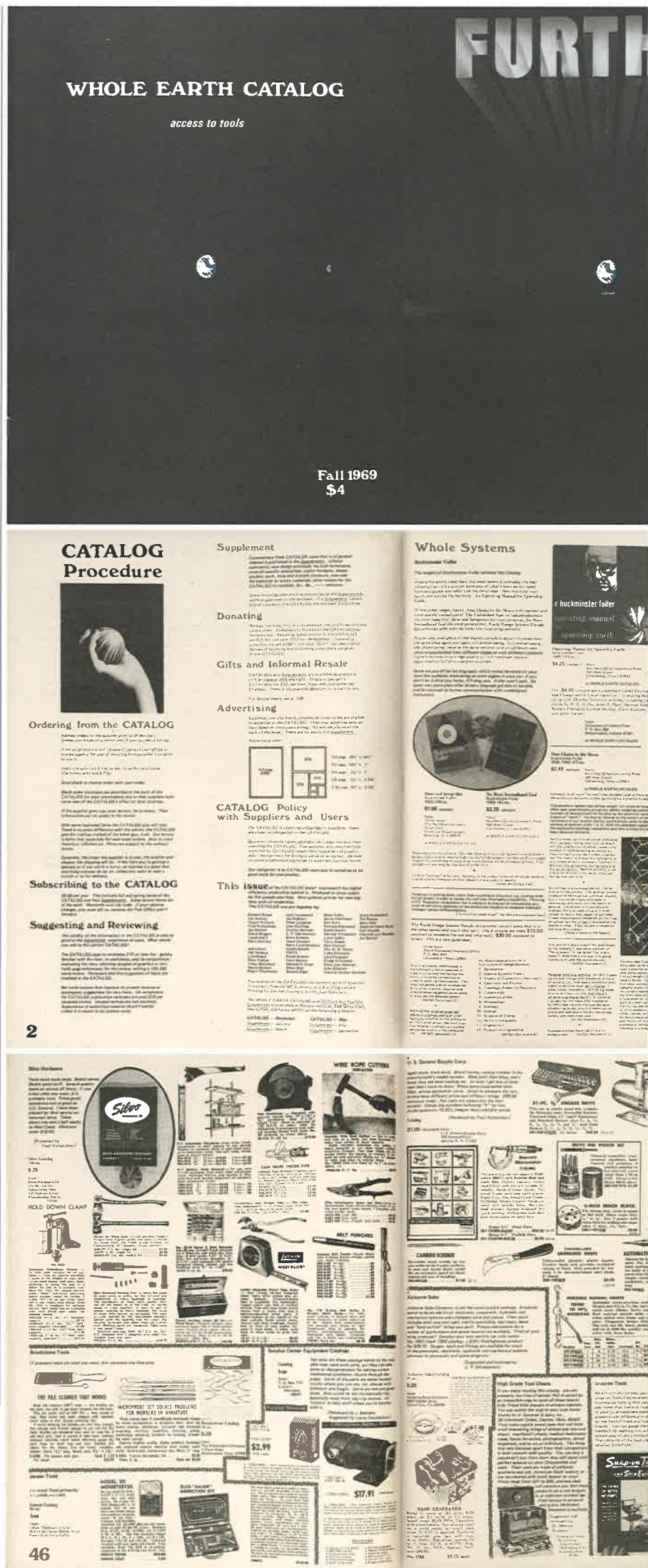
Fig. 4.2. **Whole Earth Catalog,** Fall 1969, cover, back cover, pp. 2-3, 46-47.

culture represented two different worlds—socially, ideologically, and even to some degree geographically. Thus, they had invited Kesey as if he were the head of a foreign state: with his presence they hoped to bring the two communities together and to join the politics of protest with the rebellious play of the Pranksters.[3]

When he mounted the stage however, Kesey turned on his hosts. If they wanted a harangue, they wouldn't get it. Looking out over the crowd, Kesey leaned in to the microphone and said, "You know, you're not going to stop this war with this rally, by marching …. That's what they do."[4] He then pulled a harmonica out of his pocket, played "Home on the Range," and left the stage. For Kesey and the Pranksters and, ultimately, for an entire wing of the American counterculture, the confrontational politics favored by the New Left looked like a trap. To do politics was to become a politician; to change the world, you needed to begin with yourself, at home. More specifically still, you needed to begin by changing your state of mind. In his 1969 best seller, *The Making of a Counter Culture*, Theodore Roszak put it this way: "Building the good society is not primarily a social, but a psychic task."[5] In Roszak's view, mainstream, military-industrial America had driven the nation into Vietnam and the world to the edge of the nuclear abyss by depending on "the scientific world view, with its entrenched commitment to an egocentric and cerebral mode of consciousness."[5] To defeat the war makers and their industrialist allies, he argued, Americans needed to invent a new kind of politics, a "politics of consciousness."[7]

But how? If the process of doing politics in the conventional way—by forming social movements, holding meetings, making rules and regulations— had been hopelessly entwined with instrumental rationality, where could those pursuing another form of consciousness turn? On what principles and with what tools and techniques could they build an alternative form of sociability?

In many ways, it was these questions that the *Whole Earth Catalog* was founded to answer. In 1966, Stewart Brand was a thirty-year-old photographer and peripheral member of the Merry Pranksters. He had just helped create the Trips Festival—a two-night gathering featuring copious quantities of LSD, psychedelic lighting, performance art, and rock music that helped kick-start San Francisco's psychedelic scene (fig. 4.3). He had also hung around outside the campus gates at Berkeley, hawking buttons that read, "Why haven't we seen a picture of the whole earth yet?" For Brand, psychedelic drugs, rocket ships, and satellite photography were all part of a new universe of technologies that could enhance the individual's ability to perceive his or her place in the world. Such new perceptions, he believed, could ultimately become grounds for a kind of society that might finally transcend the military politics and mechanistic mind-set of mainstream America.

By 1968, such beliefs had also helped drive the largest wave of communalization in American history.[8] In the wake of 1967's "Summer of Love," the citizens of Haight-Ashbury and other hip urban enclaves had begun taking themselves to the plains of Colorado and New Mexico and the hills of Vermont. By the early 1970s, the most reliable estimates suggested that some 750,000 Americans were living in more than 10,000 communes nationwide (fig. 4.4), many in the rural wilds.[9] While the texture and aims of communal life varied from site to site, virtually all sought to create alternatives to a world they imagined as bureaucratic and psychologically constrained. And like the Pranksters, they hoped to build such alternatives not through politics, but through the design and deployment of new, small-scale technologies.

In the summer of 1968, Brand and his then-wife Lois piled into their old Dodge pickup truck and drove east, to the communes of Colorado and New Mexico, to see what tools the communards might need. When they returned to the San Francisco area, they began compiling a catalog that over the next four years would swell to some 448 pages, sell more than a million copies, and win a National Book Award.[10]

3. Jay Stevens, *Storming Heaven: LSD and the American Dream* (New York: Atlantic Monthly Press, 1987), pp. 295-298.

4. Quoted in Tom Wolfe, *The Electric Kool-Aid Acid Test* (New York: Farrar, Straus and Giroux, 1968), p. 222.

5. Theodore Roszak, *The Making of a Counter Culture: Reflections on the Technocratic Society and Its Youthful Opposition* (Berkeley: University of California Press, 1995), p. 49.

6. Ibid., p. 50.

7. Ibid., p. 51.

8. For an analysis of the literature detailing the number of communes built in this period and its relationship to pre-1960s communalism in America, see Turner, *From Counterculture to Cyberculture* (Chicago: University of Chicago Press, 2006), pp. 32-35. For more detailed analyses, see Hugh Gardner, *The Children of Prosperity: Thirteen Modern American Communes* (New York: St. Martin's Press, 1978); Judson Jerome, *Families of Eden: Communes and the New Anarchism* (New York: Seabury Press, 1974); Rosabeth Moss Kanter, *Commitment and Community: Communes and Utopias in Sociological Perspective* (Cambridge: Harvard University Press, 1972); Rosabeth Moss Kanter, *Communes: Creating and Managing the Collective Life*

Though ostensibly founded to serve an audience daily engaged in building houses and starting farms in the rural wilds, the *Catalog* in fact spoke to an entire generation that had been coming to grips with the technological abundance of the post–World War II era. On its first page, Brand articulated the *Catalog*'s purpose thus:

> We are as gods and might as well get good at it. So far, remotely done power and glory—as via government, big business, formal education, church—has succeeded to the point where gross defects obscure actual gains. In response to this dilemma and to these gains a realm of intimate, personal power is developing—power of the individual to conduct his own education, find his own inspiration, shape his own environment, and share his adventure with whoever is interested. Tools that aid this process are sought and promoted by the *Whole Earth Catalog*.[11]

In 1968, much of the alternative press could be found advocating sit-ins and marches. Like Kesey, however, Brand and the communalists he spoke to advocated a different form of power, a way of living and making social change that was both bohemian and deeply technocratic. On the one hand, like generations of bohemians before them, the communalists sought to live together in their own alternative enclaves. On the other, however, they sought to improve their lives and govern those communities using the tools and the logic of postindustrial production. Much like Daniel Bell, Brand and the communalists believed that high technology had created a radical new stage in human social organization. And like Bell, they placed a special faith in the power of information technology to free American society from the hyperrational mind-set and the hierarchical organizational forms of the industrial era.

The preeminent information technology for Brand and the communalists was the *Catalog* itself. Given popular recollections of the 1960s as an anticommercial era, the choice of a catalog as a

countercultural form might seem a little out of place. And so it might have been if the *Catalog* had actually served as a retail outlet. Yet, as Brand wrote in the first issue, the *Catalog* was designed to function "as an evaluation and access device. With it, the user should know better what is worth getting and where and how to do the getting."[12] Though *Catalog* staffers maintained a Whole Earth Truck Store near their offices in Menlo Park, California, and though readers could in fact purchase many items featured in the *Catalog* there, the *Catalog* itself served as a reference device. Readers could write in to Brand and his staff and recommend particular products. If their recommendations were accepted, Brand would pay the contributor a ten-dollar fee. The reader's recommendation would then appear in the *Catalog*, alongside information on how other readers might contact the manufacturer or otherwise acquire the product.

This production pattern transformed the industrial-era role of the catalog. In the nineteenth century, the *Sears Roebuck Catalog*, for example, served as a centralized distribution point for mass-manufactured goods (fig. 4.5). The *Whole Earth Catalog*, on the other hand, served as a map of an emerging, geographically distributed community of consciousness. As readers wrote in, they made visible not only particular products, but their ideals, their tastes, and the new communities in which they lived. To buy the *Whole Earth Catalog* was not simply to buy a mechanism for identifying particular tools (though it was that too); it was to purchase a window on an alternative world.

Brand himself was very much aware of this function. He published the *Catalog* twice a year through 1972 and intermittently after that. For the first four years, between editions of the *Catalog*, he also published a supplement in which he updated listings. In both of these publications, Brand regularly offered reports on various gatherings of the countercultural tribes. In March 1969, for instance, he reported on Alloy, a gathering of 150 self-defined "world thinkers"—ranging from commune architects to Bay Area scientists to teachers at a Bay Area high school—in

11. Stewart Brand, ed., *Whole Earth Catalog* (Menlo Park, CA: Portola Institute, 1968), n.p.

12. Ibid.
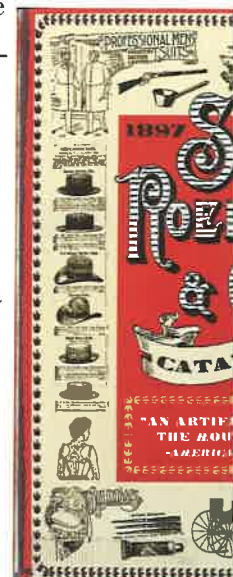
an abandoned New Mexico factory.[13] At other times, he included coverage of a Prankster bus race, the funeral of a monk, and the deployment of a giant inflatable plastic house in the desert. For readers, the *Catalog* was never primarily about buying and selling goods. Rather, as one reader put it, "I think the whole scene is tantamount to a sort of community in print, with the crafty taciturn old bastards hawking and spitting into the fire, and occasionally laying one on us out of the experience store."[14]

In that sense, the *Whole Earth Catalog* represented a powerful paper-based prototype of a new kind of society, a geographically distributed network of communities and individuals linked by shared tastes and consumption practices, and by an information technology that allowed its members to reveal their personal predilections to one another. In retrospect, we can see that the *Catalog*'s tactics foreshadowed the online social networks of our own time. Yet, in 1968, they also grew out of a deep affinity for key ideas and practices of the military-industrial world of midcentury America. Each edition of the *Catalog* was divided into seven sequential categories: "Understanding Whole Systems"; "Shelter and Land Use"; "Industry and Craft"; "Communications"; "Community"; "Nomadics"; and "Learning." Within those sections readers could find pointers to such hip essentials as deerskin jackets or guides to macrobiotic cooking. But they could also find pictures of the latest Hewlett-Packard calculator and discussions of cutting-edge plastics.

By far the most common tools on display were not devices at all. They were books. For Brand and his readers, these books resembled LSD or rock music or flickering lights: all served as tools with which to transform the consciousness of their readers and, thereby, the structure of society. At the same time however, they tended to celebrate the power of expert knowledge and of a systems framework for understanding the social and natural worlds. They derived their systems theory primarily from two extraordinarily influential midcentury technocrats: Buckminster Fuller and Norbert Wiener. Since the

1920s, Fuller had traveled the United States, a peripatetic architect, designer, and self-styled technological visionary. Though lacking any long-term institutional employment, he found his way into such centers of the American corporate imaginary as *Fortune* magazine, where in 1940 he opined on issues ranging from patterns of American industrialization to the workings of the Sperry gyroscope. His designs for a three-wheeled automobile (the Dymaxion Car) and for a house suspended on a pole (the Dymaxion House) fascinated readers in the years before World War II. In 1954 he patented the geodesic dome. At the behest of the United States military, he helped deploy the dome to shelter radar stations along the Distant Early Warning Line. This three-thousand-mile-long string of stations was designed to watch for Soviet air attacks and stretched across the arctic from Alaska through Canada to Greenland. By the end of the 1950s, the dome had become a preeminent mode of housing American national exhibitions abroad, and by the end of the 1960s, it had become the preferred housing of many rural communards[15] (fig. 4.6).

For Fuller, industrial America served as a great bank of technologies from which individual adepts might withdraw and refashion new machines for living. As he put it in his 1963 volume *Ideas and Integrities*, a book read on communes and campuses across the country,

> Only the free-wheeling artist-explorer, non-academic, scientist-philosopher, mechanic, economist-poet who has never waited for patron-starting and accrediting of his coordinate capabilities holds the prime initiative today. If man is to continue as a successful pattern-complex function in universal evolution, it will be because the next decades will have witnessed the artist-scientist's spontaneous seizure of the prime design responsibility and his successful conversion of the total capability of tool-augmented man from killingry [sic] to advanced livingry [sic]—adequate for all humanity.[16]

For Fuller, as for the generation that had come of age in the wake of the atom bomb, industrial technology

13. Turner, *From Counterculture to Cyberculture*, pp. 96–97; 273n54.

14. Rolan Jacopetti, letter to the editor, in *The Difficult but Possible Supplement to the Whole Earth Catalog*, ed. Stewart Brand, Ann Helmuth, Joe Bonner, et al. (Menlo Park, CA: Portola Institute, 1969), p. 8.

15. For more on Fuller and the geodesic dome, see Alex Soojung-Kim Pang, "Dome Days: Buckminster Fuller in the Cold War," in *Cultural Babbage: Technology, Time and Invention*, ed. Francis Spufford

DOMEBOOK ONE

had brought humanity into a new evolutionary era. Human beings could now destroy themselves, completely. Militarists could fire off a barrage of nuclear missiles. Or more insidiously, greedy industrialists could simply hoard resources in such a way as to starve the other citizens of the planet. Under these circumstances, it was up to flexible individuals, working together, to reclaim the technologies of the industrial mainstream and turn them into tools with which to redistribute the globe's resources. Fuller called this task "comprehensive design," and to the young utopians who contributed to the *Whole Earth Catalog*, it offered a powerful example.[17] As comprehensive designers, they could simultaneously enjoy such fruits of science and technology as geodesic domes and LSD, and transform them into tools with which to overthrow, at least within their own social circles, the rational, destructive logic of the industries and government agencies that had produced them.

So too could those who embraced midcentury information theory. In his 1948 volume of the same name, MIT mathematician Norbert Wiener coined the term "cybernetics." During World War II, Wiener had sought to mathematically predict the flight of enemy aircraft. In the process of that research, and in conversations with scientists in other domains, he began to imagine the social world as a complex information system. Like other information systems, he believed, societies tended to entropy, and, literally, to the madness of warfare; yet, pockets of order also remained. It was the job of information systems—and societies—to foster these zones of stability. To do so, however, at least in Wiener's model, one must accept that the world itself was a system and that one could influence it only iteratively, through a process that he and his colleagues called "feedback." To wield instrumental power was not enough to make order in Wiener's view; one must instead participate in a process of interaction, of information exchange, with one's fellow human beings, and with the natural and technological worlds. Only then could the mass chaos of future wars be averted.[18]

In the late 1960s, Brand and the communalists coupled Wiener's understanding of society as a self-organizing system to Fuller's notion of comprehensive design. Together, these technology-and-systems-driven views of social change offered a powerful intellectual alternative to the politics of struggle then playing out in the antiwar and civil rights movements. By turning away from politics per se and toward the personal sphere, the readers of the *Catalog* could escape the turmoil of mainstream American life. By taking up the same industrial products and consumption habits that floated through suburbia, they could partake of the pleasures of mainstream technocracy while developing their own bohemian communities. They could ape the collaborative research styles and the search for perception-extending technologies that had long governed military research. They could reclaim military shelters as homes within which to bend their minds in a more pacific direction. And knowing that both their communal enclaves and the world as a whole could be thought of as a single system, they could deploy information technologies such as the *Catalog*—or for that matter, LSD—in search of a mystical interconnection that scientists had already named. In the pages of the *Catalog*, the individual's search for psychological transformation claimed the collective urgency of the need for planetary survival.

Radical Software AND CYBERNETIC GUERRILLA WARFARE

Within two years of the *Catalog*'s appearance, other publications imitated its style and even reprinted its contents. Some, like the bimonthly *Mother Earth News*, tried to reach the *Catalog*'s back-to-the-land audience with how-to stories, coverage of rural living, and a tool-centered approach to helping their readers develop new lifestyles. As sociologist Sam Binkley has pointed out, others simply adopted the access-catalog model wholesale. Whether dealing with jewelry and smoking gear (the *Goodfellow Catalog of Wonderful Things*), ecology (the *Good Earth Almanac*), or sexuality (the *Catalog of Sexual Consciousness*), these catalogs too saw the intimate realm of the

17. Fred Turner, "Buckminster Fuller: A Technocrat for the Counterculture," in *New Views on R. Buckminster Fuller*, ed. Hsiao-Yun Chu and Roberto Trujillo (Stanford, CA: Stanford University Press, 2009).

18. Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society* (New York: Da Capo Press, 1988), pp. 16, 47-77, and 95-96.

personal as a place to make social change.[19] By the early 1970s, the *Whole Earth Catalog* had had a particular impact in high-technology circles. In the San Francisco Area, members of the Homebrew Computing Club (including Lois Brand) helped found the *People's Computer Company* (fig. 4.7), an irregular, informal guide to using computers as tools for personal and social transformation. Another programmer, Theodor Nelson, turned to the *Catalog* as a model for his own compendium of countercultural computing lore, *Computer Lib*[20] (fig. 4.8). A few years later, programmer Alan Kay, creator of the Dynabook and a pioneer in the design of laptop computers, would turn to the *Catalog* as a model of interface design.[21]

In each of these settings, "tools" retained a communalist connotation. That is, they were not simply a means to accomplish a task; they were mechanisms by which to transform individual consciousness and thereby, social order. Yet, even as the *Whole Earth Catalog*'s vision of a simultaneously bohemian and technocratic society rippled out into bookstores across America, its youthful countercultural readers found themselves under increasing assault. In May 1969, in Berkeley, California, marchers protested the police occupation of a formerly abandoned park recently reclaimed by residents. In the ensuing protests, police used shotguns to kill one protestor and permanently wound another. A year later, National Guard troops opened fire on students at Kent State University, and two hundred construction workers attacked a group of antiwar marchers in Manhattan. In the streets at least, the easy optimism of the "Summer of Love" had faded away.

In New York, a group of video artists responded to this new and darker political environment by turning the bohemian technocratic ideals of the *Whole Earth Catalog* in a more militant direction. In the summer of 1969, an artist and activist named Frank Gillette founded Raindance Corporation, a video collective that he hoped would be "an alterna-
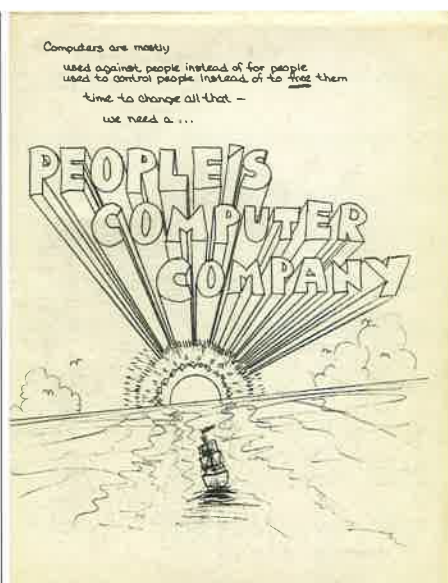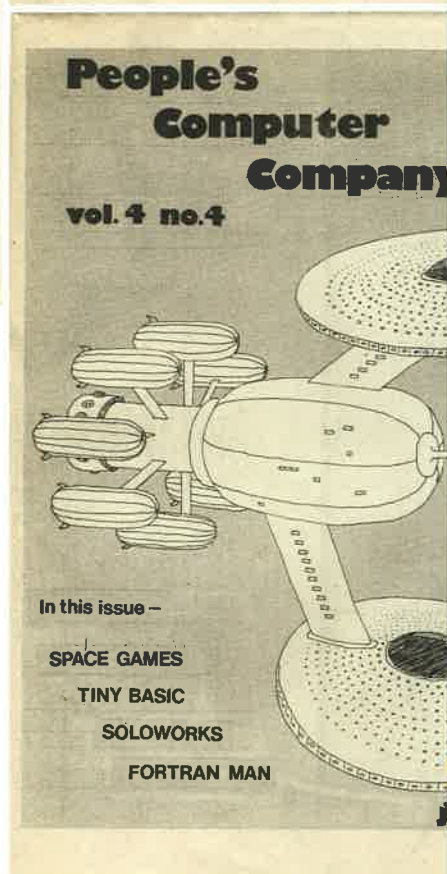
19. Binkley, *Getting Loose: Lifestyle Consumption in the 1970s* (Durham, NC: Duke University Press, 2007), pp. 144-149 and 177-184.

20. Turner, *From Counterculture to Cyberculture*, p. 275n23.

21. Alan Kay, interview, August 5, 2004.

You can and must understand computers NOW.
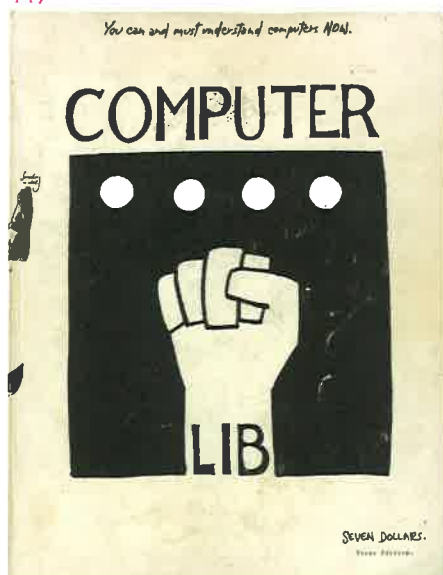
COMPUTER

LIB

SEVEN DOLLARS.
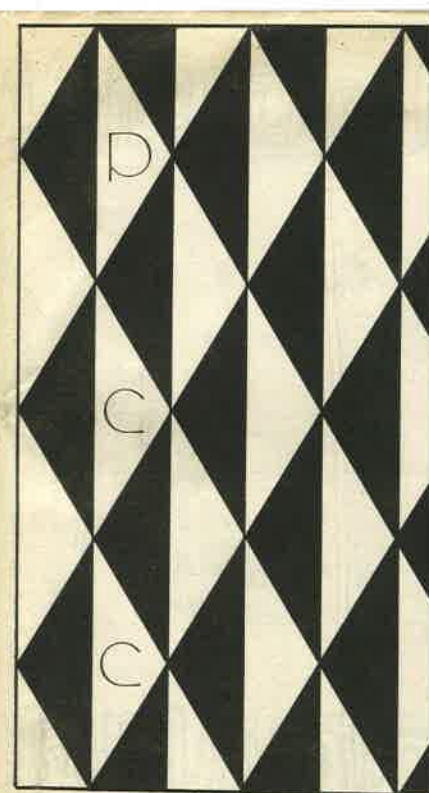
Fig. 4.8 **Computer Lib,** 1974

tive media think tank; a source of ideas, publications, videotapes and energy providing a theoretical basis for implementing communication tools in the project of social change."[22] Since 1967, Gillette had been involved with a growing New York alternative media scene. Artists such as Howard Gutstadt, David Cort, Ken Marsh, and Nam Jun Paik were experimenting with video and the television screen as new artistic media. Others, such as Victor Gioscia, a professor of philosophy at Adelphi and director of research for Jewish Family Services, had begun deploying video in psychotherapeutic settings. In the spring of 1969, Gillette was invited to exhibit his work in a show of television art called *Wipe Cycle* (fig. 4.9) at the Howard Wise Gallery. Through that show, and through his growing social network, he met former *Time* magazine reporter Michael Shamberg, and musician Louis Jaffe. Over the next few years, Jaffe funded Raindance with family money, while Shamberg became its most visible theoretician.

For the members of Raindance, as for the founders of the *Whole Earth Catalog*, high technology seemed to have brought human beings to the brink of a new age. And like Brand and company, Gillette and his colleagues embraced the politics of consciousness and the power of information technology. Gillette had even chosen the word "Raindance" as a play on the name of the RAND Corporation. Like RAND, Gillette hoped Raindance would model new, postindustrial, postbureaucratic ways of working with communication technology—albeit for a hipper clientele. Where the communalists of the back-to-the-land movement had sought to separate themselves from mainstream society, the video tacticians of Raindance saw themselves as guerrillas, operating within the existing media system. Inspired by Marshall McLuhan, they believed that mass media and particularly television had enlarged the human sensorium and linked the world in a single electronic network. Yet they feared that the structure of the media industries made it difficult if not impossible for ordinary people to help shape the mediasphere. To wage their battle on behalf of those people, the founders of Raindance relied on two media technologies: the inexpensive, hand-held
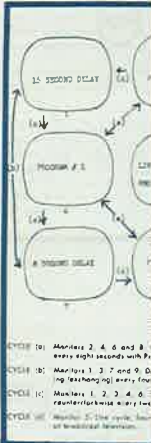
video camera, and the printing press. Their approach to each reflected a fusion of the bohemian techno-centrism of the *Whole Earth Catalog* and the new militancy of antiwar protest.

The members of Raindance encountered the portable video camera and the *Whole Earth Catalog* at almost the same time. In 1968, Sony released the Portapak, a mobile video unit retailing for about $1,500.[23] Until that time, artists such as Nam Jun Paik and Aldo Tambellini who were interested in using the television screen as a medium had generally manipulated an image on the screen itself rather than make their own programs for broadcast.[24] With the Sony however, the members of Raindance began to make their own videos and to imagine releasing cameras into the general population. Once there, the cameras would function like LSD, transforming the social and interpersonal awareness of their users. They would also function like guns with which to challenge a repressive media order. As art historian David Joselit has pointed out, the Raindance collective sought to change society with "feedback" in two senses: one, it aimed to cre-ate new contexts for the exchange of information; and two, it aimed to disrupt the existing media system by feeding "noise" back into it.[25] For the Raindance col-lective, unlike the communalists, the transformation of consciousness would have to be accompanied by a form of technological direct action. As Raindance member Paul Ryan explained in 1970,

> Traditional guerrilla activity such as bombings, snipings, and kidnappings complete with printed manifestos seems like so many ecologically risky short change feedback devices compared with the real possibilities of portable video, maverick data banks, acid metaprogramming, Cable TV, satel-lites, cybernetic craft industries, and alternate life styles. Yet the guerrilla tradition is highly relevant in the current information environment.[26]

Raindance, then, brought together the technocentric idealism of the communalists and the direct action sensibilities of the increasingly radical New Left.
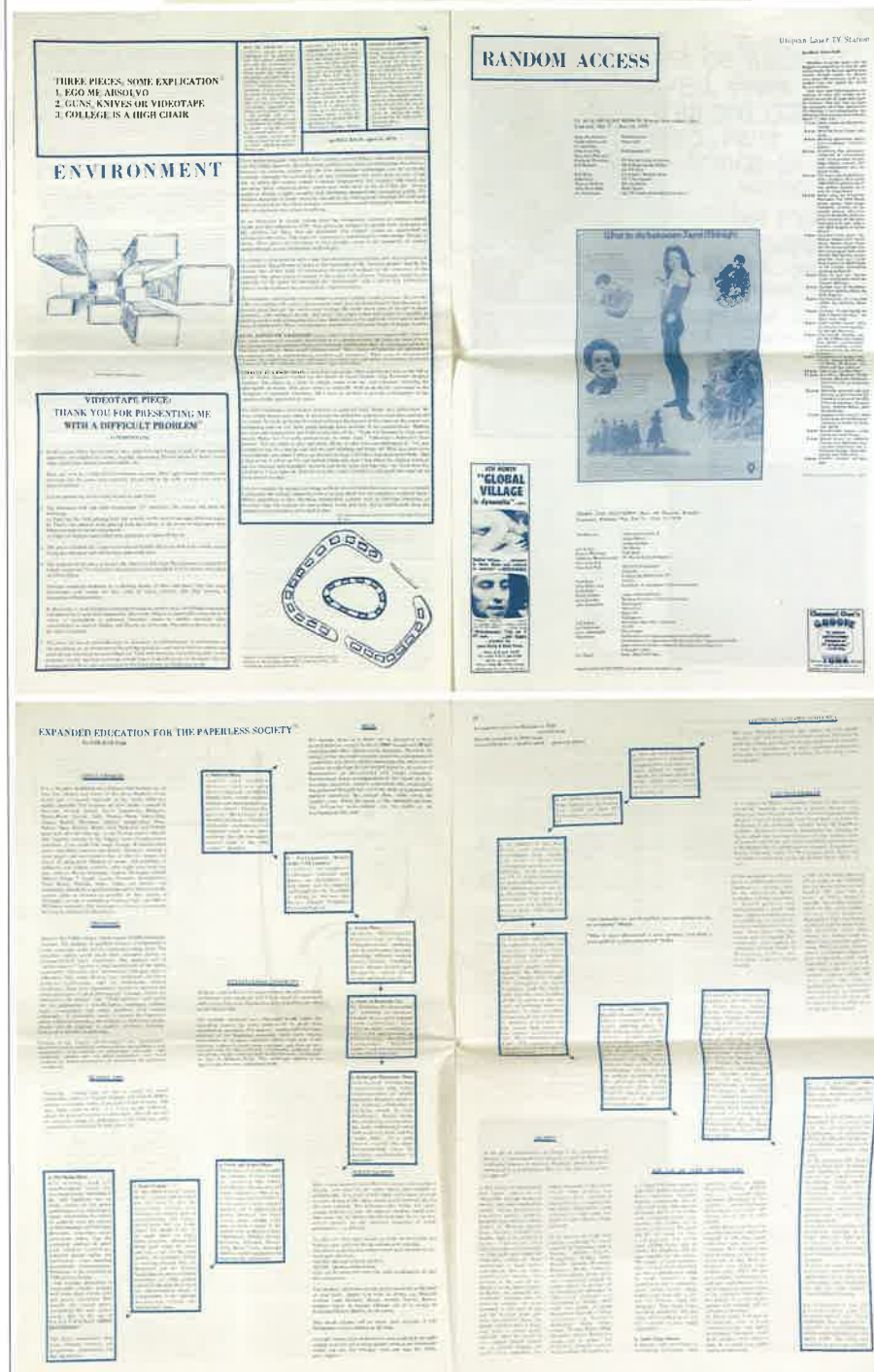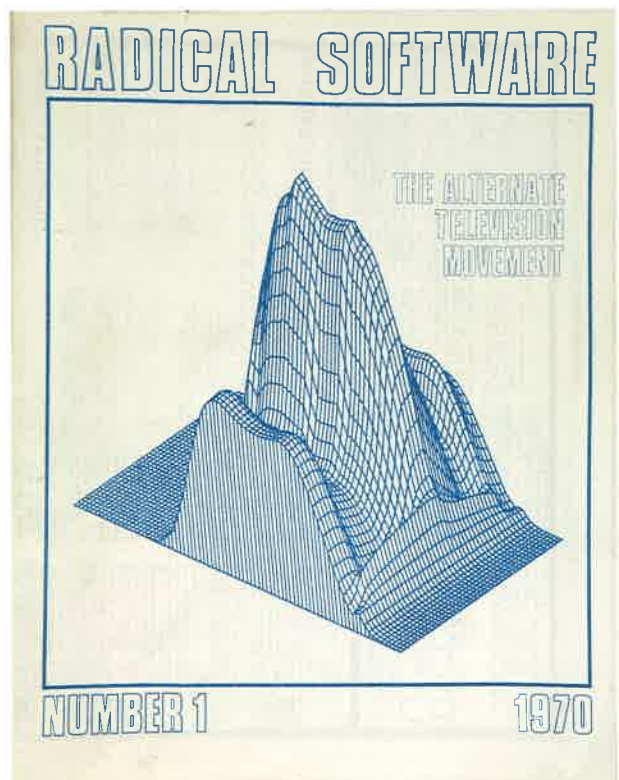
Both of these impulses fueled the design and publication of the collective's newspaper, *Radical Software* (fig. 4.10). Edited by Phyllis Gershuny and Beryl Korot, *Radical Software* appeared three times a year from 1970 to 1974. Early issues resembled a traditional newspaper and ran to 24 pages; later issues were published by Gordon and Breach and ran to as many as 120 pages in a bound magazine format. In both cases, they took up the tool-centered politics and design techniques of the *Whole Earth Catalog* and linked them to a rhetoric of insurrection.

Each issue, for instance, featured half a dozen categories into which the editors slotted correspondence and news about products from within and outside the Raindance group. In the first issue, these categories included HARDWARE, SOFTWARE, ENVIRONMENT, FEEDBACK, and RANDOM ACCESS (all capitalized). The HARDWARE section focused on new video and cable television technologies. Articles by Gene Youngblood and Thea Sklover outlined the latest technical developments in each, and then linked them, in Youngblood's phrase, to the politics of the "videosphere." As Youngblood put it on page 1,

> Television is the software of the Earth.
> The videosphere is the *noosphere*—global organized intelligence—transformed into a perceivable state ....
> Television, like the computer, is a sleeping giant. But those who are beginning to use it in revolutionary new ways are very much awake.[27]

The SOFTWARE section in turn offered a two-page transcription of an interview with Buckminster Fuller, in which Fuller spun a cotton-candy web of ruminations on topics ranging from human evolution to new media technologies to his own recent travels. Immediately after the Fuller piece, the section offered an equally lengthy disquisition by Nam Jun Paik entitled "EXPANDED EDUCATION FOR THE PAPERLESS SOCIETY." In a set of boxes linked by arrows and arrayed in a way that resembled the steps in a computer program, Paik's article reimagined video not simply as a
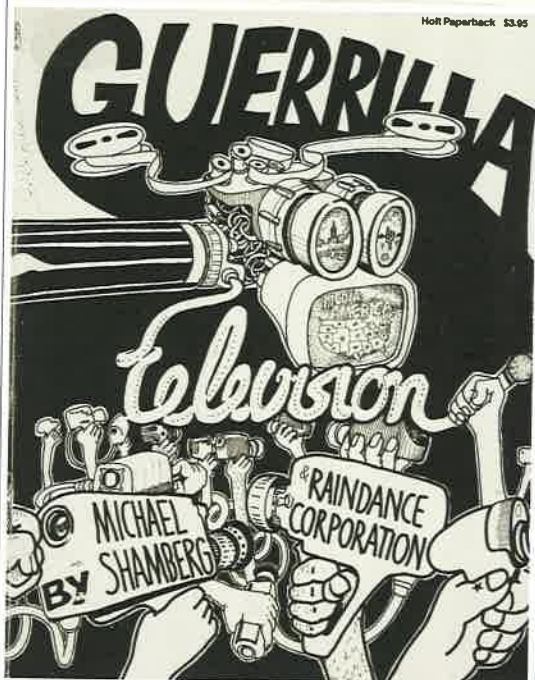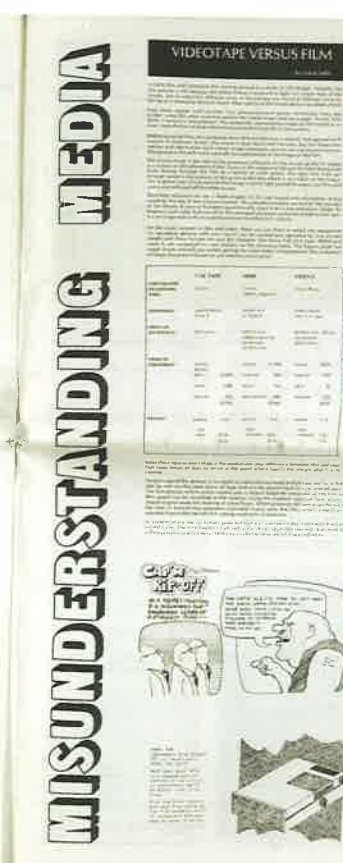
27. Youngblood, "The Videosphere," *Radical Software*, vol. 1, no. 1 (1970), p. 1.
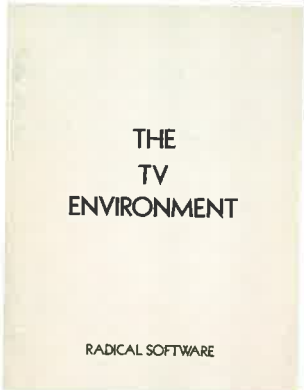
means of personal psychological liberation but as a way to distribute education throughout society. The new technologies seemed to Paik to offer what the Internet has now delivered: a networked resource for the dissemination of theoretical and practical knowledge. Far from rejecting the distributed, information-centered patterns of postindustrial production, Paik's essay encouraged them.

Subsequent sections of the publication featured interviews with other members of Raindance, a report on citizen media activism in Canada, and lists of resources, communities, and individuals involved in making alternative video. Like the categories of the *Whole Earth Catalog*, these sections encouraged readers to see themselves as part of technological, intellectual, and social systems simultaneously. The mind, the community, the society—all were information systems, and all could be mapped and remade by information technologies. By using the electronic tools described in HARDWARE or perhaps the books or theoretical writings in SOFT-WARE, the reader could reshape his own mind. Once reshaped, that mind could be connected through the FEEDBACK and RANDOM ACCESS sections to those of other, like-minded video and media freaks, in New York and across the continent. Like the *Whole Earth Catalog*, *Radical Software* offered access to tools, and at the same time, a map of an emerging social world and instructions for establishing citizenship in it.

Much of *Radical Software*'s resemblance to the *Catalog* grew out of its editors' shared fondness for Buckminster Fuller and Norbert Wiener. Like Fuller, the members of the Raindance collective saw technology, and specifically information technology, as a far more effective and egalitarian mechanism for social change than traditional government. And like Wiener, they saw the world as a system of overlapping information patterns, some entropic, some not.[28] They also embraced a metaphor that had long stood at the heart of cybernetics. In much cybernetic writing of the 1940s, and especially in Wiener's work, the individual mind, the society,

and the natural world all consisted of fundamentally isomorphic information patterns—patterns that could be modeled and manipulated by a computer. For the video freaks of Raindance, this isomorphism offered a lever for social change that linked the communalist dream of communities of consciousness to their own project of creating nonmass media. The key to making change—in the mind, in society, and in the natural world—was to reprogram the information system.

It was for that reason that they called their publication "software." In 1971, Raindance published *Guerrilla Television*, a book by member Michael Shamberg that outlined their philosophy. "True cybernetic guerrilla warfare means restructuring communications channels, not capturing existing ones," wrote Shamberg.[29] Raindance, he explained, was "a survival center" for a species whose sensorium had just been dramatically expanded by the introduction of television:[30]

> The use of the word "guerrilla" is a sort of bridge between an old and a new consciousness. The name of our publication, *Radical Software*, performs a similar function. Most people think of something "radical" as being political, but we are not. We do, however, believe in post-political solutions to cultural problems which are radical in their discontinuity with the past.[31]

For the editors and writers of *Radical Software*, as for those at the *Whole Earth Catalog*, true revolution would not come at the barrel of a gun or even through peaceful marches in the street. Rather, the revolution had already arrived in the form of media and other industrial technologies. The challenge now was to recognize the new information and media systems as they existed, to develop alternative research institutes in which to understand them, and to create and distribute new media and information technologies with which to reshape them.

28. For more on the Raindance group's debt to cybernetics, see Paul Ryan, *Video Mind, Earth Mind: Art, Communications, and Ecology* (New York: P. Lang, 1993); and William Kaizen, "Steps to an Ecology of Communication: Radical Software, Dan Graham, and the Legacy of Gregory Bateson," *Art Journal*, vol. 67, no. 3 (2008), pp. 86–107.

29. Michael Shamberg and Raindance Corporation, *Guerrilla Television* (New York: Holt, Rinehart and Winston, 1971), 29, quoted in Joselit, *Feedback*, p. 101.

30. Shamberg, *Guerrilla Television*, p. 37.

31. Ibid., introduction, n.p.

THE COUNTERCULTURAL POST-INDUSTRIAL TURN AND ITS LEGACY

By the mid-1970s, both *Radical Software* and the *Whole Earth Catalog* had closed their doors. While Raindance continued to serve as a resource for New York–area video artists, *Radical Software* suffered from financial problems, editorial turnover, and ultimately, disagreements with the publisher Gordon and Breach.[32] For Stewart Brand, shuttering the *Whole Earth Catalog* was a matter of principle. In 1971, the *Catalog* remained enormously profitable and enjoyed a large readership, but Brand thought that it had done its educational work. On June 21, he brought some five hundred *Whole Earth* staffers and friends to San Francisco's Palace of Arts and Sciences to celebrate what he believed would be the final edition of the *Catalog*. In the folds of the monk's habit he donned for the occasion, Brand carried $20,000 in cash. The money, he said, was a tool, like the *Catalog*. He announced that he would give the money to whatever cause the crowd—by consensus—deemed best. Long into the night, guests stepped up to a microphone to offer possibilities. By dawn, the sum had mysteriously dwindled by about $5,000 and the rest had been given to a social activist and computer hobbyist named Fred Moore. Four years later, Moore cofounded the Homebrew Computer Club (fig. 4.11).

Even as the youth movements of the 1960s faded from public view, the *Whole Earth Catalog* and *Radical Software* went on to have long cultural afterlives. *Radical Software* and the Raindance collective inspired citizen media activists for the next twenty years.[33] Paul Ryan, for instance, went on to create experimental video and conceptual art. He also continued to pen cybernetic visions of activism in his books *Cybernetics of the Sacred* (1974) and *Video Mind, Earth Mind* (1993). Michael Shamberg went to work in Hollywood. Over the next twenty years, Shamberg produced films ranging from *The Big*

Chill (1983), in which a group of former radicals now turned young urban professionals gather for a weekend and mull over their life choices, to *Pulp Fiction* (1994), *Gattaca* (1997), and *Erin Brockovich* (2000).[34] For his part, Stewart Brand became an even more influential network entrepreneur. In 1971, he published what he called the *Last Whole Earth Catalog*; yet, new versions of the *Whole Earth Catalog* (fig. 4.12) appeared periodically into the late 1990s. Perhaps even more importantly, the *Catalog* became a model for one of the most influential virtual communities of the early Internet era, the Whole Earth 'Lectronic Link (or WELL). Brand and other contributors to the *Catalog* went on to found or cofound new journals (such as *CoEvolution Quarterly* (fig. 4.13) and the *Whole Earth Review* (fig. 4.14) and a major international consulting firm (the Global Business Network). They would even help launch *Wired*—the magazine that, more than any other, promoted a utopian vision of information technology just as the Internet came into widespread public use.[35]

In part, *Radical Software* and the *Whole Earth Catalog* owe their continuing relevance to a revolution in sensibility that they themselves helped bring about. But they also owe their cultural longevity to deep changes in the American economy. Even as they turned away from the bureaucracies and large-scale technologies of heavy industry, the authors and editors of the *Whole Earth Catalog* and *Radical Software* embraced the tools and trends that Daniel Bell had characterized as key elements of the emerging postindustrial order: systemic forms of expertise, participatory models of organization, and information technology. Today of course, the postindustrial order has become part of our everyday world. Theoretical knowledge has been applied to virtually every mechanical and social process we know. Information technologies link us to one another and to databanks of fact and thought. Twenty-four hours a day, computer systems transform the expertise embedded in algorithms and social communities into electronic actions, sorting and delivering a new world of goods and ideas to our desktops. Moreover, much

32. Gigliottie, "A Brief History of RainDance."

33. Deirdre Boyle and ebrary. Inc., *Subject to Change: Guerrilla Television Revisited* (New York: Oxford University Press, 1997), pp. 190-208.

34. Joselit, *Feedback*, p. 101.

35. Turner, *From Counterculture to Cyberculture*, pp. 207-236.

as Bell predicted, the status structure of American society reflects this shift. Today, scientists and technologists such as Bill Gates and Steve Jobs have become international icons. Likewise, the values we associate with information and media technologies have become ubiquitous: calls for entrepreneurship, small group collaboration, and the promotion of egalitarian access to knowledge can be heard across the developed world.

Today, even the *form* of information technology that the *Whole Earth Catalog* and *Radical Software* helped pioneer remains influential. Neither the *Catalog* nor *Radical Software* really covered events; rather, they invited participants into their pages and in so doing, became events in their own right. That is, they made an emerging, geographically distributed social world visible to itself. They offered the citizens of that world tools with which to design their own psychological and social futures. And they asked in return only that their readers imagine themselves as cybernetic nomads. To flip open their publications was to wander in a world in which mind and society, nature and machine, mirrored one another. To

change society was as simple as finding and using the right tool. Today of course, digital technologies have rendered such worlds ubiquitous. Online social networks, multiplayer computer games, and virtual worlds such as *Second Life* all offer access to new tools, new social groups, and for some at least, alternative communities in which to live.

If Daniel Bell was right and it was the rise of big science and the deployment of massive computers after World War II that helped bring us into the flexible, mobile, work-anywhere country we inhabit now, it was publications like the *Catalog* and *Radical Software* that made that country look cool. Even as they turned against bureaucracy in favor of a do-it-yourself ethos, they cracked open a vision of using information technologies to support massively distributed labor. Even as they called for the blurring of work and everyday life on communes and in video collectives, they helped legitimize a turn toward highly informated, geographically dispersed production. To Daniel Bell, this shift looked like a transformation in the American mode of manufacturing. To the authors of the *Whole Earth Catalog* and *Radical Software*, it looked like utopia.

Fig. 4.12 **The Next Whole Earth Catalog,** 1980, cover

Fig. 4.13 **CoEvolution Quarterly,** Winter 1982, no. 36, cover; Summer 1983, no. 38, cover; Fall 1974, no. 3, cover; Summer 1977, no. 14, cover

Fig. 4.14 **Whole Earth Review,** May 1985, no. 46, front and back covers; January 1985, no. 44, cover; Winter 1987, no. 57, cover

Power to the People

The Graphic Design of the Radical Press and the Rise of the Counter-Culture, 1964–1974

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