



## Leonardo

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Source: *Leonardo*, Vol. 26, No. 5, Art and Social Consciousness: Special Issue (1993), pp. 415-420

Published by: [The MIT Press](#)

Stable URL: <http://www.jstor.org/stable/1576036>

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# Deep Dish TV: Community Video from Geostationary Orbit

*DeeDee Halleck*

## THE PERSONAL IS POLITICAL

It seems hard to believe that scarcely a decade ago computers were limited to the province of large corporations and cumbersome state bureaucracies. The advent of the "personal" computer (PC) changed forever the way we artists and intellectuals in the industrialized areas of the world organize our work and document and disseminate our ideas. Although the specific construction and structural elaboration of the technology remain mystified as magical entities, the notion that the machines are "friendly" and accessible is widespread and the logic of the computer is clearly accepted. Advertisements for early Macintosh computers made them seem like machines for video games, highlighting MacPaint and other graphics programs. Later campaigns promoted the notion that PCs can keep the family intact: Dad could spend more time at home with his "mini-office" or calculate the family taxes to save accountants' fees. PCs are now marketed as home appliances, as cozy as a toaster, which incidentally is the trade name for a current, low-priced computer-graphics tool (described below).

One of the contradictions of consumer electronics is that technology designed for individuals can also be used by groups. The wide demand for Macintoshes on the job was a challenge that industry-giant rival IBM did not expect, but "friendly" systems are popular in the workplace, as well as at home. What was marketed for home consumption soon became ensconced in office systems. Corporate offices are not the only group settings in which "personal" computers have made sense. Thousands of community organizations, from rape-counseling centers to ecology-research teams, have adapted individual consumer commodities into organizing tools. Desktop publishing has blossomed with individualized formatting and page-layout programs such as PageMaker, which has been touted as the equivalent of the seventeenth century's penny press. The advantages of these technologies in organizing and distributing alternative information are taken for granted now even though they were unknown 10 years ago.

In video, we saw the rapid deployment of the "camcorder" during this same time period. This consumer video camera/recording machine has been marketed to individuals much like the Kodak Brownie was in the 1920s: as a tool for documenting family rituals, from graduations to birthday parties to decorating the Christmas tree. More than 10 million camcorders have been sold in the United States alone. The camcorder has, however, outflanked its marketing agenda and is a useful tool for labor unions, peace activists and those keeping an eye out for police abuses. In the arts, there is wide use of video to document performances and in interactive installations.

There have been some interesting intersections between consumer technology and creative imagination. In another

apparent contradiction, a fertile arena of individual and collective use of mass-marketed tools is flourishing in a society dominated by multinational corporations. From John Heartfield to Andy Warhol, many works of art in this era of mechanical (and now electronic) reproduction dance to the dialectic of these contradictions. One cannot deny the brilliant and inspiring work of many artists who have appropriated the machines of bureaucrats: the reconfigurations of offset reproduction collages of Barbara Kruger, Juan Sanchez, David Thorn, Steve Kroninger and others; the literally penetrating surveillance installations of Julia Sher; and the remarkable sculptural combinations using consumer reproduction technology created by Fred Wilson. Experiments such as these are vital reference points and reminders of the radical potential inherent in a mediated world.

Recent developments in video graphics programs aimed at consumers, such as the video toaster [1], have allowed access to the kind of image processing that previously was only possible at large TV stations or elaborate commercial studios. Camcorder images surpass the quality of those produced by most TV station studio cameras 10 years ago. Video effects that were the domain of early video artists such as Nam June Paik and Woody and Steina Vasulka are now available at a flick of a toaster button [2]. And people are not only recording images, they are interacting with video images in a populist performance rage called karaoke. Clubs and bars around the world now offer this laser/video interactive combination, which originated in Japan. The karaoke boom of do-it-yourself nightclub performance has enabled bar customers to interject themselves into music videos that combine and re-order sounds in the tradition of African-American-originated disco-rap music [3].

The demands of the consumer market have engendered a wide selection of high-quality images at an ever-descending cost. The low price for good video duplication is a challenge to traditions of scarcity in art. Video reproduction is "truer" than the reproductions of paintings that Walter Benjamin

## ABSTRACT

Popular electronic tools, in combination with satellite delivery systems, offer an opportunity for wide distribution of grassroots media. During the Persian Gulf War, peace activists and independent video producers pooled energy and resources to create a ten-part series on issues not covered by mainstream networks. These included such topics as the history of the Middle East, the resistance to the war and the effect of military expenditures on the U.S. economy.

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20 December 1991.

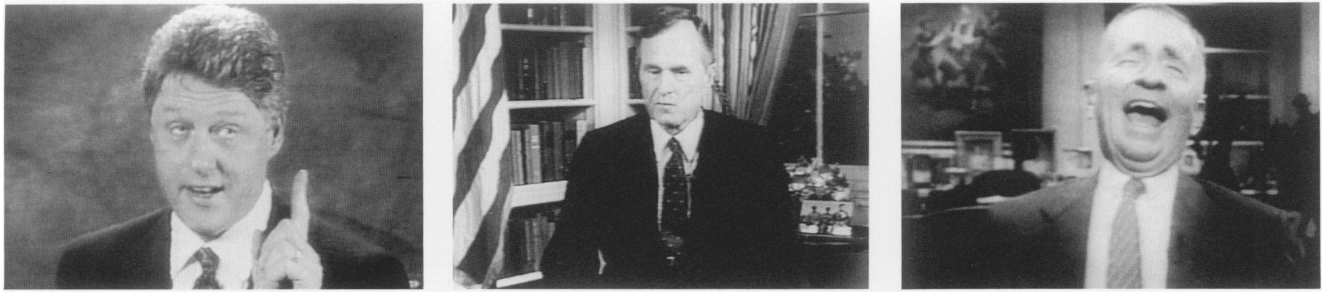


Fig. 1. Kevin Rafferty and James Ridgeway, *Feed*, still frames from film, 76 min, 1992. This work combines intercepted satellite “feeds” and film that was shot at the New Hampshire primary during the 1992 U.S. presidential election. (a) Bill Clinton, (b) George Bush, (c) Ross Perot. (Satellite material provided by Brian Springer)

wrote about in “Art in the Age of Mechanical Reproduction” [4]. A submaster from a digital original of a Paik tape is virtually identical to copies made for home distribution. Certainly the notion of “limited editions” of artists’ tapes is an idea justifiably jettisoned from gallery and art-dealer strategies. The fact that the camcorder and video toasters are now available at the local mall has made some of the rhetoric surrounding video art look a bit pretentious.

### “WE CAN GET IT FOR YOU WHOLESALE”

If the camcorder can be seen as a retail item, then the satellite channel, or transponder, can perhaps be seen as a wholesale distributor. This “wholesale” level of electronic technology, beyond the personal consumer arena, has points of possible appropriation for artists and alternative voices. The electronic technology of distribution on a wholesale level is now available for a relatively low price.

The changes in the television landscape are quantitative, not qualitative: the strongest presence is still the domination of the commercial networks—now expanded, thanks to satellite distribution, from the big three (ABC [American Broadcasting Company], NBC [National Broadcasting Company] and CBS [Columbia Broadcasting System]) to include the Fox network and CNN (Cable News Network). Other users of satellite transmission capacity have been in three main categories. One group includes the entrepreneurs aiming at specific markets—known as “narrowcasting.” Besides the weather channel, there are a science-fiction channel, the Comedy Channel and several home-shopping channels. Even the truckers of America have their own channel, which is distributed to truck stops [5]. The second class of users includes the conservative religious organizations, such as Trinity

Broadcasting, and idiosyncratic preachers, such as Gene Scott, a low-budget preacher who recycles his sermons 24 hours a day on his own satellite channel. The religious right has made impressive use of technological resources (direct mail, automatic phone banks, radio and TV transmissions) to spread their reactionary ideology. The third class includes business and science researchers and experts. From medical schools to social engineers, technocrats have made themselves at home on the satellite transponders. The arts and the humanities have not been as aggressive in this arena.

### BIRDLAND

At any given time there are dozens of satellites (nicknamed “birds” by news organizations) circling the equator. Each of them has a number of transponders. The majority of satellites are military-based, but many are commercial, owned by aerospace corporations. Transponders can be rented at an hourly rate or through multi-year leases. Many satellites have 24 of these channels. These channels are programmed by “uplinks” that beam signals to the transponder “faces” of specific satellites. These signals are then “reflected” back down to earth to be received by “downlinks”—receivers that can vary from large military antennae to small home dishes in backyards of rural America. In the coming years, their numbers will increase dramatically as new methods of signal compression are developed. There will be as many as six signals where there is now one.

For the most part, these signals are the “wholesale” distributors of programming. The Disney Corporation uses one transponder for its East Coast feed and another for its West Coast feed. By having these two options, Disney can program prime time on both coasts with the same program sequences. The National Aeronautic and Space Administration

(NASA) uses satellites to transmit feeds from inside the shuttle capsules and to air mission-control press conferences. All of the networks use satellites to uplink feeds from regional bureaus and Electronic News Gathering (ENG) crews. A recent feature film utilized raw footage from these transmissions. *Feed*, by Kevin Rafferty (Fig. 1), was largely based on footage that video artist and media archivist Brian Springer retrieved by downlinking uncensored 1992 presidential election program material from his satellite dishes in Buffalo, New York [6]. These were feeds meant for retransmission or in-house use.

Some transponder uses are specifically aimed at satellite audiences. There is a growing number of channels dedicated to technology information and to dish-component sales aimed at dish owners, who constitute a “retail” audience. There are now more than five million dishes in use in the United States and Canada. This direct satellite audience would be an attractive target for marketers, were it not for the competition. Since there are more than 20 satellites, each with 24 channels, there are about 500 channels available at any given time.

### DEEP DISH NETWORK

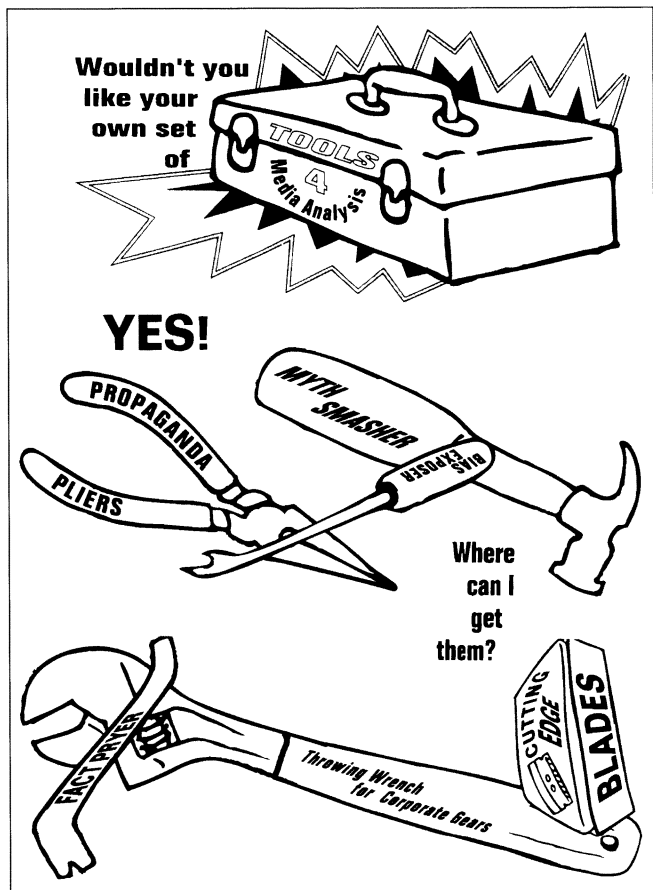
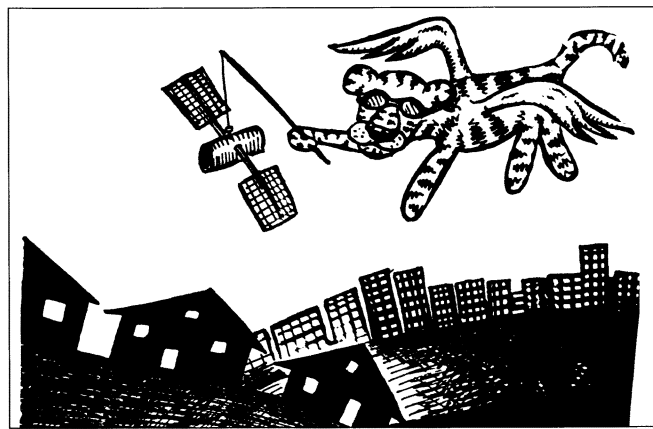
Deep Dish Television began in New York in 1986 as a collective of video producers and community activists interested in utilizing satellite technology for program distribution. The Deep Dish project began out of the ongoing production collective, Paper Tiger Television. I was one of the founders of both Paper Tiger and Deep Dish TV. Paper Tiger is a weekly program, available through the New York cable system, that deconstructs the media on public access. Started in 1981, it has served as a model for low-budget television production that proudly flaunts the “cheap art” of its graphics and production “values” (Fig. 2). Each

week Paper Tiger takes on one of the giants of multinational media, from *Time* magazine to the NBC News. The programs provide a critical assessment from an “expert” along with short “infomercials” that present statistics about the financial base of the corporation. Paper Tiger uses hand-painted backdrops for sets, hastily scribbled felt-tip-penned credits, and transitions that make no attempt to disguise the technology. On-air dialogue with the control room is amplified—directions such as “*Cue Herb, Daniel!*” are mixed into the overall sound track. The Paper Tiger aesthetic expanded from crayons and paints to include crude but inspired chroma-key effects, such as Hampshire College’s Joan Braderman sliding down the Carrington banister in “*Joan Does Dynasty*” and video artist John Walden’s interactive hugging of Ted Koppel in “*From Woodstock to Tiananmen Square*.” Many Paper Tiger programs that criticize TV use simple TV effects in ways that expose mystified constructions in both television form and ideological content.

Public access has been under-utilized by artists and community activists. Paper Tiger is a conscious attempt to encourage grassroots use of these community channels. Deep Dish was founded to bring together the energies and imaginations of the many community television producers across the country. In this sense, Deep Dish is a reconstructionist solution to the deconstruction of Paper Tiger. Paper Tiger tears apart the media, and Deep Dish presents the other side or, rather, the other sides. For example, it may take a social problem and show how it is manifested in a variety of locations and how people have worked to find creative solutions. Rather than the short, single bits of news broadcast on the commercial networks, Deep Dish gives many reports on the same issue. Some of the issues that have been raised on Deep Dish are housing shortages, racism, solid-waste disposal, deforestation and homophobia. A Deep Dish program on garbage includes solid-waste crisis reports from Staten Island, Philadelphia and San Francisco; reports about incinerators from several other locations and stories about recycling programs, including one begun by school children in Long Island, New York. Deep Dish encourages the use of a combination (as in a deep-dish pie) of technological, art and activist resources, such as

- the work of thousands of videomakers, individuals and groups, throughout the United States and the world

Fig. 2. Mary Feaster and Xavier Leplae, illustrations from Paper Tiger publications, 1991–1992 [11].



- the work of activists from a broad spectrum of constituencies who utilize and promote programs on such agendas as peace, ecology, diversity and women’s rights
- the public-access cable channels in many communities in the United States
- commercial transponders (satellite channels) that are available for rental.

Deep Dish collects material from a wide variety of producers and packages it into seasonal series (Figs 3 and 4). Satellite time is rented and local groups are informed for the downlinking of these programs. Most commercial satellites in the United States have what are

called “geostationary orbits,” which means that their orbit is above the equator. When boosted into correct position and traveling at the correct speed, these satellites stay at the same relative position to the earth. They revolve with the earth, and their signal is beamed down in a predictable and relatively stable “footprint”—the area in which the signal can be received. For many people in remote rural areas, this satellite “downlinking” is the only access they have to any television programs. Satellites aimed at North America can be received in most areas of the continental United States and large parts of Canada, Mexico and the Caribbean. Transcontinental



Fig. 3. "Recipe for Repression," from *State of the Art: Art of the State?*, still from video broadcast as part of Deep Dish's Censorship Series, 1992. (Producer: Branda Miller. Photo: GET SMART.)



Fig. 4. "De-Construcciones Al Natural," from *Resistencia Latinoamericana*, still from video broadcast as part of Deep Dish's Quincentennial Series, 1992. (Coordinating Producer: Raul Ferrara Belanquet. Photo: Leandro Katz and Adriana Zuanic.)

distribution is handled by relaying satellite images across the ocean.

### DEEP DISH DOWNLINKS

Deep Dish focuses on "wholesale" distribution: getting the programs out to cable programmers at access centers that can downlink them (with any consumer satellite dish), tape the programs and find space for them on local channels. These can be regular public-access channels, or they can be municipal channels or educational channels that are reserved by the municipal franchises (the agreements that cities make with cable corporations) for public use. Deep Dish has not made much outreach to dish owners, though this might be a fruitful strategy for future development.

For the current seasonal series, Deep Dish rents 2 hours a week. There is an initial uplink, then a repeat on a second day at a different time slot. This means that Deep Dish must work very hard to promote its programming to ensure that the many downlinkers remember to tweak the satellite dish in time. It means getting people to schedule the work of tuning and taping into their regular weekly chores. Think of a radio station being on for only 2 hours a week! Much of the work of Deep Dish is this promotional effort: sending schedules, calling to promote, sending reminder postcards and calling to follow up and to determine the extent of carriage. Although it varies from series to series, we know that several hundred cable systems regularly schedule the Deep Dish series on local cable access channels.

### "DON'T JUST WATCH TV, MAKE IT"

Deep Dish downlinking, however, is not a passive activity [7]. Most centers that play Deep Dish also participate actively in the network. Producers from many centers have submitted programming to the series (Fig. 5). Access staff and media-arts center personnel from many regions have coordinated compilation programs that have become episodes of a series. Some local producers act as sponsors and produce "wrap-around" segments that augment Deep Dish programming with a local focus. For example, one of the programs was on war toys. Peace activists from several locations downlinked the program and followed it with live local shows featuring panels of teachers and concerned parents. After screening the Deep Dish program, these activists received on-air telephone calls from viewers. The programs ended with listings of local activities, such as the picketing of toy stores during the Christmas season and a school art project involving the decoration of a store with nonviolent toys. The program supported the War Resisters' League, whose activists in many locations promoted the program and coordinated local organizing through outreach events such as the visiting of elementary schools to discuss the inherent militarism in "GI Joe" dolls.

Deep Dish encourages an active engagement with television—encouraging individuals to become part of a community of interest that tackles issues and reacts to events. By compiling local reac-

tions to specific issues, Deep Dish demonstrates how national in scope the issues are. The programs begin to do the opposite of what decontextualized fragments of mainstream network news does. On Deep Dish, issues are contextualized and made coherent. In addition, by working with activist organizations, the participation is extended into the community. Tapes about AIDS (Acquired Immune Deficiency Syndrome) list sources for information and exchange. A Cuba teach-in promotes visits to Cuba and enlists support for material aid brigades. A housing tape describes the steps needed for tenants to organize a rent strike.

### THE GULF CRISIS TV PROJECT

The extent of Deep Dish's power to recompose events within an activist context was made abundantly clear during the Persian Gulf War. As the United States ferried soldiers and material to the region in the late summer and early fall before the war, many peace activists were busy trying to head off a military confrontation. People with camcorders taped rallies, teach-ins and guerilla-theater performances in major cities across the country. These people began to call the Deep Dish office and request that some sort of series be done to react to the government rush toward a military operation. A mailing of a flyer calling for videotapes about the Persian Gulf brought in several hundred pieces from as many locations throughout the United States. These tapes were organized into four half-hour programs and

were uplinked to the Deep Dish network on 7 January 1992—9 days before the war began. There was such a dearth of material and such a high level of interest (and desperation) that the programs were received with a great deal of enthusiasm. They were shown frequently, not only on public-access programs, but also on many public television stations. Channels in Denver, Colorado; Scottsdale, Arizona; East Los Angeles and Sacramento, California; and several other locations repeated them for an entire week. Copies were sent to many other countries, where copies were made and distributed. Several hundred found their way to activists in Japan, where the tape served as an organizing focus for anti-war activity [8]. In England, the 2 hours of tape were edited into a one-hour special and shown on Channel 4 at prime time. Channel 4 in London was set up to provide programming not available on the BBC (British Broadcasting Company) or other independent channels in the United Kingdom. Although some of Channel 4's original mandate has been whittled away, Channel 4 is still a source of alternative information and culture. There is no counterpart to this in the United States. The Gulf Crisis TV Project's program had the highest ratings at Channel 4 for the entire month and elicited many hundreds of phone calls to the channel's offices, not to mention an unsuccessful law suit on the behalf of reactionary war supporters [9].

### Spin-Offs

In the United States, many peace groups requested copies of the Gulf Crisis tapes. More than 1,000 copies were given out in less than a month, and many of these were copied several times and distributed locally. They were shown in several cities at local movie theaters, including a major screening in San Francisco. Several communities made their own regular programs about the war, inspired by the Gulf Crisis TV Project. In Milwaukee, the public-access station produced a nightly program for more than 3 weeks. In San Francisco, Paper Tiger West collective began with the Gulf Crisis series as a base, then expanded to a weekly news program called "Finally Got the News," coordinated by Carla Leshne and Jesse Drew. The program is still aired every week in the Bay Area. In Doylestown, Pennsylvania, the local cable station set up a nightly forum for community responses to the war inspired by the Gulf Crisis TV Project.

### Impact of Project

The Gulf Crisis series garnered what I believe was the widest distribution in the shortest amount of time for any alternative media program. The series contained the work of more than 100 producers from dozens of locations. The work spanned a broad range, including rallies, comedy performances, guerilla theater, intimate interviews and the exposition of didactic charts and history texts. Various artists, such as Seth Tobanken and Mary Feaster, made graphics for the series. Performance artists Paul Zaloom and Papoletto Melendez contributed performance pieces, and Norman Cowie, Joel Katz, Tony Avalos and Karen Ranucci made short video-art works for the series. The programs bristle with anger and outrage, but they also are humorous, musical and dramatic. They present both the intellectual testimonies of experts such as Edward Said, Noam Chomsky, Dessima Williams, Daniel Ellsberg and Grace Paley and the heart-felt testimonies of soldiers who were willing to go to jail rather than fight. The War Resisters' League had to hire new staff to handle the calls that it received when the programs listed its number for information on how persons in the military could resist the war service.

The program material was organized in a magazine format, which combined

demonstration footage with investigative interviews on the military and energy industries, on the media itself (and their financial ties to the military), and on the racism inherent in media coverage and the aggressive foreign policy of the United States. In addition to video material that was collected, the series made extensive use of a variety of alternative sources. Information was gleaned from databases and computer networks, and faxes streamed in from community organizers and military resisters.

There was almost total suppression of news about resistance to the war in mainstream media. Obviously the news operations of any network could have supported rigorous investigation into the motives for the war. Since the Vietnam era, during which the media was blamed for supporting the peace movement, there has been a concerted effort to ridicule and minimize any pacifist options or critical evaluation of war. Alternative views have remained localized at rallies and teach-ins, never seriously covered by commercial media. However, this time, with the infrastructure of an alternative network of public-access stations, activists and video producers in place, the Gulf Crisis TV Project was able to distribute the programs to hundreds of channels in a short time. Other distribution strategies included showing tapes in a 1960s-type "media bus" in shopping-mall parking

**Fig. 5. Deep Dish Installation, New Langton Arts, San Francisco, 1989. This topographical map contains seven mini-television sets showing taped excerpts from public-access programs around the United States.**



lots. A tape of the series was even projected on the wall of the KQED building, the public TV station in San Francisco that had refused to air it. Newspaper headlines proclaimed: "Activists find new way to 'get on' public TV."

Peace activists helped to promote the series. In many cities, pacifists pressured stations through the use of "phone zaps," a form of organized telephone pressure. Working from lists, pacifists telephoned other activists and alerted them to call and encourage others to telephone their local stations and demand that the Gulf Crisis programs be shown. (This technique has been used and perfected in the past by the right wing as a means of blocking any attempts at progressive programming). The result of this effort was that the series was seen by a large audience during the second week in January, a substantial feat for a program produced on so little means (the first series cost less than \$50,000 to produce). In Los Angeles, the series garnered a rating of 2 points, meaning that nearly one million viewers tuned in.

The first four programs, which were uplinked before the war and focused on the history of the Middle East and the reaction to U.S. military build-up, were followed by an additional six programs made during the war. These featured reports of active military resistance, media coverage of the war, the effect of the military budget on domestic government spending and the international reaction to the war. These six programs provided information not seen on the networks, where coverage was limited to close-ups from the nose of the bombs alternating with bravura strategy sessions among retired generals. For example, one of the programs, *Manufacturing the Enemy*, looked at the effects of violence and racism experienced by Arab-Americans. Testimony from Arab students, store owners and dishwashers was compared with Japanese-Americans' memories of World War II experiences. The final program, *Global Dissent*, contained footage from more than a dozen countries, documenting reactions to the war in such places as Taiwan, the Philippines, Spain, Korea and France. The tapes made during and after the war have been distributed to many high school teachers and college professors, in an attempt to provide students with a means of understanding the short and brutal war.

## "THE SKY'S THE LIMIT"

Deep Dish has proved that satellite distribution is a powerful organizing tool. Uplinking programs can strengthen a sense of community across wide geographical regions. Deep Dish serves as a catalyst for creative activism and cultural exchange. At the present time, Deep Dish is planning an international series with an organization called Videazimuth, which involves community producers from more than a dozen countries. Corporations and governments have been networking for decades. The use of camcorders, computers and satellites makes the global exchange between grassroots organizations possible. The utopian possibilities are endless: a 24-hour program service could link artists, community leaders, union members, ecologists, intellectuals and counterculture consumers. This sort of exchange is not technically difficult or even prohibitively expensive, but it requires concerted efforts at organizing.

Satellite television technology has been cleverly utilized by right-wing fundamentalists in the United States, such as Jim and Tammy Baker, Gene Scott, Jimmy Swaggart and Pat Robertson. They have leased transponders on satellites for more than 15 years and built maverick infrastructures of channels on commercial, public-access and educational outlets. It is ironic that in their calls for censorship, repressive restraints on sexual preference and restrictive bans on immigration and international exchange, the right-wing fundamentalists have been extremely creative and rather eclectic in their use of video technology. Rush Limbaugh's nightly program deconstructs the Clinton presidency, much as Paper Tiger does with the media. Limbaugh uses a videotape player, for instance, to fast-forward or freeze-frame imagery from the day's news. His program is a populist assault from the extreme right on the liberal media—his views are homophobic, anti-feminist and racist. The eclectic religious broadcaster Gene Scott makes minimalist TV; his way of smoking a cigar in front of the camera and blowing smoke into the lens recalls the brash video pranks of Ernie Kovacs, television pioneer of the 1950s.

What has prevented a progressive response by the community of artists and defenders of human rights? Perhaps it is an obsession with individualism and

notions of elitist art and media practice. Perhaps it is because art curators, funders and makers steadfastly refuse to consider collective art projects and remain loyal instead to an art system that privileges "auteurs" and superstars and perpetuates hierarchy. Perhaps it is the difficulties of negotiating the differences and barriers that divide us. Perhaps it is fear of the power that could be mobilized through collaborative projects that utilize the full potential of the imagination. The technology we have at our fingertips is powerful. The sky's the limit [10]

## References and Notes

1. The video toaster allows two video images to be mixed together for a dazzling array of effects. Similar to the Macintosh computer, the toaster utilizes "user-friendly" software that requires little or no previous training.
2. One of the key developers of video synthesizers is interviewed by Wes Thomas in "Four Arguments for the Redemption of Television: Video Pioneer Stephen Beck," *Mondo 2000* 9 (1993). Beck's technoptimism bridges the 1960s and the 1990s: "Video art was one art form that started in museums instead of ending in them. . . . We are turning the television into a computer, and the next generation of kids into their own producers."
3. Karaoke manufacturers are planning interactive networks of karaoke users so that Tokyo drunks can carouse live with drunken Osakans. See Michael Schrage, "Karaoke Battles a Case of Laryngitis," *Los Angeles Times* (25 March 1993) p. D1.
4. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," *Illuminations* (New York: Schocken Books, 1969) pp. 217-251.
5. *Los Angeles Times* (25 March 1993) p. C1.
6. *Feed* is available on 16mm film or videotape from Kevin Rafferty, Video Democracy, 51 MacDougal Street, #204, New York, NY 10012, U.S.A. Tel: (212) 505-0154; Fax: (212) 473-5513.
7. "Don't Just Watch TV, Make It" is a Deep Dish bumper sticker available from Deep Dish TV, 339 Lafayette Street, New York NY 10012, U.S.A.
8. "Interview with Tetsuo Kogawa," in Herbert I. Schiller, George Gerbner and Hamid Mowhanna, *Triumph of the Image: The Media War in the Persian Gulf, a Global Perspective* (Boulder, CO: Westview Publishing, 1992).
9. "Gulf Crisis TV Project," *Whitney Biennial*, exh. cat. (New York: Whitney Museum, 1993).
10. This phrase was the name of a short-lived journal published by Lorenzo Milam, pioneer of community broadcasting and early enthusiast of satellite technology for alternative media use. For a classic account of the joys and problems of do-it-yourself broadcasting, see Lorenzo Milam, *Sex in Broadcasting* (San Diego, CA: Mho and Mho Works, 1972).
11. Tiger illustration from Paper Tiger Television, *ROAR, Paper Tiger Guide to Media Activism*, exh. cat. (Columbus OH: Wexner Center for the Arts, 1991). Tools illustration from Paper Tiger Television, *Paper Tiger Guide to TV Repair*, exh. cat. (San Francisco: San Francisco Art Institute 1992). Paper Tiger books are available from Deep Dish TV, 339 Lafayette Street, New York NY 10012, U.S.A.