The Corporation and the Counterculture: Revisiting the Pepsi Pavilion and the Politics of Cold War Multimedia

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Revisiting the Pepsi Pavilion and the Politics of Cold War Multimedia

BY **FRED TURNER**

ABSTRACT

To date, many historians have accepted the notion that the American counterculture stood in opposition to the values of mainstream, Cold War America. This article aims to challenge that view. It returns to Osaka, Japan, and Expo '70 in order to revisit the Pepsi Pavilion—an immersive computational and artistic environment—and explore the ways it brought together military planners, corporate executives, hippie artists, and Bell Labs engineers. By doing so, the essay shows how the ideals and technologies of the Cold War military-industrial research world served as resources for countercultural artists. It also shows how those artists helped give form and legitimacy to the new managerial mode of American political power.

I N MARCH 1970 VISITORS WHO STROLLED ACROSS THE GROUNDS OF THE INTERNATIONAL exposition in Osaka, Japan, confronted a bulging, angular, fog-shrouded dome. Its outer shell, 120 feet in diameter, appeared to be built of white pyramids packed into an oversized, ice-pocked snowball. Day and night the ball gave off clouds of mist from hidden nozzles. Around the dome, half a dozen white capsules, each as tall as a man, rolled in random patterns, emitting sounds of conversations, of trucks passing, and of birds chirping. When they touched each other or a visitor, they recoiled like embarrassed friends.

Under the edge of the dome, a white tunnel thrust up out of the ground. When spectators entered the tunnel, Japanese hostesses in silver suits and white gloves handed them walkie-talkie-like handsets, which they put to their ears. As visitors descended into the tunnel, the handsets picked up sounds projected from under-floor amplifiers, turning the walkway into a soundscape. When the guests reached a cavern under the floor at the center of the dome, colored laser lights swirled around them until they walked up into the dome itself. Suddenly they stood under an enormous, shiny, Mylar mirror vault. Visitors waved to their images in the ceiling, and the images waved back. Lights flickered around them in patterns set by punch-paper tapes. The arrhythmic tones of experimental music, sequenced by a computer, mixed with the sounds of shuffling feet. When the visitors were ready, hostesses gently guided them back into the sunlight and into the expansive, futuristic landscape of Expo '70.

There were no billboards in front of the dome and no logos on its surface. But visitors with guidebooks and maps still knew: the pavilion had been built by the Pepsi-Cola Corporation. This essay returns to the Pepsi Pavilion and, through it, to a fusion of Cold War American cultures that we still too often imagine as inimical to one another. To revisit the pavilion is to enter a

time in which the ideas and technologies of the military-industrial research world met the person-centered idealism of the American counterculture and achieved architectural form. That form in turn fused the principles of cybernetics—the nearly universal language of Cold War military planners—with the counterculture-driven practices of happenings and be-ins. When it did, it invited Japanese and international visitors to experience American culture and the Pepsi brand as species of technologically delivered liberation, empowerment, and pleasure. At the height of the Vietnam War, even as thousands took to the streets to protest the conflict, the Pepsi Pavilion presented American commerce, computers, and the cybernetic theories that underlay the management of both as tools with which to achieve the sort of theatrical personal freedom claimed by the long-haired leaders of the counterculture.

FIGURE 1. The Pepsi Pavilion at night. Photo: Shunk-Kender. © Roy Lichtenstein Foundation.

THE ORGANIZATION MAN MEETS THE CYBERNETIC ART WORLD

To see how, we need to step back for a moment and excavate the social worlds that brought the pavilion into being. As sociologist Howard Becker has pointed out, objects like the Pepsi Pavilion do not spring fully formed from the foreheads of creative artists.[1] Rather, they emerge at the intersection of communities struggling for legitimacy by symbolic means. Within what Becker calls "art worlds," creators, curators, critics, and others struggle to make works and, at the same time, to legitimate both the works and their own positions. They do so by invoking and applying aesthetic conventions or, when those con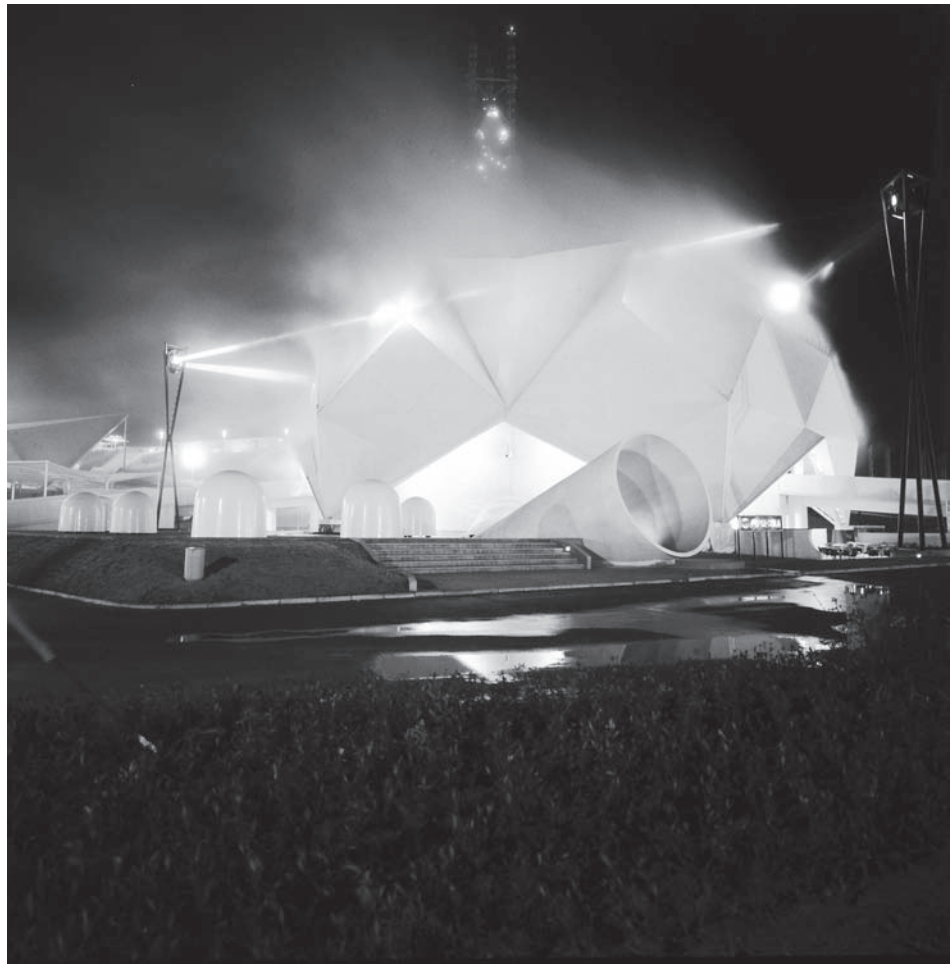ventions don't meet their needs, by challeng-ing them. Finished artworks, Becker argues, embody these struggles and seem meaningful to audiences because they do.

By tracing the origins of the Pepsi Pavilion, we can not only explain its peculiar aesthetics. We can also see how they represented a cultural fusion that American popular memories of the era suggest should not exist. The constituents who shaped the pavilion included the Pepsi-Cola Company, a group of multimedia artists and engineers who called themselves Experiments in Art and Technology (EAT), and the pavilion's visitors, both Japanese and international. Each of these communities brought with them a set of aesthetic expectations and desires. They negotiated these conventions in the building of the pavilion and, later, used them as yardsticks with which to measure the legitimacy of the pavilion as a work of art. In the process, they imbued the pavilion with a set of conventions that were simultaneously cybernetic and countercultural, military-industrial and humanistic,

commercial and anticommercial. Popular recollections of the 1960s as an era of antimainstream rebellion suggest that these pairings should be impossible. But as a close examination of the pavilion reveals, the reverse is true: these pairings marked the emergence of a *unified culture*, a culture dedicated to soft control, cybernetic agency, and American political hegemony.

THE PEPSI-COLA COMPANY

For the executives of the Pepsi-Cola Company, Expo '70 offered a chance to bolster the company's brand. Pepsi had started using the slogan "The Pepsi Generation" in 1963. By the fall of 1968, when planning for Expo '70 got under way, Pepsi was trying to associate its brand with the entire spectrum of American youth. It created hip, pseudopsychedelic advertisements that aped the aesthetics of San Francisco hippies. At the same time, it sponsored the far more conservative traveling youth chorus known as Up with People. At the Expo, executives hoped to embrace both these communities by stressing themes of "bigness, youth, and community."[2]

They also hoped to build these themes into an exhibition hall. In 1968 a Pepsi executive named David Thomas began exploring the downtown New York art world for ideas. He visited the Electric Circus, a multimedia disco in the East Village in which Andy Warhol and the Velvet Underground briefly held court.[3] The circus featured a psychedelic light show, a massive stereo system, occasional trapeze artists, and performances by bands ranging from Sly and the Family Stone to the Grateful Dead. Thomas also found his way to sculptor and filmmaker Robert Breer and his colleague, Bell Laboratories engineer Billy Klüver. They in turn introduced him to Robert Whitman, a well-known producer of happenings; David Tudor, a performance artist and pianist long associated with John Cage; Gerd Stern, a multimedia artist and cofounder of an art-commune known as USCO (short for the US Company); and Forrest Myers, a maker of public light sculpture.

Together, these artists and institutions represented a complex intersection of high media technology, countercultural mysticism, and a cybernetic worldview. Though they were based in New York, the Electric Circus and USCO exemplified the sorts of psychedelic, technology-driven theatrical environments that had sprung up in San Francisco and on many back-to-the-land communes. Of the two, USCO was

the more influential builder of such environments, and Gerd Stern was perhaps the most articulate spokesman for the experiences they were designed to foster. In 1966 USCO had created a multimedia extravaganza at the Riverside Museum in New York. A reporter from *Life* magazine described the event thus: "Sitting around an aluminum column, spectators listen to a collage of stereo sounds and smell burning incense while watching paintings with pulsating lights. The USCO artists call their congenial wrap-around environment a 'be-in' because the spectator is supposed to exist in the show rather than just look at it."[4]

The founders of USCO had imbibed the writings of Ananda K. Coomeraswamy, a nineteenth-century Indian art critic who idealized the anonymous artists and craftsmen of India. USCO's members aspired to do what Coomeraswamy's Indians had done: make art and community simultaneously. They did so, however, in terms set by the twentieth-century writings of media theorist Marshall McLuhan, architect Buckminster Fuller, and mathematician Norbert Wiener. All three of these writers envisioned the world as a single system linked by hidden forces—forces that technology could make visible and useful. McLuhan argued that mass media knit the human race together into a global village. Fuller designed geodesic domes whose structures he believed revealed the patterns in which energy flowed through matter. And Norbert Wiener claimed that information flowed across systems as diverse as organisms, machines, and society, and thus that communication constituted the fundamental process by which all three related to one another.

Though USCO borrowed ideas from each of these writers, its performances embodied theories of agency and social structure that derived fairly directly from Wiener's cybernetics. Wiener first promulgated the term "cybernetics" in his 1948 book, *Cybernetics, or Control and Communication in the Animal and the Machine*. As that book's title suggests, the science of cybernetics was never merely a science of information circulation. Rather, it was always also a study of how communication systems might be used for purposes of control. In part for that reason, cybernetics quickly permeated the intellectual communities of military research, corporate management, and computer design. Cybernetics celebrated the exchange of information across social, biological, and technological boundaries, and it was an ideal framework for the interdisciplinary investigations of the military-industrial complex.[5] It also celebrated the power of information to

create social order and of information machines to model it. This in turn made cybernetics especially attractive to city planners and management theorists.[6]

For artists, cybernetics offered a new vision of the ways that artworks, audiences, and technologies might interact. Wiener's 1954 volume, *The Human Use of Human Beings*, developed this vision at length.[7] Individuals, he argued, governed themselves by reaching out through their "sense organs" to the world around them, soliciting feedback and altering their behavior accordingly. As they communicated with their environment, their surroundings subtly shaped their behavior. Individuals made their own choices about how to act and react, but within constraints set by their environment. In this sense, among others, Wiener depicted the use of communication as a form of control. On the one hand, communication set the boundaries within which the individual could act. On the other hand, it set the individual free *to act*. In Wiener's account, the environment never exerted instrumental force; rather, it merely set the stage on which the individual could act out a part of his or her own devising. The result, he believed, would be a far more free society, one in which individuals governed themselves and in which, as a result, they inhabited a more ordered whole.[8]

For Wiener, as, later, for McLuhan and Fuller, computers served as important tools with which to model and create such environments.[9] When they read Wiener alongside McLuhan and Fuller, the artists of USCO extended Wiener's insights on the role of computing to include technologies ranging from 35 mm slides to film strips to strobe lights and even LSD. For USCO, each of these technologies opened the door to a cybernetic, environmental mode of social organization. At one level, USCO sought to control its audience through communication: as Stern put it in 1967, when you make a multimedia environment, "you take a piece of time, and you see what you can make it do to people."[10] At another, however, it offered a way to free audience and artist alike and allow them to enter a collaborative, egalitarian social structure. The effect of an USCO show, wrote journalist Richard Kostelanetz at the time, was "somewhat similar to the psychedelic experience, for in both an awareness of sensory overload disrupts all attempts at concentrated focus—and also initiates a gamut of emotional and psychological changes. An intrinsic purpose of such an environment is the challenging of linear habits of organization."[11] Once immersed in a state of information overload, USCO meant its audience members to become something like cybernetic organisms, acting, seeking feedback, reacting. It also aimed to give them a new appreciation of human unity: USCO designed its installation at the Riverside Church, for example, to teach visitors that "We Are All One."[12]

Such technomysticism infused the communalist wing of the counterculture well into the 1970s. Even though it had originated in the military research community of World War II, and even though it had become the lingua franca of the military-industrial elite in the 1950s, cybernetics provided a rich theoretical basis for countercultural attempts to build more collaborative societies.[13] At the same time, cybernetic models of social organization, individual agency, and media technology suffused the American art world in the 1960s. Jack Burnham, a sculptor, described the transition in a 1969 essay. Artists had moved away from making things and toward making processes, he explained. Art now dealt "with underlying structures of communication or energy exchange instead of abstract appearances."[14] In the case of performance art, this meant that artists created settings in which to move the bodies of people in patterns, alone and in relation to one another. At the most basic level, artists began using communication in their works to *manage* their performers and their audiences.

EXPERIMENTS IN ART AND TECHNOLOGY

Some of the most visible such managers were the artists and engineers of Experiments in Art and Technology. EAT got its start in October 1966, when John Cage, Robert Rauschenberg, David Tudor, dancers Yvonne Rainer and Alex Hay, and other artists worked together with Billy Klüver and a group of engineers largely drawn from Bell Labs to produce *9 Evenings: Theater and Engineering*.[15] As its name suggests, *9 Evenings* consisted of nine nights of multimedia performances staged in a massive armory for an audience that ultimately included corporate and political leaders as well as the general public. The press release that announced the event described it thus: "Dancers floating through space; sound transformed into white noise; a performance in total darkness yet seen by the audience; a dancer's movement accompanied by his own internal body sounds; performers and objects directed by unseen forces. The artist's new freedom of expression will take such forms as these in ten unprecedented works."[16]

FIGURE 2. Robert Rauschenberg (*second from left*) and Billy Klüver (*far right*) examine the TEEM at the start of *9 Evenings*. Photo: Frances Breer, courtesy of Experiments in Art and Technology.

At one level, *9 Evenings* proposed to integrate new media technologies into the happenings and open-ended dances that had dominated downtown New York performance art for several years at that point. At another, though, its performances instantiated a mode of control through communication that would have been familiar to both Norbert Wiener and the members of USCO. Performers on the floor moved within a mediated environment controlled from off-stage by means of something called the Theater Electronic Environment Modular system, or TEEM. Built and managed by Bell engineers, the TEEM used radio signals to control sound, light, and motion throughout the room.[17] On the floor, dancers found themselves wired to communication technologies. In one performance, for instance, painter Frank Stella and his tennis instructor hit a ball back and forth across a tennis court. Radio devices built into the handles of their rackets broadcast the sound of the ball hitting the strings out into the room; each "thwack!" turned off a light overhead until the room was dark.

In another, dancer Alex Hay wore microphones on various parts of his body. As he moved, they sent the sounds of his heartbeat and his movements to the TEEM and from there broadcast them out into the open air of the armory.

In the performances of *9 Evenings*, artists and engineers developed a temporary prototype of a new social order. In the world they built, individual performers became elements in biological and technological systems simultaneously. They acted independently, but in terms shaped by their environment and the feedback it gave them. Media technologies became the mechanisms through which they solicited feedback from their surroundings. In that sense, media technologies enabled performers to act and at the same time coordinated their actions. In other words, the performances of *9 Evenings* modeled an ideal cybernetic society in which individuals managed themselves even as technology and technologists managed their environment. At the same time, the performances often left audiences baffled. "Are they using us as

guinea pigs for something?" asked one Bronx housewife after she walked through a long plastic tunnel erected by dancer Steve Paxton.[18] Watching Alex Hay's performance, stage designer Rouben Ter Arutunian asked, "You think I should stay for this?" and walked out.[19] At the same show Andy Warhol, on the other hand, told a reviewer for the *New York Times*, "I think it's just great."[20]

By and large, the press found the performances as confusing as most audience members seemed to. But many of the artists and the engineers associated with *9 Evenings* thought they had glimpsed a new professional future. In the wake of *9 Evenings*, Klüver, Rauschenberg, and others founded EAT. If *9 Evenings* had modeled the potential freedoms of a cyberneticized landscape, EAT modeled the sort of intercorporate and interdisciplinary relations on which such a landscape would depend. EAT aimed to match artists with engineers and both with corporations that might offer them technologies with which to work and that might profit from their creativity. It held meetings of the two communities, produced a newsletter, and sought funding from a variety of sources. By 1968 EAT had over six thousand members and chapters in many major American cities.[21] By 1969 EAT had found seventy-eight corporate sponsors, including IBM, Xerox, Atlantic Richfield, and Schlumberger. Each spent $1,000 a year to subscribe to the EAT newsletter and to gain access to its list of artists and engineers.

When David Thomas of Pepsi approached Klüver about Expo '70, EAT had become an intercorporate networking organization. Its emphasis on collaboration, technology, and creativity aped the interdisciplinary ideology of the Cold War military research world. Its model of individual agency and collective coordination brought to life the cybernetic ideals of Norbert Wiener. For the members of EAT, as for the computer designers, game theorists, and war planners of the Pentagon in that era, cybernetics mapped the world as it was and should be: an information system that transcended the limits of biology and technology, simultaneously freeing individuals and integrating social groups. It was a system ostensibly without politics. It was in many ways an ideal technocracy watched over by engineers and managed through communication machines.

In retrospect, EAT's appeal to the executives of the Pepsi-Cola Corporation seems clear. Like the long-hairs of USCO and the hippies of Haight-Ashbury, the artists and engineers of EAT were devoted to building immersive multimedia environments along cybernetic lines. But unlike the members of USCO, they didn't burn incense, celebrate psychedelia, or seek out artistic anonymity. On the contrary: even as they worked with the artistic styles of the counterculture, they sought out the leaders of corporate America. This was just the sort of cross-cultural fusion Pepsi's executives were looking for. After all, they too were seeking to attach the products of mainstream American mass production—in this case, soda pop rather than engineered devices—to the legitimating cool of the counterculture.

THE LEGACY OF INTERNATIONAL EXPOSITIONS

The designers of the Pepsi Pavilion brought with them allegiances to cybernetics and to art, but they also responded to the long-established aesthetic conventions of international expositions. The first such events took place at the very end of the eighteenth century in France.[22] They were largely trade fairs in which artisans, industrialists, and hucksters of various kinds displayed their products for sale. From the very beginning, the hosts of these events built long, open halls in which to stage them. By the middle of the nineteenth century, London's Crystal Palace covered eighteen acres under soaring arches of steel and glass.

By the middle of the twentieth century, crystal arches had been replaced by domes. In the wake of World War II, international exhibitions became sites of Cold War struggle. For the American government, Buckminster Fuller's geodesic dome symbolized American inventiveness and technological prowess. Fuller had developed his version of the dome in the late 1940s, even building a prototype at Black Mountain College in the summer of 1948. Within two years he had built another prototype in the Pentagon Garden in Washington, DC, and worked with a team of MIT students to turn domes into shelters for air force planes and their crews.[23] By the mid-1950s Fuller had patented the geodesic dome, and the American military had made it the standard housing for the radar installations of the Distant Early Warning Line, a string of bases across the arctic regions of Canada and Greenland designed to spot incoming Soviet bombers. Each of these bases constituted a node in a complex network of what Norbert Wiener might have called national sense organs. That is, they were feelers that extended beyond the borders of the nation toward a potential enemy. They sent the information they

collected to a handful of centralized computers, which in turn were to alert American leaders in the event of an attack.

During those same years, the United States Information Agency had also made the geodesic dome its architecture of choice for international expositions. In 1956 the agency called on Fuller to erect a dome at the International Fair in Kabul, Afghanistan.[24] Then as now, Kabul was a flashpoint for international conflict. As they prepared for the fair, American officials tracked the likely square footage of the Soviet, Chinese, and Czech pavilions. They were terribly afraid to be shown up. Fuller, however, was able to design a lightweight, metal geodesic framework and have it flown in. Within a week, Afghan and Austrian laborers had constructed a geodesic cross between a spaceship and a yurt—an ineffably modern structure when compared to the enormous statue of Mao built by the Chinese. The dome was a huge hit in Kabul and in the American press. Domes would go on to achieve similar acclaim at international exhibitions in Poznan, Poland in 1957, at the American National Exhibition in Moscow in 1959, and later, perhaps most famously, at Expo '67 in Montreal.

In its early Cold War deployments, the dome served as simple if elegant housing for traditional exhibitions. By 1959, however, it had become a site for introducing foreign audiences to the wonders of American information technology and the principles of cybernetics. As architectural historian Beatriz Colomina has shown, the American National Exhibition in Moscow transformed Fuller's dome into something of an immersive, multimedia spectacle.[25] At 250 feet in diameter, the 1959 Moscow dome was more than twice the size of its ancestor at Kabul. Hanging from its ceiling were seven twenty-by-thirty-foot screens. As Soviets milled around on the floor below, a set of slide projectors shot images of everyday life in America onto the screens overhead. Families dined; husbands kissed wives good-bye; babies cried.

The show was called *Glimpses of the USA* and was designed by Ray and Charles Eames. As Colomina points out, the Eameses designed their multiscreen system as a form of cybernetic instruction. In an earlier film called *A Communication Primer*, Ray Eames had explained that "the real current problems for architects now . . . are problems of *organization of information*."[26] The multiscreen slide show under the dome in Moscow presented an immersive information environment within which individual spectators were invited to behave like cybernetic organisms. That is, the screens overhead never told spectators what to do. Rather, they gave visitors

a field of images that they could sense and to which they could respond. In other words, the screens set the terms by which spectators could act.

There was nothing intentionally psychedelic about *Glimpses of the USA*. But a decade later, its multiscreen aesthetics and the dome that housed them would be standard fare in both Haight-Ashbury and the downtown New York art world. In 1970 they would be the dominant form of pavilion design at the Osaka Expo as well. British architectural critic Martin Pawley tried to explain their ubiquity at the time. He pointed out that two technological trends had converged in the late 1960s: "the development of space frames and geodesic structures" and "a galloping development in the fields of electronics, optics and the cinema."[27] With Expo '70, an entire city full of flexible buildings and multimedia extravaganzas emerged at the confluence of these trends. The American national pavilion featured an exhibition titled "Art and Technology" culled from a recent show at the Los Angeles County Museum of Art. The Ricoh camera company built an inflatable tube that looked like the carcass of a giant caterpillar. The Mitsui Group Pavilion presented what it called—inaccurately—"the world's first 'total theater'" and in it a "Space Revue featuring a fantastic 'flight through space' created by music and light projections."[28] The Germans mounted a single geodesic dome and flooded it with music; the French pavilion offered no less than four such domes, one of which included a two-hundred-seat theater. The fair's hosts watched over their small city from the Operation Control Center—a concrete and glass bunker stuffed with computers. One guidebook writer called it "a good example of what the 'information community' of the future may be like."[29]

In short, the architecture of Expo '70 built on the conventions for Cold War exhibitions developed in the 1950s. Domes, multimedia displays, and, with them, an effort to simultaneously entertain viewers and encourage them to explore the technological delights on offer had been an integral part of the American propaganda strategy for nearly twenty years; by 1970 they had become ubiquitous terms in the design vocabularies of architects on every continent.

THE PEPSI PAVILION AND THE CYBERNETIC CITIZEN

When EAT members signed on to design their pavilion, they brought with them a set of values that they had already de-

FIGURE 3. Banks of tape decks were controlled by programs on punched-paper tape. Photo: Shunk-Kender. © Roy Lichtenstein Foundation.

ployed in their *9 Evenings*. The pavilion, Klüver later wrote, was to be "a work of art with its own unity and integrity," and it was also to be "a new unexplored theatre and concert space, a recording studio for multichannel compositions and a field laboratory for scientific experiments."[30] That is, the pavilion was to fuse the expressive ideals of the art world with the investigative ambitions of scientific research. It would also offer its visitors a chance to reflect on their place in the human collective in terms very much like those of the be-in. As Klüver later put it, "The Pavilion would not tell a story or guide the visitor through a didactic, authoritarian experience. The visitor would be encouraged as an individual to explore the environment and compose his own experience. As a work of art, the Pavilion and its operation would be an open-ended situation, an experiment in the scientific sense of the word."[31]

To free its visitors, the EAT designers built a world over which they could exert constant control. At the same moment at which American soldiers were using electronic sensors and computers to monitor traffic on the Ho Chi Minh Trail, the artists and engineers of EAT were deploying communication and computation technologies to monitor and manage the behavior of audiences at the Pepsi Pavilion.[32] First, they limited access to the interior of the dome. To enter, visitors had to walk down the tunnel. Once inside, visitors had no control over the sounds that emerged from the floor via their handsets. Rather, the designers had created areas that produced noises associated with twelve elements, including gravel, wood, carpet, and grass. The visitors could choose where they moved but not the sounds associated with those places. When they entered the underground cavern called the Clam

Room (for its clamshell shape), a forty-two-channel punched-paper tape machine—a form of computer—coordinated the patterns of the laser light show that surrounded them. When they stepped up into the main, mirrored dome, visitors encountered an array of sound types—from immersive, nondirectional tones to noises moving from point to point. These too were controlled by a computing technology—in this case, Hollerith cards. Finally, a single, eighty-two-channel punch-paper tape machine called the Master Programmer governed an array of other systems within the pavilion, from the tape loops in the moving capsules outside to the handset light signals. This system could be manually controlled by an on-site artist as well.

In a very real sense, the pavilion was a single, three-dimensional, computer-driven information system. Developers referred to the pavilion's architecture as "programmable hardware."[33] Artists were called "programmers," and the patterns they punched into Hollerith cards and paper tape were referred to as "software."[34] The pavilion had been built in accord with the principles of control through communication articulated by Norbert Wiener some twenty years earlier. With their handsets held to their ears, visitors became information processors. Like living computers, they translated the sounds from the floor into messages about grass, carpet, and the like. Immersed in the sounds and lights created by programmers, they moved like advanced versions of the capsules outside the building: they were cybernetic organisms, seeking and receiving information and acting in reaction to it. They governed themselves, but in terms set by their environment and, behind it, the artists and engineers of EAT.

By controlling visitors by means of communication as well as architecture, the members of EAT aimed to liberate them in countercultural terms. When they sought artistic proposals for the pavilion in 1969, the developers explained: "We want visitors to be responsible for their own experiences—to have choices. The Pavilion and the programming will provide for this. . . . We are interested in participation by the visitors."[35] Visitors would not suffer under hierarchy; they would not be pushed around by any white-collar boss or his artistic equivalent. Rather, they would make their own way through a forest of technological wonders, guiding themselves by means of interaction with information systems. Such a vision was quintessentially cybernetic. It was also countercultural. And it was deeply consonant with

FIGURE 4. Hostesses at the Pepsi Pavilion show guests how to use the handsets. Photo: Shunk-Kender. © Roy Lichtenstein Foundation.

the individualism at the heart of Cold War liberal politics and postwar consumerism. As art critic Barbara Rose put it at the time, "What the artists involved at Osaka propose in essence, is a secular temple of the self."[36]

On 13 March 1970 Donald M. Kendall, the president of the Pepsi-Cola Company, opened the new pavilion to great fanfare. Princess Suga, the daughter of the emperor, watched from the audience. Expectations were high: the pavilion had brought together the latest in Bell Labs engineering, in krypton lasers and negative-pressure air structures, and the latest in performance art. The dome would house jugglers, rock musicians, art music performances, and the chanting of mantras. At the pavilion, the Pepsi brand stood astride the worlds of art and technology. Its mirrored dome presided over a world managed by engineers, a world in which citizens managed themselves in terms set by information systems and in which they gazed, Narcissus-like, at their own reflections.

FIGURE 5. The Mirror Room under the dome at the Pepsi Pavilion. Photo: Shunk-Kender. © Roy Lichtenstein Foundation.

As familiar as that vision may be to those of us who live part of our lives on computer networks today, it baffled the Japanese at the time. The press relations chief for Pepsi-Cola Japan was overheard talking with artist Robert Breer: "Everyone ask me what do it do, what do it mean? I tell them it mean nothing. OK?"[37] Breer said that was fine. For Breer and his colleagues at EAT, artworks no longer sent "messages." They no longer worked as *instruments* of communication. Rather, they served as *environments* in which information technologies exerted control simply by setting the stage for action. The pavilion told no one what to do, yet it created a powerful setting in which visitors could direct themselves toward sounds and lights and even soda pops that brought them pleasure.

A BIT OF HISTORIOGRAPHY

About a month after the pavilion opened, the executives at Pepsi fired EAT. Pepsi would bring in a Japanese team

to run the pavilion for the rest of the expo. The reasons for Pepsi's choice remain clouded in controversy: some say Pepsi was fed up with the unpredictable behavior of the artist-programmers; others suggest it had something to do with money.[38] But the break between Pepsi and EAT paralleled a larger cultural rupture occurring at the same moment. Even as Expo '70 was under way, the techno-utopian hopes that underpinned its multimedia domes had begun to fade. As art historian Pamela Lee has shown, more than a few in the art community of that era were coming to see working with technology as a form of collaboration with a war-making state.[39] Art critic Max Kozloff excoriated the art and technology program at the Los Angeles County Museum of Art that had been featured at the American national pavilion: "During the term of the project there occurred the My Lai massacre, the Chicago Democratic Convention riots, the assassinations of Martin Luther King and Robert Kennedy, the invasion of Cambodia, the student killings

at Kent and Jackson State. While these convulsions were taking place, inflaming the radicalism of our youth and polarizing the country, the American artists did not hesitate to freeload at the trough of that techno-fascism that had inspired them."[40]

The pavilion had made a splash back in the United States. *Newsweek* magazine even called it an "experimental electronic cathedral."[41] So too had Expo '70. Major newspapers and magazines had all run features on it; several publishers had released pictorial volumes; and the architectural press had looked to the event as if it were a film of a world that their readers were to begin to build.[42] But in the face of the ongoing violence in Southeast Asia and at home, the fusion of Cold War technology, cybernetics, performance art, and countercultural hopes for a society built in the image of collaborative, technocentric temples of the self crumbled. The Electric Circus closed in 1971. The artists of USCO scattered, some to communes and some into the business world. EAT, whose membership had reached nearly six thousand artists and engineers by 1970, shrunk by more than half before 1972 and faded away completely a few years later. World expositions would continue to be held, but few would feature the multimedia domes so prominent at the height of the Cold War.

Ironically, perhaps, it is the fracturing of the art-technology fusion that we largely remember today. In popular memory, at least, the American counterculture uniformly opposed the war in Vietnam and the military-industrial research world that sustained it. Artists staged their own protests against the mainstream, mounting temporary happenings so as to escape the hierarchies of the gallery system. And most everyone outside the military-industrial complex rejected the technologies that drove it, especially computers. After all, hadn't the students who marched for free speech at the University of California at Berkeley in 1964 worn Hollerith cards and carried signs saying, "I am a human being! Do not fold, spindle or mutilate!"?[43]

The history of the Pepsi Pavilion complicates and challenges these recollections. Like the psychedelic dance clubs of Manhattan and San Francisco, the pavilion celebrated media technology as a gateway to a more humane understanding of what it meant to be a person. And like the lonely radar men of the Distant Early Warning Line, the designers of the pavilion trusted the computer to manage a world in such a way as to keep citizens free. In Osaka the Pepsi Pavilion and

at least half a dozen similar structures modeled not only a new kind of media experience but a mode of management grounded in Cold War theories of cybernetics and made possible by military and industrial technological research. The inhabitants of that world, like the visitors to the pavilion, were to regulate their desires in terms set for them at a distance by experts. They were to become processors of information, programmed by invisible others. They were to be free to move as they liked, to seek happiness at will, and to play with one another and the wondrous arrays of new technology at their leisure. But they were also to become processors of information programmed by invisible others. In the world of the pavilion, the artist and the social engineer were one.

About the Author

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Notes

1. Howard Saul Becker, *Art Worlds* (Berkeley: University of California Press, 1982).

2. Calvin Tomkins, "Outside Art," in *Pavilion*, ed. Billy Klüver, Julie Martin, Barbara Rose, and Experiments in Art and Technology (New York: E. P. Dutton, 1972), 107.

3. Andy Schwartz, "Electric Circus," *New York Rocker*, http://www.nyrocker.com/blog/tag/electric-circus/, accessed 1 July 2010.

4. "Psychedelic Art," *Life*, 9 September 1966, 65. The be-in would go on to become a signal mode of countercultural gathering. In 1967, for instance, the Human Be-In at Golden Gate Park in San Francisco helped set the stage for that year's "Summer of Love."

5. Geof Bowker, "How to Be Universal: Some Cybernetic Strategies, 1943–1970," *Social Studies of Science* 23 (1993): 107–27. See also Steve J. Heims, *The Cybernetics Group* (Cambridge, MA: MIT Press, 1991); Paul N. Edwards, *The Closed World: Computers and the Politics of Discourse in Cold War America*, Inside Technology (Cambridge, MA: MIT Press, 1996); Claus Pias, "Analog, Digital, and the Cybernetic Illusion," *Kybernetes* 34, no. 3/4 (2005): 543–50.

6. Jennifer S. Light, *From Warfare to Welfare: Defense Intellectuals and Urban Problems in Cold War America* (Baltimore, MD: Johns Hopkins University Press, 2003).

7. For the influence of cybernetics on American artists in this period, see Reinhold Martin, *The Organizational Complex: Architecture, Media, and Corporate Space* (Cambridge, MA: MIT Press, 2003); Pamela M. Lee, *Chronophobia: On Time in the Art of the 1960's* (Cambridge, MA: MIT Press, 2004); Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (Chicago: University of Chicago Press, 2006), 45–51; Fred Turner, "Romantic Automatism: Art, Technology, and Collaborative Labor in Cold War America," *Journal of Visual Culture* 17, no. 1 (2008): 5–26.

8. In many ways, Wiener's cybernetics provided a theoretical grounding for Cold War liberalism. For analyses and empirical accounts of the relationship between these two theoretical streams, see Fred Turner, *The Democratic Surround: Multimedia and American Liberalism from World War II to the Psychedelic Sixties*, forthcoming, University of Chicago Press; Aubrey Anable, "The Architecture Machine Group's *Aspen Movie Map*: Mediating the Urban Crisis in the 1970s," *Television & New Media* 13, no. 6 (2012), 498–519; Mark Andrejevic, *ISpy: Surveillance and Power in the Interactive Era* (Lawrence: University Press of Kansas, 2007), 19–21; Turner, *From Counterculture to Cyberculture*, 11–68; N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), 84–112; Steve J. Heims, *The Cybernetics Group* (Cambridge, MA: MIT Press, 1991), 180–200.

9. See Marshall McLuhan, "Cybernation and Culture," in *The Social Impact of Cybernetics*, ed. Charles R. Dechert (New York: Simon and Schuster, 1966), 95–108; R. Buckminster Fuller, Southern Illinois University at Carbondale World Resources Inventory, Operations Research Society of America, American Astronautical Society, and Joint National Meeting of Operations Research Society of America and American Astronautical Society, in *50 Years of the Design Science Revolution and the World Game: "A Collection of Articles and Papers on Design"* (Carbondale, IL: World Resources Inventory Southern Illinois University, 1969).

10. Gerd Stern, quoted in Richard Kostelanetz, "Scene and Not Herd—USCO," *Harper's Bazaar*, December 1967, 71.

11. Ibid.

12. "Psychedelic Art," *Life*, 9 September 1966, 65.

13. See Turner, *From Counterculture to Cyberculture*, 11–102.

14. Jack Burnham, *Software. Information Technology: Its New Meaning for Art* (New York: Jewish Museum, 1970), 100; quote from Lee, *Chronophobia*, 72.

15. For accounts of *9 Evenings* and histories of EAT, see Norma Loewen, "Experiments in Art and Technology: A Descriptive History of the Organization" (PhD diss., New York University, 1975); Ann Collins Goodyear, "The Relationship of Art to Science and Technology in the United States 1957–1971: Five Case Studies" (PhD diss., University of Texas, 2002), 165–333; Frances Dyson, "And Then It Was Now: Enduring Rhetorics," Daniel Langlois Foundation, 2004, http://www.fondation-langlois.org/html/e/page.php?NumPage=2144, accessed 2 July 2010; Turner, *Romantic Automatism*. For a broader study of digital art at Bell Labs, see Carolyn L. Kane, "Digital Art and Experimental Color Systems at Bell Laboratories, 1965–1984: Restoring Interdisciplinary Innovations to Media History," *Leonardo* 43, no. 1 (2010): 53–58.

16. Experiments in Art and Technology, "Technology for Art's Sake," press release, 28 September 1966; quote from Loewen, *Experiments in Art and Technology*, 69.

17. Loewen, *Experiments in Art and Technology*, 67.

18. Mrs. Arthur Seifert, quoted in Grace Glueck, "Arts and Engineering Are Mixing It Up at Armory," *New York Times*, 14 October 1966, 87.

19. Ibid.

20. Ibid.

21. Lee, *Chronophobia*, 15.

22. Martin Pawley, "Architecture versus the Movies or Form versus Content," *Architectural Design* 40, no. 6 (1970): 290.

23. Alex Soojung-Kim Pang, "Dome Days: Buckminster Fuller in the Cold War," in *Cultural Babbage: Technology, Time and Invention*, ed. Francis Spufford and Jenny Uglow (London: Faber and Faber, 1996), 167–92.

24. Jack Masey and Conway Lloyd Morgan, *Cold War Confrontations: US Exhibitions and Their Role in the Cultural Cold War* (Baden: Lars Müller, 2008), 58–62.

25. Beatriz Colomina, "Enclosed by Images: The Eameses' Multimedia Architecture," *Grey Room* 2 (Winter 2001): 6–29.

26. Ray Eames, "A Communication Primer," quoted in *Domesticity at War*, ed. Beatriz Colomina (Cambridge, MA: MIT Press, 2007), 262.

27. Pawley, "Architecture versus the Movies," 290.

28. Mitsui Group Pavilion advertisement, *Expo '70 Official Guide* (Osaka: Japan World Exposition, 1970), 93.

29. *Expo '70 Official Guide*, 43.

30. Billy Klüver, "The Pavilion," in Klüver et al., *Pavilion*, xiv.

31. Ibid., ix.

32. On the role of computation in the Vietnam War, see James William Gibson, *The Perfect War: Technowar in Vietnam* (Boston: Atlantic Monthly Press, 1986).

33. John W. Pan, "Software," in Klüver et al., *Pavilion*, 271.

34. Ibid., 269.

35. Experiments in Art and Technology, "Live Programming for the Pepsi Pavilion: Request for Proposals October 15, 1969," in Klüver et al., *Pavilion*, 274.

36. Barbara Rose, "Art as Experience, Environment, Process," in Klüver et al., *Pavilion*, 99.

37. Quote from Tomkins, "Outside Art," 149.

38. Ibid., 163–65. See also Goodyear, "The Relationship of Art to Science and Technology," 312–33.

39. Lee, *Chronophobia*, 24.

40. Max Kozloff, "The Multi-million Dollar Art Boondoggle," *Artforum* 10, no. 2 (October 1971): 76.

41. Douglas Davis, "Improbable Marriage," *Newsweek*, 20 April 1970, 100.

42. Edward H. Teague, *Expo '70, the World Exposition, Osaka, Japan: A Bibliography of Monographs and Articles*, Architecture Series—Bibliography (Monticello, IL: Vance Bibliographies, 1984).

43. Turner, *From Counterculture to Cyberculture*, 11–13, illustration at 140–41.