Where the Counterculture Met the New Economy

The WELL and the Origins of Virtual Community

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In 1993, freelance journalist Howard Rheingold published *The Virtual Community: Homesteading on the Electronic Frontier* and with it defined a new form of technologically enabled social life: virtual community.[1] For the last eight years, he explained, he had been dialing in to a San Francisco Bay–area bulletin-board system (BBS) known as the Whole Earth 'Lectronic Link, or the WELL. In the WELL's text-only environment, he conversed with friends and colleagues, met new people, and over time built up relationships of startling intimacy. For Rheingold, these relationships formed an emotional bulwark against the loneliness of a highly technologized material world. As he explained, computer networks like the WELL allowed

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1. Howard Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier* (Reading, Mass., 1993). This book marked the entry of the term "virtual community" into widespread public use. Rheingold had also been the first person to use it in

us "to recapture the sense of cooperative spirit that so many people seemed to lose when we gained all this technology."[2] In the disembodied precincts of cyberspace, we could connect with one another practically and emotionally and "rediscover the power of cooperation, turning cooperation into a game, a way of life—a merger of knowledge capital, social capital, and communion."[3]

In the years since Rheingold's book appeared, the Internet and the Worldwide Web have swung into public view, and both the WELL and Rheingold's notion of virtual community have become touchstones for studies of the social implications of computer networking.[4] Yet, despite the

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print, in his 1987 article about the WELL, "Virtual Communities: The Computer Network as Electronic Watering Hole," *Whole Earth Review* no. 57 (winter 1987): 78–80. He went on to develop the notion in a widely reprinted 1992 essay, also focused on the WELL, titled "A Slice of My Life in My Virtual Community"; see *High Noon on the Electronic Frontier: Conceptual Issues in Cyberspace*, ed. Peter Ludlow (Cambridge, Mass., 1996), 413–36.

2. Rheingold, *The Virtual Community*, 110.

3. Ibid.

4. It is hard to overestimate the impact of Rheingold's writing on new media scholarship. Before his articles and his 1993 book appeared, researchers generally did not take up the question of on-line communities as such. Rather, they focused on computer-mediated communication, principally on the ways in which computer technologies shaped interpersonal communication and thereby the performance of work groups, teams, and commercial organizations. For examples, see Ronald E. Rice, "Issues and Concepts in Research on Computer-Mediated Communication Systems," *Communication Yearbook* 12 (1988): 436–76, and Lee Sproull and Sara B. Kiesler, *Connecting: New Ways of Working in the Networked Organization* (Cambridge, Mass., 1991). As Steven Jones has pointed out, researchers in this period paid particular attention to the ways computers broke down barriers of time and distance; see "Understanding Community in the Information Age," in *CyberSociety: Computer-Mediated Communication and Community*, ed. Steven G. Jones (Thousand Oaks, Calif., 1995), 10–35, 29. In the wake of Rheingold's book, researchers tended to adopt many of its core assumptions, including the notions that Americans needed new communities and that those communities could be established with technology; see Jones, "Understanding Community," 14. Many studies focused on the ways in which computers helped or failed to create interpersonal intimacy on-line and on the social and discursive norms shaping that process. See, for instance, Nancy Baym, "The Emergence of Community in Computer-Mediated Communication," in Jones, *CyberSociety*, 138–63; Clifford Stoll, *Silicon Snake Oil: Second Thoughts on the Information Highway* (New York, 1995); and Susan B. Barnes, *Online Connections: Internet Interpersonal Relationships* (Creskill, N.J., 2001). Others attended to the ways in which "disembodied" forms of communication can lead to either feelings of increased intimacy or new and potentially disruptive forms of identity play. See Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York, 1995); Allucquère Rosanne Stone, *The War of Desire and Technology at the Close of the Mechanical Age* (Cambridge, Mass., 1996); and Julian Dibbell, *My Tiny Life: Crime and Passion in a Virtual World* (New York, 1998). More recently, scholars have focused on the ways in which on-line and off-line communications interact. See Barry Wellman, "An Electronic Group is Virtually a Social Network," in *Culture of the Internet*, ed. Sara B. Kiesler (Mahwah, N.J., 1997), 179–205; Barry Wellman and Milena Gulia, "Virtual Communities as Communities: Net Surfers Don't Ride Alone," in *Communities in Cyberspace*, ed. Marc A.

WELL's prominence, few have rigorously explored its roots in the American counterculture of the 1960s. As its name suggests, the Whole Earth 'Lectronic Link took shape within a network of individuals and publications that first came together long before the advent of ubiquitous computer networking, with the publication of the *Whole Earth Catalog*. In the spring of 1968, Stewart Brand, a former Merry Prankster and coproducer of the Trips Festival that helped spark the Haight-Ashbury psychedelic scene, noticed that many of his friends had begun to leave the city for the wilds of New Mexico and Northern California. As sociologists and journalists would soon explain, these migrants marked the leading edge of what would become the largest wave of communalization in American history.[5] Brand had just inherited a hundred thousand dollars in stock and, as he recalled several years later, imagining his friends "starting their own civilization hither and yon in the sticks" got him thinking about the L.L.Bean catalog. This in turn led him to fantasize something he called the "Access Mobile" that would offer "all manner of access materials and advice for sale cheap," including books, camping gear, blueprints for houses and machines, and subscriptions to magazines.[6]

Smith and Peter Kollock (New York, 1999), 163–90; Keith N. Hampton and Barry Wellman, "Examining Community in the Digital Neighborhood: Early Results from Canada's Wired Suburb," in *Digital Cities: Technologies, Experiences, and Future Perspectives*, ed. Toru Ishida and Katherine Isbister (Berlin, 2000), 194–208; Barry Wellman, "Physical Place and Cyber Place: The Rise of Personalized Networking," *International Journal of Urban and Regional Research* 25 (June 2001): 227–52; and Barry Wellman et al., "Capitalizing on the Internet: Network Capital, Participatory Capital, and Sense of Community," in *The Internet in Everyday Life*, ed. Caroline Haythornwaite and Barry Wellman (Oxford, 2002), 291–324. See also Maria Bakardjieva, "Virtual Togetherness: An Everyday-Life Perspective," *Media, Culture and Society* 25 (2003): 291–313. For comprehensive reviews of the literature on virtual communities, see David Ellis, Rachel Oldridge, and Ana Vasconcelos, "Community and Virtual Community," *Annual Review of Information Science and Technology* 38 (2004): 145–86; Nicholas W. Jankowski, "Creating Community with Media: History, Theories and Scientific Investigations," in *Handbook of New Media: Social Shaping and Consequences of ICTs*, ed. Leah A. Lievrouw and Sonia M. Livingstone (London, 2002), 34–49; and Lori Kendall, "Virtual Community," in *Encyclopedia of New Media*, ed. Steven G. Jones (Thousand Oaks, Calif., 2003), 467–70.

5. Historians and sociologists have estimated that Americans established something more than six hundred communes in the two centuries before 1965. In the following seven years, somewhere between two thousand and six thousand communes were created, with most appearing between 1967 and 1970. These were often very fragile; the few that survived more than several years tended to have highly structured governance and often a religious orientation. See Hugh Gardner, *The Children of Prosperity: Thirteen Modern American Communes* (New York, 1978), 3–9. For more on the commune movement, see Richard Fairfield, *Communes U.S.A.* (San Francisco, 1971); William Hedgepeth, *The Alternative: Communal Life in New America* (New York, 1970); Robert Houriet, *Getting Back Together* (New York, 1971); Rosabeth Kanter, *Commitment and Community* (Cambridge, Mass., 1972); Rosabeth Kanter, ed., *Communes: Creating and Managing the Collective Life* (New York, 1973); Peter Rabbit, *Drop City* (New York, 1971).

6. Stewart Brand, ed., *The Last Whole Earth Catalog* (Menlo Park, Calif., 1971), 439.

The publication that grew out of that fantasy would quickly become one of the defining documents of the American counterculture. Sized somewhere between a tabloid newspaper and a glossy magazine, the sixty-one-page first *Whole Earth Catalog* presented reviews of hand tools, books, and magazines arrayed in seven thematic categories: understanding whole systems, shelter and land use, industry and craft, communications, community, nomadics, and learning. Over the next four years, in a series of bi-annual issues, the *Catalog* ballooned to more than four hundred pages, sold more than a million-and-a-half copies, won a National Book Award, and spawned dozens of imitators. It also established a relationship between information technology, economic activity, and alternative forms of community that would outlast the counterculture itself and become a key feature of the digital world.

Like other members of the counterculture, those who headed back to the land suffered a deep ambivalence toward technology. On the one hand, like their counterparts on the New Left they saw the large-scale weapons technologies of the cold war and the organizations that produced them as emblems of a malevolent and ubiquitous technological bureaucracy. On the other, as they played their stereos and dropped LSD many came to believe that small-scale technologies could help bring about an alternative to that world. Dancing at the Trips Festival or simply sitting around getting high with friends, many experienced a sense of spiritual interconnection. By the late 1960s, social theorists such as Charles Reich and Theodore Roszak had begun to argue that this interconnection could become the basis for a new social order—nonhierarchical, intimate, and free of the bureaucratic mindset that many thought plagued mainstream America.[7]

It was this social order that the young communards of the late 1960s hoped to establish. For his part, Stewart Brand aimed to provide those headed back to the land with access to the intellectual and practical tools they would need to change their minds and, with them, the world. In its first edition, for instance, the *Whole Earth Catalog* listed 133 items, ranging from books by Buckminster Fuller to a $4,900 Hewlett-Packard desktop calculator and a one-man sawmill. But the *Catalog* provided its readers with more than information about things; it gave them access to one another. Despite its name, the *Whole Earth Catalog* did not in fact sell the items it featured. Instead, it functioned as a pointer. At the bottom of each listing, after a brief review, usually written by Stewart Brand or a reader, the *Catalog* listed the item's price and gave information on where and how to acquire it. At first reviewers tended to come from San Francisco's bohemia and the back-to-the-land movement, but as the *Catalog*'s popularity grew

7. Charles A. Reich, *The Greening of America* (New York, 1970); Theodore Roszak, *The Making of a Counter Culture: Reflections on the Technocratic Society and Its Youthful Opposition* (Garden City, N.Y., 1969).

they came to include scientists and computer technologists from the Bay Area, East Coast artists and engineers, environmentalists, and, ultimately, even do-it-yourself suburbanites. Some knew one another outside the pages of the *Catalog*; many did not. For reviewers and for many of its other readers as well, the *Catalog* represented in text and pictures a geographically dispersed—and in that sense virtual—network of people with countercultural leanings. "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," wrote reader Rolan Jacopetti in March 1969. "'Sheeeeeeeit, son, you talkin' geodesic domes . . . hell, I recollect me and Bucky once . . .'"[8]

Fifteen years later, when Larry Brilliant, a former resident of the Hog Farm commune (whose members famously provided crowd control at Woodstock), approached Stewart Brand with the notion of putting the various items in the *Whole Earth Catalog* on-line, that community in print became the model for the WELL.[9] In tracing the *Catalog*'s influence on the WELL, this article draws on extensive interviews with Brand, Rheingold, and a dozen other central contributors to the *Catalog* and the WELL, in addition to research in the archives of both organizations. It thus offers a concrete, detailed account of the processes by which the countercultural celebration of small-scale technologies as tools for the transformation of consciousness and community came to undergird popular understandings of early computer networks. As it recounts this history, the article relocates the WELL, and the increasingly important form of technologically mediated sociability it represents, within a web of technological, economic, and cultural transformations that began long before digital technologies came into widespread use.

At the same time, even as it makes visible a particularly important historical relationship between information, technology, and community, the article also shows how two traditional approaches to that relationship might be synthesized. In its pages, the *Catalog* both depicted the products of an emerging counterculture and linked the scattered members of that culture to one another. In that sense, it became a "network forum." That is, it offered a venue in which members of multiple geographically dispersed groups could communicate with one another and in doing so come to see themselves as members of a single social network. As a network forum, the

8. Stewart Brand et al., eds., *The Difficult but Possible Supplement to the Whole Earth Catalog* (Menlo Park, Calif., 1969), 8.

9. Katie Hafner, *The WELL: A Story of Love, Death and Real Life in the Seminal Online Community* (New York, 2001), 10. Hafner's book, which grew out of an article for *Wired* magazine, offers something close to an oral history of the WELL. For other recollections by WELL users, see Douglas Rushkoff, *Cyberia: Life in the Trenches of Hyperspace* (San Francisco, 1994), and John Seabrook, *Deeper: My Two-Year Odyssey in Cyberspace* (New York, 1997). See also the WELL's own archives at http://engaged.well.com.

Catalog provides an analytical context in which to link two important concepts in science and technology studies: the "boundary object" and the "trading zone." In their 1989 study of Berkeley's Museum of Vertebrate Zoology, Susan Leigh Star and James Greisemer pointed out that scientific work at the museum required collaboration by members of a wide variety of subdisciplines.[10] Those specialists found ways to collaborate and yet retain their individual allegiances to their fields of origin in part through the creation and circulation of "boundary objects"—objects such as maps and diagrams "that both inhabit several intersecting social worlds and satisfy the informational requirements of each."[11] Similarly, in his research into the history of physics Peter Galison has argued that scientific laboratories function as "trading zones" in which members of subspecialties develop "contact languages" for the purpose of coordinating their activities within the laboratory.[12] This article in turn shows that, as a network forum, the *Catalog* displayed properties of both concepts. Like the boundary object, it was a media formation around which individuals gathered and collaborated without relinquishing their attachment to their home networks. But like the trading zone, it was also a place within which new networks were built, not only for social purposes but also for the purpose of accomplishing work—in this case, the work of building the *Catalog* itself.[13]

10. Susan Leigh Star and James Greisemer, "Institutional Ecology, Translations, and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907–1939," *Social Studies of Science* 19 (1989): 387–420; the article was reprinted, in abridged form, in *The Science Studies Reader*, ed. Mario Biagioli (New York, 1999), 505–24.

11. Star and Greisemer, in Biagioli, 505.

12. Peter Galison, "Trading Zone: Coordinating Action and Belief," in Biagioli, 137–60. This is an excerpt from Peter Galison, *Image and Logic: A Material Culture of Microphysics* (Chicago, 1997), chap. 9.

13. Network forums need not be confined to media. Think tanks, conferences, even open-air markets—all can serve as forums in which one or more entrepreneurs gather members of multiple networks, allow them to communicate and collaborate, and so facilitate the formation of both new networks and new contact languages. As the case of "virtual community" on the WELL will suggest, a media-based network forum is in part built out of these new languages and in part a site for their display. In developing the concept of the network forum, I hope to extend an emerging stream of research in science and technology studies. In recent years, scholars have paid increasing attention to the ways in which technological and social formations shape one another and to the role of communication in that process. Many have focused on the social interactions that surround the production of new technologies, including media technologies. For an introduction to work in the social construction of technology, see Wiebe E. Bijker, Thomas Parke Hughes, and Trevor J. Pinch, *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (Cambridge, Mass., 1987). For an application of the constructionist perspective to media technology, see Trevor Pinch and Frank Trocco, *Analog Days: The Invention and Impact of the Moog Synthesizer* (Cambridge, Mass., 2002). Others have explored the ways in which media artifacts have served as sites for collaborative activity. In addition to Star and Greisemer, see Edwin Hutchins,

As it tracks the evolution of the WELL, this article shows how shifts in technology and the organization of labor in the Bay Area transformed the historically specific constellation of technology, information, commerce, and community represented in the *Catalog*. Like the *Catalog*, the WELL became a forum within which geographically dispersed individuals could build a sense of nonhierarchical, collaborative community around their interactions. It did so, however, under radically new economic and technological conditions. In the late 1970s and 1980s, the professional communities of the Bay Area from which the WELL drew, and especially those associated with digital technology, witnessed an extraordinary rise in networked forms of economic organization and freelance patterns of employment. For the Bay Area's engineers and symbolic analysts, the WELL became a place to exchange the information and build the social networks on which their future employment depended.[14] In this new climate, notions of virtuality, community, and the socially transformative possibilities of technology associated with the counterculture became key tools with which WELL users managed their economic lives. Much like the *Whole Earth Catalog*, the WELL became a forum within which information exchange, community building, and economic activity took place simultaneously. In that sense, the virtual community that emerged on the WELL not only modeled the interactive possibilities of computer-mediated communication but also translated a countercultural vision of the proper relationship between technology and sociability into a resource for imagining and managing life in the network economy.[15]

Cognition in the Wild (Cambridge, Mass., 1995). Recently scholars have begun to bridge these perspectives under the rubric of "co-production." For a comprehensive review essay of work in this area, see Sheila Jasanoff, "Ordering Knowledge, Ordering Society," in *States of Knowledge: The Co-Production of Science and Social Order,* ed. Sheila Jasanoff (New York, 2004), 13–45.

14. For the importance of informal social networks to employment in the region in this period, see AnnaLee Saxenian, *Regional Advantage: Culture and Competition in Silicon Valley and Route 128* (Cambridge, Mass., 1994). To get a glimpse of how important this work was—and remains—on the WELL, visit the archives of the WELL's "Work" conference at http://engaged.well.com/engaged.cgi?c=work.

15. Very little research has taken account of the economic issues inherent in virtual communities. Within the academic world, those who have taken up the relationship of virtual communities to economic activity have generally analyzed on-line economics in terms of the "gift economy" paradigm Rheingold described in *The Virtual Community* (n. 1 above). See Marc A. Smith, "Voices from the WELL: The Logic of the Virtual Commons" (master's thesis, University of California, Los Angeles, 1992), and Peter Kollock, "The Economies of Online Cooperation: Gifts and Public Goods in Cyberspace," in Smith and Kollock (n. 4 above), 220–37. Outside the scholarly community, however, business writers of the mid-1990s leaped on the notion of virtual communities as a way to blend social and commercial activities. For an account of this process, see Chris Werry, "Imagined Electronic Community: Representations of Virtual Community in Contemporary Business Discourse" *First Monday* 4, no. 9 (6 September 1999), available at http://www.firstmonday.org/issues/issue4_9/werry/index.html.

The *Whole Earth Catalog* as Network Forum

Given the anticommercial bent of the back-to-the-land movement, it might seem strange that its members should find their community mirrored in the pages of a catalog—a preeminently commercial information genre. Some scholars have tried to explain this apparent incongruity by arguing that the *Whole Earth Catalog* should be read as evidence of the rise of a countercultural style of consumerism.[16] At one level, this explanation makes sense: the *Catalog* was indeed an influential example of the sorts of alternative businesses—such as food co-ops, free clinics, and underground newspapers—that came to life in the 1960s and flourished in the 1970s. At another level, though, it fails to acknowledge both the *Catalog*'s business model and the larger countercultural context.

While its pages did display products, the *Catalog* did not profit by selling those products to readers. On the contrary, it made its money in large part by selling its readers' product suggestions, reviews, and letters to other readers, and its core readership's collective worldview to outsiders. When readers reviewed products in the pages of the *Catalog* they introduced other readers not only to new goods but also to ways of thinking and speaking—about technology, commerce, information, and community in particular. When Brand began publishing a quarterly supplement to the *Catalog* in 1969 he also developed a correspondence section, in which readers wrote to one another. In both the *Catalog* and the supplement, Brand marketed not so much goods as a way of looking at how life ought to be lived. And readers who were not members of the back-to-the-land movement often responded to this vision with great passion. Gareth Branwyn, for instance, recalls the day in 1971 when he saw his first copy of the *Catalog*: "I was instantly enthralled. I'd never seen anything like it. We lived in a small redneck town in Virginia—people didn't think about such things as 'whole systems' and 'nomadics' and 'Zen Buddhism'. . . . The *Whole Earth Catalog* changed my life. It was my doorway to Bucky Fuller, Gregory Bateson, whole systems, communes, and lots of other things that formed a foundation to a world model I've been building ever since."[17]

In the *Whole Earth Catalog*, then, readers found a media artifact that simultaneously made visible a geographically scattered community of counterculturalists and allowed that community to constitute itself through the forum provided by that artifact, by suggesting and reviewing products and

16. Sam Binkley, "The Seers of Menlo Park: The Discourse of Heroic Consumption in the *Whole Earth Catalog*," *Journal of Consumer Culture* 3 (2003): 283–313; Guy Redden, "The New Agents: Personal Transfiguration and Radical Privatization in New Age Self-Help," *Journal of Consumer Culture* 2 (2002): 33–52.

17. Gareth Branwyn, *Whole Earth Review* [personal web page], available at www.streettech.com/bcp/BCPtext/CyberCulture/WholeEarthReview.html, accessed June 2005.

by writing letters.[18] Such a network forum accorded well with countercultural ideals regarding the relationship of technology to social life. In the late 1960s, young, predominantly white, middle-class college students developed two distinct, if sometimes overlapping, social movements within which they could challenge mainstream bureaucracies. The first grew out of the struggles for civil rights in the Deep South and the Free Speech Movement at the University of California at Berkeley and would become known as the New Left. The second bubbled up from a wide variety of cold war–era cultural springs, including beat poetry and fiction, Zen Buddhism, action painting, and, by the mid-1960s, encounters with psychedelic drugs. Across the 1960s, this second movement would often be called simply "the counterculture."[19]

Both the New Left and the counterculture hoped to transform the technocratic bureaucracies that, in their view, had brought Americans the cold war and the conflict in Vietnam. Both also hoped to return Americans to a more emotionally authentic and community-based way of life. The New Left, led by the Students for a Democratic Society, pursued these goals as insurgent political movements always have: they wrote statements, formed parties, chose leaders, held news conferences. Many members of the counterculture however, stepped away from agonistic politics and sought instead to change the world by establishing new, exemplary communities from which a corrupt mainstream might draw inspiration. For this group, whom I will call the New Communalists, as for many others in the counterculture, the key to social transformation lay not in changing a political regime but in changing the consciousness of individuals. Theodore Roszak, who popularized the term "counterculture," spoke for many New Communalists when he argued in 1969 that the central problem underlying the rationalized bureaucracy of the cold war was not political structure but the "myth of objective consciousness."[20] This state of mind, wrote Roszak, emerged among the experts who dominated rationalized organizations and was conducive to alienation, hierarchy, and a mechanistic view of social life. Its

18. In this sense, the *Catalog* offered an early example of a pattern of media production that Pablo Boczkowski, writing about the use of digital technology in journalism, has called "distributed construction." As Boczkowski explains, distributed construction is "a new regime of information production . . . [that] results from combining an artifact configuration inscribing users as content co-producers and enabling a multiplicity of information flows, with newsroom practices mixing facilitation and mediation tasks and a heterarchical organizational form"; see *Digitizing the News: Innovation in Online Newspapers* (Cambridge, Mass., 2004), 165.

19. The relationship between the New Left and the counterculture has been subject to extensive (and heated) investigation. For a historiography of the question, see Douglas Rossinow, "The New Left in the Counterculture: Hypotheses and Evidence," *Radical History Review* 67 (winter 1997): 79–120. See also Wini Breines, *Community and Organization in the New Left, 1962–1968: The Great Refusal* (New York, 1982), and Douglas C. Rossinow, *The Politics of Authenticity: Liberalism, Christianity, and the New Left in America* (New York, 1998).

20. Roszak (n. 7 above), 208.

emblems were the clock and the mainframe computer; its apogee, "the scientific world view, with its entrenched commitment to an egocentric and cerebral mode of consciousness."[21] Against this mode, Roszak and others proposed a return to transcendence, and with it a simultaneous transformation of our selves and our relations with others.

Ironically, to achieve the feeling of transcendent collectivity many relied on small-scale technologies such as stereos and theatrical light kits, and they deployed these technologies in commercialized, if then alternative, settings such as rock concerts. At the 1966 Trips Festival that Brand helped organize, for instance, audience members decked out in Day Glo paint danced and saw their dancing broadcast in real time on a series of closed-circuit televisions. Five slide projectors splashed images on the wall; light machines scanned the room. Two bands played, the Grateful Dead and Big Brother and The Holding Company. Jerry Garcia, lead guitarist for the Dead, recalls the feeling that characterized the early Acid Tests and the Trips Festival: "Thousands of people, man, all helplessly stoned, all finding themselves in a room of thousands of people, none of whom any of them were afraid of. It was magic, far-out beautiful magic."[22]

At the Acid Tests, and elsewhere throughout the New Communalist movement, ecstatic communion became a form of alternative politics. If the "straight" world was organized into parties and managed hierarchically, and if, in their competition with one another, those parties had brought us Vietnam, nuclear weapons, and widespread pollution, then the "hip" world would choose a different path. On the plains of Colorado near the town of Trinidad, for instance, an early and influential commune called Drop City appeared. Not unlike the Merry Pranksters, Drop City was devoted to pursuing collective harmony and creating traveling pieces of multimedia theater (called, with no apparent irony, "Droppings").[23] Its politics were anarchic and collaborative; where the straight world depended on leaders, this world depended on underlying environmental principles. "There is no political structure in Drop City," wrote cofounder Peter Rabbit. "Things work out; the cosmic forces mesh with people in a strange complex intuitive interaction. . . . When things are done the slow intuitive way the tribe makes sense."[24]

In the late 1960s and early 1970s, the *Whole Earth Catalog* took the tribal, antihierarchical politics of the New Communalist movement, as well as its celebration of disembodied, spiritual unity, and embodied them in a paper-and-ink publication. In keeping with the critique of hierarchical politics and its celebration of collaboration, Brand refused to dictate how the

21. Ibid., 50.

22. Martin A. Lee and Bruce Shlain, *Acid Dreams: The CIA, LSD, and the Sixties Rebellion* (New York, 1985), 144.

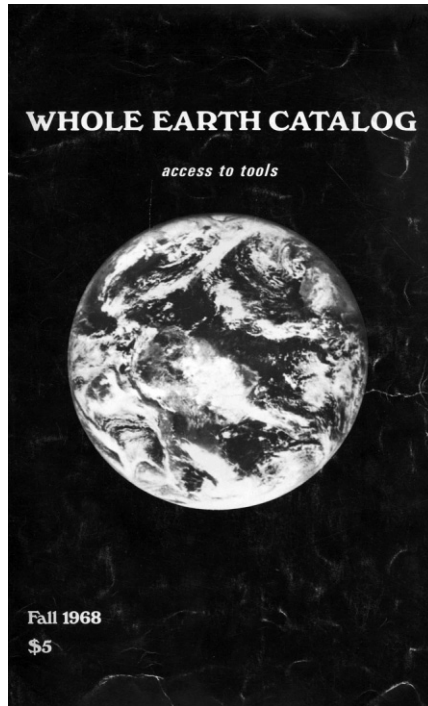23. Peter Rabbit, quoted in Gardner (n. 5 above), 36.

24. Ibid., 42.

FIG. 1 The cover of the first issue of the *Whole Earth Catalog*, founded in 1968 to offer the New Communalists "access to tools." (Photo courtesy of Stewart Brand.)

Catalog should be read. Readers could jump from category to category, making their own meanings of the text in collaboration with Brand's reviewers and their choices. The text itself echoed the back-to-the-land orientation of its original target audience: from its plain paper to its archaic typefaces and collage aesthetics, everything about the *Catalog* had a homespun feel. Yet the *Catalog* did not shy away from celebrating high technology or high technological theory. Its cover image (fig. 1) had been created by NASA, after all, and throughout the book one could find recommendations for technologies (such as high-end calculators) and publications (such as Norbert Wiener's *Cybernetics* and the *Wall Street Journal*) not often thought of in connection with hippies. As Theodore Roszak has pointed out, the *Whole Earth Catalog* offered a synthesis of the antitechnological idealism of the back-to-the-land movement and the technophilia common to both the acidheads of the Trips Festival and the managers of America's nuclear arsenal.[25]

25. Theodore Roszak, *From Satori to Silicon Valley: San Francisco and the American Counterculture* (San Francisco, 1986), 17.

What held this synthesis together was a mingling of systems theory and countercultural mysticism. For Brand, the *Whole Earth Catalog* was simultaneously a whole system—in the sense that it was both comprehensive and a model for certain organizing patterns in the world—and an informational tool for its readers to use in improving the whole systems that were their lives and the world in which they lived. On the inside cover of every edition of the *Catalog*, Brand defined its 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."

By the early 1970s, then, the *Whole Earth Catalog* had developed into a publication that celebrated and exemplified the notion that geographically dispersed communities could be linked by the exchange of information in a context that was both communal and commercial. In the process of reviewing products and writing to one another, the readers of the *Catalog* helped it to become a representation of the network of individuals and institutions linked in its pages and, in that sense, a network forum. Even as counterculturalists rebelled against the hierarchies of government, big business, and formal education, and even as they each developed an individual realm of "intimate, personal power," they also helped construct an informational representation of the larger community to which they belonged. Though their bodies might remain scattered, they could come together as voices in print. They could be united as a tribe within an information medium and they could use that medium as a tool, like LSD, to achieve a recognition of the information patterns and energy that linked them to their fellows and to the natural world.

How the Legacy of the *Whole Earth Catalog* Shaped the WELL

Stewart Brand published what he thought would be the last *Whole Earth Catalog* in 1971.[26] Yet the *Catalog*'s popularity continued to grow. The 1971 edition, for instance, sold more than a million copies and won a National Book Award. Over the next few years, Brand started and ran *Co-Evolution Quarterly*, later called the *Whole Earth Review*, a magazine that grew out of quarterly supplements to the original *Catalog* and served a smaller but similar audience. Throughout the 1970s and 1980s, he also periodically produced new, updated editions of the *Catalog* itself. These

26. Stewart Brand, interview by the author, Sausalito, Calif., 17 July 2001.

new editions changed with the times, incorporating new technologies, especially computer technologies, and in 1983 Doubleday offered him a $1.3 million advance to produce a *Whole Earth Software Catalog*. The *Software Catalog* never earned back that money, but the size of the advance marks the degree to which the *Catalog* retained a loyal following even into the 1980s.

It was this audience that Larry Brilliant hoped to tap with the WELL. Brilliant had recently founded Network Technologies International, a company that sold computer conferencing systems. He was looking for a ready-made user community with which to test his system, and he believed that, in the Whole Earth network, Brand had one.[27] He proposed a partnership to Brand. Brilliant would supply a computer and the conferencing software it required. Brand would allow Brilliant to post all of the items in the most recent *Whole Earth Catalog* on-line as topics for discussion and let people respond. In return, Brilliant would split whatever profits the system made fifty/fifty with the Point Foundation, nonprofit owner of the Whole Earth publications. Brand accepted the financial arrangement and took day-to-day responsibility for the system. He did not, however, agree to post sections of the *Catalog*. Brand argued instead that users should be allowed to create their own conversation topics. As he had with the *Whole Earth Catalog*, Brand hoped to allow the system's users to converse with one another and to market that conversation back to its participants.[28] For this he would charge users an eight-dollar subscription fee and two dollars per hour to log in—far less than the twenty-five dollars per hour of use that other systems were charging at the time.

Although he did not put the *Catalog* on line, Brand did bring two of its essential features to the project: a rich mix of technical, countercultural, and journalistic communities, and a management ethos derived from a blend of countercultural politics and systems theory. In addition to readers and staff of the Whole Earth publications, including the *Software Catalog*, the WELL's several hundred users in its earliest years included a large number of computer enthusiasts (most drawn from the Hackers' Conference, a gathering of programmers Brand and his colleagues had staged a year earlier).[29] They also included staff writers and editors for the *New York Times*,

27. Katie Hafner, "The Epic Saga of the WELL," *Wired*, May 1997, 98–142, available at http://www.wired.com/wired/archive/5.05/ff_well_pr.html.

28. Stewart Brand, interview by the author, Sausalito, Calif., 24 July 2001. Brand was also influenced in this decision by the fact that he had recently begun participating on the Electronic Information Exchange System (EIES) network, a forum for on-line conversation. He had found the conversations there exciting and he hoped to spark a similar use of the WELL. For an account of the EIES network, see Starr Roxanne Hiltz and Murray Turoff, *The Network Nation: Human Communication via Computer* (Reading, Mass., 1978).

29. No formal accounting of early WELL membership exists today. Howard Rheingold estimates that some six hundred people were using the WELL when he joined in the

Business Week, the *San Francisco Chronicle*, *Time*, *Rolling Stone*, *Byte*, *Harper's* and the *Wall Street Journal*, as well as numerous freelancers. Some of these journalists, such as the then husband-and-wife team of John Markoff and Katie Hafner, or the *Chronicle*'s Jon Carroll, were already well known in the Bay Area and the Whole Earth community. Others heard about the system and logged on in part to keep an ear to the ground. All of them were offered free accounts on the system—a move that in the long term greatly increased the WELL's impact on public perceptions of networked computing. Finally, in 1986, disc jockey and Grateful Dead maven David Gans joined the WELL, bringing with him a congeries of "Deadheads" whose constant conversations were to be a primary source of income for the WELL for several years.

These multiple, overlapping communities came together as the readers of the *Whole Earth Catalog* had before them, in a text-based forum that was designed to be both a business and a community, and one that would be governed in a nonhierarchical manner. In 1993, Kevin Kelly, an editor of *Co-Evolution Quarterly* when the WELL was founded and later executive editor of *Wired*, recalled that the WELL team had seven design goals at the start:

1. That it be free. This was a goal, not a commitment. We knew it wouldn't be exactly free but it should be as free (cheap) as we could make it. . . .

2. It should be profit making. . . . After much hard, low-paid work by Matthew and Cliff, this is happening. The WELL is at least one of the few operating large systems going that has a future.

3. It would be an open-ended universe. . . .

4. It would be self-governing. . . .

5. It would be a self-designing experiment. . . . The early users were to design the system for later users. The usage of the system would co-evolve with the system as it was built. . . .

6. It would be a community, one that reflected the nature of Whole Earth publications. I think that worked out fine.

7. Business users would be its meat and potatoes. Wrong. . . .[30]

While popular accounts have focused on the emotional intensity of relationships formed on the WELL and argued that it was this felt connection that constituted the core of the system's virtual community, Kelly's list reminds us that a countercultural conception of community had already been built into the system. This was true of both the system's software and

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summer of 1985; see "A Slice of Life in My Virtual Community," in Ludlow (n. 1 above), 430. Marc A. Smith estimates that that number had grown to approximately sixty-six hundred by 1992; "Voices from the WELL" (n. 15 above), 8.

30. Rheingold, *The Virtual Community* (n. 1 above), 43.

its business model. Though today it can be found on the Worldwide Web, when it first went on-line in 1985 the WELL was a bulletin-board system managed with a finicky, Unix-based program called PicoSpan. Housed on a single computer (located in the Sausalito offices of the *Whole Earth Review*), it allowed users to dial in on what would now be an impossibly slow modem (2400 to 14,400 baud). Once connected, users typed in their login names and passwords and thereby called up a long string of conference names.[31] Grouped into broad categories, such as "Arts and Letters" or "Entertainment," conferences dealt with themes ranging from books to cooking to computing to the Grateful Dead. To enter a conference, the user typed a command and the name of the conference; once "inside," she would find a series of numbered "topics," each created by a user and each representing an ongoing, asynchronous conversation. She could then post her own comment in a conversation or start another topic.

From a technical point of view, PicoSpan mapped a tree of information in a hierarchy extending from the system level down through the conference level to individual topics. Yet users did not need to follow that tree in any but the most limited sense. Just as readers of the *Whole Earth Catalog* skipped from "Whole Systems" to "Nomadics," linking their reading as they went, so the user of the WELL could move from topic to topic, jumping in and out at will, and starting a new conversation if she liked. Like the *Whole Earth Catalog*, the WELL marketed its users' contributions back to them, but it did so under very different terms than competitors such as Prodigy or General Electric's GEnie system. While other systems claimed copyright on every word posted to them, the log-in screen one encountered at the WELL reminded users: "You own your own words. This means that you are responsible for the words that you post on the WELL and that reproduction of those words without your permission in any medium outside of the WELL's conferencing system may be challenged by you, the author."

Like the *Catalog* before it, the WELL was a network forum. That is, it offered a medium through which geographically dispersed members of separate networks could write to one another, create a textual record of their interactions, and so begin to build a sense of shared consciousness and collectivity. The WELL's early managers sought to govern this emerging community in terms set by the countercultural critique of hierarchy and the *Whole Earth Catalog*'s trust in the power of tools. They refrained from intervening in fractious debates whenever possible. Though the WELL's member agreement gave conference hosts and the system's owners the power to remove members from the system, that power was used only three times in the system's first six years, and each time the member

31. Many of the WELL's archives from this period were lost as the system migrated across a series of different servers. For overviews of the conferences and topics in this period, see Smith, "Voices from the WELL," 8–9, and Rheingold, *The Virtual Community*, 32–35.

removed was allowed to return.[32] Rather than assert their authority directly, the WELL's early managers sought to give users the power of self-rule through information technology. Members who did not like one another's postings, for example, could erase them from their own screens—though not from the community as a whole—by using a "Bozo filter" in PicoSpan. Likewise, members who later regretted postings could return to the system and erase them wholesale using a "Scribble" feature.

Throughout the WELL's early years, these systemic embodiments of countercultural communal ideals, coupled with the lived countercultural experience of many members, provided users with a rhetoric of disembodied collectivity that echoed the back-to-the-land movement of the late 1960s even as it embraced the computer networking technologies of the 1980s. Ramón Sender Barayón, a San Francisco multimedia artist, joined the WELL early on, he said, in part because "I felt the energies on the WELL. It reminded me of the Open Land communes I'd been to in the 1960s. The tribal need is one our culture doesn't recognize; capitalism wants each of us to live in our own little cubicle, consuming as much as possible. The WELL took that need and said, 'Hey, let's see what happens if we become a disembodied tribe.'"[33] For members like Sender Barayón, the WELL offered a new, digital context in which to rebuild a communal dream that had in fact fallen apart some ten years earlier.

This was especially true for the WELL's first managers. Soon after he and Brilliant established the WELL, Stewart Brand turned over day-to-day management of the system to a former typesetter for the *Whole Earth Catalog*, Matthew McClure. McClure in turn hired John Coate as the WELL's marketing director, and when McClure left the WELL in 1986, he hired Cliff Figallo to join Coate in directing the system (fig. 2). McClure, Coate, and Figallo were all long-time veterans of The Farm, a commune set on 1,750 hardscrabble acres in Summertown, Tennessee, that had been founded by Stephen Gaskin (fig. 3), a former professor of English at San Francisco State University who, in the late 1960s, preached in an open forum known as Monday Night Class. Gaskin's lectures there focused on psychedelic drugs and world religion and included a heavy dose of mysticism. When he and about seventy followers established The Farm in 1971, they hoped to create a community of total interpersonal openness. As Coate remembered it, The Farm was a "mental nudist colony."[34] Members were encouraged to work toward a state of transpersonal union of the kind some had felt on LSD. As Figallo recalled, "extending the visions of the psychedelic world into the straight everyday world was one of the foundations of Stephen's teach-

32. John Coate, "Cyberspace Innkeeping: Building Online Community" (1992; rev. 1998), http://www.cervisa.com/innkeeping.html.

33. Hafner, "The Epic Saga of the WELL" (n. 27 above).

34. John Coate and Cliff Figallo, "Farm Stories (from the True Confessions conference on the WELL)," *Whole Earth Review* no. 60 (fall 1988): 88–101, 96.
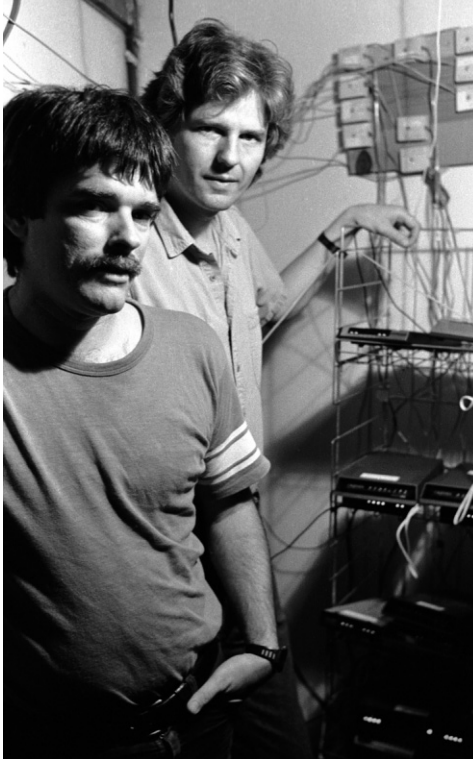
FIG. 2 In the late 1980s, Cliff Figallo (left) and John Coate, both veterans of The Farm in Summertown, Tennessee, became day-to-day managers of the virtual community known as the WELL. (Photograph by Kevin Kelly, reproduced with permission.)

ings."[35] In that context, members were encouraged to challenge one another, to "get into" one another's "thing," so as to make it possible to drop one's personal defenses and become part of a transcendent collective. "We were trying to be tribal," Coate explained (fig. 4). "To get back to something that white Euro/American culture had lost. . . . That's what all that 'getting straight' and 'sorting it out' was about. Trying to get real close real fast, so we can get on with the trip."[36]

Though some of its members still lived there, The Farm as McClure, Coate, and Figallo had known it collapsed in 1983. Burdened by debt and no longer comfortable with the extraordinary authority exerted by Stephen Gaskin, its members voted that year to cease pooling all their resources

35. Ibid., 92.
36. Ibid., 99.

FIG. 3 Every Sunday morning across the 1970s, the residents of The Farm gathered to listen to the commune's founder, Stephen Gaskin, preach. By the late 1980s, the spiritual interconnection they and other commune-dwellers pursued had become a guiding ideal for many who hoped computer networks could bring about virtual communities. (Photo by David Frohman, reproduced with permission.)

FIG. 4 The motor pool at The Farm, 1974; John Coate is in the white cowboy hat. In the late 1980s, Coate brought his commune-born faith in technology and cooperative living to the online world. As a manager of an early and important computer network, the WELL, he helped transform countercultural dreams of communal intimacy into one of the key technosocial visions of the Internet era, virtual community. (Photo by David Frohman, reproduced with permission.)

communally and to reorganize as a cooperative to which individual members paid dues.[37] Even as The Farm itself ceased to be a commune, its ethos of disembodied community found a home on the WELL. As Figallo told Katie Hafner, "We [veterans of The Farm] were conditioned to respond to the Community Imperative—the need to build and maintain relationships between people and to preserve the structure that supported those relationships."[38] On The Farm, those relationships depended on the exchange of invisible energy. The Farm itself, like the Trips Festival and even, to a lesser extent, like the *Whole Earth Catalog*, existed as a material site for the establishment of dematerialized, harmonious community. By the mid-1980s, the New Communalist movement had largely melted away, yet the "Community Imperative" and its ideal of virtual, as well as material, collectivity lived on in the software, management structures, and day-to-day rhetoric of the WELL.[39]

That Was Then, This Is Now

With this history in mind, we can begin to see Howard Rheingold's description of the WELL as a virtual community in a new light. Rheingold never lived on a commune and sees himself as slightly younger than most who did.[40] Yet when he describes virtual community as a way to restore a "cooperative spirit" that has been lost, it's hard not to hear him pining in part for the very particular cooperative spirit abroad in the counterculture of the 1960s. For many members of the WELL, on-line collaboration offered a chance to revivify that spirit.[41]

37. Albert Bates, "Post-Communal Experiments at The Farm in the Context of Developmental Communalism," *Green Revolution* 50 (winter 1993–94), available on-line at http://www.thefarm.org/lifestyle/akbp2.html. See also Rupert Fike, *Voices from The Farm: Adventures in Community Living* (Summertown, Tenn., 1998). At its peak in the late 1970s, The Farm had about fifteen hundred members. Most lived on The Farm itself. Others lived in satellite communities in Washington, D.C., Manhattan's South Bronx, Wisconsin, Florida, California, and Missouri. In 1974, The Farm established its own version of the Peace Corps, which they called "Plenty." Plenty created development and public health projects in Guatemala, Lesotho, Washington, D.C., and the South Bronx. Today Plenty remains active in Central America and Mexico, on the Pine Ridge Indian Reservation in South Dakota, and at The Farm itself. In 2005 The Farm supported approximately two hundred residents.

38. Hafner, "The Epic Saga of the WELL."

39. Most communes founded in the late 1960s had disappeared by the mid-1970s. Historians and sociologists have attributed this disappearance to several factors, including a lack of institutional structure and leadership on nonreligious communes, the dramatic onset of economic recession in 1973, and the withdrawal of American troops from Vietnam in the same year. See Gardner (n. 5 above), 239–44, and Peter N. Carroll, *It Seemed Like Nothing Happened: The Tragedy and Promise of America in the 1970s* (New York, 1982), 117–35.

40. Howard Rheingold, interview by the author, Mill Valley, Calif., 20 July 2001.

41. The power of countercultural experience for WELL members can be seen in

It was a chance, however, that occurred under radically new economic and technological conditions. In the 1960s, mainstream economic life had been dominated by hierarchically organized corporations and, in the minds of many young Americans at least, staid executives in gray flannel suits. This was the world that members of the New Communalist movement had set out to escape. By the time the WELL was created, however, the world had changed dramatically. As a variety of economic sociologists have noted, the mid-1980s saw hierarchical firms in many industries and several nations reorganize themselves as project-oriented networks.[42] They laid off workers, broke component elements of firms into semi-independent project teams, and decentralized their management structure. Out of this process there emerged what Walter Powell has called "a new logic of organizing," a logic characterized by a movement from "jobs to projects," by the "flattening of hierarchies," and by "cross-fertilization across industries."[43] Within this logic, the boundaries that had previously surrounded firms and jobs became porous and flexible. Companies themselves became collections of internal networks even as their constituent units reached out and joined networks that reached across traditional lines between firms, industries, and nations. For an increasing number of workers, employment

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dozens of conferences that have been archived on the system at http://engaged.well.com. Within the "archives" conference, see, for instance, the following topics: "Communes—Past, Present and Pluperfect," "Early Impressions of the WELL," and "What Happened to the Counterculture of the 60s?"

42. Scott Lash and John Urry, *The End of Organized Capitalism* (Madison, Wisc., 1987); David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (Oxford, 1989); Walter W. Powell, "Neither Market nor Hierarchy: Network Forms of Organization," *Research in Organizational Behavior* 12 (1990): 295–336; Saxenian (n. 14 above); David Stark, "Ambiguous Assets for Uncertain Environments: Heterarchy in Postsocialist Firms," in *The Twenty-First Century Firm: Changing Economic Organization in International Perspective*, ed. Paul DiMaggio (Princeton, N.J., 2001), 69–104. Given the ways in which this organizational transformation coincided with the rise of desktop computing and computer networking, it might seem reasonable to assume that the shift was in fact driven by changes in computing. Many analysts, such as Manuel Castells, have suggested that computers did indeed play a strong role in decentralizing the firm; see, for example, Castells, *The Rise of the Network Society* (Cambridge, Mass., 1996), 151–200. Yet in *Regional Advantage*, her definitive comparison of the computer industries in Silicon Valley and the Route 128 area of Massachusetts, AnnaLee Saxenian has shown that, in the case of Silicon Valley at least, the existence of firms with porous boundaries and strong interpersonal networks substantially predated the rise of computer networks. In her wide-ranging study of the deployment of computers in a number of manufacturing firms at that time, Shoshanna Zuboff demonstrated that computers could often centralize rather than distribute power and control within a firm; *In the Age of the Smart Machine: The Future of Work and Power* (New York, 1988). While computer networks have quite probably played a role in the disaggregation of the traditional firm, scholars do not yet agree on the nature of that role.

43. Walter W. Powell, "The Capitalist Firm in the Twenty-First Century: Emerging Patterns in Western Enterprise," in DiMaggio, 33–68, 55–62.

meant not only performing particular tasks within the company but helping to build and maintain interfirm networks.[44] In part, this networking helped to build alliances for one's firm. For some it also helped mitigate the new insecurity of their jobs. Corporations were coming increasingly to the view expressed by James Meadows, vice president for human resources at AT&T, in 1996: "People need to look at themselves as self-employed, as vendors who come to the company to sell their skills. In AT&T, we have to promote the concept of the whole work force being contingent, though most of our contingent workers are inside our walls. Jobs are being replaced by projects and fields of work, giving rise to a society that is increasingly 'jobless but not workless.'"[45]

This was particularly true for the early users of the WELL. As Manuel Castells has pointed out, the electronics industry and its geographical hubs, including the Bay Area, were among the industries and regions most dependent on network patterns of organization.[46] In the Bay Area's computer industries, job tenure in the early 1980s averaged two to three years.[47] In such a fluid employment environment, individuals cultivated professional and interpersonal networks as key sources of future employment. As one engineer put it, "A company is just a vehicle which allows you to work."[48] With strong networks, even as one's employer changed one's employment could hold stable.[49] Throughout its early years, the WELL's population included a substantial number of users from the growing computer industry. Most of its members hailed from the Bay Area and Silicon Valley. Moreover, its contributors included many professionals from industries that had long depended on networks, including academe, journalism, and consulting. For them the WELL offered an electronic forum in which they could meet, exchange information, build reputations, and collaborate.

At one level, this sort of exchange was nothing new to the Whole Earth network. The *Whole Earth Catalog* had long served as a site at which members of various local communities could speak up, either by writing letters or by reviewing products, and in so doing contribute to and assert their own membership in the scattered network of counterculturalists. Yet the *Catalog* had appeared no more than twice a year, with two supplements per year published in the interim. As a paper-and-ink publication, it cost a great deal

44. Castells, 243–44.

45. *New York Times*, 13 February 1996, quoted in Powell, "The Capitalist Firm in the Twenty-First Century," 40.

46. Castells, 381.

47. Saxenian (n. 14 above), 35.

48. Ibid., 36.

49. Workers have adopted multiple survival strategies under these conditions. See Gina Sue Neff, "Organizing Uncertainty: Individual, Organizational and Institutional Risk in New York's Internet Industry, 1995–2003" (Ph.D. diss., Columbia University, 2004), and Andrew Ross, *No-Collar: The Humane Workplace and Its Hidden Costs* (New York, 2003).

of time, labor, and money to produce and distribute. As a digital forum, on the other hand, the WELL allowed for instantaneous postings. If the *Catalog* had represented a community in print, the WELL's digital technology allowed it to become an interactive collectivity in real time. This in turn shaped the roles individuals could have in regard to the system. At the *Catalog*, individuals could review products, write letters, and perhaps join the editorial staff. But because of the production technologies involved they could assume only one role at a time. That role would in turn be permanently fixed in the pages of the *Catalog*. At the WELL, by contrast, individuals could adopt one persona in one conference and another elsewhere. They could post in several places, serve as a host to a conference, start a new topic—all within a single hour. The WELL in turn often became intertwined with its users' daily lives in a way that no paper-bound catalog could. As Maria Syndicus, an early and prominent WELL member, explained: "I'd be in the office, working, and at the same time, posting in conferences, sending email, and having a conversation in Sends [an early instant-messaging feature on the WELL]. I'd be at home, cooking dinner, and logging on to check what was new. Relationships developed fast and furious, ideas spread like wildfire. I never laughed so hard, argued so passionately, soaked up so many new ideas. The WELL made me run on high."[50]

The WELL as Economic Heterarchy

Together, these changes in media technology and in the economic landscape in which WELL users worked substantially changed the nature and value of information being exchanged. During the late 1960s, when the *Whole Earth Catalog* first appeared, the American economy was strong and long-term employment prospects were good, particularly for the largely upper-middle-class, college-educated readership of the *Catalog*. Many of those who struck out for the woods in 1968 did so knowing full well they would have something to go back to if they had to.[51] Moreover, while its recommendations certainly had value for its readers and while its reviewers could build a reputation in part by reviewing for it, the *Whole Earth Catalog* was published too infrequently and at too great expense to be a source of rapid information exchange. While it did pay reviewers ten dollars for a published piece, almost all of the financial value generated by the information contributed to the *Whole Earth Catalog* returned to its publishers.[52]

On the WELL, by contrast, it was possible to exchange smaller, time-sensitive pieces of information, ranging from data on a not-yet-announced

50. Hafner, "The Epic Saga of the WELL" (n. 27 above).
51. Gardner (n. 5 above), 10.
52. For a full accounting of *Whole Earth Catalog* finances from 1968 to 1971, see Stewart Brand, "Money," in *The Updated Last Whole Earth Catalog: Access to Tools* (San Francisco, 1974), 438.

technology to a bit of gossip about the computer or magazine industries. This sort of information could have a great deal of value to the many professionals on the WELL. Moreover, because the WELL allowed for numerous, rapid interactions—as opposed to the printing of single, carefully crafted letters in the *Whole Earth Catalog*—it also let individuals get to know the working styles of one another's minds in a way that was not possible in a paper-and-ink forum. This in turn added a new dimension to the ways in which the forum could enhance the reputations of its users. Whereas the *Whole Earth Catalog* allowed regular reviewers to establish reputations for know-how and, to some extent, for prose technique and taste, the WELL allowed its contributors to build reputations for these things and more—for charisma, personality, and style. The *Whole Earth Catalog* concentrated a wealth of countercultural experiences into a single publication that could be purchased and one whose purchase price returned to the publisher. The WELL, on the other hand, tended to push value out to its users, to distribute and increase value throughout the system.

On the WELL, the boundary between public and private was extraordinarily fluid. As a result, any given contribution to a WELL conference might have value in multiple domains—collective, interpersonal, and economic—simultaneously. For many users, these domains met in the exchange of information. Like the *Whole Earth Catalog*, the WELL made visible a wealth of interesting facts and a network of experts who supplied them. By making both facts and experts available in real time, however, the WELL substantially increased the value of each. Reva Basch, a former librarian and at the time a professional freelance researcher, offered a sense of this value when she explained how she used the WELL in 1991: "Although it doesn't host any of the formal databases that I use for research, The WELL *is* the online hangout of choice for an incredible array of experts: multi-media artists, musicians, newspaper columnists, neurobiologists, radio producers, futurists, computer junkies. I can contact any of them directly, through email, or post a plea for information in a public conference and more often than not, be deluged with insights and informed opinions. Most compellingly, the conferences devoted to non-work issues and to fun and nonsense give me a chance to get to know these folks better, and vice versa."[53]

For Basch, as for the many other information professionals on the WELL, the system offered access to information and expertise that could be transformed into income elsewhere. Yet the exchange of information was by no means the only source of economic value on the early WELL. By the accounts of its members, we can recognize at least two others: performance value and reputation value. Carmen Hermosillo, for instance, who wrote under the name "humdog," contributed to the WELL for several years and, like many members, engaged in several emotionally charged debates.

53. Reva Basch, "Living on the Net," *Artpaper* (December 1991), available at http://www.well.com/user/reva/onthenet.mss.

Toward the end of her time on the system, she later wrote, she began to feel that she had been performing rather than conversing: "i have seen many people spill their guts on-line, and i did so myself until, at last, i began to see that i had commodified myself . . . i created my interior thoughts as a means of production for the corporation that owned the board i was posting to, and that commodity was being sold to other commodity/consumer entities as entertainment."[54]

While the WELL never made much of a profit and while its managers in fact struggled to keep the system in the black, Hermosillo's point has been echoed elsewhere. John Coate, for instance, described the experience of writing on the WELL as "a new hybrid that is both talking and writing yet isn't completely either one. It's talking by writing."[55] Though text-based, contributions to the WELL constituted a kind of vocal performance—one that many subscribed to the system in part to attend.[56]

The value of one's performance to others did not necessarily depend on one's reputation. Like users of many emerging media forms today, such as reality television or the Worldwide Web, many WELL clients watched others act out their own lives on-line and paid the WELL's owners for the privilege. Yet, though it didn't have to, a well-managed performance could also enhance one's reputation. As Coate put it: "Freelancers, contractors, entrepreneurs, and others who, because they are always looking ahead to that next job, need to have their shingle hung out . . . With so many people moving from one job to another, online public forums are good places to run into others who may lead you to your next work opportunity."[57] A journalist who wrote with flair in a conference unrelated to his professional specialty might be noticed and contacted for work elsewhere. Reva Basch, for instance, recalled that Jon Carroll, a columnist for the *San Francisco Chronicle*, spotted her writing on the WELL. When he went on vacation, he hired Basch and several other WELL members to fill in for him. Basch's affectionate description of her Apple Powerbook in the *Chronicle* in turn led to a regular and high-paying column with a Ziff-Davis publication, *Computer Life*.[58]

This pattern was common on the WELL. On-line contributions in social and special-interest conferences led to work for Howard Rheingold, for his equally well-known colleague on the WELL John Perry Barlow, and in later years for many others.[59] This pattern held true for nonjournalists as

54. Humdog, "pandora's vox: on community in cyberspace," in Ludlow (n. 1 above), 437–44, 438–39.
55. Coate, "Cyberspace Innkeeping" (n. 32 above).
56. Marc Smith notes that in 1992, 50 percent of the contributions to the WELL came from seventy people, or approximately 1 percent of the overall membership; "Voices from the WELL" (n. 15 above), 29.
57. Coate, "Cyberspace Innkeeping."
58. Reva Basch, interview by the author, Sea Ranch, Calif., 8 August 2004.
59. Rheingold interview (n. 40 above); John Perry Barlow, interview by the author, by telephone from Pine Valley, Wyo., 25 August 2003.

well. A computer programmer who built a functional bit of software for the WELL could have his or her skills recognized within the group and elsewhere. According to Coate, these migrations of reputation occurred frequently in the late 1980s.[60] Such reputation work ultimately led to a number of collaborations that would have a substantial impact on the early culture of the public Internet, including the founding of the Electronic Frontier Foundation, *Salon*, and even *Wired*.

This is not to say that journalists who posted witty responses to queries or programmers who built new tools were doing so in pursuit of economic gain. On the contrary, it seems clear that many were acting from a mixture of motives and in a mixture of social contexts simultaneously. As sociologist David Stark has pointed out, such mixtures are characteristic of emerging forms of postindustrial economic activity. In an influential study of firms in post-Soviet Eastern Europe, Stark christened this sort of mixture "heterarchy."[61] Within a heterarchy, Stark explained, one encounters multiple, and at times competing, value systems, principles of organization, and mechanisms for performance appraisal. As Stark put it: "Heterarchies create wealth by inviting more than one way of evaluating worth."[62] In the post-Soviet context, for example, if a particular unit of a firm can be characterized simultaneously as a "public" resource and as the "private" property of the newly deregulated company, it can attract funds from both the public and private sectors and share financial risks between them as well.[63]

On the WELL, users' abilities to characterize their postings as having value in both the social and economic registers depended on both the computer technology of the WELL and the cultural legacy of the New Communalist movement. By allowing users to communicate in real time and to start and end topics more or less at will, the technology of the WELL enabled individual communications to have meaning and value in registers that contributions to the *Whole Earth Catalog* never could simply because of the mechanics involved in producing a bound paper document.[64] Yet, alongside these technical affordances, the WELL depended on a set of cultural tools that it had inherited from the American counterculture, and specifically from the *Whole Earth Catalog*. In the *Catalog*, readers contributed letters and product reviews primarily because they supported and wanted to contribute to the geographically dispersed alternative community they saw emerging in its pages. At ten dollars per contribution, no one could make a living, or even part of a living, writing for the *Catalog*. In many ways, readers offered contributions as gifts to the community the

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60. John Coate, interview by the author, San Francisco, 25 August 2003.

61. Stark (n. 42 above), 71. For an early and important application of Stark's theories of heterarchy to media production, see Boczkowski (n. 18 above), 165.

62. Stark, 78.

63. Ibid., 90–91.

64. For an account of these processes in a journalistic setting, see Stark, 164.

Catalog made visible; the *Catalog*, in turn, retailed those gifts (albeit at a low per-unit cost) to readers.

Thanks to shifts in technology and in the Bay Area's economy, the nature and value of the information exchanged on the WELL was qualitatively different. Yet, even in this new environment, WELL users retained the conceptual apparatus of the gift economy to explain their interactions. As Howard Rheingold explained it, the WELL's gift economy consisted of the constant exchange of potentially valuable information without expectation of immediate reward. Individuals contributed information to such a system, wrote Rheingold, because those who contributed would eventually be rewarded with information themselves. For Rheingold and others, it was this lack of expectation of immediate return on investment that distinguished the sorts of information exchange happening in places like the WELL from those of ordinary, cash-and-carry markets. Yet, as Rheingold himself suggested, the success of this gift economy depended not only on the expectation of ultimate reward but also on an intangible feeling of working to construct a new sort of community. In a "gift economy," he wrote, "people do things for one another out of a spirit of building something between them, rather than a spreadsheet-calculated quid pro quo. When that spirit exists, everybody gets a little extra something, a little sparkle, from their more practical transactions; different kinds of things become possible when this mindset pervades. Conversely, people who have valuable things to add to the mix tend to keep their heads down and their ideas to themselves when a mercenary or hostile zeitgeist dominates an on-line community."[65]

In Rheingold's terms, the felt existence of community allows individuals to exchange information without fearing that they may never see a return for their gift. But in David Stark's terms, we can also see that it is the ability of an information giver to characterize her "gift" as a valuable piece of information (in the economic register), as a demonstration of personal style (in the interpersonal register), and as a contribution to the building of a community (in the social register) that allows the information exchange to go forward in the first place. If there is no "spirit of building," then individuals "keep their heads down."

On the WELL, that spirit found articulation in a communal rhetoric drawn directly from the American counterculture. John Coate put the point succinctly. "Professional and personal interactions overlap" on the WELL.[66] For that reason, he wrote, the WELL could be compared to a village: "Because that's what a village is: a place where you go down to the butcher or the blacksmith and transact your business, and at night meet those same neighbors down at the local tavern or the Friday night dance."[67]

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65. Rheingold, "A Slice of Life" (n. 29 above), 425.
66. Coate, "Cyberspace Innkeeping" (n. 32 above).
67. Ibid.

To the extent that its members can imagine the WELL as a community, they can speak within multiple registers simultaneously, building their reputations, their friendships, and their businesses. And they can do so in the comforting sense that they have not betrayed their youthful ambitions for alternative community. The communes of the 1960s have largely vanished, but in John Coate's description of a preindustrial village we can hear echoes of the kind of community The Farm hoped to be and the kind of community the *Whole Earth Catalog* aimed to speak to. Here, as elsewhere in our culture in the 1980s and 1990s, countercultural ideals and rhetoric linger on. This time though, they no longer offer an alternative to life in the economic mainstream. On the contrary, they provide a vision by which to steer one's way through the complex currents of the increasingly mainstream network economy.

Success and Failure

There is an irony here. In the late 1960s, the New Communalist movement hoped to build communities that could stand as alternatives not simply to American society at large but also to the rationalized bureaucracies of American government and business. In the process, however, with the *Whole Earth Catalog* and its many imitators the movement developed a new relationship between information, technology, and community that would ultimately facilitate the integration of computing technology and associated work styles into the mainstream of American life.[68] As a network forum, the *Catalog* offered its readers both a communication tool with which to build a new form of geographically distributed sociability and an emblem of the sort of society that that new form might ultimately create. In keeping with New Communalist ideals, that society would be organized nonhierarchically, it would share a collective consciousness, and it would depend on technologies—particularly technologies of information—to come into being. In recent years, scholars of new media technology have often suggested that the peer-to-peer culture of the Internet emerged out of the New Left's critique of American political institutions.[69] They have also tended to associate the experience of disembodied intimacy with digital communi-

68. For a study of another important site at which this work occurred, Palo Alto's Insitute for the Future, see Lonny J. Brooks and Geoffrey Bowker, "Playing at Work: Understanding the Future of Work Practices at the Institute for the Future," *Information, Communication and Society* 5 (2002): 109–36.

69. The most prominent example of this tendency has been the work of Richard Barbrook and Andy Cameron. See Richard Barbrook, "The Hi-Tech Gift Economy," *First Monday* 3, no. 12 (7 December 1998), available at http://www.firstmonday.org/issues/issue3_12/barbrook/index.html, and Richard Barbrook and Andy Cameron, "The Californian Ideology," main mix, available at http://www.hrc.wmin.ac.uk/theory-californianideology-main.html, accessed July 2005.

cation technologies.[70] Yet, as the history of the WELL suggests, this is not quite right. For the New Left, as egalitarian as it aimed to be, building a new world required building new political parties and engaging in political struggles. It was the New Communalists of the *Whole Earth Catalog* and not the New Left for whom the building of a better society required stepping outside politics and turning instead toward information, technology, and commerce. For the readers of the *Catalog*, small-scale technologies, and particularly information technologies like the *Catalog* itself, would be the primary tools by which consciousness could be changed, and with it the world.

In that sense, the WELL represents the establishment of a countercultural ideal: a nonhierarchically organized social form in which scattered individuals are linked to one another by an information technology and through it the experience of a shared mindset. Yet at another level the WELL marks the failure of the New Communalist movement to escape the pull of America's technological and economic centers of gravity. Thanks to the simultaneous rise of computer networking and networked forms of organization in the Bay Area, by the late 1980s notions of virtuality and community that once served to bond the commune dwellers of New Mexico to the hippies of Haight-Ashbury had come to support the integration of social and economic life on-line. The early users of the WELL were hardly men in gray flannel suits. But as they bounced from conference to conference and job to job, they remained integrated—hour by hour, day by day—into the productive and increasingly mainstream networks of the WELL.

70. See N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago, 1999); Mark Poster, *The Mode of Information: Poststructuralisms and Social Context* (Cambridge, 1990); Sherry Turkle, *Life on the Screen* (n. 4 above), and *The Second Self: Computers and the Human Spirit* (New York, 1984).