Volume 2, Number 1 - $1.95

Radical Software

Changing Channels

In issue one, volume one of *Radical Software* (Summer, 1970) we introduced the hypothesis that people must assert control over the information tools and processes that shape their lives in order to free themselves from the mass manipulation perpetrated by commercial media in this country and state controlled television abroad. By accessing low cost ½" portable videotape equipment to produce or create or partake in the information gathering process, we suggested that people would contribute greatly to restructuring their own information environments: YOU ARE THE INFORMATION . . . Through such decentralization of the information medium, we asserted that the overall information environment of this country could be humanized and revitalized. Defining media ecology as any set of dynamic relationships existing among information tools, information processes and human nutrition the paper focused attention on ecologically valid media processes and their relationship to the social and psychological nourishment of human beings.

In *particular* it focused on the increasing number of *experiments* conducted by people using this ½" video tool: experiments in producing locally originated programming for closed-circuit and cable tv and for public access cablevision; construction of video information environments/structures/assemblages as related to information presentation and audience involvement; creation of new formats for the presentation of video information; creation of new organic designs for the electronic camera (who says that an electronic camera must be designed so that the cameraman is still *shooting* with the camera in front of his face); explorations of the unique potentialities of *feedback* through video and audio *infolding,* and feedback as facilitator in encouraging play between people in pursuit of new life styles and/or as examination of the transformation of the director/actor relationship implicit in video. Long theoretical discussions were printed concerning such concepts as cybernetic guerrilla warfare, triadic logic, biotopological resensitization, nutritive contexts, electronic democracy . . . On the theoretical/practical level discussions of an information based economy led to suggestions of a video distribution plan based on information exchange. And so on.

Most of these experiments, though often requiring a great deal more of the experimenters' patience and time to implement in view of very limited economic resources, consistently produced growth oriented results in terms of the selection of information gathered on tape, and the information process of gathering and assembling that information. Public access evolved from the conceptual state to the implementation state when it was pioneered on Sterling Manhattan and Teleprompter cable systems in New York City this past year. For the first time (as far as we know) cable stations cooperated with video groups and individuals who had been producing and creating many hours of experimental programming for several years with no outlets for their tapes. The public access year ended with a 3-day celebration taking place to inform the people of the city of the existence of community oriented public access channels. (See brief discussion in this issue.) Early this summer, public access on the small town level was pioneered by Woodstock Community Video on Kingston Cablevision. (See letter of agreement between these two parties within this issue.) However, the question of how the community programmers will be paid for their services so that they can support themselves without relying on granting institutions is yet unresolved. Another experiment, the outcome of many smaller experiments, was implemented this summer by Top Value Television (a joint Raindance/Ant Farm project) when it brought together a group of about 30 people from several video groups to provide alternate coverage of the political conventions in Miami. This was the first time that we know of that ½" video technology was used to provide alternate, specialized market, coverage of a national event. It is also the first time we know of that money was raised from cable companies in support of a ½" video production that did not originate from the cable companies' own production facilities.

Throughout the first volume of *Radical Software* the paper/magazine functioned as a conduit or passageway through which information flowed and was disseminated. Editorial decisions functioned more in relationship to the organization and juxtaposition of pieces of information than in their elimination, and editorial opinion functioned more in behalf of access than in asserting any one particular approach to this new information medium.

As we announced in *Radical Software* #5, we will no longer be turning the major part of our energies towards print production. We expressed the desire, which we maintain, to turn our full-time energies to experiments in information formating and alternate video coverage of events and environments. However, since we feel that the continuation of a print forum of this nature is important (most information of a non-commercial nature is still circulated via print) and since we desire to expand and share our information resources with others, *we have decided to farm out most of the issues of this new volume.* We feel that this is an important format experiment since each group will bring its own style and bias towards the presentation and selection of information. We also feel that this experiment will lead to in-depth reporting on events and phenomena only casually mentioned in our attempt to service *all,* or not mentioned at all for lack of room or our own bias. We expect and welcome diversity.

On the back inside cover are some announcements of forthcoming issues, including some which solicit information. Send specific solicited information to the group requesting it. In the case of video directory information, tape distribution and data bank information send it to us and we will either collate the information and forward it to the appropriate groups for publication, or include it in one of the issues which we will be producing.

(continued on back inside cover)

(continued from front inside cover)

This is the second issue of *Radical Software* not distributed by us personally. (The first issue was #5.) Please let us know if you have difficulty in getting *Radical Software* or if our service or that of our publisher is not satisfactory.

The Raindance Foundation, which originally published *Radical Software*, is a non-profit corporation dedicated to research, development and innovative implementation in communications media. Contributions are appreciated and tax deductible.

Address all *Radical Software subscription*, circulation, and distribution correspondence to Gordon and Breach Science Publishers, Suite 1304, 440 Park Ave. South, N.Y.C., N.Y. 10016.

Address all *Radical Software editorial*, correspondence, as well as correspondence to Raindance Foundation, to P.O.B. 135 Ruby, N.Y. 12475.

Forthcoming Issues of Radical Software

VIDEO BALL video group of Antioch/Baltimore will focus on the use of media (especially vtr) as an instrument of individual, institutional, and social change and/or growth. They would like you to send them information pertaining to group interactions, community video (action projects, oral history), CATV program designs and formats, specialized playback environments, internal institutional uses, interactive experiments, education and training designs, economic support bases (alternatives to and development of), vtr and mental health. If you won't, can't or would rather not write, send audio tapes, video tapes, graphics, photos, illustrations or telephone person-to-person to Alan Kaplan or Tom Johnson, Antioch/Baltimore, 301-752-3656. They will write up the information and send you a transcript to edit for "ok." GET INFORMATION TO THEM BEFORE NOVEMBER 25. Write to Videoball, Antioch Videolab, 525 St. Paul Place, Baltimore, Md. 21202.

Billy Adler, John Margolies, Van Schley, and Eileen Fegalove of GREAT BALLS OF FIRE will take an alternate look at commercial television: tv stars at home (as taken from the outside), tv accessories and architecture, tv generated gadgets, interviews with Dennis James and a tv repairman, an in-depth view of the non-real world of sports (wrestling and roller derby), and more . . .

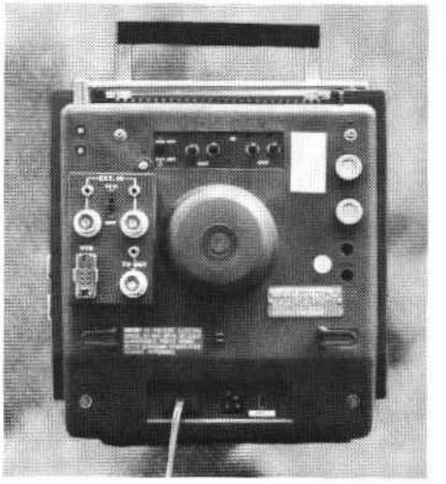
Phil Gietzen in San Francisco is organizing an issue which will "trace the historical aspect of kinetic visuals using work by Jacobs and Belson, Zagone and Ray Anderson (who were into light shows behind music) and move through the 65-68 drug trip concert light show which greatly influenced local filmmakers in their early work . . . DeWitt, Bartlett, Myers' collection, Belson, trying all the time to tie in video, especially Zagone and Belson . . . put it all in a cause and effect perspective . . . rounding it out with articles and info about local video folks. Youngblood laid the groundwork but missed a lot of the real things because he essentially was just in town to interview and did not really get into the scene. We go from Vortex . . . Belson . . . Zagone . . . Anderson . . . Planetarium . . . to Teske . . . Star Map . . . light show . . . films . . . loops . . . video cinema graphics . . . to feedback . . . direct video experimentation . . . invention in SF of tv by Farnsworth . . . to Beeson (National Sex and Drugs) and Video Free America . . . to Different Fur (Moog synthesizer group) . . . State College Radio, TV, Film . . . Dr. Zettle . . . to CATV . . . Johnny Video . . . to equipment . . . science museum . . . atomic bomb . . . Oppenheimer on cosmic evolution lectures . . . holography . . . Decker (the recording found on the elevator) . . ."

Mike Goldberg in Vancouver and Merrily Pascal in Montreal will be cooperating on a Canadian issue which will contain information about an international tape distribution system, an international directory, Canadian developments in video, editing techniques, a portapak manual . . . and more. . . .

Dean and Dudley Evenson will be putting together an issue focusing on local origination community experiments and using video to collect data about the environmental crisis. Send pertinent information to them at POB 190, Downsville, N.Y. 13755.

See Steve Duplantier of Video Rangers, Bloomington, Indiana in VIDEO DIRECTORY within this issue for appeal for information for a future *Radical Software* on general systems theory. . . . This is a *tentative* future issue.

Other announcements of future issues will appear in forthcoming issues.



This issue is brought to you by:

Beryl Korot
Ira Schneider

Special thanks to Joan Hennessy and Skip Blumberg. Also thanks to Evelyn Honig for lending us her darkroom equipment, and George Korot for donating a 35mm Canon camera.

Production:
Ira Schneider
Beryl Korot
David Holzman

Off-air photos: Ira and Beryl

SUBSCRIPTION RATES (VOLUME 2) - 9 Issues

	USA/CANADA	GREAT BRITAIN/ELSEWHERE
LIBRARIES	$45.00	£20.20/$48.50
INDIVIDUALS	12.50	6.67 16.00

Publishers: Gordon and Breach, Science Publishers, Inc., One Park Avenue, New York, N.Y. 10016. Application to mail at second class postage rates is pending at Long Island City, New York.

Subscription information: (see above); published monthly with the exception of February, July, and December. Single copies $1.95; back issues $3.00. Printed in the United States of America.

Program Guide

Channel 1 **MOVIES ROUND-THE-CLOCK** (RE-RUNS)

Channel 3 **ABC**

Channel 5 **NBC**

Channel 6 **METROMEDIA**

Channel 9 **EDUCATION**

Channel 10 **CBS**

Channel 12 **MONITORING OF EARTH FROM ORBITING SATELLITES**

Channel 15 **SPANISH LANGUAGE I**

Channel 17 **PBS**

Channel 20 **LOCAL CITY GOVERNMENT**

Channel 23 **AP NEWSWIRE, STOCK LISTINGS, WEATHER REPORTS**

Channel 24 **CATV: POSSIBILITIES AND EXPERIMENTS**

Address all *Radical Software subscription* circulation and distribution correspondence to Gordon and Breach Science Publishers, Suite 1304, 440 Park Ave. South, N.Y.C., N.Y. 10016.

Address all *Radical Software editorial* correspondence, as well as correspondence to Raindance Foundation, to P.O.B. 135 Ruby, N.Y. 12475.

Wiring Megalopolis: Two Scenarios

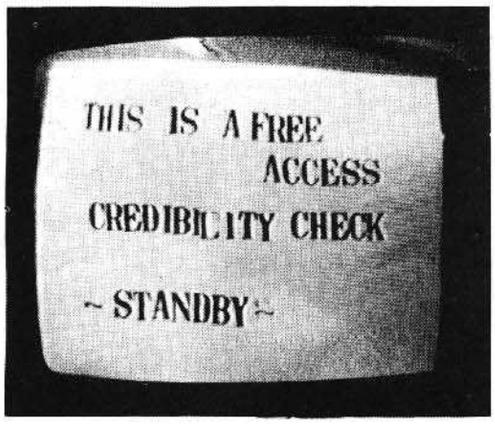
by Mark Hinshaw

It is becoming increasingly evident that we are in the midst of a tremendous societal transformation. Students of social change have begun in recent years to examine its form and substance and to make predictions as to its consequences for human existence. In an effort to give it an appropriate historical identity, scholars have christened this systemic transformation out of the industrial era variously as the arrival of post-industrialism, the coming of a super-industrial age (Toffler, 1970), the Age of Discontinuity (Drucker, 1968), the dawning of a Universal Civilization (Ribiera, 1968), the evolution of Consciousness III (Reich, 1971), and emergence of the Technetronic Age (Brzezinski, 1970). At least two authors have identified this social phenomenon as revolving primarily around the invention, use, and proliferation of new communications technologies and processes. Robert Theobald (1970) maintains that we are entering into nothing less than a full-blown Communications Era, while L. Clark Stevens (1970) applies the title of Electronic Social Transformation.

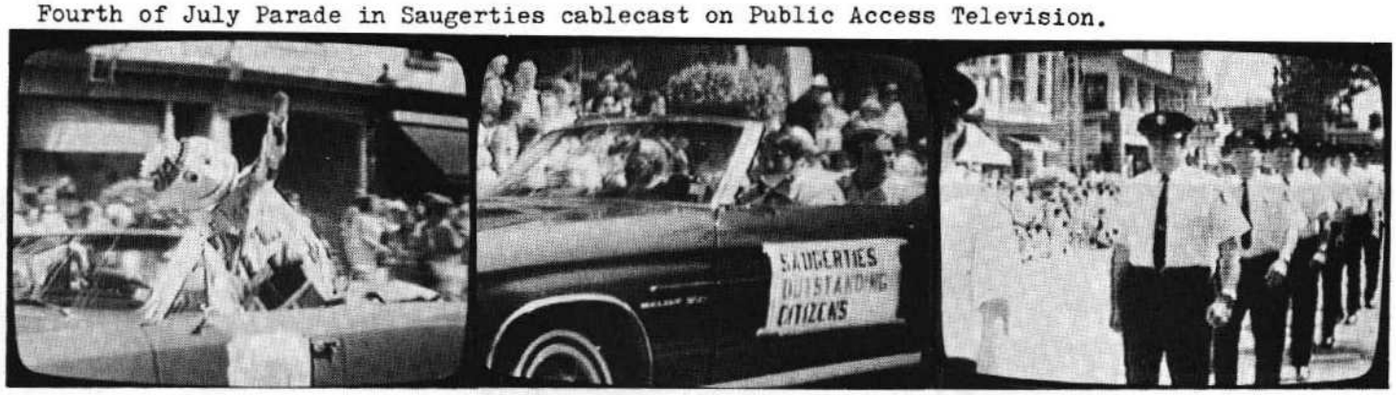
In the area of urban affairs and planning few attempts beyond those of Richard Meier and Melvin Webber have been made to analyze the impact of communications on urban change. Among the myriad of conferences, symposia, books, and journals examining current and future urban development, planners have given virtually no recognition to the consequences of communications for alternative urban life styles. As Jerome Aumente (1971) has noted: "Professional planners who should know better persist today in conventional predictions of future land use and population movement without sufficiently examining the new set of communication variables that turn their predictions topsy-turvy." Indeed many planners may well feel that communications technology will have little or no effect upon urban development. Virtually any recognition at all of the relationships between urbanism and communications has come from academicians and professionals outside the fields most directly involved in urban analysis and policy development. Most of the literature coming from such sources, however, treats communication and information-generating hardware seemingly as the means of solving most of the urban problems with which we are presently confronted.

It is imperative that communications resources, goals, and potentials be included in the urban planning process, taking into account local, regional, and national needs. The development of communications technologies and communicative structures is intimately related to housing, transportation, social services, and the political economy. Communications sytems must be considered a major component of the urban infrastructure, both as a public resource and as an integral part of urban movement systems involving people, goods, energy, and information. There is a clear need for substantive analysis and synthesis of urban change in terms of concomitant communications developments . . .

Cable communications has particular import for urban change in that it has the potential for radically altering the very concept of the urban community. Entirely new perceptions of community life may develop. In addition, it may well be a key to determining the ability of urban inhabitants to understand their individual and collective problems and deal with them effectively. However, it should be pointed out that predictions of the emergence of "the wired-city" are clearly shortsighted in that they fail to realize that with such extensive a communicative system, the very term, "city", will no longer be a useful term for symbolizing urban way of life. Indeed, as Melvin Webber (1968) has already pointed out, we are even now in a "post-city age"



Fourth of July Parade in Saugerties cablecast on Public Access Television.



Nicholas Johnson (1970) has commented that communications will be the primary technological determinant of urban life in the next several decades. "Communications will be to the last third of the twentieth century what the automobile has been to the middle third." Such a statement is as foreboding as it is promising. Forecasts of the development of communications media already range from eloquent prose about the tremendous potential of new media (Youngblood, 1970; Shamberg/Raindance 1971) to horrifying suggestions of a future society unprecedented in the degree of control and repression (Gross, 1970). Cable communication in particular has probably as many potentially negative consequences as it has positive ones. Cable technology is so imminently powerful that it deserves immediate assessment with respect both to its effect upon urban institutions and related technology and the effect of the institutions and technologies upon cable itself.

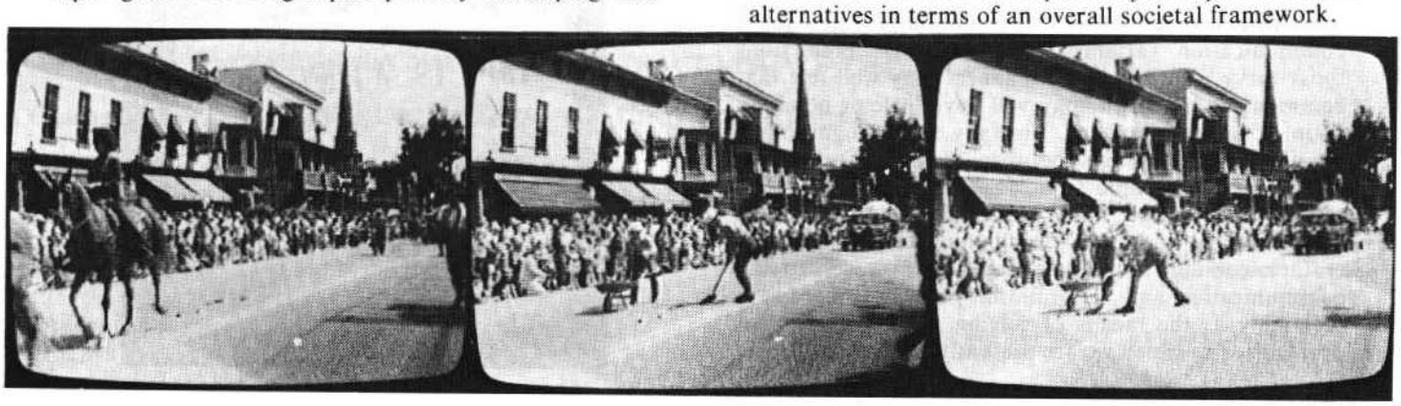
Two Possible Futures

It is obviously difficult, if not hazardous, to attempt to make forecasts about changes in the nature of urbanism brought on by such a rapidly changing area as cable communications. Peter Drucker (1968) has noted that in the future "the unsuspected and apparently insignificant (will) derail the massive and seemingly invincible trends of today." Nevertheless, it is important to engage in an anticipatory delineation of first, second, and third order consequences of various alternative developments. Of the many futures that are possible, I will elaborate on two.

The first alternative is essentially an extrapolation into the next few decades, the events, developments and value systems of the present. This assumes a continuation of current social trends. Thus we will witness a rapid growth of megalopoli possibly developing into Doxiadis' world of ecumenopolis: a continual global city. We will, in addition, continue to see the flight of upper income groups, together with industry and the economic base, to exclusive suburban areas. Older urban centers will then become massive human sinks with palliatives being perenially applied through quasi-benevolent welfare-state policies. Complex bureaucratic institutions will continue to proliferate, becoming diffused and interwoven throughout all areas of society. Finally, with social disorganization increasing, environmental degradation reaching a new high, and clamor for security and control mounting from all sides, government and its corporate cohorts will look to research organizations and academia for solutions in systematic applications of a new and powerful union of the social, behavioral, and technological sciences.

The second alternative assumes that the forecasts of increasing exponential change are wrong; that we are instead entering into an historical era in which exponential curves begin to flatten into logistic or S-shapes—an era of evolutionary change into a fundamentally different level of societal existence. This future assumes an eventual emergence of a corresponding shift in values, with voluntary reductions in overall consumption levels, a redefinition of individual rights and responsibilities, an acceptance of cultural diversity, a recognition of ecological interdependence, and a critical attitude toward the possibilities and the problems of technology. There will be simultaneous undertakings to create a variety of new pattterns of urban habitation, with access to life support systems and services being increasingly seen as a basic human right. Cable communications and its attendent services will be recognized as a medium for the creation of wholly new communities as a tool for exchanging socially useable and useful information.

The scenarios below attempt to expand upon these two alternatives in terms of an overall societal framework.



Scenario I

Six months after the end of the Viet-Nam War in mid-1973, it seemed fairly evident that the much hoped-for diverting of funds from military expenditures to domestic social problems was not going to materialize in any significant amount. Dissidents began to turn their energies to the inefficiencies and insensibilities of corporate practices and headlines were soon occupied with news of several coordinated, large scale explosions and communications disruptions in factories and corporate offices around the country. It did not take long for Neo-Luddites to coalesce around the goal of bringing the megamachine-society to a standstill.

Within urban areas the crime rate had reached an all time high in June of 1973 with the vast bulk of crime consisting of thefts of personal property and street mugging, much of it violent. There also was an exponential increase in the number of apparently senseless crimes: random shooting and knifing of people in all major American cities.

By 1974 blacks essentially had control of two major cities, and militants in at least one other large city and a half dozen smaller ones were in the process of trying to wrench control from bureaucrats and civil servants who lived outside their communities. Demands for immediate community control came not only from blacks and Spanish-speaking peoples, but from poor and middle-income ethnic white areas as well. Many reacted with violence at attempts by decision-makers to change the character of their areas. The chief concern of many politicians was the very real prospect of widespread social disorder occuring before and during the upcoming Bicentennial Celebration. Most people regardless of their race, income, or ethnicity felt such a crisis demanded immediate and drastic action.

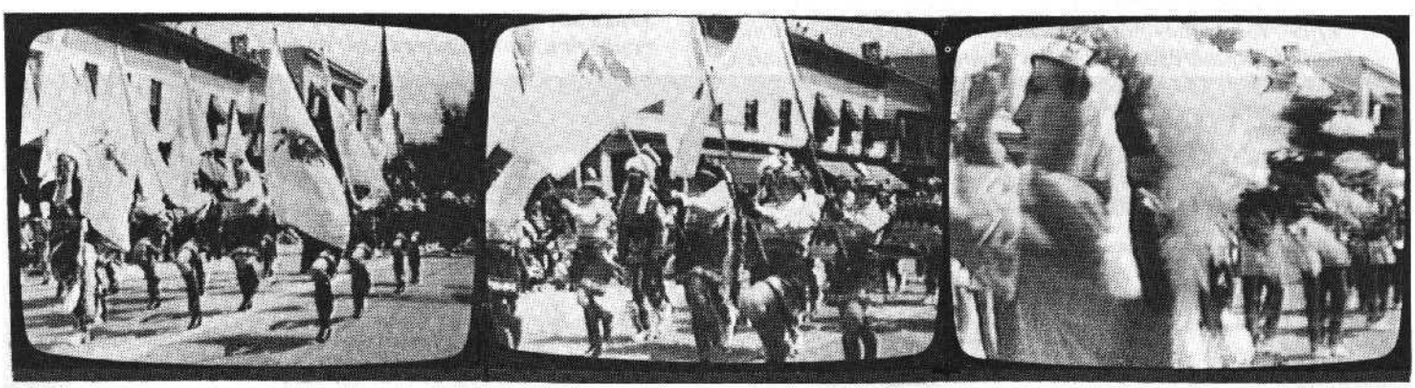
So it was that in 1976 a President was elected on a "Security and Stability" platform and together with a sympathetic Congress instituted a number of swiftly implemented measures. The National Internal Security Administration was created and under the Urban Communications Act of 1977 the Department of Communications was added to the Cabinet. DOC was empowered and given funding to immediately establish a National Communications System, or NATCOM for short. Each megalopolitan complex was to see to the construction, by public or private means, of intra-urban cable networks to feed into NATCOM. The scheme developed by national communications planners was multifold.

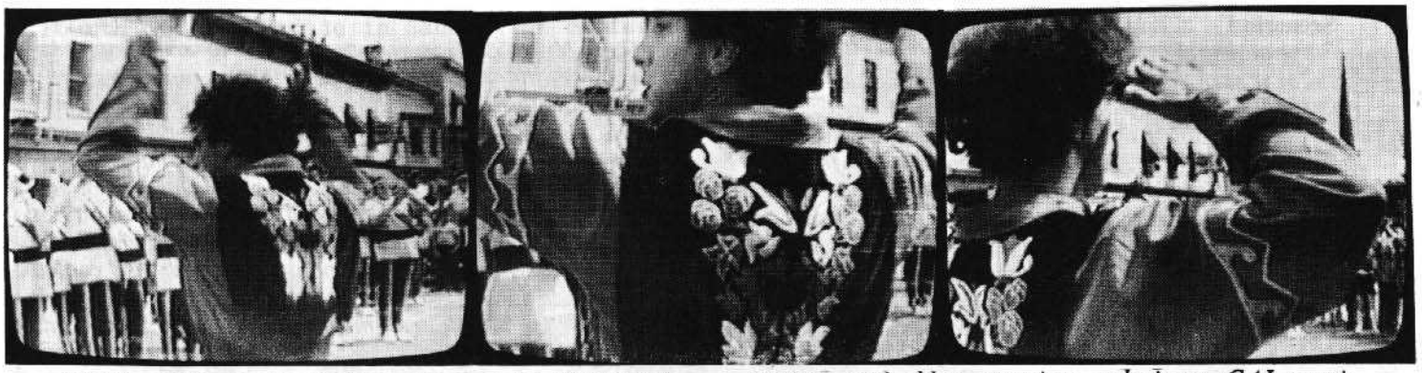
First NATCOM was devised so as to enable government, military, and police operations to function swiftly and effectively in a widely dispersed pattern. Information about potentially dangerous people or groups was data-banked and made instantaneously available. Computers were utilized to collate personal information and activities and to predict by simulation the probability of a particular disruptive action. Thus those potential dissidents who could not be coopted or otherwise cooled out could be closely monitored. A proposal made back in 1971 for mobile transmitters implanted in the brains of habitual criminals was being implemented experimentally.

The personal crimes in urban areas that were not eliminated by local heroin distribution programs, NATCOM sought to minimize by installing miniature video cameras at strategic points on streets. One of the major reasons for the popularity of two-way cable television was its burgular protection service. It thus came to be that privacy from electronic surveillance ceased to become a major concern; after all, it was felt, no decent citizen had anything to hide.

Second, NATCOM could help satisfy public demands for greater localized control through the establishment of intracommunity cable systems within urban areas. By the end of the 70's almost all urban places over 2500 were fully wired. Planners maintained that by encouraging intense involvement in local cable systems a sense of control over local affairs and participation in local matters could be produced. (Behaviorial research by several prestigious institutions had shown that only a sense *of participation was necessary to satisfy most people.) With attention so intensely focused on local developments, higher levels of government could thus be freed to pursue their activities unharrassed.*

Third, NATCOM facilitated the formation of eight regional superagencies to control urban population distribution, housing, transportation, environmental resources, land use, and internal security. The formerly sticky issue of metropolitan government was skirted by instituting not a new level of government but rather technical service agencies empowered to set policy without the chaotic process of public involvement that had bogged down the implementation of so many plans in previous decades. Possible objections to such an arrangement were largely forestalled by the strategy of including into the agencies potential dissidents.





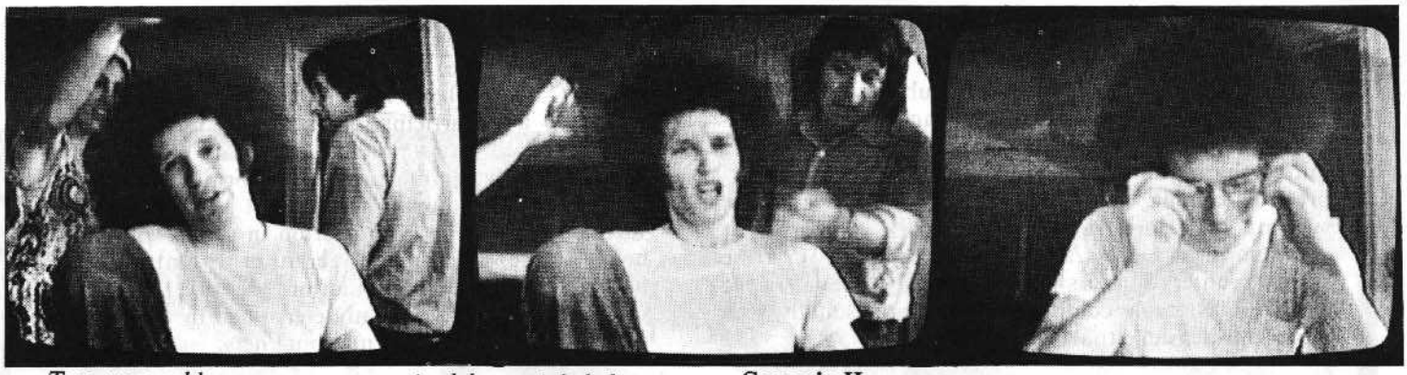
Finally, cable communications was seen by NATCOM planners as a means of eliminating the propensity of mass media for unnecessarily inflaming emotions about particular events and for raising aspirations and expectations of people beyond what corporate enterprises and government could practically provide. This led in the early 1980's to the custom tailoring of packaged information and entertainment to fit the unique characteristics of particular cultural and social groups. Not that this was unwelcome; the previous decade had seen a widespread clamoring for programming more relevant to the experiences of specific racial, ethnic, and economic urban subcultures. NATCOM enlisted the aid of former advertising and public relations specialists, social and behavioral scientists, video artists, and communications experts to research the needs of various publics and to prepare carefully designed pieces of programming for distribution by cable and cassettes. NATCOM operated in close partnership with the three former broadcast networks which by the mid-80's had turned their investments entirely from broadcasting to broadband communications. These corporations discovered entirely new areas of profit-making by marketing cable hardware and producing programming for video cassettes (particularly with the tremendous demand for violent sports and pornography).

By the mid-1980's the results of the Emergency Housing Act of 1978 were being seen. The Act has provided for the simultaneous construction of forty-five new towns and twenty linear megastructures within megalopolitan areas entirely by rapid industrialized methods. Such a massive urban development effort was unprecedented in scale and scope.

At the same time, national obsession with the automobile was being gradually replaced with an equally if not more intense obsession with personal communication systems. Status began to be measured by the number and type of equipment one could wear or affix to home cable terminals: wall-sized plasma screens, quadrasonic sound systems, biofeedback units, cameras and video recorders, colorizers, CAI terminals, facsimile attachments, and other parapheranalia. Waiting on the horizon, holography promised yet another addition to personal "telecoms". Not that the automotive corporations simply disappeared; they like former broadcast networks transformed themselves. Megalopolitan living in the 1980's demanded new forms of transportation—personal rapid transit, gravity-vacuum carriers, "people-movers", aerobuses—all of which required both sophisticated transport technology and highly developed and coordinated cybernetic communications systems.

Other corporate institutions were transformed under the impact of universal cable communications. It did not take long for marketing analysts to discover that vastly greater profits could be made by designing information about products and services for particular consumer groups. Even channels devoted entirely to consumer reports, at first resisted by corporate structures, eventually resulted in greater sales, because they further encouraged high consumption patterns. Electronic home shopping with instantaneous credit accounting proved to be a particular boon to commerce as impulse purchases soared.

The 1980's also saw the advent of educational cable networks. Experiments conducted by a number of independent academic centers, and research sponsored by the Department of Communications had proven conclusively that cable communications learning consoles utilizing stimulus-response and reinforcement patterns could significantly increase certain computational and reading skills. It was found particularly suitable for students who showed, through early testing methods, little capacity for more than basic skills. By putting the earlier theories of B.F. Skinner into practice, educational psychologists found that such learning units could also be structured so as to produce a certain degree of satisfaction with a particular role in society. Frustrations and anxieties due to unmet expectations could thus be minimized.



Two-way cable was soon recognized by social, behavioral, and demographic scientists to be a blessing. Not only was a continual census possible, but researchers were afforded a means by which to gather wholly new varieties of information about the activities, behavior, and characteristics of people. Never before had such accurate statistical data been available to social scientists and planners. Government and corporate decision-makers, seeing the enormous potential of such statistical data gathering, defined this as a major element in public participation in policy-making, a method by which government could continually determine the needs of its people. This was deemed much more effective than the mere voting on issues and candidates. Therefore, 1995 was set as target date by which time all homes would be required to have at least one basic, two-way cable terminal.

In America the beginning years of the last decade of the twentieth century saw an unprecedented era of social stability brought about by strictly-imposed government policies. Although conflicts and disturbances periodically arose they were largely localized, short-lived and had little effect on society as a whole. The 1900's also saw the gradual formation of a new type of social stratification based upon differing degrees of access to certain types and qualities of information. The Kerner Commission and political scientists who in the late 1960's had warned of a racially divided society had not foreseen the impact of localized community communications. This permitted urban communities to defend themselves against intrusion by people they considered undesirable, resulting in a vast array of exclusive subcultural urban enclaves. Many communities formed around economic levels, while others formed around ethnic, racial, or work-role distinctions. Local cable systems facilitated the emergence of rigid in-group/out-group attitudes within communities while helping to legitimize and reinforce their particular beliefs and values. Such community atomization permitted government to identify and isolate potential trouble spots and deal with them without upsetting the larger society. The degree of social stability within America was, however, in sharp contrast to the increasing intensity of social, political, and ecological chaos in many other parts of the world.

Scenario II

Urban America in the last quarter of the twentieth century was the locus of a series of widespread social and institutional changes. The mid-1970's saw the breaking down of restrictive zoning laws in suburban areas while the general movement to outlying urban areas continued. Increasingly entropic conditions in central cities due to an overload of population concentration and diseconomies of overly complex institutions gave rise to desire throughout all economic, social, ethnic, and racial groups for alternative environments and live styles. Even while the popularity of suburban living continued to grow, however, it too was beginning to be seriously questioned as a suitable choice.

Concern for the environment and the quality of goods and services, initiated at the end of the 1960's, had by the middle of the 1970's expanded to a greater concern for the total living environment, including housing, transportation, services, community, and social inequities. Demands for a more humanely organized society were echoed by feelings that megalopolis had passed the point of diminishing returns and that different choices were sorely needed.

Moreover, people began to realize in the last few years of the decade that full and responsible participation in decisions affecting their lives and their communities demanded access to means of generating, receiving, and exchanging ideas and information. Only in such a way could common areas of concern be discovered and cooperative efforts at problem-solving be attempted. Adequate and easily available methods of inter-community and intra-community communications were necessary for effectuating mutually beneficial change.

By the end of 1976, cable communications systems had been installed in enough areas that people in many communities began to see their potential for facilitating collective action. Awareness of the potential of community cable resulted not only by the increasing availability of the medium, but from educational campaigns conducted by universities, video groups, and citizens organizations which explained that the cable was not merely an extension of further refinement of television, but an entirely new means of communication.

Andy gets a haircut--shown on Public Access television.

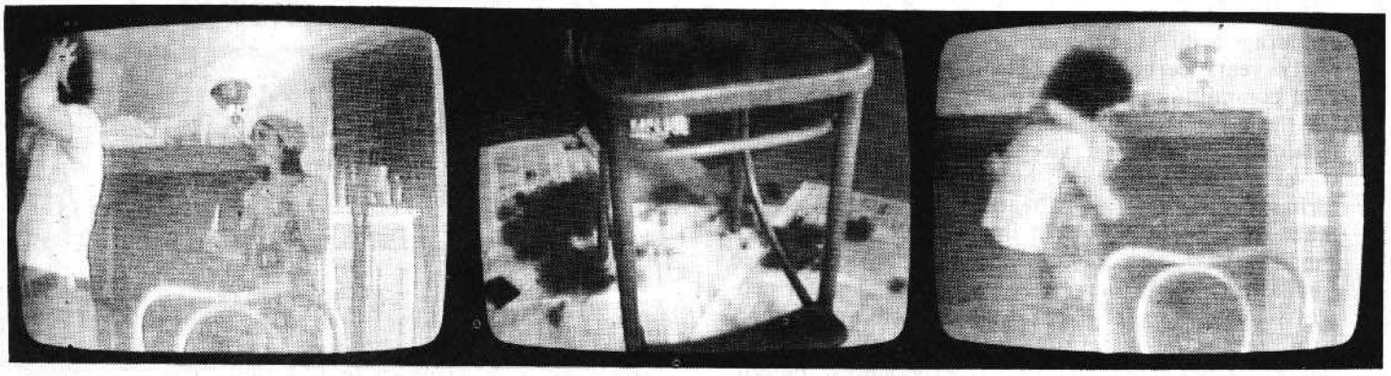
With an acceptance of the value of subcultural diversity within the larger society, the abundance of cable channels and inter-networking of community systems permitted sharing of experiences, customs, and artistic expression among various urban groups. Local cable systems and portable video recorders helped foster community awareness and self-development. With the steady proliferation of switched two-way systems in the early 1980's, cable communication was gradually seen as an indispensable tool for local planning.

By 1977 the shift from employment in primary and secondary economic activities to employment in services was virtually complete. Fully seventy-five percent of the work force was engaged in such tertiary service activities. It was also becoming clear that the single term "services" was inadequate, for cybernation had begun to reduce employment even in many service categories. At the same time, there was a dramatic increase in the need for people engaged in human care and community development activities such as health services delivery, education, and child care. Simultaneously a desire for performing socially useful roles which permitted more choice and flexibility instead of a single lifelong occupation were pervading all sectors of the population. Moreover, the very concept of what activities constituted "work" came under intense criticism, with a wide range of people from housewives to students at all levels, arguing that they performed functions that made a valuable contribution to the resources and development of society. Finally, the awareness of the fact that American society had decades ago shifted from an economy centered around competition for scarce resources to one of an abundance, gave rise to a wide-spread belief that the provision of basic goods and services required for a life of dignity should be a right of citizenship. The collective force of such events and demands resulted in the institution in 1978 of a guaranteed annual income to all persons.

The cumulative effect of such structural changes in society as a more equitable distribution of goods and services, a reduction in levels of consumption, a more careful use of resources, a blurring of distinctions between leisure, work, and education, and concurrent changes in technologies of information, energy, transportation, and housing was to diminish the necessity for megalopolitan concentrations of people. Two-way cable communication services played a vital role in facilitating the formation during the 1980's of a great variety of urban environments. "New" towns, medium-sized urban areas, community clusters, communal settings, and former small towns and rural areas were receiving emigrants from the denser urban complexes. This expanded range of different environments encouraged more involvement with alternative social relationships such as extended families, family clusters, learning groups, group marriages, and religious groups that had previously enjoyed only limited experimentation. Interactive cable systems with ownership having been separated from programming in the mid-1970's permitted people to maintain linkages within and between differing types of communities; some geographically concentrated, some spatially diffuse, others transient and based solely upon temporary convergence of interest. For the first time, people were able to enjoy both the benefits of smaller, intimate communities and the access to and participation in larger, more culturally diverse urban environments: national, trans-national, and global. By the mid-1980's the former model of the urban-rural dichotomy had all but disappeared from sociological theory: participation in urban ways of life no longer depended upon habitation within an area arbitrarily defined by population, density, or political boundaries but was instead determined by the access to communicative and informational nets.

The maturation of cable communications and its ancillary services aided in the emergence of a full-blown post-mass-consumption/production urban economy. Advanced cybernation with computer operations capable of rapid reprogramming was permitting a return to high quality crafted goods designed and produced to fit unique criteria. Housing, for instance, could be built to meet the specific needs of particular communities or even individual families. Urban planners and designers saw cable as a means of receiving information about the needs and preferences directly from potential user groups. Cable was also seen as a medium of presenting simulated alternative environments and housing configurations and eliciting reactions to them. Outcomes of various policy choices were projected and compared in terms of their possible long-run ecological consequences. Thus it served as a valuable tool for the creation of more responsive and responsible designs.

Interactive cable systems permitted the development of more individualized inter-personal, intra-community and trans-community communicative services as well. People involved in kinetic and visual arts used cable and related technologies or portable video and cassettes to introduce other people to the process of expressing images and ideas. Many people became involved in the production and distribution of entertainment for specialized audiences. Still others engaged in gathering, arranging, and presenting widely varying types of informational materials to meet the demands for more useful and useable knowledge. Multiple-access retrieval systems via cable gave rise to large groups of people engaged in reading, reviewing, cataloging, and abstracting literature and research documents for users who had been suffering from an overload of data and were in need of more manageable forms of information. Completely new forms of exchanging and presenting information were created, centering around methods for understanding interrelationships of societal changes. Still other people became involved in various types of community development, organization, advocacy, individual and group therapy, and the analysis of problems, goals, and potential areas of conflict and cooperation. Finally, others engaged themselves in the communication of customs, beliefs, events, and cultural contributions of the particular communities of which they were a part. Members of communities which were mobile used cable to form ties with those which were geographically stationary. With the realization that urban communities were socially interdependent, cable nets enabled the creation of shared pools of information and ideas and the joining together of disparate groups of people in collective attempts at bringing about desired changes.



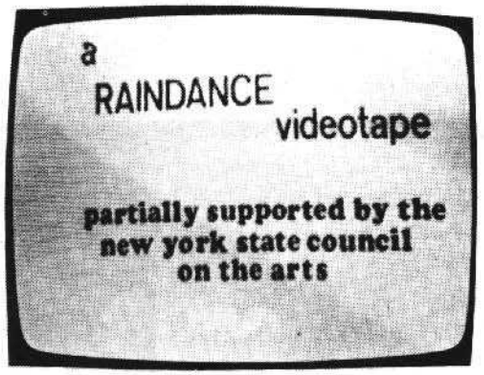
During the 1980's an indirect by-product of a universally-accessible urban communications medium was the gradual replacement of the former two party political structure with a political environment containing a multiplicity of active interest groups each possessing differing value patterns and community myths. In some cases political associations coincided with physically identifiable communities, while others cut across separate communities. Interactive broadband communications networks permitted these groups to coalesce, separate, and recoalesce around particular issues as the need for effective action demanded cooperative group efforts.

One of the many proposals for government reform that had enjoyed public popularity during the Great Debates of 1976 was a voter response feedback system. As in earlier proposals, it had been suggested that the system could be implemented through two-way cable. At that time, however, cable linkages had been made with only a small proportion of the total number of households. An argument at that time against the system was that such a readily available access to a voting mechanism would effectively discriminate against those who did not have cable. By the late 1980's, however, cable penetration had approached ninety-five percent and the voter system became politically practical. By that time since the hardware was essentially in place, all that was necessary for full implementation was a computerized accounting apparatus. However, once the system had been in operation it soon became clear that a simple yes-no response to proposed policies and candidates was entirely inadequate. Such a system of "feedback" had been based on the notion of "feeding" reactions back up to representatives and administrators involved in public policy-making. What was needed, it was claimed, was an interactive, truly participatory structure that would give individuals and groups the opportunity to originate and present proposals. This subsequently brought about a movement during the early 1990's to replace the system of representation with more direct and cooperative decision-making mechanisms.

The development and proliferation of interactive cable communications as an urban information utility influenced the development of more fluid, diverse, and participative social environments during the late 1970's and 1980's. The 1990's began to see the impact of ubiquitous information access on the physical environment. Static, fixed, and technologically obsolescent building forms were increasingly replaced by flexible, user-controlled environments. One manifestation of this was the construction of basic life support infrastructures providing water, climate control, waste recycling, and communication services which would be designed to last for a relatively long period of time. Attached to these infrastructures or service grids could be virtually an infinite variety of housing types which would either be designed intentionally with short life spans or with the capability of being modified when the needs of the inhabitants changed. Many forms of shelter and community facilities even became entirely mobile, some entirely self-sufficient, others requiring links with service networks. Urban architecture like communications had become more process-oriented, individualized, adaptive and diverse.

The last decade of the twentieth century witnessed a general trend toward more dispersed, polynodal patterns of urban habitation and away from large concentrations of population. Several large urban complexes like New York and San Francisco were maintained because of their unique qualities, but were considerably diminished in population, as they became simply alternatives in a wide range of urban configurations. Locational decisions and choice of lifestyle became based more upon preferences for different environmental or cultural characteristics rather than upon economic determinants. The majority of people were engaged in such activities as interpersonal care and development and cooperative crafts and it was discovered that these activities could be performed well in smaller urban units.

By 1995, it was clear that many of the earlier predictions concerning the impact of communications were being proven wrong. Travel had hardly decreased; rather it saw a net increase as communication about different urban cultures, subcultures, and environments encouraged direct experiential visitation. Predictions thirty years earlier of people communicating rather than commuting to work had also not been borne out, for the very nature of work changed as it fused with localized community service and education. Routinized travel did indeed decline; but travel itself was transformed from mere movement from one point to another to an integral part of the total learning process. Finally, electronic communication did not, as had been forecasted, replace such activities as shopping, for people valued the social function of the community marketplace and recognized the importance of tactile, olfactory, kinesthetic, and spatial experiences. Indeed, the proliferation of communication technologies resulted in *more* direct human interaction rather than less; there was a great increase in the demand for places facilitating direct human interchange. The interrelated effects of transportation and communication technologies, economic change, and political decentralization was bringing about the simultaneous phenomena of societal dispersion and integration—dispersion into a multiplicity of diverse communities and the integration into a national (and increasingly global) urban culture.



Conclusion

The scenarios I have presented are only skeletal images, verbal sketches of two possible futures. There are, I am sure, elements in each that could be considered undesirable by someone. Indeed, the scenarios are not necessarily mutually exclusive; a synthesis of conditions from both might well come to pass. Both might be dismissed as mere extreme utopian or dystopian fantasies, thought I believe both to be realistically possible. Neither "future history" is entirely probable, although I feel that the first alternative is more likely. (Another more probable future which was not discussed is one of increasing ecological chaos culminating in global devastation.)

Unforeseen innovations and events during the coming three decades might explode all present projections. Nonetheless, the normative task of attempting to arrive at desirable futures necessitates an ongoing analysis of the multi-fold potentials, negative as well as positive, of emerging broadband communications. Only in such a manner are we presented with effective charts for helping to guide urban change in the present.

BIBLIOGRAPHY

Aumente, Jerome, "Planning for the Impact of the Communications Revolution", *City,* **Fall 1971**

Bagdikian, Ben H., *The Information Machines,* **(New York: Harper and Row 1971).**

Bailey, James, "Cable Television: Whose Revolution?", *City* **March/April 1971.**

Biderman, Albert D., "Kinostatistics for Social Indicators", Bureau of Social Science Research, Inc., Washington D.C. 1971.

Bock, Peter, "Responsive Democracy", Proceedings from the Sixth Annual Symposium of the Association for Computing Machinery, 1971.

Bowdler, Dick and Harrison, Keith, "The Future of the City as a Communication Center" in *Citizen and City in the Year 2000,* **European Cultural Foundation, 1971.**

Brzezinski, Zbigniew, *Between Two Ages: America's Role in the Technetronic Era,* **(New York: Viking Press, 1970).**

Drucker, Peter, *The Age of Discontinuity,* **(New York: Harper and Row, 1969).**

Feldman, N.E., "Cable Television: Opportunities and Problems in Local Program Origination", Rand Corporation paper, September 1970.

Goldhammer, Herbert, "The Social Effects of Communication Technology", Rand Corporation paper, 1970.

Gross, Bertram M., "Friendly Fascism: A Model for America", *Social Policy,* November/December, 1970.

Johnson, Nicholas, "Urban Man and the Communications Revolution", *Regional Urban Communications,* **Metropolitan Fund, Inc., Detroit, 1970.**

Meier, Richard, *A Communications Theory of Urban Growth,* **Cambridge: MIT Press, 1962.**

National Academy of Engineering, *Communications Technology for Urban Improvement,* **Washington D.C., June 1971.**

Reich, Charles, *The Greening of America,* **(New York: Random House, 1970).**

Ribiera, Darcy, *The Civilizational Process.* **(Washington D.C.: Smithsonian Institute Press, 1968).**

Shamberg, Michael and Raindance Corporation, *Guerrilla Television,* **(New York: Holt, Rinehart and Winston, 1971)**

The Sloan Commission of Cable Communications, *On the Cable: The Television of Abundance,* **(New York: McGraw-Hill, 1971).**

Stevens, L. Clark, *EST: The Steersman Handbook,* **(New York: Bantam Books, Inc., 1970).**

Theobald, Robert, *An Alternative Future for America,* **(Chicago: Swallow Press, 1968).**

Theobald, Robert, *Teg's 1994,* **(Chicago: Swallow Press, 1971).**

Toffler, Alvin, *Future Shock,* **(New York: Random House, 1970).**

Umpleby, Stuart, "Citizen Sampling Simulations: A Method for Involving the Public in Social Planning", *Radical Software, #3.*

Webber, Melvin, "The Post-city Age", *Daedalus,* **Fall 1968.**

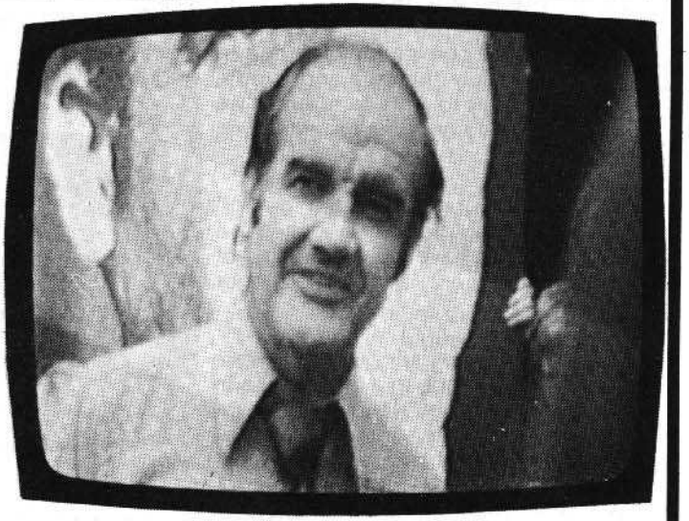
Wise, Arnold, "The Impact of Electronic Communications on Urban Form", *Ekistics,* **July 1971.**

Youngblood, Gene, *Expanded Cinema.* **(New York: Dutton Press, 1970).**

This article will appear as a chapter in **Communications Technology and Social Policy: A New Cultural Revolution?,** *edited by George Gerbner, Larry P. Gross, and William H. Melody, and published by Wiley & Sons. Presently, in press.*
The author expresses his appreciation to Robert Theobald and Ronald Tatasciore for their comments on an earlier draft of this paper.

TOP VALUE TELEVISION COVERAGE OF 1972 POLITICAL CONVENTIONS

There are a lot of things that went down i.e. working collectively with other video groups although the process was not that of a collective, interfacing with established media, attempting to do sound journalistic coverage of a political event, technical limitations and capabilities of ½" vis a vis a marketable product, what it's like working with cable on this level as opposed to Public Access or community programming, and establishing a presence in a foreign land like Miami Beach. . .



MIAMI BEACH ...IS A FUN FESTIVAL!

A FUN FESTIVAL EVERY WEEK

MIAMI BEACH

THE WORLD'S LARGEST TV STUDIO

TOP VALUE TELEVISION —OVERVIEW

Top Value Television (TVTV) began in early 1972 as an Ant Farm/Raindance fantasy project to cover the Democratic and Republican National Conventions. It became a reality in April, '72 when the project received full press accreditation. The people who worked on the tape were chosen because of certain video skills, organizational skills and/or equipment which they could provide. For the Democratic Convention there were 28 of us; four from Raindance, four from Ant Farm, four from Antioch, Ohio, three Videofreex, and independent video people from New York, Chicago, San Francisco, and Los Angeles.

Funding came from small foundations, individual donors, and four cable systems (Teleprompter, Sterling Manhattan, Cypress Communications, and Continental CableVision) to whom the tape was pre-sold. Although the cable systems provided only 25% of the funding, the precedent of selling programming to cable stations was established. The agreement made with cable systems was that the program would be finished within 2 weeks after the end of the convention and the systems could view the tape and choose whether or not to air it. In essence, we felt we were doing some programming R&D for cable systems.

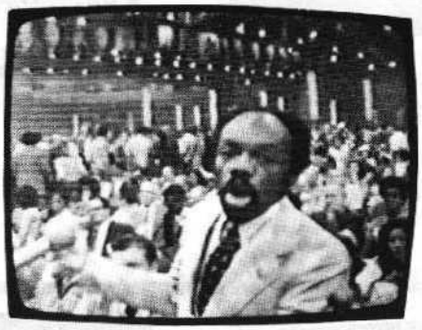
All of our footage was shot on ½" Sony portapaks and then edited on Sony 1". We have the capability of distributing on ½", 1", 2" or cassette.

After the Democratic edit we were able to sell the tape to a UHF station in Chicago (Channel 44), and to approach more cable systems with a finished program in hand.

We found that tooling up for the second (Republican) convention went a lot more smoothly. First of all we had learned how to save money. The Democrat edit cost $12,000; the second was budgeted at $8,500. Again money came from similar sources. We had fewer people, less tape and a firmer outline of which stories to pursue.

The Republican edit was also done on 1" and was ready two weeks after the convention. The need now is to establish firmer distribution channels; to sell the tape to more cable systems, additional UHF stations and colleges. Monies generated from sales will go towards personal debts assumed and deferred on equipment rental and salaries to those who worked on Top Value Television.

Willy Brown--California delegation leader.



"We've just got to fan out among the delegation and work our asses off!"

VICTORY!:Shirley and Willy.

Wallace Delegate, Alberta Johnston: "I think all the media's slanted."

INSTRUCTIONS TO TVTV CREW:

THINGS TO TAPE: No way we can compete with the networks. Their resources are astounding.

Our tape will be about us trying to tape the Convention and have it make sense as tape; behind-the-scenes encounters between people; and a different aesthetic approach to the events that the networks will also be covering (e.g. inside the Hall itself). In addition, we'll cover official outside activities (e.g. the Democratic Telethon, parties) and ad hoc ones (e.g. demonstrations).

Specifically, we want tape of:

Delegates: Because we will not have unlimited access to the floor, we want to pick up on specific behind-the-lines Convention-related activity. If we can develop a rapport with delegates and hang out with them we can be there at the informal moments which the networks can't cover but which can give a better sense of the Convention than staged interviews.

Specifically, we should try to be with delegates at dinner, in caucus rooms, in their hotel rooms, at parties, etc. We already have pledges of access from different state delegates and one may even take a Porta-Pak on the floor. Rather than cover a lot of them, we should concentrate on a few as tape, others for intelligence. The continuing saga of a delegate may make a good continuity device in the final edit.

In terms of what types of delegates, they should be chosen as to color and articulation of viewpoint, and whether or not you'd want to hang out with them. Specifically we're thinking of people like a middle-aged Texas liberal friend of LBJ's, and Wallace people.

The Media: Miami Beach is the world's largest TV studio. The hall itself is a TV studio. We need to document the media presence. This can be done partly through visuals which show equipment, crews, and interviews; and partly through sound: either newsmen talking to each other, or interviews with newsmen. In fact, newsmen are the only people we would consider doing a formal interview with.

You should also make friends with newsmen as they'll give you tips about events and processes. Chances are they

FOUR MORE YEARS

won't feel threatened by us but will be amused and want to help.

Pseudo-Events: Anything which happens for the media will be overcovered by it. Yippies, for example, will stage media events. Instead of taking them at face value we need to shoot behind-the-scenes and debunk them just as we would the straight media or straight culture. A lot of people are coming down here to get press attention. They will. By the time our edit appears people will be tired of hearing and seeing them. Moreover, demonstrations and press conferences tend to be didactic in that it's people telling you what to think. That makes slow, talky tape. Better to have spontaneous behavior which happens in process (as in hanging out with delegates).

Confrontations: People in Miami Beach are real edgy (see enclosed situation report). Some hippies may be into violence although their leaders have been cool. Some shots of trashing might be worth it. But chances are it won't turn into permanent confrontation like in Chicago in 1968. Our feeling is that confrontation tape is a cliche of Porta-Pak video and we're tired of it. One reason for TVTV is to give viewers an idea of the range of alternate video, because too often they mistake the possibilities of the equipment with the fact that it's always used in the service of the same content.

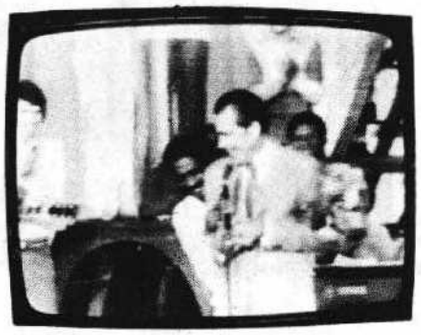
We're not into declarative, explicit typed action or statements done wholly for the media. At best, we want to cover the media covering those actions and cover the people planning for or reflecting on them. The actions themselves are of negligible importance to us.

Other possibilities: You should try and screen your tape as much as possible and get feedback on it. If something's working we'll want more, and if not etc. Unlike the pencil press we can't report on something if we weren't there. Unlike broadcast TV, we can't make it happen. Thus, everyone working on TVTV has an intelligence function to ensure that we have cameras in the right place at the right time.

Style: Whatever Porta-Paks do that TV doesn't is what we want to do. This means injecting ourselves into the material, intimate access to situations, the use of special lenses. The print analogue to what we're trying to do is collage, but not of hard-edged well cropped images. Rather we're looking for found art like snapshots, postcards, and sketches, whatever their video counterparts might be.

Nixon Supporter

Private Party



Promises alone can't win over Sammy Davis, Jr...

"The women here are very enjoyable..."

HARDWARE

. . . We will have about 10 Porta-Paks with five and possibly seven in use at a time (we hope to use two cameras on some situations). This means that back-ups can be gotten if something goes bad, and that people taping at night won't need daytimers to return to get equipment.

If you've brought hardware we need an inventory form filled out and you must label your equipment. TVTV will return all borrowed equipment in operating condition, assuming it was brought to us that way.

SOFTWARE

If we lose track of tape we're fucked. In addition to screening your own tape and telling us what's on it (tape screening will happen in the living room), you've got to make sure it's labeled. We have to edit 70 hours in two weeks and if there's a lot of searching to be done we can't do it.

When a crew returns from shooting they must see that their tape is given to the person who is logging software at the time. Any raw (i.e. unused tape) must also be returned.

We will also maintain a log book which has a numbered page for each corresponding number tape. This book will be for in-depth notation of tape content. Any time someone decides to preview tape he or she should note the chronological sequence of action in the log book. You should also make odometer (i.e. counter) notations corresponding to hot spots with the counter set at zero when the tape starts.

Got that?

CONTENT RAP

In the end, our tapes must represent the event—far less so than traditional media trips—but the content of the event must be there. Our role is unique. Our slant is unique. The emphasis is on the feel of the events and the reactions of real people involved in the Miami Beach process, including ourselves. Audio *does* matter. We are reporting, albeit in our own manner. We have to get people to talk—not FOR us, but hopefully while they're talking and really saying things to each other. Our focus on the subjective feel

of the place and time is not a license or a substitute for random video. The subjectivity and honest feel of real occurrences comes from shooting real things, things that include the media floating all around the city and the convention hall; the real interaction between delegates and the powers that be on a personal level in the hall and particularly around the hotels and such during the day. In toto, what we're about is producing quality tape that will stand on its own to communicate that there is another and a viable way to present the feel of an event and a social space that has been neglected, rejected and missing from media coverage to date. Our documents should and must document OUR activities in the process of going about taping them. The tape should be running when we sit down with an interviewee-type. How they relate to us and to the media is a crucial part of the total image we have to project. Our ability to move in and out of process within the tapes will determine the success of communicating our point of view.

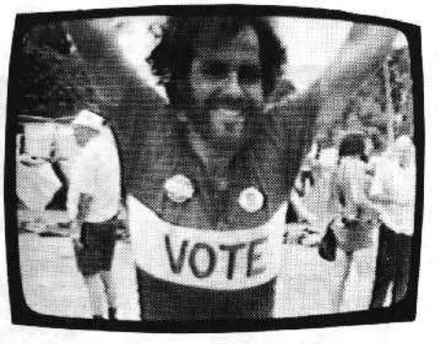
The conventions ARE a television event. The networks do their thing. Ours encompasses them and their activities. We must relate to what we see them doing and try to amplify it—not in terms of the image, so much as in terms of capturing the process that they are into. We, like everyone else in Miami, realize that the networks are what the convention is about. Our tape has to reflect their presence and their ineptitudes, inabilities, and limitations.

DECISION STRUCTURE

Instead of jobs, i.e. one person charged with the same task no matter where he or she is, we plan to have roles.

Press Passes.

"I'm not interested in the convention."



Jerry Rubin in Flamingo Park.

Specifically, there will be one central co-ordinator stationed at the house at all times. This person will change. But whoever it is at the time will be at the center of the decision structure.

That structure is based on our communications resources. Specifically, there are two phones at the house and two at the hall. In addition, the house will have all scheduling information and the UPI convention wire.

Each morning we will determine assignments through intelligence and what people want to do. When you get to a spot it's up to you to determine if your energy is being well spent. If you think you need more help then call the house and we'll provide what's available. If you think it's time to leave then call and we'll let you know if there's somewhere else to go. If you need a ride or your equipment breaks down, then the house is also the place to call.

It's assumed that if you're not in regular touch you're doing something useful. But you should let us know whenever you make a major change of location. Ultimately, the success of the project depends on being in the right place at the right time and that means having someone to be there, not just knowing about it.

Finally, people shooting tape will have to do just that. We've attempted to set-up our structure to provide as much support for camera crews as possible in terms of logistics and back-up. Taping has priority over everything.

For more information contact:
Michael Shamberg or Megan Williams
Top Value Television
P.O.B. 630
San Francisco, Calif. 94101

TVTV tapes are available on EIAJ I format for $125 each and in cassette format for $135 each.

"I think I might rather watch this one at home. Honest."

"We can't cover the news in a half-hour every evening...that's ridiculous. People shouldn't rely on tv alone for all the news..."

"There's nothing to this that a woman couldn't have done a long time ago. It's a piece of cake...," NBC's Cassie Macken.

Public Access Birthday

On July 6, 7, 8 the first anniversary of Public Access Cable TV in Manhattan was celebrated. A coalition of educational, service and arts organizations and video groups worked in cooperation with both Sterling and Teleprompter Cable Companies with support from the New York State Council on the Arts. The event "Public Access Celebration" was designed to make *General Public* aware that Public Access existed, to expose its mechanisms and point out possibilities of its use.

There was an interconnect made between the two cable systems for the three day event and from 10am to midnight Public Access Channels "C" and "D" were programmed specifically for the Celebration. Channel "C" presented a retrospective of the years Public Access programming and Channel "D" was kept open to receive feedback tapes generated at viewing centers. Monitors were placed in 16 community centers (church, park, schools, libraries, hospitals as well as community organizations). Locations were chosen because they already had cable or were then cabled for free, specifically for the Celebration. This allowed General Public to see Public Access. Since there are only 100,000 cable subscribers, most people visiting the viewing centers were new to P.A. and cable. At the majority of these centers there were people familiar with ½" video and there was equipment available for General Public to initiate programming which was then bussed or subwayed up to Teleprompter's 179th St. studio and sent out over the interconnect on P.A. channel "D". People could then view their tapes coming over the cable.

Other elements of the event were: a live microwave broadcast on two of the days from Central Park which went out on the company channel 10, live studio programming from both Sterling and Teleprompter; live telephones; and a simulcast over radio station WRVR.

There will be a complete analysis of the event forthcoming in *Radical Software* by Survival Arts Media and Dumping Place. This is merely notice that something happened.

Survival Arts Media,
595 Bdwy., NYC, NY 10012

FOR ONE YEAR, PEOPLE HAVE BEEN MAKING THEIR OWN TELEVISION PROGRAMS USING CABLE TELEVISION'S PUBLIC ACCESS CHANNELS C & D

ON JULY 6-7-8 YOU CAN LEARN TO USE PUBLIC ACCESS. VISIT ONE OF THE VIEWING CENTERS, SEE PROGRAMS MADE BY PEOPLE OF NEW YORK, LEARN TO RESPOND BY MAKING PROGRAMS WITH PEOPLE IN THE VIEWING CENTERS AND SEE THEM PLAYED BACK. HELP TO MAKE TELEVISION AN ACTIVE EXPERIENCE.

FOR MORE
INFORMATION CALL: 942-7200, EXT 273.

Viewing Centers:
TelePrompTer Studio One, 60 W. 125th St. • Museum of the City of New York 104 5th Ave. • Harlem Prep 2535 8th Ave. • St. Mathew's and St. Timothy's 26 W. 84th St. • Bethesda Fountain Central Park • Automation House 49 E. 68th St. • Bellevue Hospital 1st Ave. at 29th • Knickerbocker Hospital Union Square 14th St. & Park Ave. S. • Washington Heights Library 1000 St. Nicholas • Inwood Library 4790 Broadway • County Cullen Library 104 W. 136th • YWCA 180 W. 135th • Riviera Bar 7th Ave. at Sheridan Square • West Side "Y" 5 W. 63rd St. • Washington Square Village Bleeker and La Guardia and others to be announced.

PUBLIC ACCESS CELEBRATION

BY AND FOR THE PEOPLE PUBLIC ACCESS IS CABLE TELEVISION

JULY 6·7·8 JULY

With support from TelePrompTer Corporation, Sterling Manhattan Cable Television, The New York State Council on the Arts.

IF YOU OR A NEIGHBOR HAS CABLE TELEVISION, TURN TO CHANNELS C & D BETWEEN 10 A.M. AND 12 MIDNIGHT AND CALL YOUR QUESTIONS, IDEAS OR MESSAGES TO 781-9830, 31, 32. MEET THE PEOPLE WHO ARE USING PUBLIC ACCESS ON CHANNEL D FROM 6 TO 9 P.M., JULY 6-7-8.

COME TO CENTRAL PARK ON FRIDAY, JULY 7, AND SATURDAY, JULY 8, BETWEEN ONE AND 5 P.M. TO CELEBRATE WITH MUSIC, THEATRE, AND PARTICIPATE IN A LIVE TELECAST OVER CABLE CHANNEL 10.

GET TOGETHER AT EAST GREEN, NEAR THE EAST 72ND STREET ENTRANCE TO CENTRAL PARK, ON SATURDAY, JULY 8, AT 6 P.M.

Additional cable public access participants: Alternate Media Center • Automation House • Archive C.V.S. • Bellevue Hospital • Central Harlem Youth Council • Communitel • C.T.L. Lui Electronics • Genius Project • Global Village • Filmakers Coop • Harlem Prep • The Kitchen • Lincoln Square Community Council • N.Y.U. Video Tech • Museum of the City of New York • New York Public Library • Open Channel • People's Communication Network • People's Video Theatre • P.S. 20 Space Video Arts • Survival Arts Media • Rivington Video • Teachers College Horace Mann Hall Center for the Arts • Technosphere • Voodoo • Video Access • University Settlement House • West Side Women's Center – and many others

New York Woodstock Community Video

It's not the great youth camp acclaimed in some historical fantasies of the 60's—simply it's rural suburbia. As a Northeastern upper-middle American habitat Woodstock is similiar to many communities in this nation. It is dissimiliar in that it has been an art colony for some 75 years and has attracted to its foothill Catskill Mountain environment a variety of life-stylists with significant contributions to make and tourist bandwagoneers with significant consumptions to make. A closely located IBM plant helps populate the town of 5000 with red-blooded engineers and executives who rub noses with settled down rock stars, urban refugee writers and actors and town folk with roots dating back to the origins of this country.

Woodstock is a town where local programming is a task demanding responsiveness to Firehouse bazaars, ecological group actions, town government, women's civic and lib groups, musicians, straights, long-hairs, culture-vultures, snowmobilers, etc.

The above agreement with Kingston Cablevision marked a first in this town. On May 29, 1972 the first 2 hour program went out to some 1800 cabled homes. Every week about 2 hours of locally produced documentaries about the town can be seen on Wednesday nights from 7:30 to 9:30.

For us, the video programmer, once pursuing the allusions of our rhetoric about alternate media ideals, the task has now become tedious, sometimes monotonous but always and consistently satisfying. Day-to-day programming is not the sort of thing conceived by rhetoricians. Weekly taped programming is no celebrated task for media revolutionaries. The only models to look to for direction are the rhetorically defined enemy—the networks—who also are the models for the audience. The changes seem more in the revolutionary than in the establishment.

Electronic media to date doesn't provide for computer access, info-economics, electronic democracy, etc. Things no doubt in the future but today the media soldier with his semi-home consumer—not so pro ½" armory can only approximate a TV subculture acting like a mini-network programmer. No disillusionment intended.

The media person of ½" video can now discern between ideology and the *real*—the day-to-day process of taped programming to an audience within a provincial environment with a homespun consciousness. Settling into a community, accepting day-to-day realities of it and ourselves, bridging gaps of miscomprehension around and within us will serve eventual user rehabilitation and that "revolution" of electronic media technology. This will depend on the willingness, patience and perserverance of media activists.

May 18, 1972

Mr. Kenneth Marsh, Director
Woodstock Community Video
Woodstock, New York 12498

Dear Mr. Marsh:

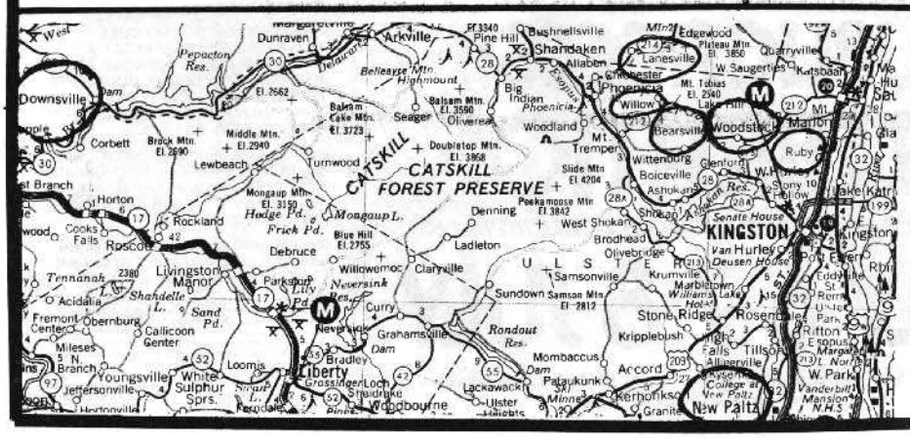
This will confirm the conversation with you Tuesday, May 2nd, regarding the non-commercial use on a non-exclusive basis of an unused channel on Kingston Cablevision's Woodstock CATV system for the presentation of programming produced by Woodstock Community Video. The following constitutes the ground rules mutually agreed upon:

1. Kingston Cablevision will make available its Woodstock system transmission facilities to Woodstock Community Video for the cablecasting of taped community-oriented, non-commercial, television programs on a mutually agreed upon day/evening each week for up to two hours duration on a channel which Kingston will designate as a "public access" channel.
2. Woodstock Community Video will be responsible for furnishing and maintaining the tape recorder(s) and related equipment required for the cablecasts.
3. Kingston Cablevision will furnish a qualified individual to supervise the cablecasting at the Woodstock system's headend and handle the interfacing functions.
4. Woodstock Community Video will submit to Kingston Cablevision the tapes of the programs to be cablecast each week at least 48 hours before air time in order that Kingston Cablevision may satisfy itself that the programs meet acceptable broadcast standards and legal requirements. Kingston Cablevision shall have the right to refuse to cablecast any programs which fail to meet these standards or requirements.
5. At the end of each program to be cablecast, Woodstock Community Video will provide the following disclaimer: This program was produced by Woodstock Community Video and does not necessarily reflect the views of Kingston Cablevision, Inc.
6. If any of the programs produced by Woodstock Community Video contain commercial announcements, Kingston Cablevision will charge Woodstock Community Video for the use of its Woodstock CATV facilities as it would any other party to whom it would make available time for commercial leased channel operations.

The foregoing conditions are subject to all local, state, and federal regulations and the parties agree to modify or change these conditions if at any time they are not consistent with such regulations.

Accepted _____
WOODSTOCK COMMUNITY VIDEO

_____
KINGSTON CABLEVISION



new york state
video grange

WOODSTOCK COMMUNITY VIDEO CABLECASTS

May 29
Local Baseball; Rap on developing new viewing habits for watchers of community video; Town Board Meeting; Operation Trashlift; Memorial Day Parade; American Legion Picnic.

June 7
Editorial from editor of Woodstock Times; Whiz Bang Quick City—Architectural Event; Musician—Tim Moore; Dr. Glenn Benjamin—local vet; The Elephant Emporium; Mower's Grocery; Women's Concerns—Consciousness Raising Group Session.

June 14
Women's Concerns—Class on Auto Mechanics and Lecture on Breast Self-Examination for Cancer; Woodstock Garden Center; New Jewish Deli—Sabbath Feast; Editorial from editor of Woodstock Times; Firing of Jr. High School Teacher (Part I); Musician—Vince Martin with John Simon.

June 21
Firing of Jr. High School Teacher (Part II); Woodstock Police (Part I); Editorial from editor of Woodstock Times; Woodstock Meats.

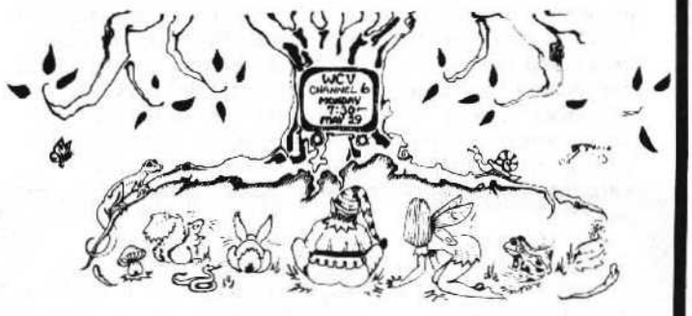
SWITCH ON
WOODSTOCK
COMMUNITY VIDEO

Channel 6 on your cable

June 28
Town Board Meeting

July 5
Woodstock Police (Part II); Christ Lutheran Church Fair;Onteora Lions and Women's League of Voters Recycling Paper Drive; Musician—Dave Mason with John Simon; Overlook Mountain Amateur Radio Club Event; Panel Discussion on Abortion at local high school.

July 12
Wooden Village—Mari Gallery; Zena Recreation Park Opening; Women's Concerns—Discussion with editors of women's lib publication, *Wombat;* Senior Citizens Picnic and Shuffle Board Contest; Restoration process of Longyear Building; Artist—Albert Handell, painter; Earth Water Fire Air—Introduction into vegetarian cooking; Year One Catalogue—Survey of spiritual activities in U.S.; Musician—Jean Ives Lebat, Electronic Music.



July 19
Volunteers building home for aging artist-eccentric; Just Allen—collector of eastern artifacts; Musician—Eve Otto on harp; Video editorial with drawing; Lele Johnson—goat husbandry; Alfie—cobbler; Poetry—Lynn Schneider; Maverick Concert Hall.

July 26
Fresh Air Fund Children in Woodstock; Catskill Game Farm—Preservation of rare species; Artist—Lili Ente, sculptress; Woodstock New Shop.

Miscellaneous Woodstock Productions 1971-72:

Woodstock Elections 1971—**Five local political parties contest for 4 major offices with comments by the citizenry and some surprising results. 25 min.**

Grand Union Supermarket, Woodstock—**An investigative report on the supermarket's planned relocation and expansion—consuming some prime property in town—causing an uproar by local ecologists. 40 min.**

A Reading Method—**With the N.Y.S. Dept. of Mental Hygiene WCV produced an introduction to a Reading Skills Program it has developed for teacher training. 22 min.**

MINNESOTA

BRIEF REPORT FROM MINNESOTA—CATV ORGANIZATIONS AND PUBLICATIONS:

Public Interest Cable (PIC) is a public interest coalition of community groups and public institutions in St. Paul formed to promote the public's interest in the franchise proceedings for a cable TV system. PIC, 1617 Summit Ave., St. Paul, Minn. 55105.

Minneapolis Cable Coalition is similar in intention to PIC, e.g. pushing for establishment of a citizens' advisory committee through city council. Contact Douglas Hedin, Rm. 103, 625 2nd Ave. So., Mpls., Minn. 50402 or phone 333-6916.

Community Information Systems at Jonathan, a new town 25 miles SW of Mpls. is receiving several million dollars of HUD money to establish a full 2-way cable communications system with most of the services mentioned in "blue sky" articles. The object is to find out which are used, how they are used so as to determine which are financially viable. C.I.S., Jonathan Village, One Community Center, Chaska, Minn. 55318, or phone 448-4800.

A "public interest research and organizing project in cable communications" is underway through the *Living-Learning Center* at U. Of Minn. For details on this or to get a free copy of *An Annotated Bibliography on Cable TV* contact Jon Shafer, 2616 Bloomington Ave. So., Mpls., Minn. 55407 or phone 721-5616.

A Cable TV Guide for Educators, a 44 page guide for people in places now being franchised is available for $1.50 from the Educational Research and Development Council, 221 Student Health Services Bldg., U. of Minn., St. Paul, Minn. 55101 or phone 373-4860.

Jon Shafer

COMMUNITY VIDEO IN NEW PALTZ

New Paltz, New York, is located about eighty miles northeast of New York City. New Paltz is 1) a college town 2) a farming town and 3) the victim of incredible urban sprawl. There are so many different types of people in New Paltz, that the problem of social integration among the populous is a staggering one. There is no doubt about it—New Paltz is a highly polarized community.

. . . "in" steps the Community Video Project. What are we all about? It is our intention to help to bring the community together via video. After checking out the disparate elements within the town, we concluded that the only thing that the community has in common is one nasty habit: they all watch the tube. So we have set out to present via the New Paltz cable system (independently owned) some "community programming." Perhaps a definition is in order. To our way of thinking, "community programming" is programming that originates at the grass roots level—in this case, in the town or village of New Paltz, and concentrates on an individual within a larger entity—the community. We show people at work, at play, just hanging out, at civic affairs (meetings, library fairs, etc.). We concentrate on the old, the young, the middle aged, the poor, the rich, and the middle class. In other words, we want to put everybody on the box doing what they normally do and showing their special gifts and interests. We have all lived here four years or more, so we know a good many people in a community of about 7500.

Each week, we put on an hour feedback, "Community MIX," along with our other programming, which right now is pretty sporadic, but developing nicely. "COMMUNITY MIX" is more or less a collage of things and people in the community, including the college (five thousand students). We put out our software on half-inch Sony AV-3400 and 3650s. So far, community response to our experiment has been really astounding. All those disparate elements which I glanced over earlier in this article have all been responsive. Most response has been extremely positive, and criticism (much of it justly deserved, some of it unfounded) has been generated to a lesser degree.

Our only hassle now is the problem of commercials. Our Project is against commercials on Channel 12 (New Paltz's cable station). It is not that we oppose commercials per se, it is only that the power structure in this community is such that the real estate-banking-insurance conglomerates, the group responsible for the urban sprawl and loss of character in New Paltz, is in power here. We don't want to see a community station go the way of all flesh in this place, and become absorbed into this insidious structure. Presently, we are showing people at their places of work, in their stores, restaurants, etc., and these programs have been pretty interesting. It's all free, and serves the community a lot more fruitfully—a community paying six dollars a month for a cable should not be subjected to advertising too. Anyway, we're trying to work it out and see what happens.

Incidentally, we have unlimited access to the channel, and no outside censorship, so it's a pretty good situation. The cable owner has been extremely cooperative (Russell Bogie) and we really have a free hand. So far.

Anybody in the videosphere who is interested in sending or swapping us some tape for showing on Channel 12, don't hesitate to contact me:

Steven Kolpan
c/o Community Video Project
Seven North Front Street
New Paltz, New York
12561
(914) 255-1278

THE FOLLOWING TAPES ARE AVAILABLE FROM THE NEW PALTZ COMMUNITY VIDEO PROJECT:

EXPERIMENTAL:

GRAY STRAWBERRIES NEVER KNOWS:
VIDEO DISTORTION WITH SOUND TRACK WHICH MAKES THE TAPE ONE RHYTHMIC EXPERIENCE. TEN MINUTES.

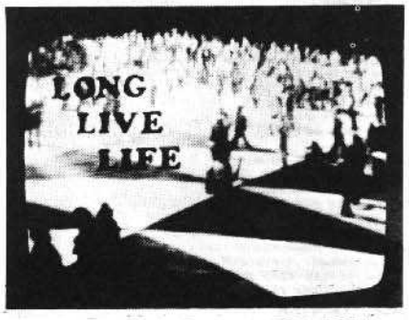
ACUPUNCTURE BALLET:
VIDEO FEEDBACK WITH ORIGINAL SOUND TRACK CREATED BY A SINE AND SQUARE WAVE AUDIO GENERATOR, WHICH OSCILLATES TO THE RHYTHM OF THE FEEDBACK IMAGE. TWENTY-FIVE MINUTES.

MEDIA SINK:
FOUR TRACK AUDIO TAPE MADE WITH SIX TAPE LOOPS AND DOUBLED SPEED FED INTO OSCILLOSCOPE WHICH IS MANIPULATED AT RANDOM. BECAUSE OF SPEED OF IMAGE, VIOLETS, GREENS AND REDS APPEAR WITHIN BLACK AND WHITE IMAGE. TWENTY MINUTES.

PRICES:
ONE DOLLAR PER MINUTE, YOU PROVIDE TAPE. OR WE'LL WORK A STRAIGHT EXCHANGE SYSTEM. YOU SEND ME A TAPE. I'LL SEND YOU A TAPE. IF YOU WANT ME TO PROVIDE TAPE, PRICE IS ONE DOLLAR AND FIFTY CENTS PER MINUTE.

CONTACT:
STEVEN KOLPAN
SEVEN NORTH FRONT STREET
NEW PALTZ, NEW YORK 12561
(914) 255-1278

DOWNSVILLE COMMUNITY TV



There's a funny, funky video thing happening in Downsville, New York in the Catskills. At a pre-scheduled time, on a given evening each week, a green VW van pulls up to a telephone pole on a country road and unhooks two cables which are hanging there waiting to be plugged into a Sony 3600 or a portapack. With the flip of a few switches, the local community cable cast begins. In their homes, all the local folks are sitting eagerly by their TV sets, waiting to see themselves, their friends and neighbors on Channel 3. Usually there are some live announcements, an invitation to come on down and be on TV, and a description of the tapes to be played. There are strong requests for feedback: any technical problems (interference on other channels, bad audio, etc.) as well as requests for ideas on programs people would like to make or see made. Our first official cablecast was interrupted temporarily after the first tape was shown in order for us to follow some fire engines down the road to report on a fire. We returned shortly to resume transmission, having arrived at the fire too late to catch it, but we did interview some people who had been there. Lots of people stopped by to tell us they were watching (some even invited us to a backyard barbeque), and of course the usual entourage of kids showed up on their bicycles to see themselves on television.

Response in town has been overwhelming. Contrary to conditions in a big city where you never even know if anyone is watching, people in a small town are really tuned in. In fact, one afternoon after we had made a successful but unannounced test on the system, we went into town to get groceries and some woman came running out of the beauty parlor (she must have jumped right out of her chair because she still had her plastic smock on) just to tell us how wonderful it was!

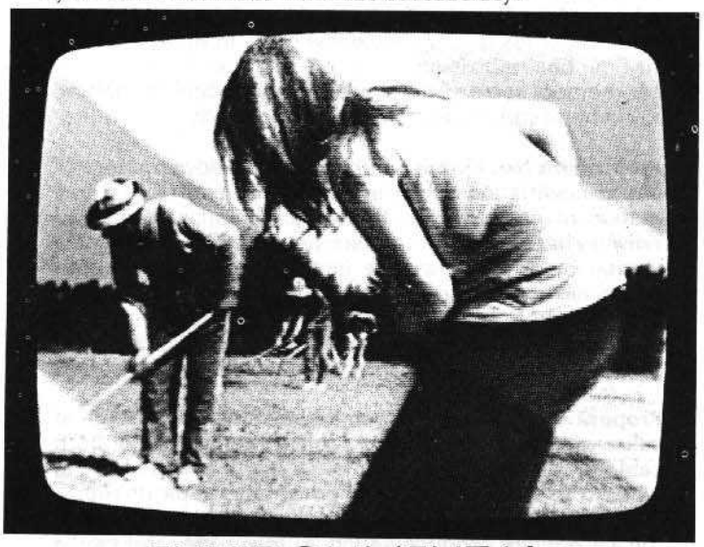
So much for enthusiasm. As far as programming is concerned, possibilities keep growing. We have shown only local tapes so far, mainly because people are most excited about seeing their own little town on TV . . . the local grocer making sausage, a former school teacher caning chairs, the cop talking about the non-existence of crime in a small town, a terra firma man talking about his Wallace politics and how his life has changed since he came to live in the country, some city kids turning people on to video at a fire house bazaar, interviews with townspeople about a local controversy on whether to close an old covered bridge to cars, American Indians dancing at a nearby crafts fair as well as people demonstrating their crafts, an auction, a square dance, the Memorial Day Parade (much requested since everyone in town was there), and numerous events from the school. The school by the way, is purchasing a portapack and a 3600 in September, so hopefully a lot of programming will be originating from the kids themselves.

We are quite interested in generating a series on small farmers and the problems they encounter in trying to maintain a living in a society which consistently supports bigger and bigger farming operations. We hope to gather

survival information which may be of help to those people who want to earn a living in the country, be they farmers who don't want to be forced to sell out to city people because they can get more for their land than from farming, or whether they are young people who want to leave the city and get into the land, learn a craft, and simply live as self-sufficiently as possible. This also applies to local young people who may be tempted to move to a city to find work because they haven't gotten themselves out of the "get a job" mentality.

TECHNICAL DATA: We are using the Sony RF modulator out of the 3600 and the portapack, going through an old tube RF amplifier (worth about $10, could be better but it works), and padded down to match the other signals. At the moment, we are going into a 30db down test tap in the first trunk amplifier. Hopefully, when we get the right kind of connector, we'll go directly into the line without a pad. We're ordering a Hamlin band pass filter ($15 from Hamlin Interrational Corp., 126-B S.W. 153rd St., Seattle, Wash. 98166) to minimize spurious side band signals.

A few sets in town do get bleeding of video into Channel 2 (noticeable as a herringbone pattern). The point we are plugged into is the first place the cable splits after coming down the mountain from the antenna. We also get AC there. People usually have to fine tune their sets (some old sets don't get the signal at all) but, in general, quality is quite acceptable. The cable system is in good shape and there are about 250 subscribers. It is a community-owned system which tends to minimize bureaucracy!



ENVIRONMENTAL INFORMATION NETWORK

We have an hour edit from the Environmental events in Stockholm last June which should be seen by anyone concerned about the quality of life on the planet. There is emerging an unquestionable realization that our basic value systems must be changed before we can maintain a standard of living which meets our spiritual as well as our material needs. Also of note is a half hour edit on some people in Sweden who are into what they call "friendly farming." This goes beyond simple organic techniques. They don't believe in plowing (it disrupts the ecological balance of the soil and thus requires even more energy to be put back into the earth in order to regain the balance) and of course, they use no chemicals or even animal waste to fertilize. They work with nature, not against it, and the old man who is their inspiration has much to teach us all about living on the earth and making things grow.

We are interested in gathering and disseminating information which raises people's consciousness about the environment. Unfortunately, since ecology has become such a political issue, many people relate to it only superficially rather than trying to develop life styles that are ecologically sound. It seems that video could generate information to change some of these patterns.

Dean & Dudley
P.O. 190, Downsville, N.Y. 13755

photos: Dudley Evenson

WISCONSIN

A Tentative Look At

by GARY GAPPERT
(of the Departments of Economics and Urban Affairs, University of Wisconsin/Milwaukee & member of the Wisconsin Futures Society)

(Testimony for the Governor's Commission—Milwaukee, Friday, February 18, 1972)

In the last several weeks I have attempted to review some of the material which relates to the economic aspects of cable television and the wired city. In this brief review I have concluded that the array of potential costs and benefits is complex, extensive and not easily predictable. I have thus concluded that a cautionary and experimental approach to aspects of cable development is the best way to safeguard the interest of the members of the general public.

Let me note some general propositions which lie behind my general conclusion.

Proposition No. One is the fact that the development of any concentration urban infrastructure leads to the formation of great wealth. The development of ports and railways in the 19th century are one example and the development of the interstate highway system in the 20th century is a more contemporary example. The development of a concentrated urban infrastructure always leads to increases in land values and, most typically, this great wealth has accrued to the private speculator or developer.

Proposition No. Two is that in the next decade or so great value will be created by the public development of both cable TV and New Towns. These are the two areas in which the emerging "social-industrial complex" representing business, government, technological interests and the knowledge producers such as universities and media interests will parlay government seed money into great wealth and potentially great fortunes. This is a favorite theme of Simon Ramo, the chairman of the xecutive committee of TRW, Inc., the California aerospace firm.

As one investment-oriented writer has written:

> *At no other time has there generally been an industry with virtually a guaranteed astronomical growth, high profits and little risk.*

The figure often quoted is that by 1980 revenues from the operation of cable systems will rise to over $3 billion from less than $300 million today.

Proposition No. Three is that it is difficult to determine how much of this sales revenue will be more than an appropriate return to capital investment. There are high start-up costs involved in cable TV. This is no Mom and Pop shop operation. If however we assume that the public will respond to the diversified services offered by Cable TV, the riskness of the capital investment declines or disappears, thereby justifying a lower rate of return. It is also true that once a threshold of subscriber saturation is reached in a given area, all additional subscribers represent "pure" profit.

Proposition No. Four is that incomes to cable operators from several sources are available. Not only is it likely that the average TV watcher will be willing to pay for improved reception especially for color programs, he is also likely to respond to specialized programming. The analogy is often made between diversified programming potentially available over multi-channel cable and the response in the last decade to specialized magazines (such as *American Sportsman, Ski, Playboy,* etc.) and specialized radio broadcasting. Paying the equivalent of a monthly telephone bill for access to this diversified potential will probably bring 50 to 80 percent area saturation.

The other potentially large source of revenues comes from the improved access to TV advertising of many small businesses. Although the large networks may, in the advent of cable, find it difficult to continue to charge $80,000 a minute to national advertisers, many small and local companies will be able to purchase advertising on cable for as little as $5.00 a minute (the amount paid by Montgomery Wards on a 7000 subscriber network in Illinois). One can suggest that a Mexican restaurant could beam advertising to Spanish speaking subscribers while travel agencies plug a charter flight to Poland to subscribers on Milwaukee's south side.

Other sources of revenue can also be suggested but the point is that there seems to be little doubt that cable will be used, subscribed to, and paid for, from several different sources.[1]

Proposition No. Five however is that it is difficult to specify precisely the demand and supply schedules represented by a Cable TV system. Therefore it is difficult to ascertain exactly who will benefit and who may suffer losses from the development of a cable TV system over the next two decades. Each of the following represent possible recipients of benefits or costs.

1. Owners of the cable system.
2. Technical operators and servicers of the cable system.
3. Manufacturers of cable hardware and software equipment.
4. New and existing program producers including members of the education establishment.
5. Existing and new advertisers.
6. Existing broadcasters at both the network and local station level.
7. Producers of local public services including police, education, etc.
8. The consumer or subscriber to cable.

Each of these identify a possible set of beneficiaries or incurrers of cost. Premature investors are a particular problem. Because of the early costs which they have incurred, they might resist converting their system into a higher service system. Also because it is likely that an expanded cable system will suffer bottlenecks in the supply of personnel, capital and management, high incomes are likely to be captured by those with early expertise in this area.

1. Other services commonly cited include: meter readings, alarm services, education (Think of the implications for "open enrollment"!) merchandising, printouts, business communications.

Some Potential Benefits and Costs of Cable TV

Proposition No. Six raises the advisability of government ownership of a cable TV system or network.

A report prepared for the Dayton, Ohio area describes this issue in these words:

> *Still another broad issue is the role of government in ownership of the system. To use two-way, high capacity systems effectively will require extensive experimentation with hardware (such as the home terminal) and with software (such as instructional programming to supplement formal education as well as to innovate in applications in such areas as health and welfare services). Thus the capital costs will exceed $21 million if the system is fully utilized. The difficulty of private entrepreneurship in raising capital on a long-term basis, 10 to 15 years, and high cost of capital for construction, suggest the potential desirability of joint ventures between the local governments and cable TV system operators. In these joint ventures, the local governments could provide funds through bond issues and the operators could provide technical and managerial expertise. This should result in a reduced cost of service to subscribers while providing equity ownership for the city comparable to that provided to other investors. This is one of many arrangements that deserves careful examination.*

Other forms of ownership might be based upon the public utility model, or be vested in local or regional development authorities.

The issue of public ownership and/or regulation comes down to the question as to the best way to capture a portion of the "monopoly profits" represented by the development of a cable franchise. But as indicated in Proposition No. Five, there are other profits which will be accruing to other beneficiaries, especially producer and manufacturing interests. Public state potcy should also seek to develop a public policy to help Wisconsin receive a portion of these benefits as well. This is the intent of Proposition No. Nine below.

Proposition No. Seven is that an attempt should be made to monitor the cash flow resulting from the expansion of cable within the community to some extent. It is difficult to establish however at this point in time which elements of the cash flow will really represent a "surplus." If, over time and with experimentation, it is possible to identify and capture some of the surplus from a cable system, it then becomes a question as to whether this surplus should be (1) used to expand service; (2) returned to the consumer in terms of lower service costs, or (3) used for other forms of public investment and improvement.

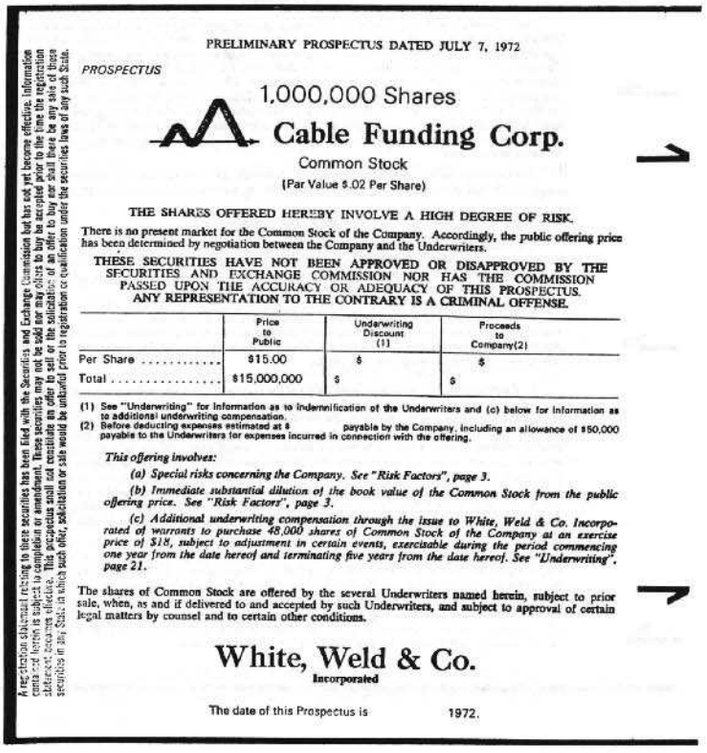
Proposition No. Eight returns to the conclusion that many of the economic benefits of an extended cable system are difficult to ascertain at this time. It is as if we, in the year 1902, attempted to predict the full array of costs and benefits associated with the development of the automobile and all attendent circumstances including freeways, parking lots, urban sprawl, adolescent behavior, etc. In 1972, with the full development of the automobile culture, we are only now drawing some appropriate conclusions. What then can we say about a cable TV culture in the year 2002 or 2042. The economic impact on business services, the very nature of the city itself, the effect on property values all are issues ultimately related to the expansion of cable TV. In fact the newer developments of "futures forecasting" would allow us to make some rough first estimates but these studies have yet to be done.

In my final **Proposition No. Nine** *let me urge that a spirit of experimentation be the criteria for your explicit recommendations. Don't kill the Golden Goose before we see if in fact her eggs are golden. More explicitly do not sell away our future rights in this new public domain. Encourage a variety of ownership forms. Indeed establish at least a public ownership system. Perhaps the communities around the campuses of the universities would be a good place to institute a public ownership cable system for which experimentation could be developed.*

Along with this should be an explicit policy to encourage manufacturersof both hardware and software items to locate their laboratory and manufacturing facilities in Wisconsin in return for some access to the experimental system. We might as well get some employment fallout from the expansion of cable while we are at it. Perhaps the engineering community on our universities and in Milwaukee should be given a five year grant to begin to develop cable laboratory facilities.

Likewise the University of Wisconsin/Milwaukee could be encouraged explicitly to develop a research and education competence in urban telecommunications as part of their "urban mission." Not only could UWM possibly develop a masters level degree program, but, in connection with Extension, a *college without walls* could be developed to which other communities could send their personnel for short courses in the development of all aspects of cable TV.

In sum what I am suggesting is that the development of urban telecommunications become an explicit part of the Wisconsin Idea—that unique association between government, the working community, business and engineering, and the university. As I suggested at the beginning great public wealth will be created from the advent of cable. *It will be in the best traditionsof Wisconsin if we show the way in which this great wealth can enhance the quality of life in our society.*



A registration statement relating to these securities has been filed with the Securities and Exchange Commission but has not yet become effective. Information contained herein is subject to completion or amendment. These securities may not be sold nor may offers to buy be accepted prior to the time the registration statement becomes effective. This prospectus shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any State in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such State.

PRELIMINARY PROSPECTUS DATED JULY 7, 1972

PROSPECTUS

1,000,000 Shares

Cable Funding Corp.

Common Stock

(Par Value $.02 Per Share)

THE SHARES OFFERED HEREBY INVOLVE A HIGH DEGREE OF RISK.

There is no present market for the Common Stock of the Company. Accordingly, the public offering price has been determined by negotiation between the Company and the Underwriters.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION NOR HAS THE COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

	Price to Public	Underwriting Discount (1)	Proceeds to Company(2)
Per Share	$15.00	$	$
Total	$15,000,000	$	$

(1) See "Underwriting" for information as to indemnification of the Underwriters and (c) below for information as to additional underwriting compensation.

(2) Before deducting expenses estimated at $ payable by the Company, including an allowance of $50,000 payable to the Underwriters for expenses incurred in connection with the offering.

This offering involves:

(a) Special risks concerning the Company. See "Risk Factors", page 3.

(b) Immediate substantial dilution of the book value of the Common Stock from the public offering price. See "Risk Factors", page 3.

(c) Additional underwriting compensation through the issue to White, Weld & Co. Incorporated of warrants to purchase 48,000 shares of Common Stock of the Company at an exercise price of $18, subject to adjustment in certain events, exercisable during the period commencing one year from the date hereof and terminating five years from the date hereof. See "Underwriting", page 21.

The shares of Common Stock are offered by the several Underwriters named herein, subject to prior sale, when, as and if delivered to and accepted by such Underwriters, and subject to approval of certain legal matters by counsel and to certain other conditions.

White, Weld & Co.
Incorporated

The date of this Prospectus is 1972.

TELECOMMUNITY FOR APPALACHIA

NOW

As we all know, Appalachia has a host of well publicized problems. It also has however, a resource to do something about it problems that is as yet virtually untapped. That resource is cable television.

There are well over one hundred cable systems operating in Central Appalachia alone, ranging from systems with less than 100 subscribers to a giant complex in Johnson City, Kingsport, and Bristol with about 34,000 subscribers. Unfortunately, only a handful of these systems are doing any kind of local program origination. Practically none are currently involved in "community programming."

Under a grant from the Appalachian Regional Commission, we began work in April, 1971, to study the feasibility of using cable television for rural community development in Central Appalachia.

The study, which we've dubbed the Appalachian Community Television Project, began with an exclusive focus on ways local origination may help in solving community problems.

Background research included a CATV facilities survey, a survey of existing program sources, and an ascertainment of need survey. As we got deeper into the subject it became apparent that local program origination was only one of a number of areas that needed concentrated work.

We felt that any comprehensive scheme for development of cable for community purposes must include some means of access to cable for those not now served, some means of influencing communities considering franchises, some way of instituting a "community access" channel, and some means of bringing broad band cable services to rural Appalachia.

LATER

Our recommendations to the Commission will include a request for funds to establish a multi-purpose non-profit telecommunication development corporation based within the Region. It will be the purpose of "Appalachian Telecommunity" to promote evolutionary social change in Appalachia through usage of telecommunication. Project areas that we are interested in pursuing include:

(A) *CATV Program Origination*—providing technical assistance and funds to selected local communities for demonstrations of the feasibility and viability of various methods of producing local programming, i.e. cable system produced programs, independent productions, outside source.

(B) *Community Programming*—helping a local community get started in grass roots television by providing portable equipment, training personnel, to see that EVERYONE has the opportunity of using the local channel.

(C) *Community Construction and Operation of CATV*—aid local communities groups in identifying funding sources for construction and operation of local cable system. Many mountain towns are too small to support a profit making cable company but could support a nonprofit CATV company locally franchised and operated, also a good way to insure long-term support for community programming.

(D) *Legal Aid*—community advocacy for those towns not now cabled, legal help in those areas already cabled, model franchises, other services.

(E) *Regional Production*—foster development of cable and broadcast outlets to provide more programming specifically produced for the Appalachian audience.

KENTUCKY

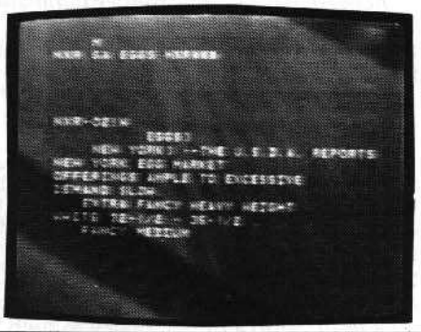
IMMEDIATELY

We are now busily preparing our final report for the Appalachian Regional Commission. It is our immediate goal to convince them that the potential of cable warrants an operational phase of our project that will put our proposals in the field. We need money, people, and equipment to start working toward making CATV systems in Appalachia more than master antenna systems.

Above the immediate, there stands the long range implications of our actions. We must begin exploring cable's community applications *now*, if for no better reason than the fact that the twig is still green and pliable. As the Sloan Commission has stated, choice is still possible in regards to cable television. Citizens may still take a hand in shaping cable television's growth and institutions in a fashion that will bend it to society's will and society's best intentions.

There is, in short, still time . . . time to be used in attempting to shape a technology that, in time, will shape us.

Lamar Marchese
Appalachian Community TV
Morehead State University
Morehead, Ky. 40351



THE COMPANY

Cable Funding Corp. (the "Company") intends to be principally engaged in the business of making loans to cable television companies to finance the construction and start-up of new cable television systems and the construction of additions to or modifications of existing cable television systems. The Company will be assisted by Malarkey, Taylor & Associates, Inc. ("Malarkey, Taylor"), a cable television management, engineering and consulting firm which will evaluate potential loan situations for the Company and perform other services relating to the Company's loans. In addition to interest on its loans, the Company expects to obtain equity participations in cable television companies which it finances. The Company may also receive additional fees for financial services related to construction of cable television systems, including fees for arranging loans by others and for stand-by commitments to franchise applicants.

The Company was incorporated in Delaware on November 23, 1971 and has its principal executive offices at 375 Park Avenue, New York, New York 10022. Its telephone number is (212) 371-3700.

RISK FACTORS

The shares of Common Stock offered hereby involve a high degree of risk. Since the Company has no history of operations, it is difficult to call attention to all possible risks or to indicate the relative importance thereof. Careful attention should be given, however, to the matters referred to in the following summary as well as to the information set forth elsewhere in this Prospectus.

1. *No Assurance of Revenues or Profits.* The Company was incorporated in November 1971 and has no history of operations. The Company's only revenues to date consist of a loan commitment fee of $14,500 received from a potential borrower. See Note 3 of Notes to Financial Statements. No assurance can be given that the Company will be profitable.

2. *Developmental Nature of Borrowers.* Most of the companies to which the Company will be making loans will be in the developmental and initial construction stage. Accordingly, loans will be subject to substantial risks because the ability of the borrower to complete a cable television system or repay the loan may be adversely affected by such factors as changes in regulations affecting the industry, general economic conditions and the borrower's inability to control costs. Failure by a borrower to observe the conditions of his franchise could result in cancellation of the franchise. In the event of a default, it may be necessary for the Company to foreclose on its security interest or engage in further expenditures to protect its investment, in which event it is possible that the total amount recovered by the Company may be less than its total funds advanced. In certain cases, the Company may, if permitted by the terms of the franchise, be placed in the position of owning and managing the borrower's cable television system.

In addition to interest on the loans it makes to cable television companies, the Company expects to receive equity interests in such companies as part of its compensation. See "Business—Operations of the Company" To the extent that the Company's compensation is expected to be derived from these equity interests, realization of such compensation may not occur for many years, if at all, and will depend upon the successful development of such companies and possibly upon the development of a public trading market for their capital stock (see "Restrictions on Transfer of Equity Securities Held by the Company" below) and other factors outside the Company's control.

Other than Mr. Ewen, none of the executive officers or Directors of the Company will devote full time to the business and affairs of the Company.

The principal past and present business associations of the executive officers and directors of the Company are as follows:

Milton A. Gordon, Chairman of the Board: Since 1969 his principal occupation has been Senior Partner and, since the date of incorporation, President and Chief Executive Officer of Halle & Stieglitz, Inc., members of the New York Stock Exchange, Inc. From 1945 to 1952 he served as Senior Vice President and Director of Walter E. Heller & Company, Inc., a finance company. In 1953 he founded and since that date has served as President or Chairman of Television Programs of America, Inc., an independent television production and distribution company which, upon the sale of its assets in 1958, became M. A. Gordon & Company, Inc., a private investment company. He founded and, from 1961 to 1968, served as Chairman of the Board of People's National Fund, Inc., a finance company making construction and home improvement loans, which was acquired in 1968 by a life insurance company.

Morton L. Janklow, Chairman of the Executive Committee and Director: His principal occupation is the private practice of law with the law firm of Janklow and Traum, which he founded in 1967, having been engaged in practice in New York since 1953. He was a founder and, from 1962 to 1967, a Vice President and director of Trans-Video Corp., which built and operated the cable television systems in San Diego (then and now the largest system in the United States), and Bakersfield, California, until sale of their assets to Cox Broadcasting Corporation in 1967. He was a member of the Sloan Commission on Cable Communications.

Martin F. Malarkey, Chairman of the Loan Committee and Director: His principal occupation is President of Malarkey, Taylor, which he founded in 1965. His 21 year involvement in the cable television industry includes experience as a system builder, owner and operator. He was the founder and is a past president of the National Cable Television Association.

Harold D. Ewen, President and Chief Executive Officer and Director: He has been Divisional Vice President of Economy Finance Corporation since 1963, and has been responsible for its cable television division.

Martin R. Smith, Vice President, Treasurer and Director: His principal occupation has been Vice President for Finance of Malarkey, Taylor since its founding in 1965.

Stephen M. Gordon, Vice President and Secretary: His principal occupation is associate at Halle & Stieglitz, Inc. where he has been a senior research associate in its Equity Research Associates Division since 1970. From 1969 to 1970 he was engaged in the private practice of law in New York.

Joseph V. Charyk, Director: He is President and a Director of Communications Satellite Corporation (COMSAT). He served as Under Secretary of the Air Force from 1960 to 1963.

Walter Cronkite, Director: He is a radio and television news correspondent for Columbia Broadcasting System, Inc.

David J. Mahoney, Director: He is Chairman of the Board, President and Chief Executive Officer of Norton Simon Inc.

Harrison E. Salisbury, Director: He is Associate Editor of the New York Times.

BERKELEY PUBLIC ACCESS

CALIFORNIA

Presently, in Berkeley, Calif., as in Santa Cruz, an active effort is being made to amend the present cable franchise so that it provides for "community access channels and a public access center where people in the community can come to borrow (or rent—for a minimal charge) video equipment to produce their own programs. It also calls for the implementation of an educational channel (to give educational institutions and all other groups specifically interested in educational programming in the city an unfettered opportunity to experiment with educational uses of catv technology), and the formation of a non-profit community controlled corporation—Community Access Corp.—to regulate said channels. In addition, it provides suggestions for developing an attractive package for Federal, State and foundation funding; for generating jobs and job training in the cable television industry, particularly for poor and minority people; for establishing regulation of the cable system before feverish legal activity precludes the city from having an effective power."

To obtain a copy of their full report write to: Committee on Berkeley Cable Access, 2616 Russel St., Berkeley, Calif. 94705.

MASSACHUSETTS

CATVIS

Raindance:

We've been running around for bucks all month so I haven't gotten around to getting our blurb to you. Finally we are funded for a three-month study to determine the economic and social effects of two alternative system configurations for metropolitan cable systems—the urban multisystem and the metropolitan regional system. Beyond this people at M.I.T., at N.S.F., and in the Urban Institute are interested in CATVIS as a two to four year ongoing operation.

Enclosed is a part of our brochure which will be out in the near future.

We will be forwarding more printouts to you soon.

Bill Klein
Community Fellows Program
Dept. of Urban Studies and Planning
Room E40-250
M.I.T.
Cambridge, Mass. 02139

C.A.T.V.I.S.—Cable Antenna Television Information Service is a multifaceted organization intended to develop a comprehensive view of broadband communications in urban areas. It is our feeling that research into cable until now has disregarded CATV's potential as an urban problem solver in favor of determining the most expedient way of getting CATV service to entire regions. While RAND, Sloan, Arthur D. Little et al., would open the door to regional systems operations we urge that other options be considered: that problems of economic underdevelopment in areas of a city might be vastly improved if cable were locally owned and capital generated by a system within the area the system served; and that a city be looked at as being composed of multitudes of service operations (i.e. business, social and educational) that could be reshaped around cable to create a total information transferral system equally accessible to everyone. Our efforts are directed towards providing data to communities, municipalities, political decision makers, and service operations on the logistics, economics, and potential of cable for their specific situations. Our interest is to facilitate the development of economically strong and informationally abundant cable systems in cities that will eventually grow outward to suburban and rural systems.

CATVIS was born in the Urban Fellows Program housed at Massachusetts Institute of Technology and is staffed by students, teachers, and professionals in the areas of engineering, political science, economics, televisions, and data processing. Collectively we can prove cable's potential as a great panacea for all kinds of urban problems and can give real direction for the advent of cable systems that would transcend and redefine this society's ideas about communication.

AUSTRALIA

**Raindance Corporation,
8 East 12 St.,
NYC 10003
United States**

**"Eurutta"
Sages Rd.,
Baxter 3911
Victoria
Australia**

Dear Raindance,

We're finally managing to get a few things together over here, and there is one way in which you may be able to help. By some weird mischance our Neanderthal government has decided to hand out money to "experimental" film and video projects.

All media in this country has been colonialized by England and the U.S. Australia is a dumping ground for any and all garbage they choose to palm off on us—one of the few countries who have still to erect some protection against the flood. But things are beginning to change. Nationalistic distaste for multi-national corporations has developed a desire for local film and TV production industries.

None of us is heavily into establishment power games but we are engaged in several projects at the moment—all on the ragged edge of the government's tolerance. We hope you will be able to work with us on the project outlined below.

Cable TV arrives here in 1975 and we are beginning to lobby for community access; but without a pool of alternate facilities and technicians and an awareness of their potential, community control doesn't have much chance. So, with the government footing the bills, we are putting one Sony AV3400 and one AVC3400 with all backup requirements in each of five main state capitals. Each fortnight 30 minutes of composite edit will come from these centres to Melbourne. In Melbourne the tapes will be copied and sent out again. The master tape will be filed. So 2½ hours of tape per fortnight will be available in each capital for showing at film co-ops, in shop windows, in the television department of a trade-union-owned department store and in the streets from vans equipped with recorder and monitors.

As well as our own tapes we would like to be able to distribute tapes from your library on a regular basis. Would you be interested in a fortnightly exchange of a 30 minute tape? The costs would be low if our tape went out with our program and came in with yours. (No duty etc.) It is very important to us at this time to be locked into the world video net.

A last thought. Don't know what sort of feedback you're getting from people who use *Radical Software* and *Guerrilla Television*—how important it is to them. In Australia the information flow is down to a trickle—you are it. Without you on the scene there would be no scene.

Hope to hear from you soon.
Love Bert Deling

I forgot to mention that all facilities and tapes will be free to anyone who wants access to them to make original tapes or composite edits.

Why are we in the Universe?

by Don Benson

Humanity is just now transcending a series of localized struggles for survival. Our minds are no longer locked into traditional patterns. We have to find a new purpose for living beyond the immediate insanities of this world.

The Big Bang Theory

One of the principal insanities we have to overcome is the Western belief that humanity has no future.

Western Civilization was created by men who went against the prevailing winds on this planet; its traditional *modus operandi* has been the conquest of nature. Western science, the supreme accomplishment of this tradition, has attempted to delineate and describe the universe as a gigantic machine. During the last few centuries, Westerners have exulted in learning how to manipulate this machine for fun, profit and the greater glory of this or that.

But, in the process, we have discovered that machines tend to run out of steam. No one has been able to build a perpetual motion machine. Every system studied by Western scientists has been found to be losing energy. Machines require inputs of fuel to keep going, and only part of the fuel can be transformed into work. Some energy inevitably escapes as heat. This process of energy loss is known scientifically as "increasing entropy," a term invented in 1865 by the German physicist Clausius.

In typically authoritarian fashion, Western scientists wrote a law—the Second Law of Thermodynamics, alias the Law of Entropy—which says that energy must escape from machines. It was assumed that, in obedience to this law, the whole universe was moving towards inexorable death. The book entitled *Energy* in the popular Life Science Library (Time, Inc., New York, 1963) includes such gloomy section headings as "Heat, the Inevitable Tax on Usefulness," "Nature's Obstinate Progress Down a One-Way Street," and "Entropy: Death Knell for the Universe." In this way, untold thousands of school children have been indoctrinated with the utterly demoralizing view that life is essentially futile.

Children are taught at an early age that the sun will burn up eventually and go out. They are taught that the earth might be destroyed totally at any moment by nuclear explosions, that human life might be eliminated quickly in biochemical warfare or slowly in industrial wastes, that the fuels which modern societies require are fast diminishing, and that in general "progress" has lead to one disaster after another.

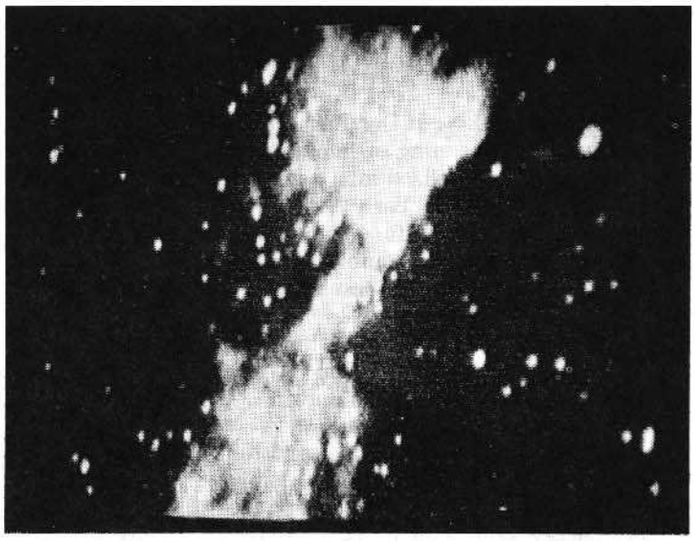
The prevailing theory of universe in the West is cheerily called "the Big Bang Theory." In 1920, the astronomer W.M. Slipher advanced a theory that the galaxies are retreating from us at rates which increase in proportion to their distances from us. He advanced this theory to explain the so-called "red shift" phenomenon: certain red lines in the spectra of light from other galaxies deviate from their expected positions by a factor which correlates with distance. Following the work of Slipher and others, scientists have presumed that galactic dispersion is occurring as just another manifestation of the general dispersion of the universe. According to the Big Bang Theory, the universe began with a "big bang" some billions of years ago, and it is gradually degenerating to a condition so miserable that it will be incapable of even a "little whimper."

In the spring semester of 1964, I attended a class on "the History of Western Civilization" at Amhert College in which the professor made the following parenthetical comment about revolutionary movements and all other efforts to improve the human condition: "But you realize of course that all these efforts are ultimately futile. We really shouldn't take them seriously because according to the Second Law of Thermodynamics there is absolutely no chance of even preserving human society much less improving it. The universe is gradually reducing to a sort of luke warm energy bath, and the possibility of human life is reducing with it."

After class, when I confronted the professor with some questions about the validity of his assumption, he attempted to dismiss me by saying, "Don't worry about it. The universe won't run down completely for a long, long time. This is nothing to lose sleep over." "But the nature of the universe and man's role in it is something which concerns me very deeply," I replied. "On occasion I have stayed awake all night thinking about these questions." "Well, then," said the professor, "why don't you go join the Peace Corps!"

More recently, I encountered a book by Angrist and Hepler entitled *Order and Chaos, Laws of Energy and Entropy* (Basic Books, New York, 1967) which attempts to make thermodynamics palatable to the general reader by means of humor and other literary devices. Since the book was written in a frame of mind oriented towards the death of the universe, it is laced with a kind of gallows humor, and even the most positive statements are exceedingly grim. The authors indicate, for example, that life should be regarded as just some inexplicable quirk with negligible significance for the overall process of universal degeneration. Medicines which help sick people to recover have a negative value in the overall scheme of things; whereas, poisons are to be regarded as positive catalysts which speed the inevitable processes of death and decay.

Western science has undermined all the old values, imperatives and truths. Contemporary man has been provided with two excellent rationalizations for doing whatever happens to suit his whims: (1) moral principles aren't sacred; every culture has a different conception of right and wrong; (2) what the hell, we're all doomed anyway.



What makes the social sciences in general and economics in particular so dismal? Nicholas Georgescu-Roegen states explicitly in *The Entropy Law and the Economic Process* (Cambridge: Harvard University Press, 1971) that he sees the economic process as an entropic process. He talks about the struggle for low entropy. He even talks above evolution. But, in this scientific framework, the best we can achieve is merely to hang on a little longer midst scarcity and conflict.

The incumbent establishment is imbued with expediency and cosmic cynicism. Most members of the establishment are busy men. They can't afford to sit around for millions of years while the universe degenerates by degrees. The suspense is killing them. Men of action yearn to "go in there with everything we've got and get it over with!"

Naturally, many boys and girls are reluctant to follow such leaders as these. Something there is that does not like to be part of a great death machine. More than a few young men, headed for careers in science or engineering, have pondered the laws of thermodynamics and subsequently have dropped out, flipped out and freaked out. Allen Ginsberg said in his poem *Howl* that he saw the best minds of his generation destroyed by madness, starving, hysterical, naked, dragging themselves through the Negro streets at dawn looking for an angry fix . . .

The Dynamic Equilibrium Theory

Fortunately, however, the doctrine of ultimate futility is finally being refuted on scientific grounds.

The physicist Niels Bohr observed quite early in this century that natural processes do not have a single direction. On the contrary, he found that tendencies of one sort were generally balanced by tendencies of an opposite sort. This observation has come to be known as "the principle of complementarity."

Thus, in the fields of information theory, cybernetics and general systems science, scientists have observed that the tendency towards *entropy* is balanced by a very significant countervailing tendency which might be called *syntropy*.

Pierre Teilhard de Chardin argued thirty years ago that, although scientists were preoccupied in their analytical research with the dissipation of energy and the disintegration of matter, they were being called upon by biology to perceive that, "parallel with the phenomenon of corpuscular disintegration, the Universe historically displays a second process as generalized and fundamental as the first: I mean that of the gradual concentration of its physico-chemical elements in nuclei of increasing complexity, each succeeding stage of material concentration being accompanied by a more advanced form of spontaneity and spiritual energy."*

The outflowing flood of entropy, energy, explosion, death and disorganization is equaled and offset by the incoming tide of syntropy, synergy, implosion, life and increasing organization. Teilhard referred to the synergetic phase of the universe as "Noogenesis" because he felt the volution of mind, spirit or consciousness was its most significant feature. He traced noogenesis from the formation of basic chemical elements right on through to the emergence of "the phenomenon of man" and beyond.

The universe as a whole is not degenerating. Although the observable galaxies appear to be accelerating away from us in an explosive manner, it should be obvious that some of the radiation from these galaxies is converging back to us in an implosive manner. Otherwise, their light would not reach our eyes, and we would be unable to see them. As galaxies move away, they leave behind enough stuff to replace themselves. This process maintains the universe in dynamic equilibrium.

The true "atoms" of universe are the fundamental quanta of action described by Buckminster Fuller as being tetrahedronal in structure. These quanta of action, the basic stuff of the universe, are being continually recycled—they come together in happenings called "matter" and then spread out again as "radiation." The ancient Greek work "synergy" refers to the dissipation or going apart of action. Thus, action is neither created nor destroyed; it merely comes and goes according to various rhythms and patterns which we are only beginning to understand.

Hydrogen clouds are forming constantly in intergalactic space, gathering and organizing the action which comes to them in the form of radiation. When these hydrogen clouds condense as stars and achieve internal temperatures of about five million degrees, the occurrence of helium becomes highly probable. The fusion of hydrogen into helium accelerates the process of implosion and increases further the internal pressures and temperatures of stars. At temperatures of one hundred million degrees or more, helium is converted into carbon. In this way, all the basic chemical elements are synthesized in stellar fusion reactors.

Scientists are beginning to develop reasonably satisfactory theoretical models of the syntropic processes whereby galaxies and the stars within them convert the random stuff of the universe into orderly chemical elements, but mainly they are discovering the extent of their own ignorance. In their preoccupation with radiant phenomena, which put on a great show, astronomers have been able to account for only a hun-

dredth to a tenth of the action that Einstein's theories predict is in the universe. At the annual meeting of the American Association for the Advancement of Science in 1967, there was a formal acknowledgment by Princeton University physicist John A. Wheeler that the universe may contain billions of "black bodies" which are invisible because they operate implosively rather than explosively.

Indeed, to achieve a balanced account of the universe, we shall have to pay much more attention to syntropy. This will be difficult because syntropy is essentially invisible. Ordinarily, a healthy forest which is syntropically impounding energy through photosynthesis attracts much less attention than a forest fire which is entropically devastating many acres of timber land. Heretofore, scientists have been trying to chart all the forest fires in the universe, but they have scarcely acknowledged the existence of growing trees.

The Big Bang Theory, in other words, is a bust. Granted that on a clear night one can see evidence of explosions all across the sky, one is still faced with the problem on a sober morning of explaining how all those fires are fueled.

In general, it seems that massive or very dense systems spin outward away from the center of the universe (or at least our region of it) while stardust, radiation and loose quanta of action gravitate inward towards the center. As action collects towards the center, it is impounded in massive systems which accelerate away from the center as they become increasingly compact. As systems become increasingly compact, they become increasingly explosive; so that, when a system is as far out and dense as it can possibly be, it explodes completely and returns piecemeal towards the center. (It may be that the interaction between "Matter" and "antimatter" plays a critical role in the maintenance of dynamic equilibrium.)

We do not yet have a cogent, empirically-based mathematical model to go with the dynamic equilibrium theory of the universe, so that the testing of alternative hypotheses is very difficult. But we have ample evidence that humanity does belong in the universe. We are not merely a quirk. We are not fundamentally doomed. Indeed, we have every reason to proceed with confidence that the universe contains many healthy forests, and so long as we can maintain a symbiotic relationship with one or more of these forests we shall survive and prosper.

Old Worlds and New: Our Purpose for Living

The ultimate meaning of human existence—the greedy imperialism of civilized man as well as the hunting and food gathering of early *homo sapiens*—begins to emerge. Our purpose for living is to synthesize the stuff of the universe into complex and orderly forms. Our synergetic functioning (best expressed in the magnificent human capability for communication and comprehension) countervails against the energetic forces of explosion and disorganization to help maintain the dynamic equilibrium of the universe.

We may regard ourselves as important catalytic agents in the development of planets. With our global trade and communications networks, with an integrated global energy grid soon to be established, we are in the process of transforming old Mother Earth into a vast organism, more beautiful and intelligent than we can imagine.

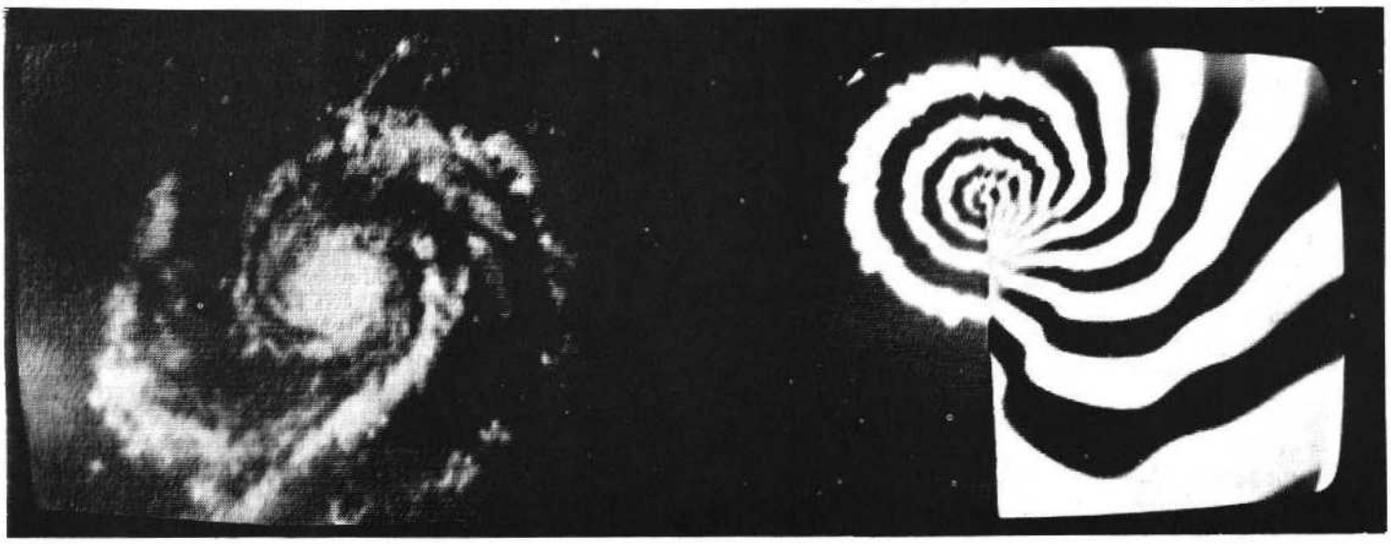
Our evolutionary potential is twofold: we are destined to merge with this planet and bring it to fruition, and we are destined to leave this planet and fulfill our synergetic lust for new worlds.

Some of us will stay behind. Some of us will go.

Part of us wishes to develop Earth as an ongoing work of art. Part of us wishes to get away—assuming new forms, learning new skills and working with new media on other planets in this solar system and beyond.

Each of us has a unique role to play against the backdrop of universe. But, as we move in different directions, we are all bound together by our common involvement in the great syntropy.

**The Future of Man*, Harper & Row, New York, 1964, page 78.



THE SYNERGY PROJECT

Memo Regarding Preparation of "A GUIDEBOOK TO THE UNIVERSE"

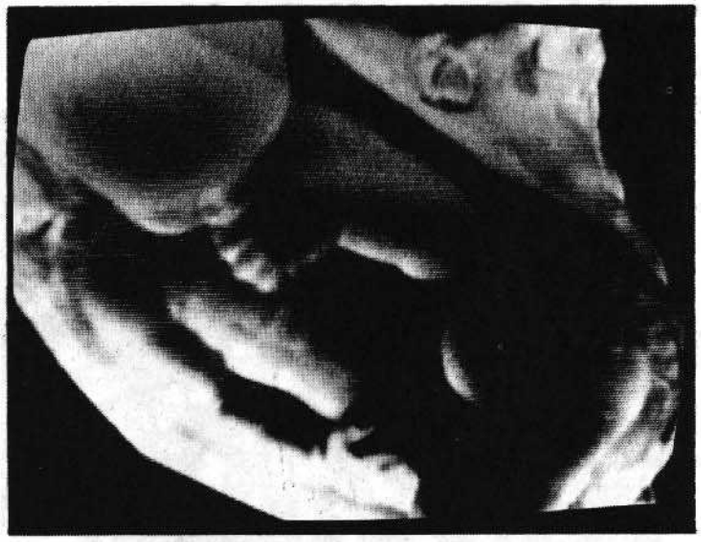
From: Don Benson, 905 W. Sycamore Street, Carbondale, Illinois 62901

On January 1, 1964, I experienced a fundamental insight into the nature of the universe followed by an "awakening of Kundalini." Since then I have been deeply concerned with synergic processes and with formulating methods for increasing synergy in this region of universe. Many people, both known and unknown to me, are now involved in a project to study and facilitate synergy. Marvelous new fields of being await us. But our situation is quite precarious.

The universe has certain essential requirements which humanity must meet if we are to survive. The great holy books and cultural patterns of the past are not adequate to guide us through the present crisis, partly because they have been distorted by imposition and partly because of vast changes in our situation. The Chinese have a relatively current guidebook to the universe in the writings of Chairman Mao, but this too has grave limitations.

In effect, we do not have an adequate appreciation of what the requirements for survival are and how to meet them. Obviously, we need to achieve a new degree of synergy—profound structural reorganization, not just rhetoric. But without a few basic and commonly understood formulations to guide us, we are liable to miss our main chances in a mass of details.

Thus, for a number of years, I have been trying to comprehend the requirements for human survival and develop methods for meeting them. I want to communicate about these requirements and methods in clear and simple terms. In other words, I want to write a guidebook to the universe. Necessarily, this will be a guide to the universe as I see it. I hope that my efforts will encourage other persons to make comparable studies—and that, by combining our efforts, we can assess the priorities accurately, take the necessary actions, and survive to enjoy our full human capabilities.



Only with a great deal of help, however, will I be able to prepare and circulate this guide while the need for it is most critical, within the next year or two. An initial outline is attached for your reference. I need your advice on what really ought to go into this guide, how it should be organized and presented. I also need sufficient support for this project so that I can devote my full attention to it for at least a year. Please get in touch with me if you want more information or want to contribute to the project.

Initial Outline for a Guidebook to the Universe*

Introductory: An epistemological, historical, scientific, religious and personal rationale plus a brief statement of synergy theory to explain the orientation.

I. A poetic and mythological formulation of where we've been, where we are, and where we're going. *Eg.*, "The Mother Earth Tribe Comes Together."

II. Human Priorities—what they are and how to fulfill them (person-centered reference system).
- A. Physiological synergy—a guide to proper nutrition and exercise of the total organism.
- B. Long term maintenance of physiological synergy.
- C. Basic social synergy.
- D. Justice.
- E. Self-actualization.
- F. Transcendence.

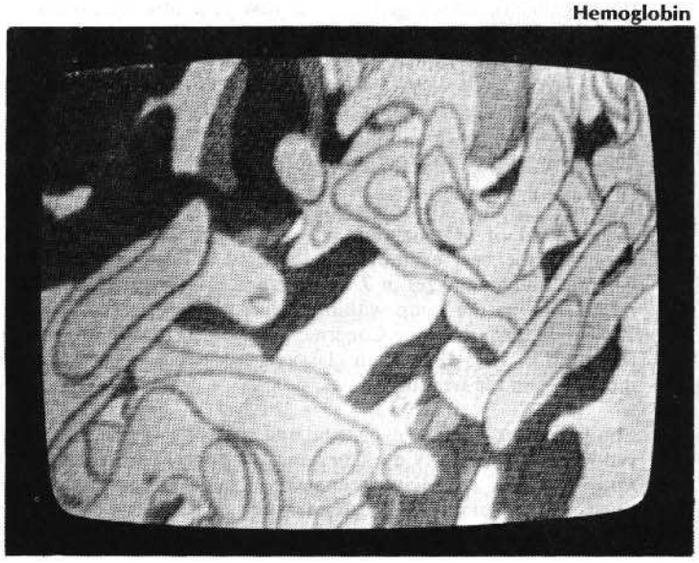
III. Facilitative Systems (technology and society-oriented reference system).
- A. Basic social and territorial organization—the world university/college system and attendant technology/methodology.
- B. Communications for commerce—the human credit system (one person, one credit) and attendant technology/methodology.
- C. Creative processes—research and articulation systems.
- D. Land use and control, basic energy cycles.
- E. Housing, transportation, and communications.

IV. Cosmology and Ecology (a theoretical reference system).
- A. A dynamic equilibrium theory of universe.
- B. Synergy theory.
- C. A theory of groups and an organizational method for earth and beyond.
- D. A theory of personal development.
- E. Human differences and relationships—genetics, anthropology, geography, astrology, yin/yang, diet, etc.

Conclusions and comments regarding the synergy project.

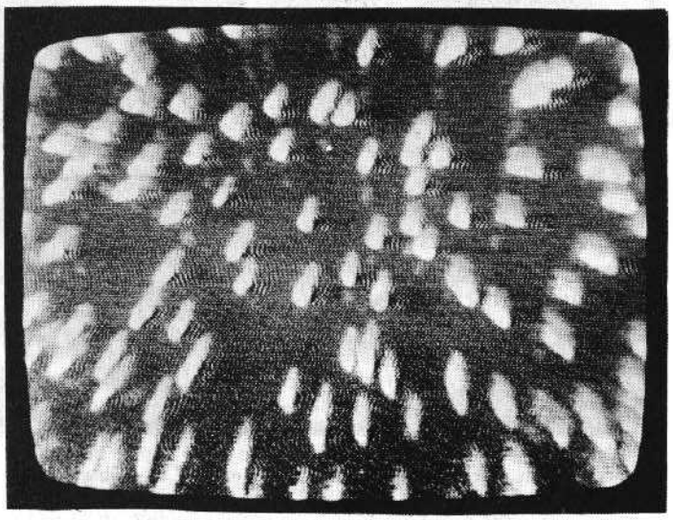
**A working edition of "a guidebook to the universe" should be in print by May 1973. Copies will be available @ $2.00 each from The Center for Curriculum Design, 823 Foster Street, Evanston, Ill. 60204 beginning June 1973.*

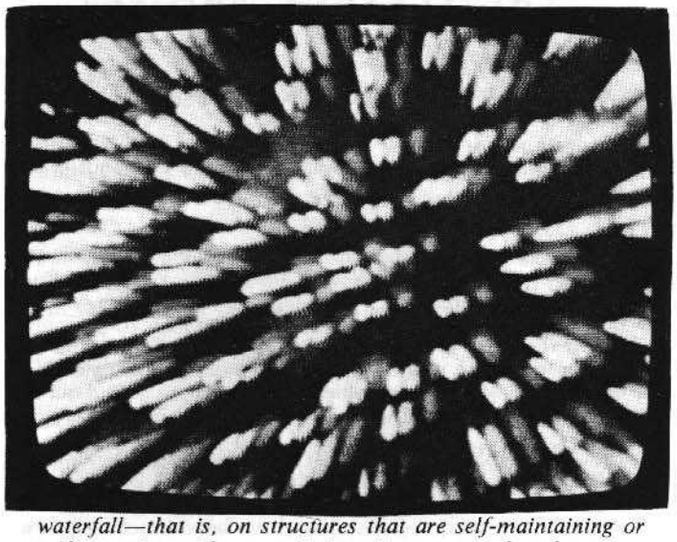
Hemoglobin



HIERARCHICAL RESTRUCTURING

by John Platt





Sudden changes of structure are among the more startling phenomena of living systems. Until recently, they have not been much looked at or analyzed from the point of view of a general systems theory. Nevertheless, they may include such dramatic phenomena as falling in love, acts of creation, evolutionary jumps, social revolutions or reformations, and in general the sudden formation of larger integrated systems from malfunctioning or conflicting subsystems.

Process Metaphysics

One recent approach to these problems is that of the theoretical physicist, David Bohm. At a recent Conference on Theoretical Biology, he described a "process metaphysics" based on the idea that the universe should not be regarded as made up of *things* but of a complex hierarchy of smaller and larger *flow patterns* in which the *things* are invariant or self-maintaining features of the flow. The shape of a waterfall or a match flame, or the shapes of clouds, which have a certain constancy even though masses of moist air are flowing through them and continually condensing and evaporating, would be *things* of this type. Such a philosophy is evidently opposed to Democritus' view that nature consists of *things* (atoms) in the *void*. Or more exactly, it is a modern way of uniting at last this view with that of Heraclitus, who said that all was flow, or fire.

In Bohm's flow-picture, these steady-state patterns or *objects* (or steady-state organisms or observers) can only be understood in a holistic relationship to their "environment," with fields of flow extending outward indefinitely to the next such waterfall or flame, and the next. Likewise, the *environment* only takes on stable form and meaning and points of reference through the *objects* which it sustains. Everything is in relation to everything else, echoing the Tao, Husserl, Whitehead, Polanyi, and the transactional psychologists.

Bohm applies these ideas to electrons and the fundamental particles of physics, regarding them as patterns or perhaps something like knots being knotted or unknotted in a field of flow that extends throughout the universe. These fundamental patterns are assembled, of course, into larger but less stable patterns, such as chemical molecules, living cells, organisms, brains, and social networks and nations. These higher structures are built up in a hierarchy, in the *architecture of complexity* analyzed by Herbert Simon, or the complex systems and subsystems in the *living systems* approach of James G. Miller. *But for Bohm (as for Miller), the emphasis is not on static structures of complexity, like the parts of a watch, but on a flow hierarchy, like the system of vortices, say, below a waterfall—that is, on structures that are self-maintaining or self-repeating with a certain invariance, even though matter, energy, and information are continually flowing through them.*

Hierarchical Jumps

But the important thing for our purpose here is that such flow systems can undergo sudden transitions to new self-maintaining arrangements which will in turn be stable for a long time. Bohm identifies the *quantum jump* of an electron, from one steady state of an atom to another steady state, as being a pattern-restructuring of this kind. Vortex patterns in a stream can be restructured in this way by a very slight motion of a stick or a rock, and they are sometimes unstable, slipping back and forth rapidly from one pattern to a quite different one.

And Bohm emphasizes that there is a similar restructuring by *growth* of a complex structure to larger hierarchical patterns with the passage of time, like the growth of large crystals from a mass of small ones under heat and pressure. The growth may not be uniform but by successive small steps as each crystal rearranges suddenly. Likewise in the biological world, a group of children brought together—or a group of industrial organizations—may rather suddenly develop leader-follower relationships and a defined pattern of roles throughout the group. In general, the growth picture is that of a hierarchical structure with stable pattern from the lowest levels (molecules, enzyme cycles, cells) up to the level **i** (say, the organism), which grows to a new structure because it comes in touch with new and different materials or information or another organism. This can make the patterns unstable at level **i** until there is a resolution (conflict, cooperation) with restructuring either by breaking apart or by a new organization at the **i** + **1** level to make a new stable pattern encompassing the later experience or the larger system.

Examples of this hierarchical growth by restructuring to a higher level of organization may be found in many fields. Probably the best examples in the field of ideas are those Thomas Kuhn analyzes in *The Structure of Scientific Revolutions*, such as the jump within a generation or so from the Ptolemaic System to the Copernican system in astronomy, or the jump in 1895-1925 from classical mechanics to quantum mechanics in the field of physics.

Similar jumps occur in evolution, and such phenomena as the sudden development of eyes, or wings, or speech, or other *saltatory steps* of advancing organization may be of this type. Such sudden jumps have caused much controversy because they have such an appearance of *purposefulness* and develop

so quickly that the fossil record is poor; and it has not been clear until recently that the theoretical rates of natural selection could actually work fast enough to account for them.

It is important to note that such *self*-restructuring of a system, to emergent new forms and levels of organization that were not in it before, is very different from the assembly of a watch by an external watchmaker. In current biological language, it is not *teleology* or purpose, but *telenomy* or the appearance of purpose. It is also different from the emergence of a flower and fruit from a green plant; because, for the individual plant, the information needed to make the new structure was already present in the seed, having been selected by a long history of survival of such plants. The classical Greek analyses and the theological and philosophical analyses of "emergent evolution" have often confused these three cases, of external design (the watchmaker), of internal developmental design from information built into the chromosomes (the plant), and of genuine self-transformation, that is, time-emergence of better-organized patterns at a new level of organization that did not exist before, either externally or internally. *Evolutionary jumps may actually be much more common than we have supposed, with evolution in general not taking place so much by steady change as by small saltatory steps of this kind which reorganize one sub-system after another.*

The restructuring of individual personality may also take this sudden form, as in the case of flashes of understanding or psychotic episodes or sometimes in reorganizational crises in response to therapy. Learning to ride a bicycle is such a sudden restructuring of skills. Falling in love, and religious and political conversions, are likewise sudden and often permanent restructurings of emotions, goals, and activities. And there are sudden experiences of "ecstasy," which have the same character, with a moment of insight leading to a new awareness, a new simplicity, or a new organizational pattern for the rest of one's life. The accounts range from the conversion of St. Paul and the experiences of the mystics to the unitary and world-changing experiences reported by such non-religious philosophers as Ernst Mach and Bertrand Russell. It is not entirely false or even mystical to say that in these restructurings, as in the evolutionary and other restructurings, the system is "going beyond what it knows how to do," and the organisms or individuals are in the grip of "a power beyond themselves."

Finally, the area of social evolution exhibits the most dramatic and large-scale restructurings of this kind that we know about, such as the sudden collective restructurings that occurred in the Reformation and in the Industrial Revolution. These changes go deeper than ordinary political revolutions because they are not simply an exchange of power from one small group to another, but a thorough-going change in philosophy, personal attitudes, and ways of work and economic organization in every part of society. The democratic revolutions, starting with the United States, and the communist revolutions also represent this kind of sudden thorough-going self-restructuring, with whole populations united in the creation of change at every level. And the largest of all these changes, in its speed and scale and its long-range evolutionary implications, is the world transformation through which all human society is now passing.

Thinking of the parallels to the other types of restructuring mentioned earlier, we see that it is no distortion to speak of this world reorganization of all our patterns as a 'quantum jump,' or as a sudden collective change of awareness or flash of understanding for the human race.

If we are to understand these changes today, or if we are to have hope of channeling men in the direction of a more democratic and humane future, we must begin to study this whole phenomenon of hierarchical restructuring in much more depth and detail than we have so far.

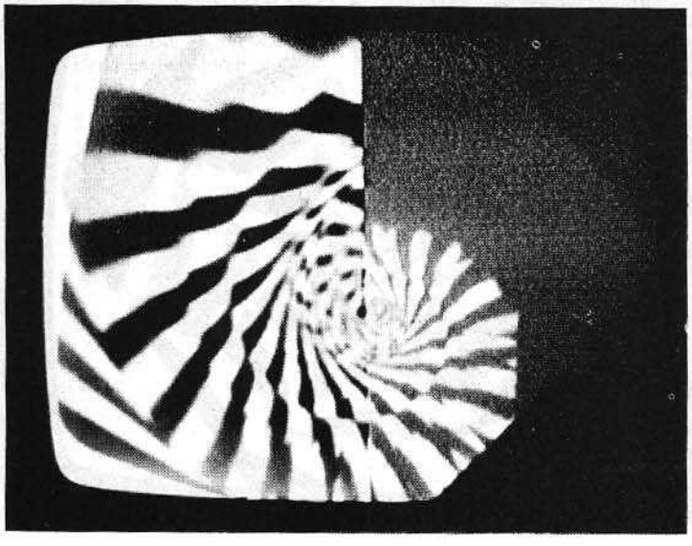
Characteristics of the Jumps

As a beginning on such a study, we may note that these self-generated jumps in a hierarchical organization have several common characteristics that stand out. One is that the jumps are always preceded and accompanied by "cognitive dissonance," as Gardner Quarton has emphasized in discussing these questions.

Thus, Kuhn describes in considerable detail the scientific dissonance that precedes his scientific revolutions. *First, there are accumulating bits of data that do not fit the old predictions, or rules of thumb in certain areas that seem to be justified only by odd assumptions.* In the beginning, these difficulties are dismissed as trivial, or as errors of measurement or crack-pot arguments, but they do not go away, and they get more numerous. After a time, the confrontation with the old system comes to be recognized as fundamental, and various proposals for a reconciliation are brought forward. Then suddenly a simplification from some entirely different point of view makes big parts of the problem snap into new and clearer relationships. There is a collective sense of relief and achievement, even though a long period of working-out may lie ahead.

Similarly in the restructuring of personality. Cognitive dissonance is now supposed to be the precondition for any kind of personal learning—that is, reorganization—experience. Who can doubt that Paul's violence against the Christians before his conversion—as with many persecutors—was based in part on beating down his own internal dissonance and self-doubt about what he was doing? Conversely, to prevent a restructuring, the paranoiac is fearful of any cognitive dissonance, and tries to fit everything he sees—an open window or a subway scrawl—into his general persecution theory. Strong cognitive dissonance, personal or social, has many side effects (system instabilities) such as anxiety, anger, over-assertion or aggression (pro- or anti-status-quo), or counter-responses such as withdrawal, nausea, and melancholy—which accounts for the sense of relief when it is resolved.

In the area of social change, the first stages of the Reformation were attempts to reform the church from within because of the feeling of dissonance between its ideals and its practice. Today, the transformation of our economic system or of the nation-state toward more humane structures is likewise heralded by a general realization that pollution, the ghettoes, the military-industrial complex, or the Vietnam war, do not even fit the system's own goals or images of itself. These divergences can only be gotten rid of by forcing them either into a rigid delusional system like the paranoiac's, that redefines them as somehow "intended" and "good"; or else by a restructuring of the whole system toward better integrated higher-order patterns.



A second feature of self-generated hierarchical jumps is the overall character of the dissonance and of the later transformation. Thus, the industrial revolution turned out to be a revolution in attitudes, banking, commercial organization, and city structure, as well as in technology. The difficulties that led up to quantum mechanics appeared almost simultaneously in problems of atomic spectra, photoelectric emission, specific heats at low temperatures, and the curves of radiation from industrial lamp filaments. Likewise today, the dissonance in our society is shown by the widespread protests, not only among students or in the ghettoes, but from labor unions, post-office workers, and suburban matrons concerned about bussing or oil spills.

A third striking feature of hierarchical jumps is the suddenness of the restructuring when it arrives. Five years before the French Revolution, who would have estimated that it would take only a few months to overthrow the massed power of the aristocracy, the church, and the army, with all the weight of tradition and power and immovable bureaucracy on their side. A rational man would have said that any deep change would take fifty years or more, the time to train teachers, say, to re-educate the sons of the nobility, or the time to achieve ecclesiastical reform or a more sympathetic court. Yet, when the change came, it came like lightning, though final working-out took many years.

The reason for the speed is that the change is prepared everywhere at once. Even though individual elements of reform seem weak, when they reach a certain critical density and begin to join forces, the old order finds itself overwhelmed from without and betrayed from within, from directions it never guessed. The new self-maintaining patterns, like new vortex patterns, are self-reinforcing to each other as soon as they touch, because they can form the beginnings of a better-integrated system with a speed of understanding and communications and economies that the old malfunctioning system cannot match.

To make this idea of suddenness more precise, it may help if we distinguish three kinds of time-constants in a hierarchical flow system. One is the time constant, **ts**, for ordinary adjustment of the feedback loops of the overall flow system. In auto manufacturing, this is the time of a few months for a company to build up or cut down production to meet demand. In education, it is the time of twenty to thirty years for the children of one generation to become the teachers of the next. The second time-constant is the much longer time, **tL**, over which the stabilization of the system may last or continue to be effective. This is perhaps twenty years for the more successful auto companies, and perhaps some hundreds of years for educational continuity or duration of most cultures, until our present era of rapid change.

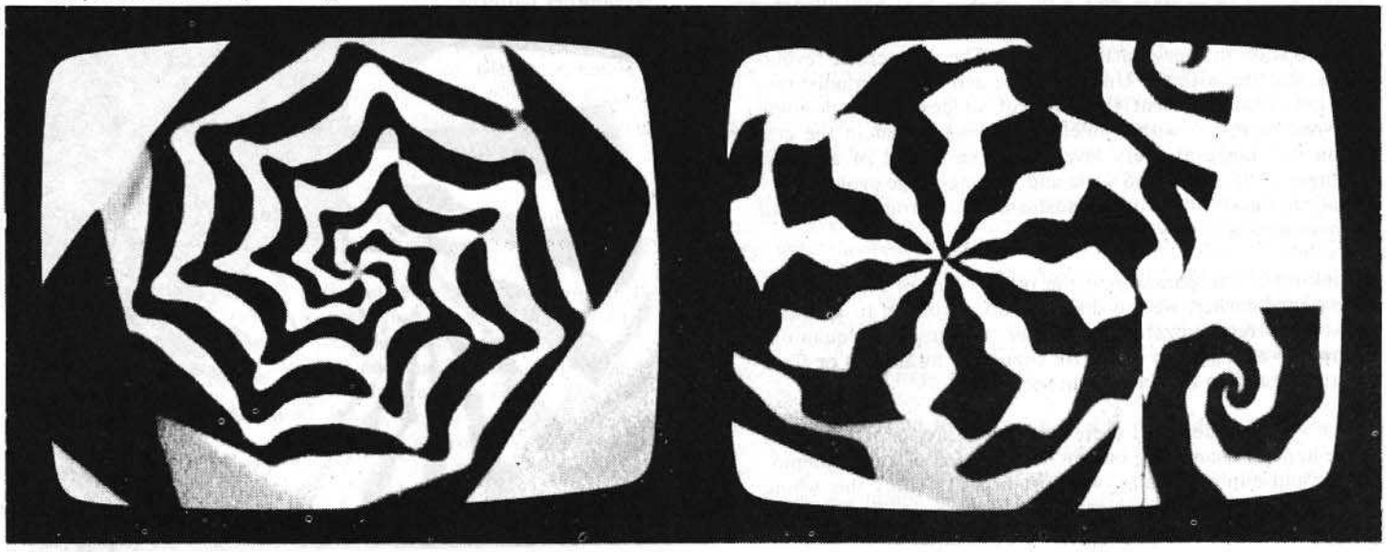
With respect to these time-spans, a hierarchical jump, like the quantum jump of an electron, is "unpredictable" because it can occur, as Bohm says, "at any time" in the normal cycle of the system, **ts**, or in its normal lifetime, **tL**. And when it occurs, the third time-constant, the transition time for the jump, **tJ**, may be as short as **ts** or shorter. This is because the old feedback loops that determine **ts** become irrelevant, and the all-over change does not have to wait for them to finish a cycle. The Russian Revolution shook the world in ten days, and the U.S. Constitution was hammered out in a few weeks.

A fourth characteristic which Paul Bohannon and others stress in discussing these jumps is "simplification." In scientific advances, the direction of advance is always toward simpler and more general explanations. Compare Newton's F = ma, which accurately predicts pendulums and projectiles, with the scholastics' longwinded theory of motion, which could predict nothing. Any restructuring toward greater complication of structure or explanation would be easily lost; but simplification represents a permanent step forward because it is "downhill," easy to hold onto and hard to go back from.

The power of money compared to barter is its additivity and interchangeability. Much of the power of democracy may be that it is so much simpler than complex ranks and obligations. And the power of a world system as compared to a national system will be partly that, at every step, it is more general, simpler to understand and operate, and usually much cheaper with its economies of scale and directness.

The Subsystem-Supersystem Relation

Finally, *a fifth characteristic* of hierarchical jumps has been emphasized by Karl Deutsch in discussing these questions, and deserves special attention. *It is the interactions jumping "across" the system level between the old subsystems and the new supersystem that is in process of formation.* The explanation for this novel interaction is that when there is dissonance or conflict at the **i-level,** restructuring generally cannot occur by changes at the **i-level** alone because of the *self-maintaining character* of all the **i-level** relationships. Thus, no simple restatement of the assumptions of classical mechanics at the **i-level** will account for the new quantum mechanical phenomena. A conflict between the production division (**i-level**) and the sales division (also **i-level**) of a company cannot be resolved by strengthening either one, because it simply generates counterstrengthening in the other. In an intellectual system or a living organism or a self-stabilizing flow system, any buildup of already conflicting elements generally calls forth a counterbalancing response that simply makes the stress greater.



Deutsch has made explicit, therefore, the need for a cross-level interaction, by stating what might be called the **i-1 Theorem.** *This states that any restructuring has to be built around the largest well-functioning subsystems—that is, at the* **i-1 level***—by fitting them into the larger integrative needs of the* **i+1** *supersystem within which the conflict has to be resolved.*

At first, this idea seems rather surprising, but it is hard to think of any other way in which the existing large and well-functioning components of the organization could be kept operating through the change, or could play their full and needed role in the reorganization and the new structure. And indeed, this idea fits out common observation that, when a division of a business organization is in trouble, the secretaries and junior executives (**level i-1**) begin to "go over the boss's head" (**level i**) to the central office (**level i+1**) because the actions of their own boss are part of the trouble. Conversely, the last complaint that their boss makes before he resigns is that the central office (**i+1**) is "not backing him up" (**i**) and is "undercutting his authority" (**i-1**).

This need for **i-1-i+1** interaction has many important implications. In the world system, for example, our efforts for a more stable structure may not be effective if they are directed either at armaments security, or at peace treaties between existing national governments at the **i level** of instability. What is needed, rather, is to help the subsystems at the **i-1 level**—such as tourism, or aviation, or non-government organizations of science or communications, or businesses like IBM and Coca Cola—to build elements of world order at the **i+1** level, which will begin to reach more and more extensively across national boundaries. Note, for example, the effectiveness of the airline pilots' (**i-1**) international organization (**i+1**) in persuading governments (**i**) to return hijacked planes. (It might even be claimed that world-wide armies have some **i+1** integrative effect of this kind, to the extent that their activities are non-combatant and constructive, as in building schools, hospitals, roads, and dams, and in stimulating world radio and educational networks and a world exchange of peoples.)

There are also interesting applications of Deutsch's theorem in the field of psychology—for example, in the curious connection between things we regard as sub-rational and as super-rational. Thus in *The Ides of March,* Thorton Wilder has Caesar say that four things keep him from being sure there are no Gods. They are: love, mystical experiences connected with his epileptic seizures; creative acts such as poetry, and his sense of destiny. Today, most of us would likewise regard love or great music as uplifting experiences—and yet, viewed cynically, these would seem to be no more than sexual or rhythmic excitations of the lower nervous system.

These are all non-rational responses of some part of the brain at the **o-1** level which cannot be explained or justified by the logic of the higher brain at the **i** level. Why then the sense of enlargement, of Godhood, in intelligent and active men?—for I believe that we, as well as Wilder and his Caesar, are not deceived in this leap of insight.

The answer is, I think, that these non-rational experiences differ from simple lower operations, like shivering or good digestion, because they refer to and help us integrate with an **i+1** system, a larger system than isolated man. Love, whether purely sexual or more sublimated, means biological continuity and an enlargement to include and respond to another person or a family or all mankind. Poetry or great music are creative acts that build up larger architectonic patterns for both the composer and the audience. Such acts of hierarchical growth are never rationally deducible from the smaller system-structures that precede them, as Arthur Koestler and Michael Polanyi have emphasized. Similarly, mystical experiences or a sense of destiny, as suggested for Caesar, can represent insights and identification with a larger ongoing universe in which the individual becomes a creative part.

Is this so unreasonable? When an individual's "rational" conscious life is slipping out of harmony with deeper needs or with his relation to other people or to his environment, how else than by mobilizing these powerful sub-systems can the jump be made to a larger unity? Love and ecstatic experiences can suddenly transform lives. Sudden acts of intellectual creation and organization transform the world of words or patterns. And rather ordinary men have shaken continents when suddenly imbued with a sense of destiny or of God's will which they communicate to millions of others. The simplification and references to a larger system, even when it is incomplete or false as with the Nazis and other fanatics, still gives such men a "power beyond themselves."

We see that no structuring of a world system for all mankind will be satisfying or stable unless all the deep emotional orientations that direct our reason actually ratify and support this larger view of humankind at every moment and in ever personal relationship. Things will break apart, "the center will not hold," unless all the subsystems are harmonious with and supportive of the supersystem, and vice versa. The failure of this rule is what is so dangerously wrong with our economic and political systems today.

Can Hierarchical Social Restructuring be Guided?

It is not at all clear whether self-structuring hierarchical jumps of this kind can be to any appreciable degree anticipated or guided. Either "anticipation" or "guidance" would be themselves creative acts which would be part of the self-structuring. Even a man driven by the "will of God" can hardly predict how another man driven by the will of God is going to interpret and execute that will or how effective he will be in his own responsive environment. This is why Bohm regards the jumps as fundamentally as unpredictable as the quantum jumps in physics.

These questions need and deserve much more study. But a social evolutionary jump is such a large-scale process that we can at least examine its inner workings, as Kuhn did for the intellectual jumps. Once started, it has an energy and logic of its own, like the actions of a mob; but just as in that case, there is a chance that intelligent participation or intervention can help direct these energies toward creative and fruitful rather than destructive results.

We can see much of the structure and dynamics of the world transformation through which we are now passing. It is currently reaching its most acute phase, but its roots go back a long time. Atomic energy and space travel and television were not reliably predictable very much in advance, but we now see that they were nevertheless almost inevitable consequences of the earlier scientific revolution. That revolution in its turn was probably an almost inevitable consequence of printing and the Renaissance, with the rediscovery and transfer of Arabian and Greek analysis and science and scepticism to economic growth centers.

As a result, the chain of causes of our present world transformation has to be transferred back at least to the Crusades. They were what broke open the feudal mold by suddenly generating in Western Europe large-scale organizational demands, new roles and opportunities, travel and trade, and a host of new and imported products and ideas that led to the vigorous new growth of the Renaissance. The Crusades were wildly illogical, and wildly successful, in capturing for the West a sort of New Jerusalem of progress, far more priceless than the city the Crusaders thought they wanted. But at this point in backward analysis, I think we reach the unpredictable Ifs. If one or two saints and leaders had died early, or if the Moors had not come, or had come farther north, it seems possible that medieval Europe might have gone on un-Crusaded and undisturbed for many more centuries, like most of the rest of the world.

If this is so, our present transition to a new world system is the almost inevitable outcome of some very personal and unpredictable acts of creation a thousands years ago. It was downhill all the way. This is the technological imperative, the larger dialectic of history, that seems so deterministic in its onward sweep. Or, as Teilhard de Chardin might have said, our progress toward the Noosphere is like a dammed-up mountain lake, where no one can predict how soon the dam will break. But when it does break, we know the inevitable chain of results as the water carves its channel to the sea. The water in all our lakes of every shapes and size moved finally downhill to the sea of human enlargement.

This idea of a thousand-year chain of developments may seem to contradict the previous idea of the suddenness of hierarchical restructuring. But we have simply shifted to a different time scale. Against the million-year sweep of human evolution since our much earlier jump to fire and tools and speech, our whole technological transformation, even if we go back to the Greeks, is essentially instantaneous. But the present acute culmination of this transformation with order-of-magnitude technological and social jumps all over the world, concentrated into a ten to thirty year interval, is sudden even compared to a human life span.

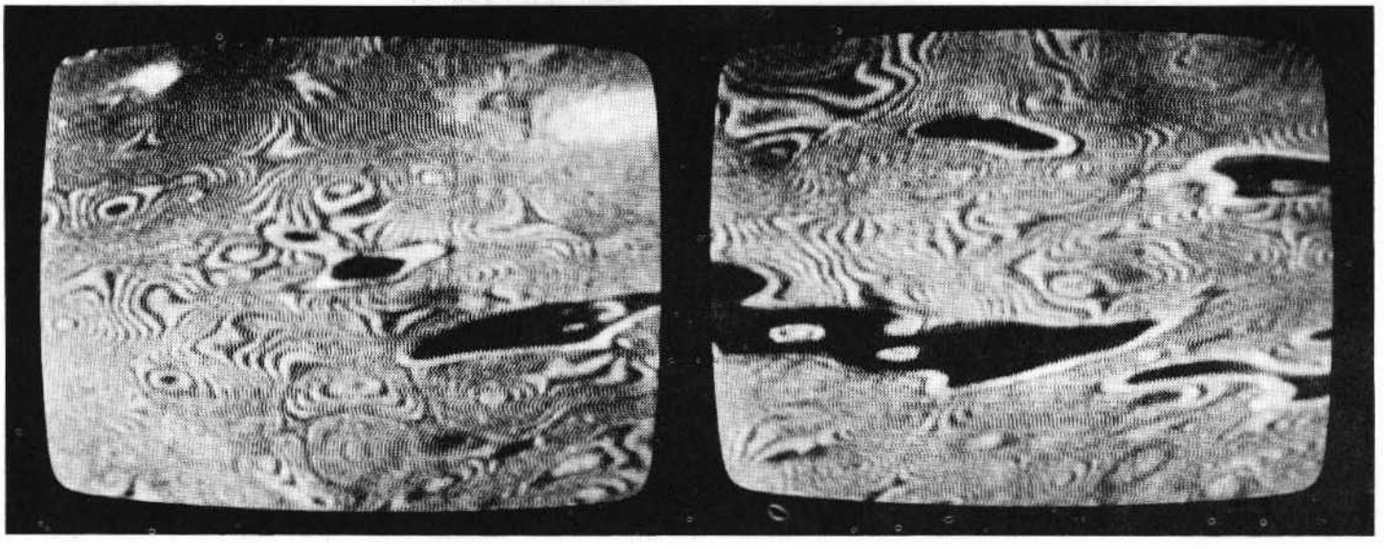
Can we—that is, can the human race acting with its full resources of knowledge and intelligence—predict or direct the course of these vast and apparently inevitable changes in our systems? As with a flood, prediction begins to be easy and direction hard. But if direction is possible at all, it will only be possible with much more intensive analysis of these phenomena. And it will need urgent and purposive new scientific and social research and development if we are to acquire the new order-of-magnitude powers that we need to head off our crises and channel our changes before they destroy us.

For the stresses that precede hierarchical jumps, in spite of their push toward larger integration, can also be destructive and even fatal, as we see in psychotic episodes and the suicide pacts of lovers. The old structures resist, the subsystems respond in the wrong way, and stabilization mechanisms may fluctuate wildly from over-rigidity to complete collapse. Thus, our nuclear armaments today, part of the larger dissonance that precedes a world system, may be fatally unstable for the whole human race unless we introduce adequate new stabilization mechanisms before they reach the last great escalation.

In this great transformational crisis, therefore, the alternative to large scale determinism might simply be large scale instability. Our latitude for decision and control of our future may be small indeed. Can we achieve a nuclear stabilization in time? Can we mobilize the necessary intelligence and energy for self-structuring all our other great changes? Can we understand this greatest hierarchical restructuring of all time and its dynamics and scope and direction well enough to find its focal points of control?

These are the crucial questions of the next few months and years. Only if we find positive answers to them will we be able to shape the new world structures toward which we are collectively moving so that they will begin to satisfy the deepest human needs and desires of all mankind instead of destroying us all.

Reprinted from the *Bulletin of Atomatic Scientists*, Nov. 1970, copyrighted.



excerpts from an essay by John Platt

WHAT WE MUST DO

SCIENCE FOR SURVIVAL

Mobilizing Scientists

It is a unique experience for us to have peacetime problems, or technical problems which are not industrial problems, on such a scale. We do not know quite where to start, and there is no mechanism yet for generating ideas systematically or paying teams to turn them into successful solutions.

But the comparison with wartime research and development may not be inappropriate. Perhaps the antisubmarine warfare work or the atomic energy project of the 1940's provide the closest parallels to what we must do in terms of the novelty, scale, and urgency of the problems, the initiative needed, and the kind of large success that has to be achieved. In the antisubmarine campaign, Blackett assembled a few scientists and other ingenious minds in his "back room," and within a few months they had worked out the "operations analysis" that made an order-of-magnitude difference in the success of the campaign. In the atomic energy work, scientists started off with extracurricular research, formed a central committee to channel their secret communications, and then studied the possible solutions for some time before they went to the government for large-scale support for the great development laboratories and production plants.

Fortunately, work on our crisis problems today would not require secrecy. Our great problems today are all beginning to be world problems, and scientists from many countries would have important insights to contribute.

Probably the first step in crisis studies now should be the organization of intense technical discussion and education groups in every laboratory. Promising lines of interest could then lead to the setting up of part-time or full-time studies and teams and coordinating committees. Administrators and boards of directors might find active crisis research important to their own organizations in many cases. Several foundations and federal agencies already have inhouse research and make outside grants in many of these crisis areas, and they would be important initial sources of support.

But the step that will probably be required in a short time is the creation of whole new centers, perhaps comparable to Los Alamos or the RAND Corporation, where interdisciplinary groups can be assembled to work full-time on solutions to these crisis problems. Many different kinds of centers will eventually be necessary, including research centers, development centers, training centers, and even production centers for new sociotechnical inventions. The problems of our time—the $100-billion arms control problem—are no smaller than World War II in scale and importance, and it would be absurd to think that a few academic research teams of a few agency laboratories could do the job.

Social Inventions

The thing that discourages many scientists—even social scientists—from thinking in these research-and-development terms is their failure to realize that there are such things as social inventions and that they can have large-scale effects in a surprisingly short time. A recent study with Karl Deutsch has examined some 40 of the great achievements in social science in this century, to see where they were made and by whom and how long they took to become effective. They include developments such as the following:

Keynesian economics
Opinion polls and statistical sampling
Input-output economics
Operations analysis
Information theory and feedback theory
Theory of games and economic behavior
Operant conditioning and programmed learning
Planned programming and budgeting (PPB)
Non-zero-sum game theory

Many of these have made remarkable differences within just a few years in our ability to handle social problems or management problems. The opinion poll became a national necessity within a single election period. The theory of games, published in 1946, had become an important component of American strategic thinking by RAND and the Defense Department by 1953, in spite of the limitation of the theory at that time to zero-sum games, with their dangerous bluffing and "brinksmanship." Today, within less than a decade, the PPB management technique is sweeping through every large organization.

This list is particularly interesting because it shows how much can be done outside official government agencies when inventive men put their brains together. Most of the achievements were the work of teams of two or more men, almost all of them located in intellectual centers such as Princeton or the two Cambridges.

The list might be extended by adding commercial social inventions with rapid and widespread effects, like credit cards. And sociotechnical inventions, like computers and automation or like oral contraceptives, which were in widespread use within 10 years after they were developed. In addition, there are political innovations like the New Deal, which made great changes in our economic life within 4 years, and the pay-as-you-go income tax, which transformed federal taxing power within 2 years.

On the international scene, the Peace Corps, the "hot line," the Test-Ban Treaty, the Antarctic Treaty, and the Nonproliferation Treaty were all implemented within 2 to 10 years after their initial proposal. These are only small contributions, a tiny patchwork part of the basic international stabilization system that is needed, but they show that the time to adopt new structural designs may be surprisingly short. Our cliches about "social lag" are very misleading. Over half of the major social innovations since 1940 were adopted or had widespread social effects within less than 12 years—a time as short as, or shorter than, the average time for adoption of technological innovations.

Areas for Task Forces

Is it possible to create more of these social inventions systematically to deal with our present crisis problems? I think it is. It may be worth listing a few specific areas where new task forces might start.

1) "Peace-keeping mechanisms and feedback stabilization." Our various nuclear treaties are a beginning. But how about a technical group that sits down and thinks about the whole range of possible and impossible stabilization and peace-keeping mechanisms? Stabilization feedback-design might be a complex modern counterpart of the "checks and balances" used in designing the constitutional structure of the United States 200 years ago. With our new knowledge today about feedback, group

behavior, and game theory, it ought to be possible to design more complex and even more successful structures.

Some peace-keeping mechanisms that might be hard to adopt today could still be worked out and tested and publicized, awaiting a more favorable moment. Sometimes the very existence of new possibilities can change the atmosphere. Sometimes, in a crisis, men may finally be willing to try out new ways and may find some previously prepared plan of enormous help.

2) "Biotechnology." Humanity must feed and care for the children who are already in the world, even while we try to level off the further population explosion that makes this so difficult. Some novel proposals, such as food from coal, or genetic copying of champion animals, or still simpler contraceptive methods, could possibly have large-scale effects on human welfare within 10 to 15 years. New chemical, statistical, and management methods for measuring and maintaining the ecological balance could be of very great importance.

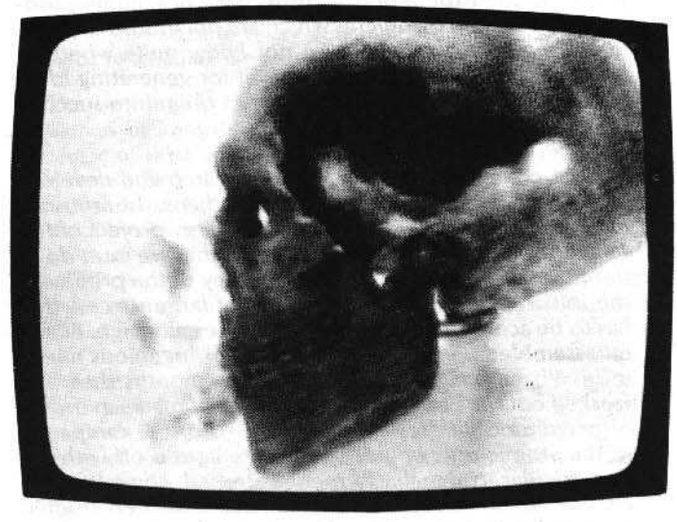
3) "Game theory." As we have seen, zero-sum game theory has not been too academic to be used for national strategy and policy analysis. Unfortunately, in zero-sum games, what I win, you lose, and what you win, I lose. This may be the way poker works, but it is not the way the world works. We are collectively in a non-zero-sum game in which we will all lose together in nuclear holocaust or race conflict or economic nationalism, or all win together in survival and prosperity. Some of the many variations of non-zero-sum game theory, applied to group conflict and cooperation, might show us profitable new approaches to replace our sterile and dangerous confrontation strategies.

4) "Psychological and social theories." Many teams are needed to explore in detail and in practice how the powerful new ideas of behavior theory and the new ideas of responsive living might be used to improve family life or community and management structures. New ideas of information handling and management theory need to be turned into practical recipes for reducing the daily frustration of small businesses, schools, hospitals, churches, and town meetings. New economic inventions are needed, such as urban development corporations. A deeper systems analysis is urgently needed to see if there is not some practical way to separate full employment from inflation. Inflation pinches the poor, increases labor-management disputes, and multiplies all our conflicts and our sense of despair.

5) "Social indicators." We need new social indicators, like the cost-of-living index, for measuring a thousand social goods and evils. Good indicators can have great "multiplier effects" in helping to maximize our welfare and minimize our ills. Engineers and physical scientists working with social scientists might come up with ingenious new methods of measuring many of these important but elusive parameters.

6) "Channels of effectiveness." Detailed case studies of the reasons for success or failure of various social inventions could also have a large multiplier effect. Handbooks showing what channels or methods are now most effective for different small-scale and large-scale social problems would be of immense value.

The list could go on and on. In fact, each study group will have its own pet projects. Why not? Society is at least as complex as, say, an automobile with its several thousand parts. It will probably require as many research-and-development teams as the auto industry in order to explore all the inventions it needs to solve its problems. But it is clear that there are many areas of great potential crying out for brilliant minds and brilliant teams to get to work on them.



Future Satisfactions and Present Solutions

This is an enormous program. But there is nothing impossible about mounting and financing it, if we, as concerned men and women, go into it with commitment and leadership. Yes, there will be a need for money and power to overcome organizational difficulties and vested interests. But it is worth remembering that the only real source of power in the world is the gap between what is and what might be. Why else do we work and save and plan? If there is some future increase in human satisfaction that we can point to and realistically anticipate, we will be willing to pay something for it and invest in it in the hope of that return. In economics, they pay with money; in politics, with their votes and time and sometimes with their jail sentences and their lives.

Social change, peaceful or turbulent, is powered by "what might be." This means that for peaceful change, to get over some impossible barrier of unresponsiveness or complexity or group conflict, what is needed is an inventive person or group—a "social entrepreneur"—who can connect the pieces and show how to turn the advantage of "what might be" into some present advantage for every participating party. To get toll roads, when highways were hopeless, a legislative-corporation mechanism was invented that turned the future need into present profits for construction workers and bondholders and continuing profitable solution of our present problems.

The only possible conclusion is a call to action. Who will commit himself to this kind of search for more ingenious and fundamental solutions? Who will begin to assemble the research teams and the funds? Who will begin to create those full-time interdisciplinary centers that will be necessary for testing detailed designs and turning them into effective applications?

The task is clear. The task is huge. The time is horribly short. In the past, we have had science for intellectual pleasure, and science for the control of nature. We have had science for war. But today, the whole human experiment may hang on the question of how fast we now press the development of science for survival.

Geometric Extensions of Consciousness

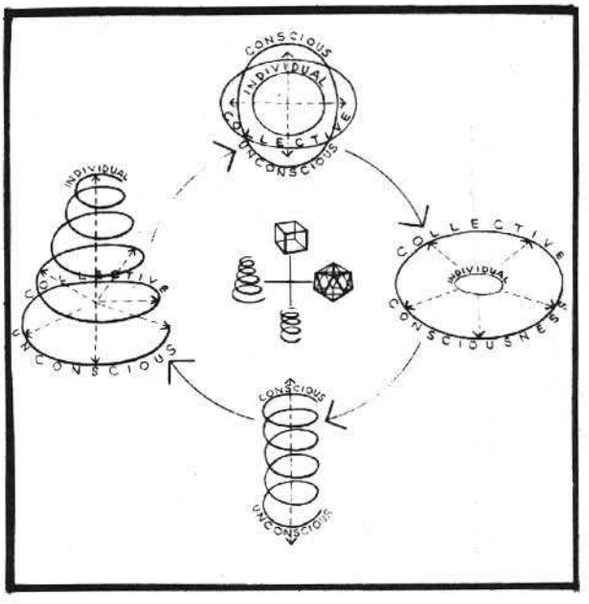
excerpts from Anne Griswold Tyng's article

This was first printed in *Zodiac 19—a review of contemporary architecture.*

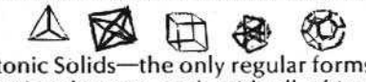
The evolution of man's consciousness was built, atom by atom, into the configurations of matter and mind. Both for our understanding of its evolution and for its own extensions of consciousness, the form of mind-matter finds clues in geometry.

The difficulty of tracing the history of man's consciousness of space in a continuous sequence lies in the cyclic nature of the evolution of total spatial awareness—a repeating cycle in which man's perception and understanding have been stretched asymmetrically in different shapes of tension between the individual and the collective, and between consciousness and unconsciousness. Thus the more introverted phases of the cycle tend to appear as a regression (a "return to the unconscious" when vitality is renewed through a reunion with primitive natural sources) instead of being seen as part of a continuous process of expanding spatial awareness.

The cycle itself proceeds from simplicity to complexity and from a balanced axial *bilateral* order to the movement of *rotation* to the serpentine flow of the *helix* to the animated form of the *spiral*—a building up of form and energy which are integrated in a new cycle. (The synthesis of *bilateral* symmetry, a new simplicity of order which includes and integrates the previous complexity, begins a new cycle of spatial awareness from *bilateral* (synthesis) to *rotational* (space) to *helical* (time) to *spiral* (space-time).) As "generative molecular elements" inherent in man's own evolution, these principles may provide geometric links in the extension of man's consciousness.

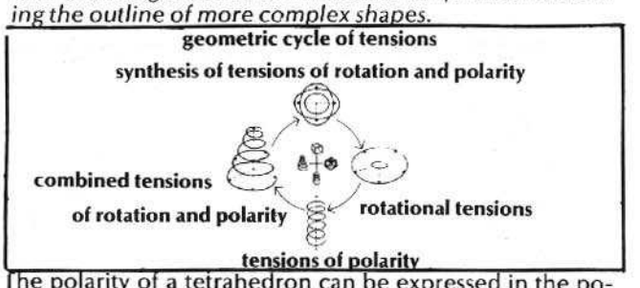


In 450 B.C., in his search for an 'atomic' order of spatial concepts, Empedocles proposed as the building blocks of everything fire, air, earth and water. On mathemetical grounds Plato, in his *Timaeus*, determined the 'exact' forms of the smallest parts of these elements as the five shapes we now call the Platonic Solids; fire the tetrahedron, earth the cube, air the octahedron, water the icosahedron, and as the symbol of the cosmos, the dodecahedron. This intuitive concept is given a measure of validity today when we know that the relationships of form expressed in these five Platonic Solids are involved in the way in which 'fundamental' particles—protons and neutrons—are built up into atoms of about a hundred different elements (according to Pauling's Close-Packed-Spheron Theory and Fuller's proposals of atomic close-packing)[1] and are involved in the way in which different arrangements of these atoms form the building blocks of a million or so different forms of matter, both natural and synthetic.



These five Platonic Solids—the only regular forms possible in three dimensional space, each with all of its faces the same and with the angles at which the faces meet each other the same—are involved, not only in the spatial organization of forms at the level of nuclei of atoms and molecules, but also in cells, organs, plants, animals, the human embryo, the psychic structure of man, the works of man and in the astronomical forms of the universe which pre-existed man. Previously invisible ordering of the primordial atoms within us, revealed by the electron microscope, gives proof of internal geometry in natural forms.

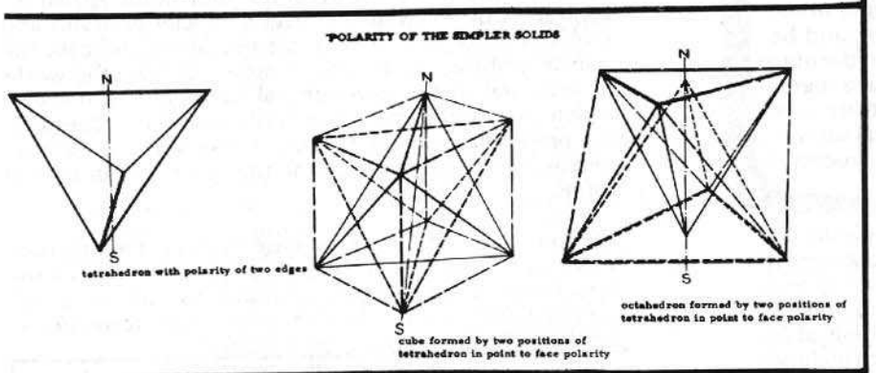
The four stages of symmetric form in this geometric progression, as in the cyclic extensions of human consciousness, I have called *bilateral, rotational, helical,* and *spiral,* with each stage seen as the *motion of simpler forms defining the outline of more complex shapes.*

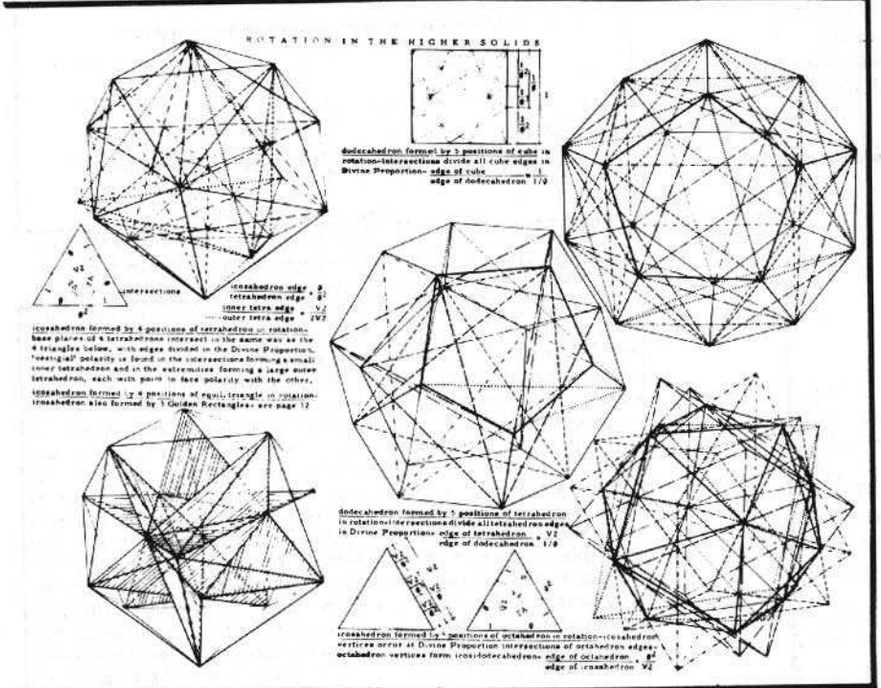


The polarity of a tetrahedron can be expressed in the polarization of two of its four edges (as Fuller has suggested). One tetrahedron in two positions, which have a

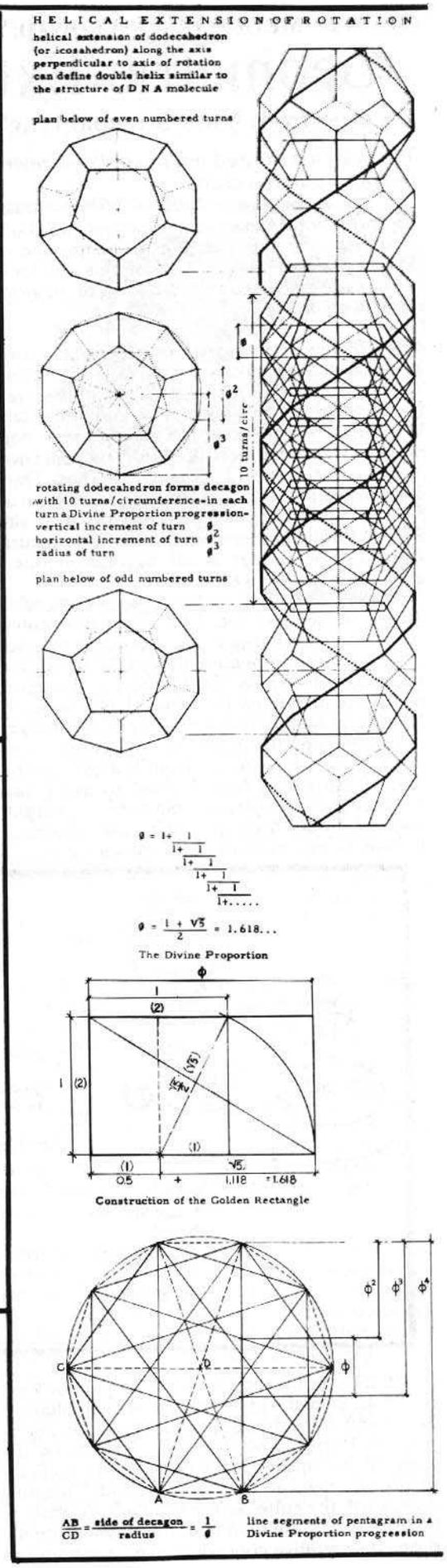
Anne Tyng was one of the first women to receive an architectural degree (M. Arch.) from the Harvard Graduate School of Design. She has worked for a number of years for and with the architect Louis Kahn, associating with him on the "Project for a City Tower", featured in the Museum of Modern Art exhibit "Visionary Architecture". Based on a triangulated three dimensional system which had been used previously only as structure separate from usable space, as in Bucky Fuller's "octet truss", the undulating geometry of this tower, which appears to have a life of its own, is probably the first to be conceived as occupiable space as in a bee's honeycomb. Her independent research in forming principles, for which she received a Graham Foundation grant in '65, has been oriented primarily toward principles of asymmetry, proportion, and hierarchical ordering of form. As Maria Bottero, editor of Zodiac, states, "It is geometry, with its oscillations between symmetry and asymmetry, which, according to Anne Tyng, offers the key to the reading of the processes and phases of organic and cognitive becoming." Inspired by Louis Kahn, Bucky Fuller, Lancelot Law Whyte (Accent on Form & Aspects of Form), *the zoologist Adolf Portmann* (Animal Forms and Patterns), *and the work of the psychologist Carl G. Jung* (Man and His Symbols & Memories, Dreams and Reflections), *as well as by recent developments in molecular biology, her work is one of synthesis. In her articles,* Urban Space Systems as Living Form *(published in the R.A.I.C. Journal* Architecture Canada) *and* Geometric Extensions of Consciousness *(in* Zodiac 19), *she has found links between basic geometric principles (which Bucky Fuller has called "her discovery of Golden Mean relationships between the whole family of Platonic Solids not previously known by man.") and atomic structure, molecular configurations, biological forms, psychic structure and human creativity.*

point to face *polarity*, can establish the corners of a cube. Two other positions of a tetrahedron, also in *polarity*, define the corners of an octahedron. These three simpler Platonic Solids—the tetrahedron, the cube, and octahedron—represent the *bilateral* forms of the geometric progression. The cube in five positions, in *rotation*, defines the twenty corners of the dodecahedron, and five positions of the octahedron, again in *rotation*, establish the twelve corners of the icosahedron. The tetrahedron in four positions, with *rotational* ordering, also defines the twelve corners of the icosahedron and, in addition, one corner of each of the four positions extend beyond the icosahedron to form the corners of a larger tetrahedron, disclosing a 'vestigial' polarity in this arrangement. These more complex of the Platonic Solids, the dodecahedron and icosahedron, represent the stage of *rotational* forms in the geometric progression and, in the way they are formed, express Divine Proportion ratios (1:1.618) in their relation to the simpler solids, the dodecahedron to the cube and the icosahedron to the octahedron.





The 'fourth dimensional' extension of these *rotational* forms along an axis perpendicular to the radius of rotation, expressing again the *tension of polarity*, defines the *helical* forms of the geometric progression. Since both of the *rotational* forms have pentagonal symmetry around a center, the plan of their *helical* extensions is based on the decagon with its side in Divine Proportion to its 'radius' (of the circumscribed circle). The vertical extension of each turn is in Divine Proportion ratio to the side of the decagon, making a Divine Proportion—vertical turn = ϕ, horizontal turn = ϕ^2, and radius of turn = ϕ^3.



A proportional increase in the radius of rotation of the *helical* forms, expressing *rotational tensions,* results in *spiral* forms, the fourth stage of complexity in the cycle. The only ratio which satisfies the condition of a logarithmic spiral in which width of turns increases at a fixed ratio to length is again the ratio of the Divine Proportion. The shifting order of these forms between polarity and rotation includes the previous order within the new order, so that *rotational* includes the polarity of *bilateral, helical* with its own polarity includes rotation plus polarity, and *spiral* with its own dominance of rotation includes polarity plus rotation plus polarity, with the new bilateral phase including all the ordering of form of the previous cycle.

While it clearly appears to be a special achievement of living forms, the repeating cycle of *bilateral, rotational, helical* and *spiral* apparently is not valid for non-living or 'inorganic' forms. The energies and configurations *progressively* built up in the rhythmic interplay of rotation and polarity result in the *gradual* intensification of structure and the flexible vitality which is a special achievement of 'higher' living forms. 'Inorganic' form is based on a generally more rigid *bilateral* symmetry, as in such atomic structures as graphite, salt, peronskite, copper, diamond, carbon dioxide, and cristabalite.

An example which does indicate *evolution of form through a complete cycle is the structure of hemoglobin,* which took the 22 years work of Perutz and his associates to uncover. This extraordinary configuration of 10,000 atoms includes the *bilateral* tetrahedral bonding of carbon atoms in the glycine molecules, the *rotational* clustering in the heme molecules, the intricately *helical* alpha and beta chains which in turn are folded into irregular *spirals,* and finally, each of the four spiralling myoglobin-type parts nestled and interlocked in a symmetrical tetrahedral arrangement to form an overall *bilateral* symmetry. This *bilateral* symmetry reaffirms a basic simplicity of organization over the complexity of differentiated parts to start a new cycle—a hierarchy of form. With all the internal complexity of this structure, we can barely conceive of the fantastic number of hierarchies within hierarchies which include and give meaningful organization to the 280 million such hemoglobin molecules contained in a single red blood cell—which in itself takes the *rotational* form of a disc. Not only does there appear to be a progress in the life forms corresponding to the geometric progression toward complexity and increase in scale, but this progression can be seen as a repeating one with each new cycle building *hierarchy upon hierarchy which indicate at each stage of development the record of its earlier evolution,* the hierarchies of form and the hierarchies of energy *evolving from the interplay of polarity and rotation.*

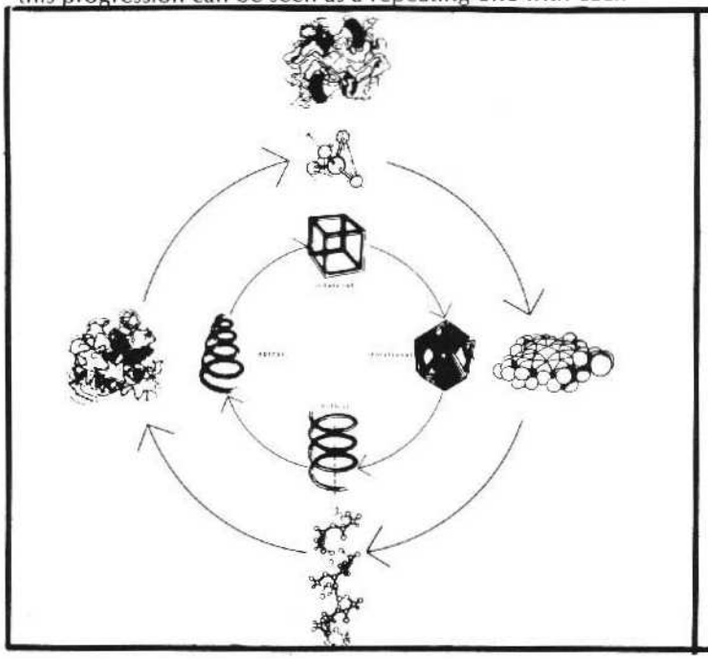
Form thus finds its own form, extending feelers, gills and tentacles to the world around it, in its *rotational* tensioning, expanding its magic circle to new concepts of *space*—from the first articulation of fin or finger to the spiritual dimensions of human creativity.

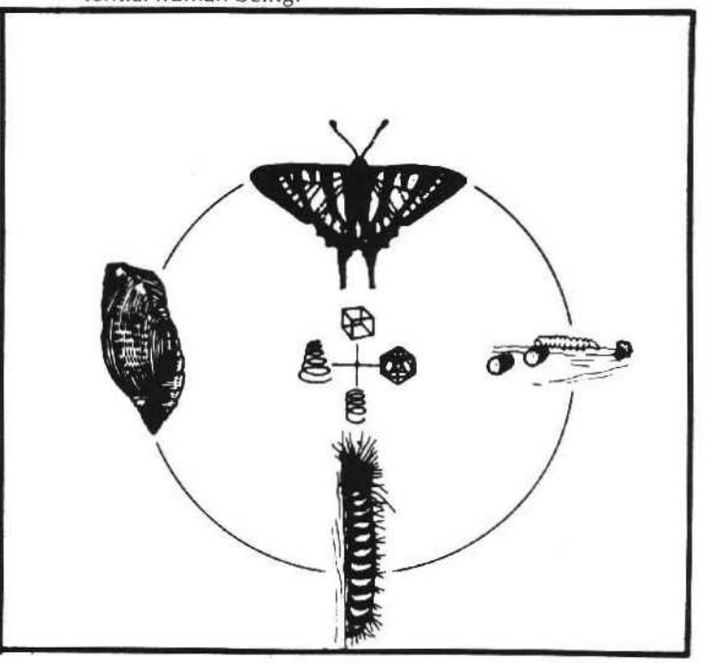
Form finds new *helical* dimensions, elongating to differentiate intake and output, strengthening backbone between tusk and tail, head and anal poles, articulating the tensions between spirituality and sexuality, stretching to new concepts of *time* between awareness of darkest origin and highest aspiration, between the depths of the unconscious mind and conscious thought.

Form stretches to elaborate both length and breadth in *spiralling* shells and branches, antennae and antlers, dividing and subdividing into the intricate filigree of blood vessels and delicate nerve ends, tensioning in *space and time* toward an infinity of matter.

In the fleeting moments of balance between the tension of rotation and polarity, *the tensions of space and time are resolved* in *bilateral* living form, the transformation of the end of complexity to a new beginning of simplicity—a higher order—*the discovery of the cycle.*

The life cycle of the butterfly is clearly defined in four phases: the *rotational* symmetry of its eggs, the *helical* symmetry in its form as a caterpillar or larva, the *spiral* symmetry of the pupa of chrysalis form and its dramatic rebirth in a magnificent form of bilateral symmetry. The frog follows a cycle from the *rotational* symmetry of the zygote, to *helical* embryonic bodystalk, to *spiral* form of the tapering tadpole to bilateral symmetry of the mature frog. The *bilateral* human being evolved from numberless hierarchies of cycles of form, from the primordial ordering of atoms and molecules, goes through the cycle again in the early stages of embryonic development from the *bilateral,* then *rotational* cleavages of the ovum, to the *helical* bodystalk of 18 or 19 days, to the *spiral* embryo of about 4 weeks to the miniature complexity integrated into ultimate *bilateral* form as a 10 week 2 inch embryo of potential human being.





The psychic synthesis of 'rebirth' is far removed from the structure of hemoglobin, but in each case the simplified relationship of complex internal structure creates a new unity, and, in the process of psychic individuation, a new involution of structure creates from all the complexity of a collective and primitive origin an uniquely individual form. So a relationship to the principles of *space, time, causality* and *synchronicity* is valid for the psychic cycle, *space* expressing the tension of individual man with collective consciousness of external environment, *time* the tension between conscious thought and unconscious memory, *causality* the interrelated and combined tensions of both space and time, between the individuating conscious psyche and the vast reaches of primordial memory in the collective unconscious, and *synchronicity* the balancing of tensions, the synthesis of space and time in concepts such as immortality. Jung wrote " . . . The feeling of immortality, it seems to me, has its origin in a peculiar feeling of extension in space and time."[2]

Generally in cycles of human creativity the periods of *rotational tension* relate to periods of external ordering of the psyche, periods of expansion, of materialism and practicality, of openness, *space*, of concern with life, light, sun, of physical comfort and pleasure, of rationalism, of belief in the essential goodness and creativity of man; the phases of *helical tension* relate to periods of internal ordering of the psyche, of subjectivity and instinct, of containment and verticality (polarity), of concern with origins, with past and future and the element of *time*, with death and the principle of evil, of darkness, of emphasis on irrationality, emotion and inner spirit; the phases of *spiral tension* relate to periods of increased tension and containment of opposites, of complexity, of bizarre and exotic styles, of fascination with the occult, of exaggerated motion and energizing of form, forms with complex curves, pointed arches, ovals, winding processionals and labyrinths, tapering towers and spires, forms dematerialized by light, forms with weightlessness, with progressively diminishing horizontal and vertical dimensions, of the *combined tensions of space and time;* and the phases of *bilateral synthesis of tensions* relate to periods of serenity and balance, of unity, of cubic forms with emphasis on horizontality and planar surfaces, forms with rectilinearity, simplicity, axiality and solidity, forms expressing the integration of tensions in equilibrium, forms embodying *the principle of abstraction free of space and time.*

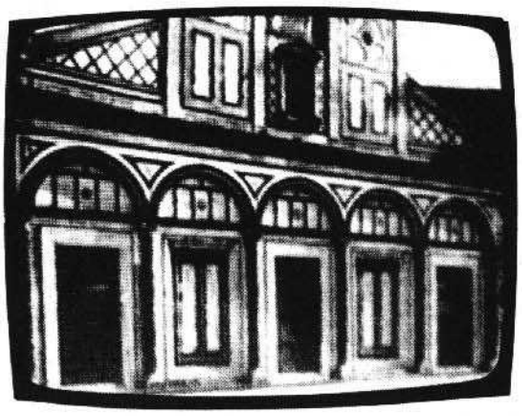
From countless levels of such hierarchies the brain of man was formed, the evolution of human consciousness and the psychic potentials of 'individuation' and rebirth, man's search for the secret of creation, for concepts of immortality free of time, space, causality—for *synchronicity*[3] for the immortal 'static' synthesis of mortal 'kinetic' concepts.

1. Buckminister Fuller lectured on and illustrated relationships of close-packed spheres as proposals of atomic configurations in 1949, printed as "Item O" prepared by North Carolina State School of Design students in 1955. Linus Pauling's *Close-Packed-Spheron Theory of the Nucleus* **appeared in** *Science* **October 1965.**

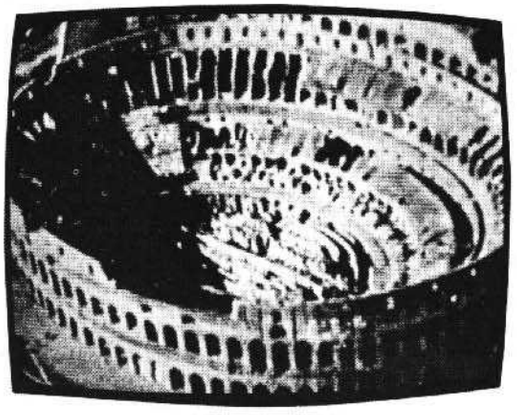
2. P. 142, C. G. Jung, *The Archtypes and the Collective Unconscious.*

3. See C. G. Jung, "Synchronicity—An Acasual Collection Principle," in *The Interpretation of Nature and the Psyche,* **with W. Pauli, Bollingen 1955 Pantheon.**

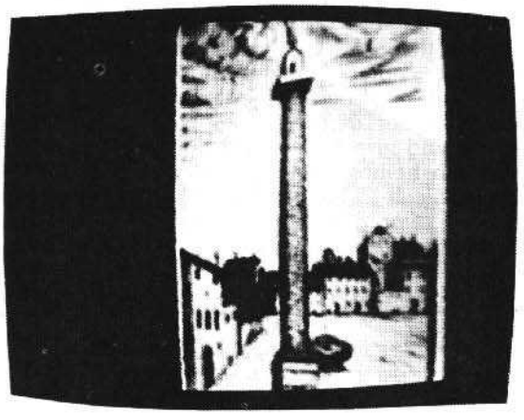
Videotapes of lecture by Anne Griswold Tyng at Parson's School of Design available. Contact Beryl Korot, P.O.B. 135, Ruby N.Y. 12475 for further information.



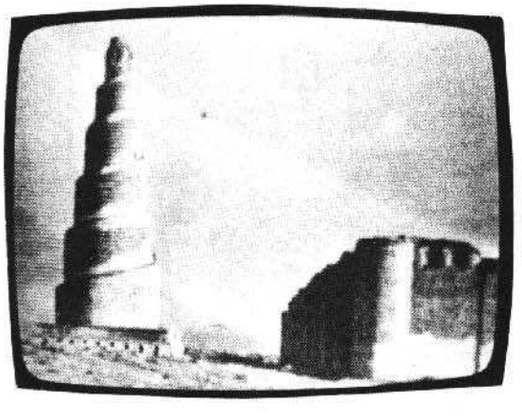
Bilateral



Rotational



Helical



Spiral

Edited by Joan Hennessy
Charts by Anne Tyng

C Synch by Christopher Venne

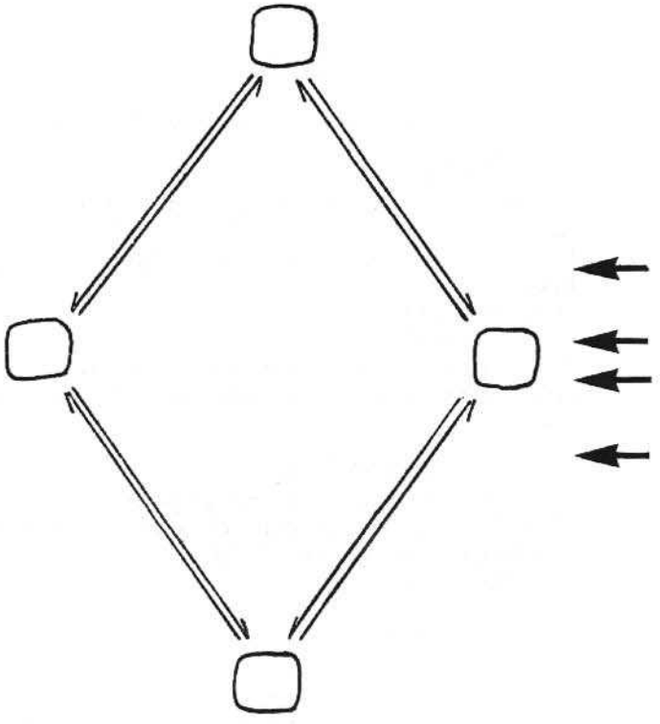
Our world is approaching the 21st century with a 19th century culture. There's a widening gap between the lives we share with other people.

It's not that we lack the hardware but rather the software for a communications culture.

I've heard it said that we need new rituals to express the life pulse of the new environment. And it's true. But neither you nor I can manufacture them.

C Synch is an exploration of metal-ritual—environments which facilitate the discovery and development of new ritual forms.

We can learn ritual at the speed of light.



Mandala

This environment has two centers. In each center there are six video monitors, a video camera and a control device.

The camera automatically focuses on any activity in the center. It's connected to a VTR with a real time output and two outputs with variable time delay of 0 to 10 seconds.

The monitors are arranged in a circle around the camera. Each one can show a separate output. The six together can handle the real time and delayed outputs from each center.

An operating console in each center arranges the outputs on the various screens and varies the time delay of the outputs from each center.

Sun and Moon

Four VTR monitors are arranged in a diamond pattern with screens at the vertices. One screen is the **input** *screen. The others are designated* **past, present** *and* **future.** *These latter are called the "time screens".*

People bring video tapes which reflect life patterns of their group. The tapes are fed into a computer memory track. Images from memory are displayed in random sequences on the input screen.

At this point the system is in the ready state.

At various places near the screens there are operating units. Each unit has simple switching devices which will transfer an image from any one screen to any other screen. One unit has a general reset switch which erases all image memory and disengages all computer image sequence and transfer programs. General reset returns the system to the ready state.

People use the operating units making "transfer choices" to move an image from one screen to another.

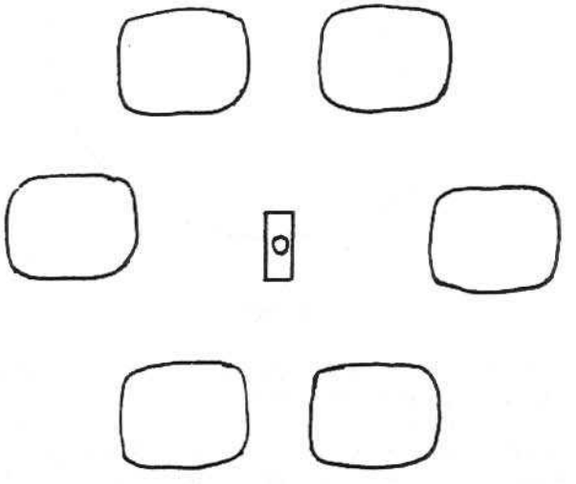
A transfer choice to move an image to any of the time screens immediately displays the transferred image on the appropriate screen and imprints it in a memory track for that screen.

The computer displays image sequences on each time screen. The images are chosen from the memory track for that screen. Sequence is a function of the frequency of similar images in memory.

As similar images occur with a given frequency in a time screen memory, they are automatically transferred back to input memory.

If similar images appear concurrently on a time screen and on the input screen, a transfer choice can be made to move the image to the input screen.

The effect of such a **reverse transfer** *is to cancel both images. The two screens go blank for a short interval. One occurence of the image involved is erased from each memory.*



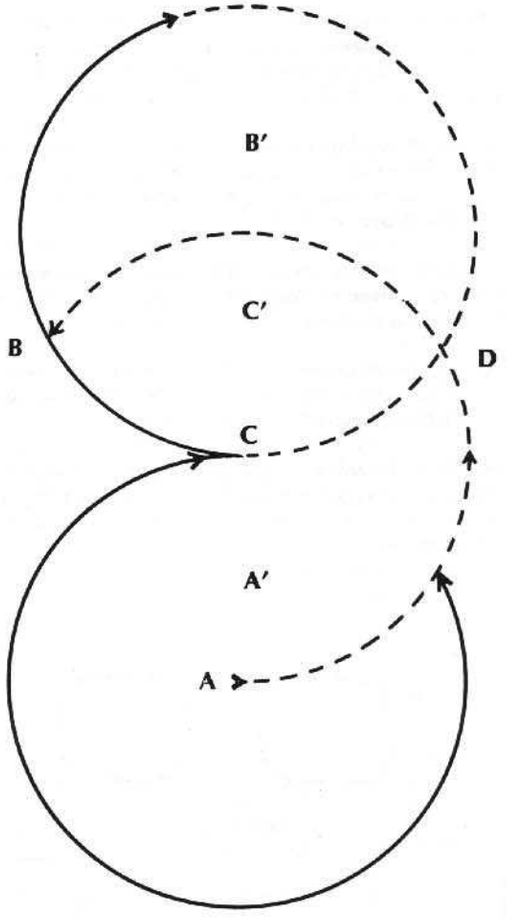
MATRICES, LOOPS, CIRCUITS

The following are extracts from a network of descriptive devices. They are heuristic in the sense that descriptions do not *explain* their ideational content, as metaphors do not explain a set of ideas, but refer them to another context, another framework.

ONE

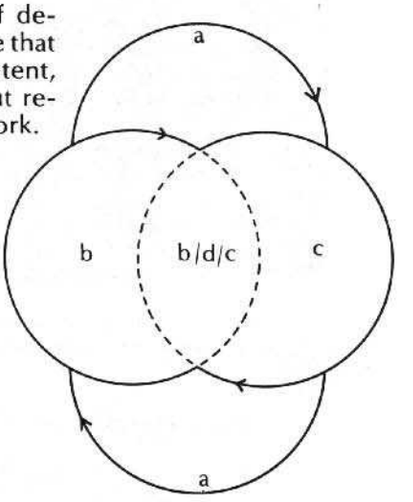
1.
a: ecological circuit.
b: biological circuit.
c: technological circuit.
b/d/c: interface, shaping the statistical probability of failure in a, b & c.

2.
a: intentional, connective information, meta-instructions.
b: conceptual, determining the flexibility and range of models, simulative potential.
c: consequential, the influence of the state of the art, rules of interaction.
b/d/c: embodiment, the form of manifestation, imprinting.



THREE

Floor plan: thirty monitors positioned equidistant around a circle in three sets of ten. Each set of ten arranged in an equilateral triangle, programming over two a & b channels simultaneously (a total of six channels over thirty monitors, each channel a video track, 25 min.)

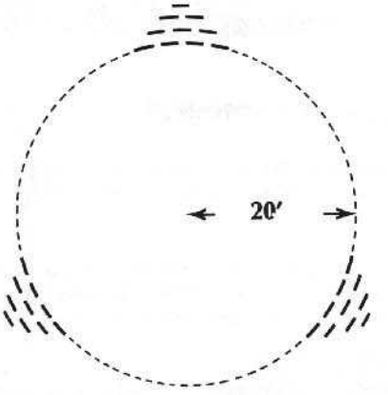


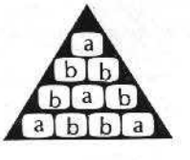
TWO

a: the fixed conceptual/mythic past (as a vector to b).
a^1: future/past.
b: juncture of experienced present and anticipated future.
b^1: the fixed conceptual/mythic future (as a vector to d).
c: real present.
c^1: past/future.
d: axis of temporal distribution in the present, the ratio between *past experienced* and *future anticipated.*

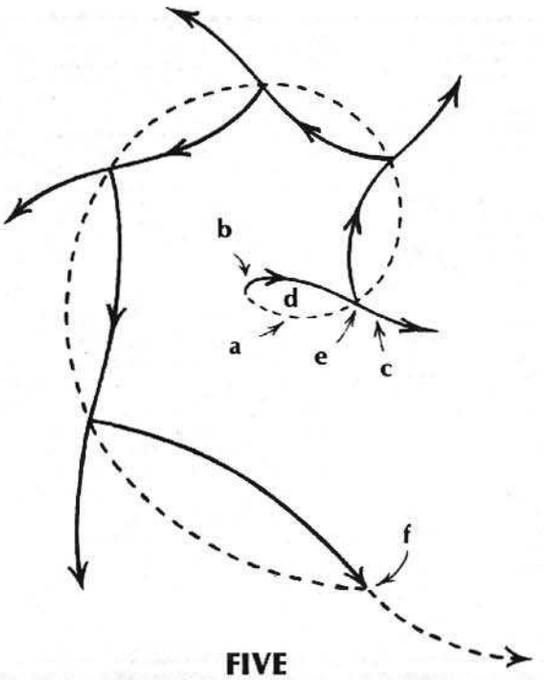
a world of made
is not a world of born—pity poor flesh
and trees, poor stars and stones, but never this
fine specimen of hypermagical
ultraomnipotence.

e. e. *cummings*



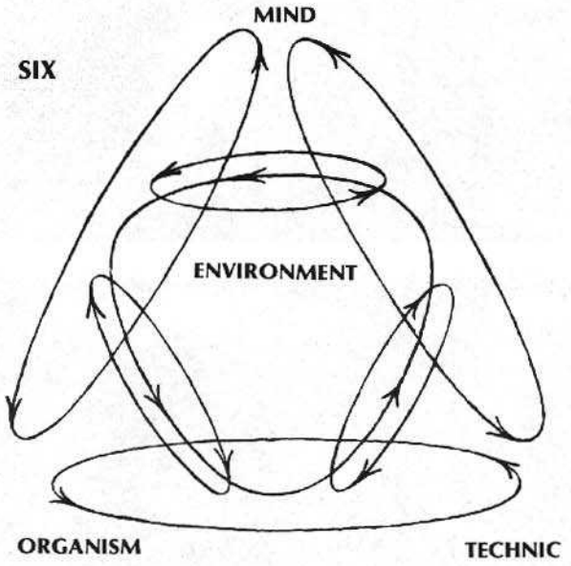


by Frank Gillette



FIVE

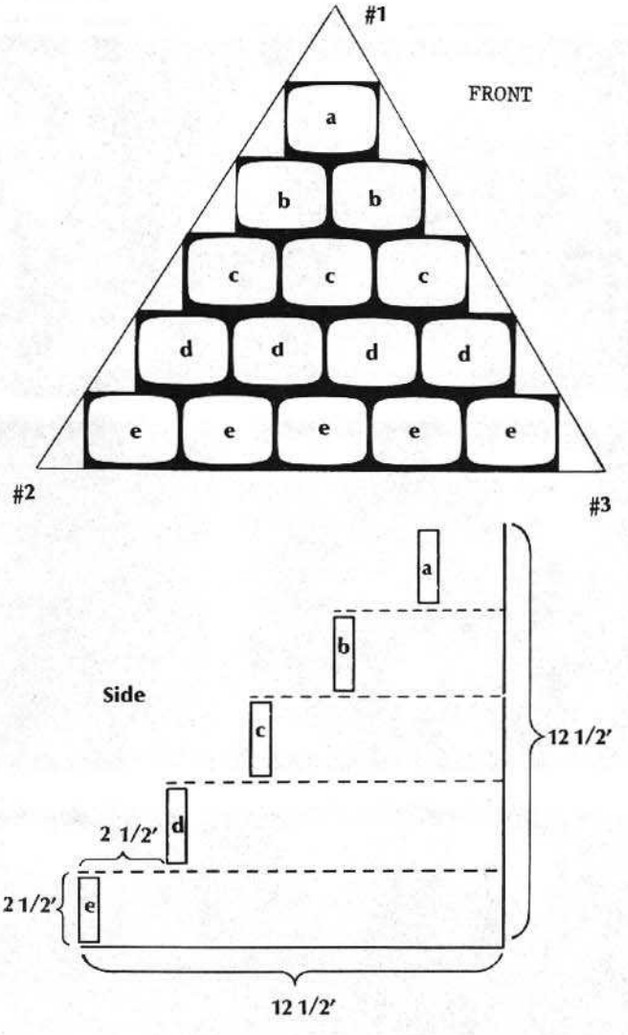
Floor plan: Fifteen monitors inset in the corner of a rectangle twelve and a half feet, in width, height and depth, measured from the five monitors at its base (floor level). Three wide angle, variously ranged, cameras. #1 mounted atop the apex monitor, #2 & #3 mounted six feet parallel to the floor, at each end of the base. Each camera feeds a real-time/four-level-delay loop, thus: *a*, real time, the present. *b*, three seconds delay (from the present), *c*, nine seconds delay (from the present), *d*, fifteen seconds delay (from the present) and e, eighteen seconds delay (from the present). The total program (a through e simultaneously) switches feed from cameras (#1, 2, 3) every six seconds.



FOUR

The principle characteristic of a self-regulating system is the presence of a control loop whereby system comportment may be modified on the basis of information inputs regarding performance and the comparison of performance with a criterion value. The control loop may be a "closed loop" existing within the boundaries of the system, or it may be an "open loop", in which part of the control information flow takes place outside the system boundary.
Charles R. Dechert

a: time, simultaneous duration of temporal processes (measured relatively by an organism or other self-regulating system).
b: contextual threshold, the closed loop, margin of behaviour.
c: interactive threshold, the open loop, feedforth.
d: paradigm, source of *criterion value* directing *c*.
e: interface, interval of discontinuity.
f: the present as interface.



Editorial Note: Frank Gillette's book, Between Paradigms will be published soon by Gordon and Breach.

Eulogy for Culture

Time as a dimension has as its structure a human based interpretation. Time, therefore, is *thought* because thought occurs in "real" time. However, time is *thought of* as being in another dimension ie. . . . . the 4th dimension. Time is. . . . . the need for a *point of view*, or a *point to view from*. Every culture has dealt with time. Time represents birth and death or rebirth and departure or debirth and reparture. This unknown dimensionality which time has, can now be structured into another association which enables a new reference system to develop. Subsequently, we live in a *nowness*, somewhere in space, and in that space there is thought. However, since space is also a void then thought occurs in a void.

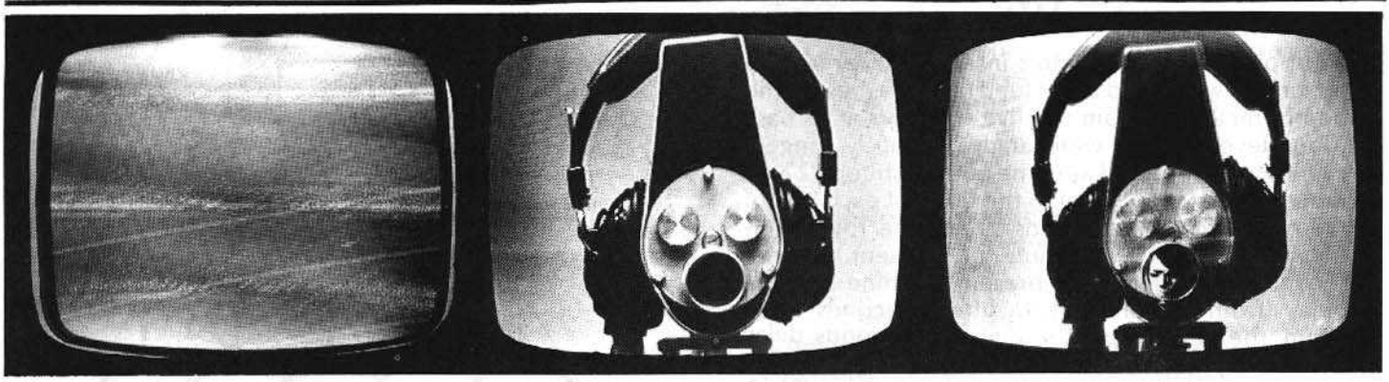
Tools have been developed to analyse time. The invention of the motion picture created persistence of vision with 24 frames a second. Photography froze the immediate reality to be studied at any time. Xerox came along and copied time. Video tape came along and recorded time. Video delay systems have slowed time and increased the speed of events in "real" time. Satellites are now bringing the eskimo into the tropics via t.v.. Picture phones relate personal feelings immediately. All cultures are now sharing in one anothers sensibilities. The instant replay means instant culture. Information storage enables all cultural myths, illusions and realities to be retrieved and replayed in any time sequence. The planet has now enabled communication to be made possible for any culture at any time. Individual cultures are now apart of the larger information system which has recorded and stored all cultures and their mannerisms. Instant cultures will be a model to live by for the next generations. The tempo of the environment will be magnetically erased only to be replaced by the next information program.

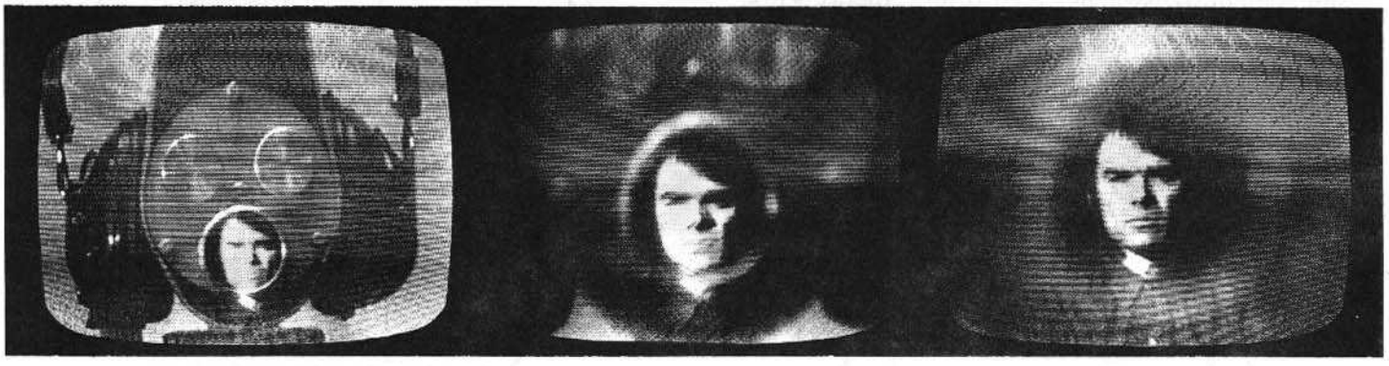
Logic for one culture will be mixed with another by exchanging program cards, video tapes, records, tapes etcetera. Pictures will be universal and popular words will replace the methodology of epistemology and overly redundant knowledge. The man and woman of today are becoming evolved into a pure information media world. The planet is being covered with instant replays which allow any culture to exist at the push of a button.

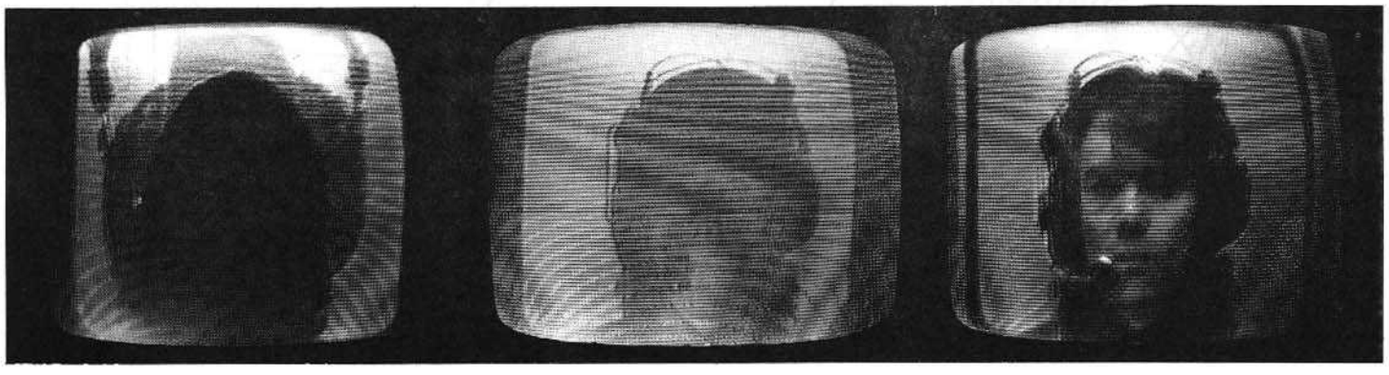
The next environment for living will be a high compression of information extracted from the computer only to be interfaced within the home or on the streets via video, tapes, print. . . . i.e. communicative systems. Cultures no longer can entertain a pure evolution within themselves. Each culture now tunes into the information of the next. The global gestalt will be a telepathic system which *predicts* events rather than *recording* events. The next global environment will be completely controlled by homo sapiens projections. The thought of the event will be the necessary criterior for the existence of the event. Information of innovation will be available for all. The planet will then be in an information matrix which is not dependent on cultural norms for patterning of activities, but the retrieval of those norms within a larger informationality of contrived space or environment.

The cultures of the world are now being interfaced with one another so that media environments have as their content the mediums of all the cultures. It is now necessary that spaces are created whereby any creative interpretation of existence can be interfaced with other cultural rituals. Culture maintains its sustenance by its own endorsement without any consultation with the body of people that watch and participate with that very culture. My solution has been specifically designed spaces which enable all information of cultures to be mixed and reinterpreted. As man increases his ability to circumnavigate the globe, his understanding of all cultural formats will become the norm rather than the exception. Culture will then take on a new mask that goes beyond present definitions of culture. The next evolution to determine our new heritage and language will be within self-designed spaces. Each man and woman will learn the cybernetics which best creates an identification with all the electronic extensions that surrounds the planet. Brain feedback systems within these new systems and environmentally designed spaces is the area my life has gravitated towards. Intensity and density will allow the break through of information implosion.

Therefore, it is now apparent to me that the coming to a close of this century and the beginning of the next is the fluxing sociological structuring of a machine culture and our own biological "human" culture. This machine culture will be completely self-sufficient, and will be able to replace its own parts, manufacture its own parts, and have a computerized memory system which will retrieve information far better than we can imagine with our present day awarenesses. The approach to the machine culture has to be one of having sensibilities which I refer to for myself as *organic hardware*. The integration of the communicative machines should be done in such a way that the function which they are specifically made for are changed, and are forced to adapt to input which we as humans are capable of, and thus can come to terms with their unique growth structuring. For me media environments are just this . . . they are an attempt to synthesize all the media tools in such a way that their whole combinatory effect cannot be realized by any one of the separate communicative parts. The enclosed photographs are images which juxtapose:







3 television cameras
1 television broadcasting network rot
1 telemation switcher on the fade mode
2 mirrors
1 zoom lens
1 wide angle lens
1 close up lens
1 monitor
1 sync generator
1 target beam modulator

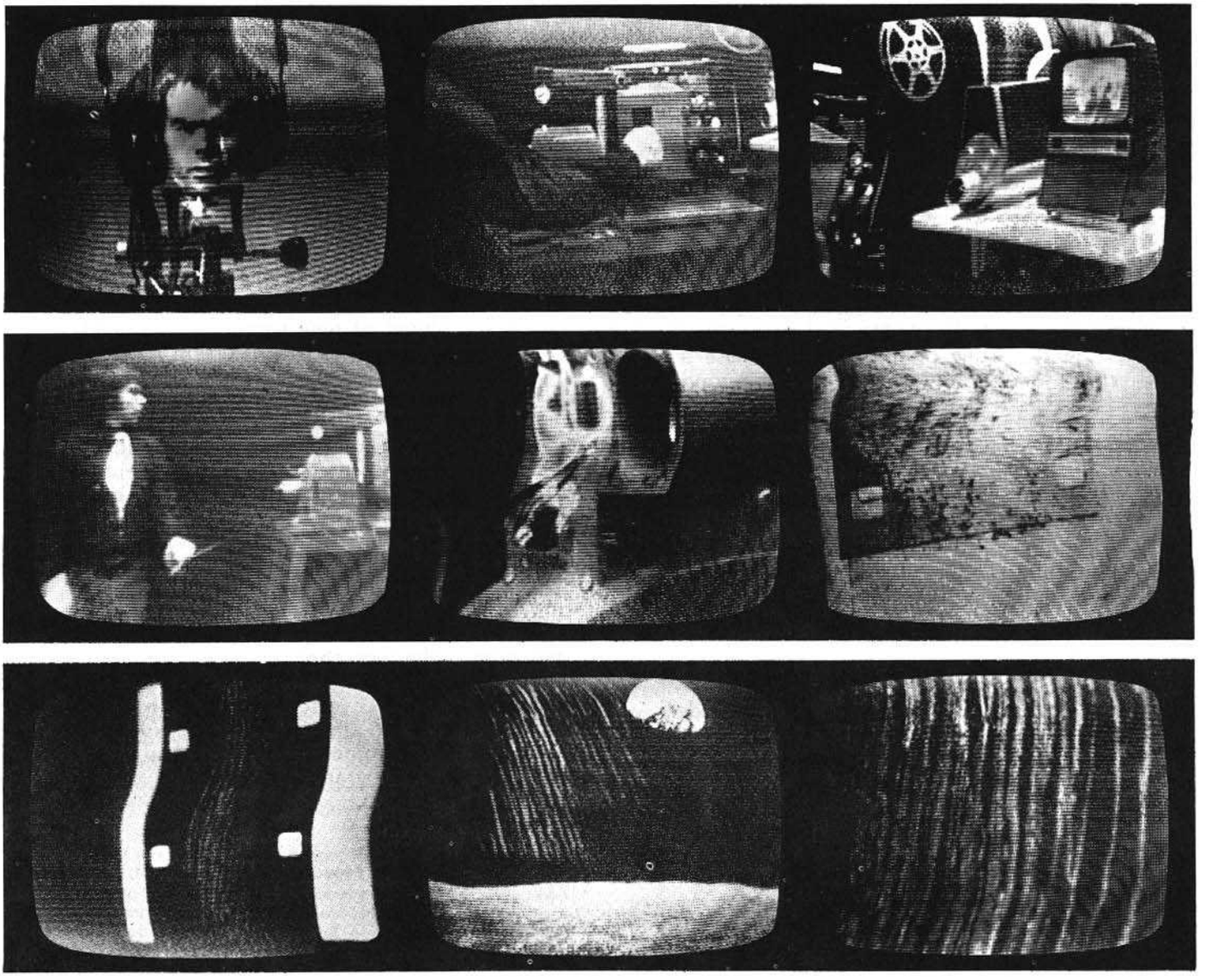
The images that appear on the monitor are then taken with a Nikkormat 35mm camera with a 50mm lens. The images attempt to show that in video space we can create a multidimensional world which is created by our own interference with the functioning of the communicative tools. All our communicative tools are capable of sending to all nations languages of all the other nations. Each nation, however, has its own cultural rhythms. These rhythms are then immersed into the media. One culture interfaces its media with another. Soon tapes of one country are joined and mixed with another countries tapes and ultimately into a global rhythm which is perhaps what Nam June Paik foresees with the video common market. One can now only imagine the many thousands of McLuhanistic mediums which will be directed to the world. My own video tapes and media environments attempt to explore the organic nature of the media hardware we all use. The machines are multiplying and are becoming ever more responsible for tasks once left to us. It is not hard to envision a planet completely controlled by the machines. But our place as a race of humans can be made extinct by our very attempts to substitute our lives and life functions by the machine. We must evolve together. The machines, however, in their attempt to communicate also can be made to function in ways they were not originally designed for.

For Example:
Take a tube out of a radio and it will make static . . . curcuit function malfunction
Record the static from the radio
Put the tube back into the radio
Record the normal radio transmission and the playback of the static simultaneously
Mix the playback of the radio transmission, the static, and a voice over with a mic on another tape
Modulate this tape mix on a synthesizer . . . a ring modulator will work fine and record this media mix
Take the final media mix and hook it up to an oscilloscope
Simultaneously record the oscilloscope with a video camera
Mix this video tape with a film on a film chain in the studio
Photograph the program monitor with a 35mm camera
Mix the video with film on it with the slides on the slide chain
etc. . . . etc. . . . you are on your own. . . . organic hardware *is* born.

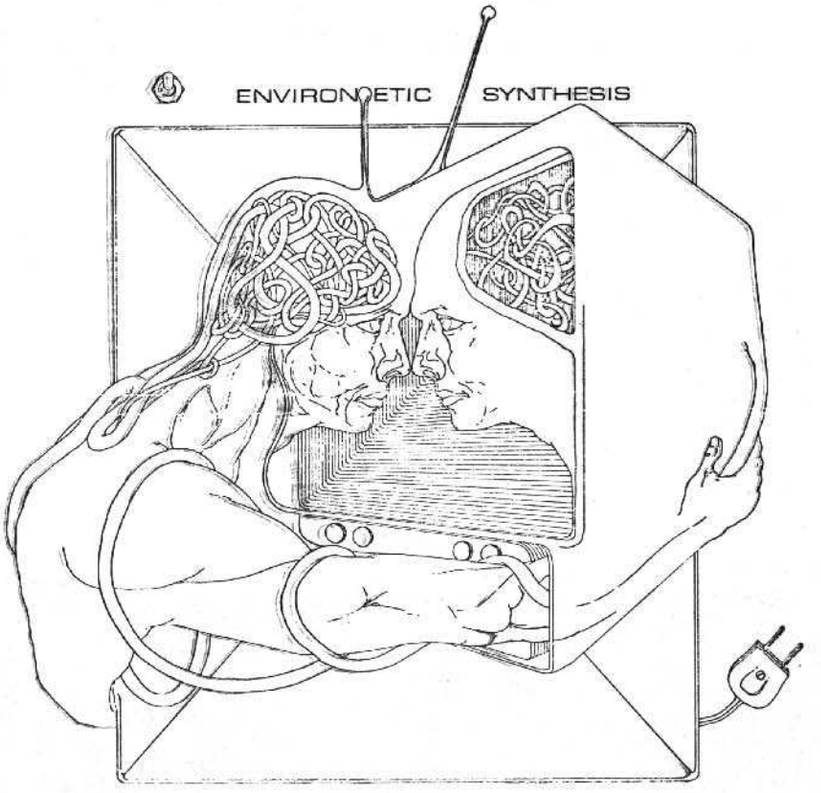
What is the final form you may ask. Well, we have extended our use of the communicative machines, the machines use of itself, and consequently we have a growth or an organically developed hardware which is capable of a radically different software medium . . . ie RADICAL SOFTWARE. The new medium must be explored if we as a race are to keep pace with our information implosive world society. Our "Prometheus Project", as Gerald Feinberg states we must have, is to look to our long range goals. Our goals with our communicative tools must be for ourselves and future selves that will be exploring deep space with every imaginable creative potential that we can bring to the dawn of our mentally operated machine cultures. The cyborgs are coming . . . let's journey with them in space.

Willard Van de Bogart is director of a Media Center at the University of Pittsburgh.

photos: Walt Seng



ENVIRONETIC SYNTHESIS



Drawing: Richard Lowenberg

Environetic Synthesis is both a concept, and a group engaged in projects directed toward actualizing the concept. Our starting point was the premise that one's environment could be designed to respond to one's own physiology, such as the brain waves (EEG) and muscle potentials (EMG), with video, audio and other sensory devices responding to the person. One could thereby interact with, and control all the parameters of this environment to meet the needs of the moment. We soon realized that this simple concept applied to communication, theater, dance, and new forms of video entertainment, and accordingly, it has become a meeting ground for people with diverse interests and backgrounds to work on group projects around this concept.

Another guiding principle is that Man, being part of a natural order, responds intuitively to the orders and patterns which exist in nature on macroscopic, microscopic and familiar levels, and that this response is of artistic value, scientific value, and often a combination of the two.

The third, and most obvious principle is that the rapid development of new technologies provides new and different modes of expression for everyone. Computers, holography, 3-D techniques, man-machine interfacing and other technologies, however, still are on largely exploratory levels from the artist's and layman's point of view, and their further exploration promises interesting developments. A current project of interest to us is videotape documentation of on-going projects by innovators in art, science and technology for cassette and other sources, including reference and teaching libraries.

Another current project is resulting in the integration of dance with technologies used in bio-medical engineering, physiopsychology, computer video graphics and electronic music synthesis. By monitoring the dancer's EMG (electrical activity from the muscles) by telemetry, the dance itself generates a musical-visual environment, rather than the dancer responding to pre-programmed material.

Correspondence:
Environetic Synthesis
Peter Crown - Richard Lowenberg
317 West 92nd St.
New York, N.Y. 10025

Communications and Change *

by Robert Theobold

I am making this tape in Phoenix, Arizona and I am going to make it just about a month before you hear it. It is difficult to do it this way but a lot easier than having to go all the way to Papua, New Guinea; it is taking me, with the help of some friends, about three or four hours to make the tape. To come to Papua, New Guinea would have taken me a couple of days for travelling and a couple of days to get over the fact that I had been travelling in each direction, and basically I would have lost a whole week. That is all right if I could have afforded the time to stay and talk with you, but at the moment I am so busy that I would have flown in and out and that really wouldn't have done much for any of us. I wanted to make this tape because I am convinced that the whole concept of flying here and there is done in large part because we haven't yet recognised that we can use communication, that we can send tapes and pictures and that we can indeed talk to somebody on the other side of the world by telephone as easily as we can talk to them in our own living room. But we are still wasting money flying people around. It is very interesting that a Foundation was willing to fly me to Papua, New Guinea, but not willing to provide money for other forms of communication, for example, to produce a film that could have been used again and again, not only in your own part of the world but perhaps in other parts of the world to talk about the issue of development.

So I want to talk this morning about the fundamental issue of how we should see development, to try and help you begin this Waigani seminar in such a way that you can decide what routes are open to a country like yours in trying to get development and what routes are in fact closed. Up to now most Western experts have been telling you that the only way you can hope to get development is to do what the Western world has already done, that is, to industrialise,[1] that you have to pass through all the stages to economic growth and that somehow or other you will eventually catch up to countries like America and England. There are a number of flaws in this thesis, flaws which make it almost impossible for you ever to catch up, if that is the route you take.

The first of the flaws is a very practical one: the average annual income per head in a large number of developing countries is about $100, while in Europe and America it is somewhere between $2,000 and $3,000. The increase in average income per head in the United States each year is now equal to the annual income per head in a country like Papua, New Guinea. Therefore not only is the gap widening but there appears to be no conceivable way in which the gap can eventually close; so what we are actually saying, if we talk in these terms, is that it is inevitable that the countries now rich will continue to keep their lead over the rest of the world for an indefinite period.

The second problem with the model and with that way of thinking is that historically countries which have done well have jumped stages of growth rather than gone through the same ones as the countries which have been moving ahead of them. For example, Britain first developed the steel industry, but Germany then used the most advanced technologies that had been developed in England and jumped ahead of England in steel production. You see this same pattern again and again; countries coming along behind can benefit from the mistakes other countries have already made. Unfortunately, we in the West seem determined that you should go through the same set of mistakes that we went through. It is as if we are afraid that maybe you will come up with a better way of living, that will allow you to get there faster than we can.

It is very difficult to overestimate the cost of the industrial era. We destroyed the life of many human beings because we said that the only way that we can industrialise is to force people to live as cogs in a machine, to break down the values and concepts and the patterns which made life worth living and to turn human beings simply into workers. We are now reaching a stage where we are beginning to say: 'But we want to move back' or 'We want to move forward again into a real family life". We want to recreate community and society. We are therefore moving away from the patterns of the industrial era which we are still trying to teach people in the developing countries. In the same way we are trying to create agricultural patterns derived from industrial-era agricultural patterns: we are not facing up to the fact that there are some very grave dangers in what is called the green revolution.

***This paper was prerecorded on tape. The speech has been corrected but the "spoken" style has been preserved. After it was presented to the seminar, the speaker took part in a discussion by a long-distance telephone connection. This was made possible by the cooperation of the Department of Posts and Telegraphs, Papua, New Guinea.**

[1]See, for example, Rostow (1966).

The green revolution is the process by which very high yielding grains are introduced into developing countries and indeed into developed countries. There are a couple of problems with this revolution. The first is that it is far from certain that these new varieties of grain are hardy enough to cope with the possible diseases. There was a dramatic case in the United States in 1970 when a hybrid corn was attacked so severely by a particular form of blight that there were very real questions about the total yield of corn in the United States last year. It is quite possible that the grains which have been developed in order to feed people in the developing countries may also become extremely vulnerable to pests. One might get higher yields in the short run, but a major natural catastrophe in the long run.

The second problem, of course, is that the green revolution is really misnamed, because the green revolution is actually a fertilizer and pesticide revolution—it is possible to produce a great deal more grain if one greatly increases the amounts of fertilizer and pesticide which are used. Now, although it is possible to overestimate the ecological and environmental dangers to the world, it is also clear that pesticides such as DDT are having very serious, and not yet understood, consequences. Therefore, the whole effort to produce an industrial-style agricultural revolution may be very dangerous, if only because the green revolution, of itself, disrupts family, social and cultural patterns.

The question is are there any alternatives? If there are not, we obviously have to do what we are already doing because it is the only thing that we know. But there is now very clear-cut evidence that there exists an alternative style of development, an alternative pattern by which countries can jump from the agricultural era, bypassing the industrial era, and in some cases from hunting and gathering, and move directly into the communications era. Once the question of development is conceptualised in this way, one can perceive that it may be easier for the developing countries to move directly from agriculture to communications than it is for the developed countries to move from industry to communications.

This tape, with the conversation we are going to have immediately after it by telephone, are small illustrations of the potential of the communications era. They demonstrate that today it is information which really makes for production, that both human beings and machines can simply be seen as mechanisms for using information. A very advanced machine, based on a combination of computers and machinery, makes it possible not only to produce a particular type of good but to produce a very wide range of goods without anybody doing anything to it at all. You can set a machine, for example, and it will turn out clothes which have very different patterns; it will cut through the cloth on a laser principle. It is infinitely more efficient than the old-fashioned cutting machine.

If there are these new technologies, if it is possible to move new ideas to the developing countries, why don't we do it, apart from the fact that we continue to be trapped by old ideas. We seem to believe that we in the developed countries are brighter, smarter, more intelligent than everybody else. We seem to argue that if we still haven't understood how to manage a country in terms of the communications era then nobody else can do so. But this doesn't necessarily follow, because what is so alien to us about this new world we are moving into—this world based on communication satellites, on telephone, on television, on radio—is precisely that it is based on community and family values.

The Western world is still trying to convince the developing countries that the most efficient method of learning is through literacy, in other words, we must first teach people to read and write and then they can read and write what they need to learn. But this is a long way round to come home. Of course we had to do it when all the technology we had was the Guttenberg Press; we could move ideas only through the process of mechanically inking words on paper and then giving them to people so that they could learn them. But suppose we now recognise that tape and film and telephones and other methods are available. It is obviously easier for people to learn in many areas through sound and image than through words; and yet, when I talk about the possibility that literacy is not a necessary skill for training, the degree of anger educational experts show is quite extraordinary. I now believe that people are so afraid that literacy may not be the key value of all that they are determined that we will do everything through literacy.

I am not saying that literacy is not useful. I am saying that if we want to move ideas quickly, which we must if we are to achieve a process of development, it is essential to rethink the whole process of moving ideas and to take advantage of the new technologies. And to do that we have to think about how we can use television and radio and tape and whatever is feasible within the culture and

resources of a particular country. And as most developing countries have oral and not written traditions, they start with an amazing advantage in using these oral techniques.

In a sense we have only put the problem back one step, because if we are not careful we will find ourselves in a situation where the developing countries obtain tapes, television films and radio programmes which have been programmed just as the books were written, by men with Western concepts trying to force people to see the world as the West sees it. The West has for so long believed that all its ideas must be right that it finds it very difficult to understand the very simple anthropological insight that a culture is valid when it works. Ruth Benedict, the anthropologist, called a good society a synergetic society and she argued that the difference between a synergetic, creative, positive society and a negative society was that in the synergetic society what people wished to do and what the culture required them to do was the same. If this is true it is possible for us to imagine many types of culture which could be effective. We have then moved beyond the old anthropological issue that there was no way to evaluate whether a culture is successful or not. In Benedict's theorizing, a culture is successful when people are able to do what seems important to them, and a culture is unsuccessful when people are forced to continue to do things which they do not wish to do.

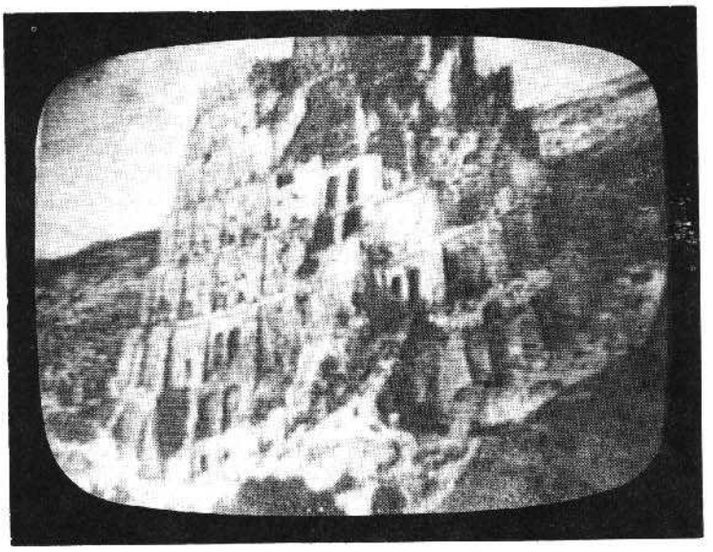
Now, if we take this model one begins to look at the whole development process very differently because the critical issue is not whether gross national product goes up or not, but whether an index of social welfare goes up or not, and that index is a much more complicated thing to construct than the index of gross national product.

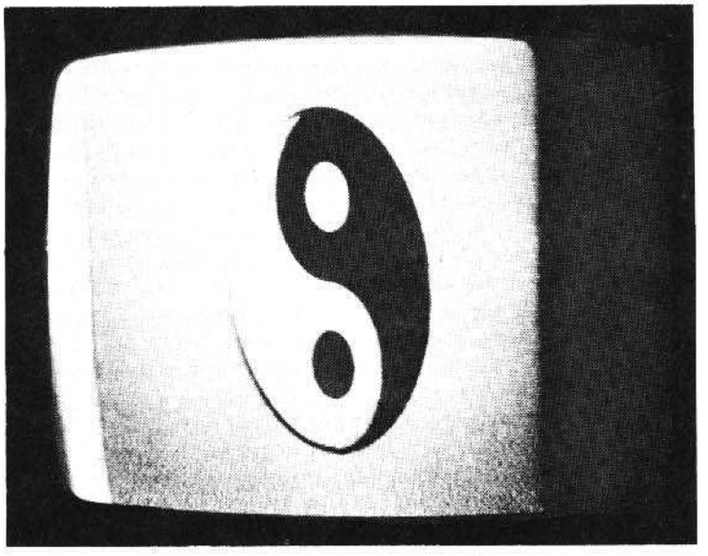
In the West these days we are becoming concerned about how much we are paying to get our annual increases in gross national product. What we have in pollution, both of the air and of the water, high crime rates, frustration of all sorts and the general feeling that despite the fact that we may be getting richer in money terms we are not getting richer in other terms. It would be somewhat ridiculous if you choose to take a route which has led to a condition that satisfies very few people, certainly in the United States and increasingly in the other developed countries. I am not suggesting that an increase in the gross national product, an increase in production, an increase in standards of living, is not crucial for you or for other countries in your position. But if it is achieved at the cost of certain things which are more fundamental, you may not have gained anything. In addition, we must recognize that the way to get increases in welfare, gross national product and income may be extremely different from those which have existed up to the present time.

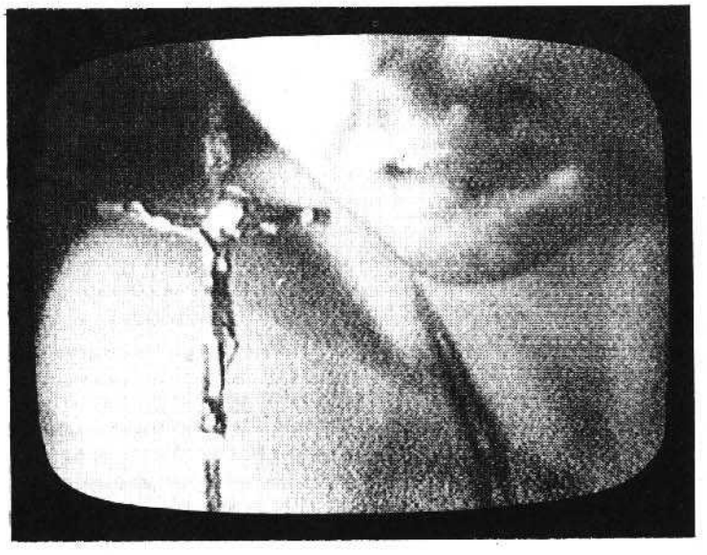
Most development economists are very negative about the extended family, for example, claiming that the result of the extended family is that people do not work because they are afraid that their relatives may descend upon them. We have therefore been extremely busy breaking down the extended family, because people wouldn't work efficiently because whenever they got enough money they would go home to their extended family. But if you say: 'Well, we want to give people a meaningful life', it may well be that one says we must somehow find a way to operate with the extended family. This is not going to be as difficult as it sounds, because one of the few things that is perfectly clear about every developing country is that "full employment" is an impossibility. The only reason we ever reached full employment in the countries which are now developed is because technology required using all the people who were coming into the cities. Today, on the other hand, technology is so advanced that even if industrialisation takes place it absorbs very few workers. Yet we are still trying to get full employment instead of accepting that today our only hope is to break the links between income and employment, to recognise that we must treat the problems of production and the problems of distribution of resources as separate problems.

The first thing to do is to find out how to increase production, then we must worry about how to ensure that the fruits of that production are fairly distributed. The economic theory we use to prove that people get what they deserve is based on Western assumptions and even those assumptions are less than useful. This is a very interesting example of self-hypnosis. Our income-distribution theories are based on the assumption that all firms are small, there are no labour unions, there is perfect movement of information and there is no government intervention in the economy. Economics is a branch of politics and that is true internally and internationally.

There is no way that our current problems can be solved so long as you accept the definition of growth and development which the West gives you. However, if you recognise what your strengths and your weaknesses are at this point in time, it is quite possible that the developing countries, that the scarcity regions, may be more successful in







coming years and decades in coping with their problems than many of the developed countries. But to do that you must come to grips with the fact that the only technology really able to help is the most advanced technology; if you are going to feed, clothe and shelter your people it will be done on the basis of skipping stages of growth at the technological level, and allowing people to develop their culture, not under compulsion, but in terms of having the necessary resources to continue to rethink and to discover a viable culture for themselves.

To me the alternative to the green revolution, which I believe to be profoundly dangerous and probably infeasible, is to use very high-level technology involving nuclear reactors, desalinisation where it is necessary and chemical green houses to create a resource where there is none at the moment, rather than trying to restructure land use which is a process which has inevitably torn cultures apart.

It is not necessary that you see yourselves as backward, behind the abundant countries, fated to pick up the crumbs and pieces that fall from their tables. I believe that in the United States where I am presently working, it is states like Arizona, which have not been successful in the industrial era which can lead the communications era. In much the same way, areas of the world which are not hung up with the present path and are open to rethinking could lead the communications era. This will only be true if they resolve to solve their problems for themselves and to stop believing that outside experts have some magic panacea, that if only they will listen for long enough and closely enough, somehow the answers will be found. The process of meshing your culture with the future culture cannot be done by anyone else but yourselves and I think it is now clear that there is no way that you can deny your previous culture and still create a viable new one. As Conrad Arronsberg has put it:

> *there is no possible way to create a revolution, the only hope that one has is to undergo an evolutionary process of change, which can lead to a fundamental change in conditions.*

* *"Communication and Change"* **was published in the New World Mailing Service. This has since been transmuted into** *Futures Conditional*—**a different form of communications.** *Futures Conditional* **starts from the assumption that we are engaged in a massive transformation from the industrial era to the communications era and this transformation is forcing us to re-examine our basic assumptions about ourselves and the nature of our society.**

Futures Conditional will aim to share the excitement of those who have come to believe that modern technology and knowledge have made possible the better world of which we have dreamed so long.

Refusal to accept advertising has priced *Futures Conditional* **in the newsletter class. If you have $24 for 12 monthly issues because you have access to a company or educational budget, it's probably worth it. Write: Futures Conditional, 34 West 33rd Street, New York, N.Y. 10001.**

A PROPOSAL

Towards founding a Society for Visual Anthropology

At a recent meeting of the Board of Directors of the Program in Ethnographic Film, it was decided that, in conformity with the American Anthropological Association's suggestions, PIEF would begin to explore the formation of a society for Visual Anthropology.

The following is a short description of how and why we would like to see such a society developed.

PIEF was the culmination of many years of organizational work by a small group of anthropologists and filmmakers who were interested in both making and using ethnographic films, and who wanted to provide a forum for disseminating information about research and production in ethnofilm. We now have a membership of 1,000 and a start has been made in bringing together those interested in this area.

In examining the interests of PIEF's membership, and in thinking about recent research trends in anthropology, it has become apparent to us that there is a growing and deep interest not only in ethnofilm but also in the use and the study of visual forms in general. Not only is the term "ethnographic film" too specific and limiting to cover current interests, but its use actually tends to discourage the kinds of conceptualizations and research needed to understand how ethnographic films are and can be made and used. Ethnofilm is only one specific use of film, and knowledge about film as such—how it is made, used and understood by different cultures for different purposes in varying contexts—is clearly necessary before we can understand how it is used in one specific context—anthropology. Ethnographies of film conceived and carried out in frameworks similar, for example, to ethnographies of speaking, or ethnographies of art, will enable us to escape from the visual provincialism within which we now live.

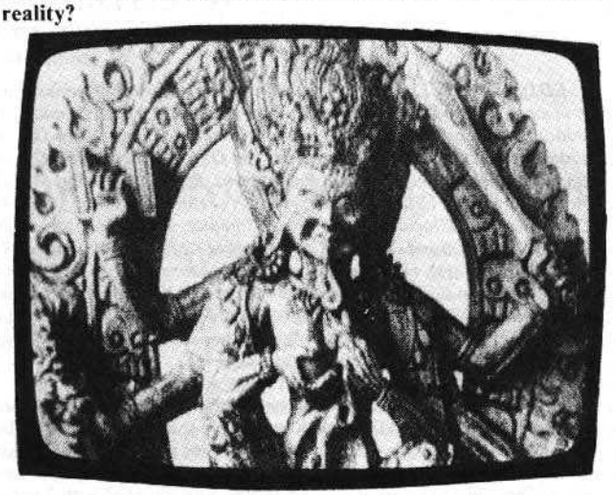
But anthropologists are interested in more than films. There are those interested in painting, housebuilding, decoration, clothes, nonverbal and nonlinguistically connected body behavior, television, dance, drama, and a host of other culturally learned and meaningful activities that take place through the use of a large variety of visual codes and modes. These nonverbal or pictorial symbolic forms are organized and patterned within a culture in a way similar to the organization of speech and language.

A society for visual anthropology would be able to bring together those whose interest in the study of all or any visual forms fall within the conceptualizations and methodologies common to ethnology and anthropology. Such people work in a number of disciplines other than anthropology—communication, sociology, psychology, and the history of art, for example —but all are interested in what can be called the cultural dimensions of visual communication and behavior. In one way or another they are concerned with the study of the patterns, codes and rules within which visual symbolic forms are developed and used, and with the relationship of these specific codes and modes to other patterns and codes within a culture.

How does the use of pictures, carvings, films, tapes relate to how one speaks, tells stories, sings, dances, or constructs one's language? Do films or tapes made by Navajos follow Navajo linguistic (syntactic) rules? Does the way we structure reality when we make pictures of it determine how we speak of it (to turn Whorf around for a change)? Is the world out there ordered and presented to us, and are our pictures of it—and ethnographic films—merely a copy? Do all people structure their visual codes in different ways?

And another group of questions: How do different groups in our society or in other societies organize themselves around different visual codes? Does everybody find the same social organization for making movies or pictures? What social purposes are served by visual symbolic forms? Is it the same as for verbal ones?

Should one teach visual communication to our children in schools? Should one teach children to make movies or television? How? Should anthropologists learn about television as they once learned about field methods since in the future they may get to know other peoples through the tube rather than in the field? How does one analyze how another culture structures reality?



A society for visual anthropology would be able to bring together researchers who are interested in these and many other questions related to visual anthropology.

In general we would hope to invite for membership the following groups of people:

1. Those interested in the study, use, and production of ethnographic film, tape and photography for research and classroom teaching.

2. Those interested in the analysis of visual symbolic forms from a cultural-historical framework.

3. Those interested in visual technologies and methodologies for recording and analyzing behavior.

4. Those interested in the ethno-semantics of visual communication; that is, the structuring of reality as evidenced by visual production.

5. Those interested in the cross-cultural study of art and artifacts.

6. Those interested in the relationship of culture and visual perception.

We would like to expand the *PIEF Newsletter* and to change its title to the *Journal of Visual Anthropology*. It would in expanded form consist of three sections: (1) papers devoted to the kind of questions discussed above; (2) short descriptions of research in progress so that all of us can begin to share research directions and ideas; (3) reviews of books, film, and other visual material available for classroom and research uses.

We would like to help organize institutes and symposia at the Annual Meetings of the American Anthropological Association in the areas of interest to our members, ranging from research institutes to screenings, exhibition, and discussion of visual productions for use in teaching as well as general public information and presentation.

The visual media are growing increasingly powerful not only in our society but in those of many developing countries. Control of the use and distribution of films and television in schools and in nations means power to create culture. We would hope in the Society to provide a forum for discussion of the anthropological politics of symbolic forms, and would expect that our membership might want to present resolutions to the American Anthropological Association on matters about which we are knowledgeable and concerned.

In a sense this is a call for an organizational meeting to be held at the annual meeting of the Association in Toronto in November, 1972. We would welcome—in fact, we urge you—to write and tell us your feelings about what we have proposed. How do the list of interests correspond with your own? Do you want a Society of Visual Anthropology defined in general as we outlined? What ideas do you have?

If your response seems to warrant the formation of a Society (meeting during the Annual Meeting of the AAA, with dues and a journal), we will set up an organization meeting at the Toronto AAA meeting. You can write to: PIEF, Temple University, South Hall 200, Philadelphia, Penna. 19122. Please let us know your attitudes and thinking about this.

Sol Worth, Annenberg School of Communications
University of Pennsylvania

Jay Ruby, Temple University

VTR SCREENINGS AND DISCUSSION—at Temple University's Fifth Annual Anthropological and Documentary Film Conference

1. EDDIE'S LOVE. This was taped under a program organized and sponsored by the Los Angeles County Department of Parks and Recreation, and funded by a grant from the Economic and Youth Opportunities Agency of Los Angeles under the Office of Economic Opportunity. Project Director: Ron Rundstrom; Project Coordinator: Ed Neiss; Director: Egla Pimentel; Music: Frank Ledesma; Writers: Egla Pimentel, Gloria Leyvas, Isela Pimentel, Rudy Montes, Eddie Villalovos, Raymond Rivera; Camera: Rudy Montes, Raymond Rivera, Paul Rivera; Film Production Unit: Larry Perea, Ron Rundstrom, Pat Rosa. Running time: 20 Minutes. Video Camera: Sony Portapack AVC-3400; Videotape: ½" B/W. Sony helical scan. Distributor: contact—Ron & Don Rundstrom, 134 Chautaugua Blvd. #12, Santa Monica, CA 90402. Apply for price.

Video Van Project: This tape is one of many short ones that total about 40 hours of tape. They were exclusively shot by children ranging in age from 6 to 19, in a special cultural arts project organized and sponsored by the Los Angeles County Department of Parks and Recreation. The project consisted of a '68 Dodge Van equipped with 3 porta-pack cameras and ½ hour tape decks, 4 monitors, SEG-1 special effects generator, a sound mixer, AV-5000 1 hour tape deck with editing capabilities and a lighting kit. The van as a highly mobile unit, was developed to provide exposure to an artistic media generally denied the socio/economically disadvantaged minority groups in the Los Angeles Inner City. The 10 week pilot program operated largely in these three ethnic minority areas: East Los Angeles, ethnicity: Chicano; Watts, ethnicity: Black; Sho Tokyo, ethnicity: Asian American. The 40 hours of tape can roughly be divided into 3 basic groups: (1) Free play tapes produced by setting up the cameras through the SEG-1 generator and monitors in the van located at a county park, and then turning the camera over to the children for "Play;" (2) Biographical Documentaries: Tapes made by teams of children sent out from the park using ½ hour run porta-pack units to tape what they wished; and (3) Developed Taping: Tapes either in documentary or dramatic forms, using the media as a tool to creatively express concern about themselves, their life styles and/or problems in their community. The tape, *Eddie's Love*, is one of these. The project director is available for discussion or demonstrations in workshops or symposia in the video area.

2. NORTH AMERICAN HABITATS: THE MOBILE HOME. Producer: David E. Kemp, Ph.D.; Director Editing: Beverly Hill and David E. Kemp; Resources: UC-Davis and Health Science Television. Running Time: 15 minutes. Video Tape: 1 inch helical scan (Ampex). Distributor: David E. Kemp, Univ. of California-Davis Medical TV, Mental Health Services, Sacramento Medical Center, 2315 Stockton Blvd., Sacramento, CA 95814. Not for Sale Now. Rental: Free.

It consists of highly-edited excerpts from 10 (45-60 minute) interviews with inhabitants of an "upper-middle" class mobile home park. The interviews, conducted by a clinical psychologist (who is mostly edited out) were unstructured, and were focused on several issues: (1) How the respondent came to choose his habitat; (2) What his home means to him, especially in terms of day-to-day life style; (3) What he thinks about a mobile-home park as a neighborhood; and (4) most importantly, ascertaining if there is a sense of community in the park.

The major purpose of the tape is to reveal the phenomenology of a mobile-home dweller. The tape is based on the assumption that the "real" words and visual appearance of an informant and his habitat carry far more useful information than abstract reports.

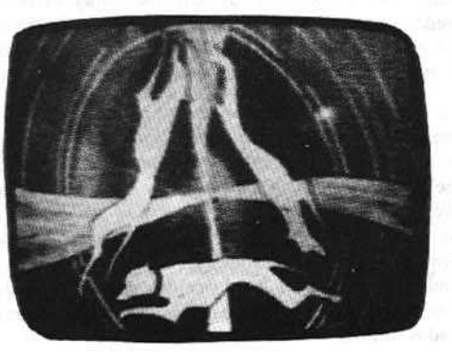
3. TRUCKSTOP. Production crew: Charles Lord Jr.; William D. Hurr; Hudson B. Marquez; Curtis Schreirer; Douglas D. Michels. Running time: 15 minutes. Video Camera: Sony Portapak. Video Tape: ½" Sony. Distributor: Ant Farm Video, 994 Union St., San Francisco, CA 94133. Sale price: $60.00. Apply for Rental.

We spent three months building the media van and the life support system, now we have been on the road for two months. We are on the road back. We have only one portapak but (on portapak support systems) it has been adequate. At first we developed a style of editing in-process—that is, making judgement on tape we had already shot, and recording over slow parts. In the South and Midwest there were no support systems. Indeed the process was alien to almost everyone. In Syracuse and New York we found editing equipment and changed our style. Now we keep all original tapes in a data bank and make edited composites from this.

Our tapes are a mix of our own bus trip; weird shit along the side of the road; survival mode stuff such as building Yurts, unknown talent and rural American commercial television. We were looking for people who had taken control of their immediate environment, especially older enviro-weirdos.

4. EL GATO Y EL RATON. Credits: Audrey Smith; Alice J. Dunlop; Carolyn Nuanez. Running time: 12 minutes. Sony Videocorder. ½" Video Tape. Distributor: Contact—Rodolfo G. Serrano, The University of New Mexico, College of Education, Dept. of Educational Foundations, Albuquerque, New Mexico 87106. For Sale or Rental, apply.

This tape can best be described as one that attempts to "capture" the games that Mexican American migrant children play on the school grounds. The games that are played on the school grounds as shown in this tape, are those games that Mexican American migrant children play during unstructured class time. Efforts were made to trace the games to Spain and the efforts proved successful.



"FOR IMMEDIATE RELEASE"
CONFERENCE ON VISUAL ANTHROPOLOGY

Temple University will hold its sixth Annual Conference on Visual Anthropology (formerly called Anthropological and Documentary Film Conference) on March 7-10, 1973. The Conference seeks to bring together people interested in the use and analysis of Behavioral Recording Media, including still and motion picture film, videotape and sound tape, for the portrayal of the human condition.

The Directors of the Conference invite participation in the following categories:

1) *Motion Picture Film*—**Standard & Super 8mm (sound or silent), 16mm (silent, magnetic or optical). Submission Deadline is Nov. 6, 1972. Write for an application form. Five to ten minute films will be given special consideration. We anticipate a large variety of films, but short ones can be more readily included in the program. Do not send your film. We will contact you after reading your application.**

2) *Still Picture Exhibits*—**Send a short description (250 words or less) with one sample photo. Pictures larger than 11" x 14" cannot be considered. Deadline for submission is Nov. 6, 1972.**

3) *Videotape*—**We will consider 1/2", 1", and 2" Helical Scan and Quadraflex Lowband. Write for an application form. Deadline for submission is Nov. 6, 1972. Do not send your tape. We will contact you after reading your application.**

4) *Papers, Symposia & Workshops*—**We will consider any subjects in these categories as long as they relate to visual media and the Social Sciences. Abstracts should be 250 words or less. The Deadline for submission is December 4, 1972.**

NOTE: This is not a competition. No prizes will be awarded, although we will try, within the limits of a small budget, to partially defray the costs of transportation and living expenses of people who we invite to the conference.

If you wish further information, please contact, Jay Ruby, COVA, Room 200, South Hall, Temple University, Philadelphia, Pa. 19122.

Proposal for Mini TV Broadcasting Station

NORTHWEST

Dear Sirs:

The Indian Brotherhood of the Northwest Territories is planning to start a video tape recording unit to work on programming with native people in isolated settlements in the Northwest Territories. . .

Mini T.V. Station
I'm enclosing some material on information on a proposal by Mr. Dick Hill of Inuvik to place mini T.V. transmitters in small settlements that are not reached by television now.

At present, the small settlements have to rely on monitors and playback units to view T.V., and, if there could be a mini T.V. transmitter in each settlement it would give many people access to television programming instead of forcing everybody to come to one central spot at a certain time to view tapes. The mini T.V. station would mean that only one playback unit would be necessary in each community. . .

Yours truly,

Brian Thompson,
Communications Consultant.

PROPOSAL FOR MINI-TV BROADCASTING STATION FOR REMOTE SETTLEMENTS

Small self-contained TV broadcasting stations are proposed for installation in northern communities to facilitate communication, stimulate cultural development and encourage interval and inter-community involvement. The mini-TV stations have the advantages of low cost and simplicity. Also by virtue of remoteness and low power these stations would be free of the complexities of channel allotment and interference.

The mini-TV units are made up of a standard broadcasting unit costing $2,000 with an input from a video player, camera and microphone, or microwave relay. Back up equipment of the Sony ½" format would include a camera, video-recorder, and miscellaneous gear costing around $2,500. The system has an effective FM radio broadcast which can be used independently with a bonus of the video picture. Allowing $500 for installation and training the total package amounts to $5,000 per unit.

Probably the mini-TV stations would be operated by volunteer local groups to optimize community involvement. Effective communication would be encouraged ahead of demands for fixed broadcast hours or quality of technical presentation. The mini-TV stations could operate independently or be part of a mini-TV network. The format of the Alberta Native Communications Society is suggested as this group operates independently but has representation from all social and ethnic groups. With a mini-TV network programs can be bicycled and repairs facilitated by the direct exchange of faulty components.

A demonstration Mini-TV unit is now underway under the authority of the Alaska Educational Broadcasting Commission. This demonstration is being carried out by the University of Alaska's Division of Media Services utilizing the small village of Anatuvuk Pass as the test site.

It is proposed that a similar demonstration unit be set up in the Canadian North. The facilities of the Mackenzie Institute in Inuvik are available for this demonstration. Since the Mackenzie Institute has a complete Sony ½" TV production studio, there is a close association with the Inuvik CBC station, and as most Inuvik residents have TV receivers, the mechanics of operating a demonstration are simple and relatively inexpensive.

The Mackenzie Institute has been operating in Inuvik since 1967 along the lines of a community college and has been active in educational television since 1969.

The minimum cost of a mini-TV demonstration would be $2,500 to cover the cost of purchasing a 10-watt TV/FM broadcast unit plus $500 for travel, supplies, videotapes and the production of a report. If additional funds are available it is suggested that a local student or group of students be hired through the coming summer to staff the mini-TV demonstration. A further $1,000-$2,000 would be required for this aspect.

Richard M. Hill

For information on how the program is progressing write to: Brian Thompson, Indian Brotherhood of the Northwest Territories, P.O. Box 2338, Yellowknife, N.W.T.

Video Birth

While in Mexico last winter a birth took place. Our friends, Sandy and Linda were in Progreso, Yucatan, awaiting the delivery of their first child, and we raced to meet the arrival, video gear at hand.

We made it in time (in fact, we had to wait two weeks before the event took place). At 4 PM on the day Linda went into labor, I set up a strong flood light above the hammock (she was to deliver in pure Mayan style, with a hammock, and a local midwife . . . sans drugs, and with all the energy befitting a first delivery), plugged in the Portapak, and checked the scene in the viewfinder.

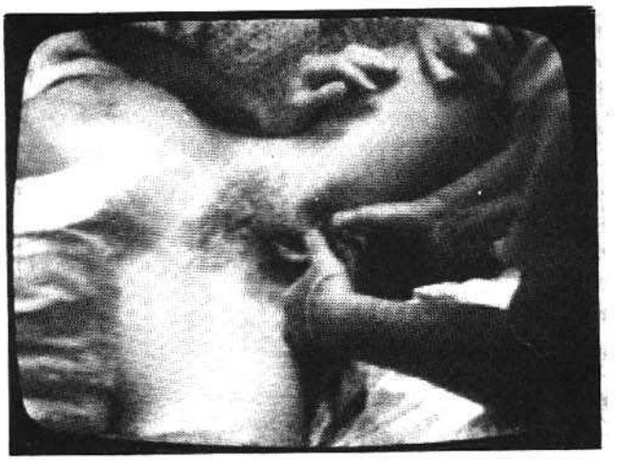
For about two hours things progressed slowly, and smoothly. I raced around, going back to our nearby house to have a bite of supper and to get Colleen to assist in the delivery. By about six o'clock, things looked interesting, and I began taping short bits of the labor. Contractions increased in strength and frequency, and the midwife checked Linda for signs of imminent delivery.

Little by little the event drew closer. Linda was nervous and anxious. The bright light was bothering her, so it was shut off except when the camera was rolling. I was concerned about interfering with the flow, the camera becoming just another item to worry the expectant mother.

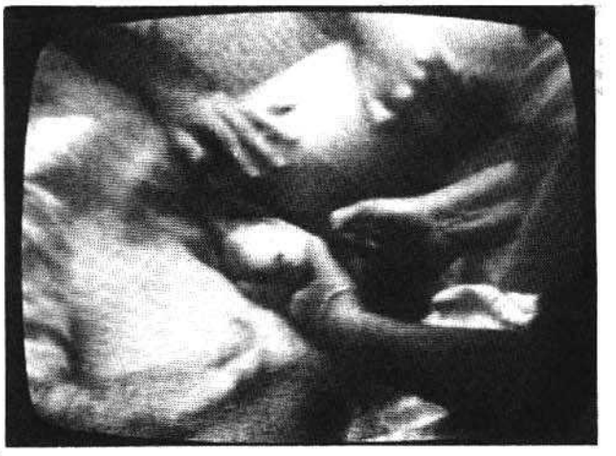
By 8:00, the labor was well progressed, and I had shot about 10 minutes of tape, condensing the long hours into a brief sketch of the events. Things then began to pick up rapidly. The water broke, and Linda was well along. As the time came closer, she became more nervous and I became more concerned about the taping being a hindrance in the delivery. The Mayan midwife, however, was cooled out about the whole thing, having delivered some 2000 babies in fifteen years without a major problem.

Both Sandy and Linda kept saying they wanted the tape to be shot, so I stuck with it. It was the chance I had been after for a long time. Two years earlier, I had tried to get hospital permission to film my son Zachary's birth, but had been denied permission. (As it turned out, the delivery had to be by Caesarean section, and a film of surgery was completely verboten.)

By 10 PM the pace was frantic. I was shooting with each contraction. Linda was working hard at getting the baby out, and her muscles pushed the infant closer and closer to the delivery point. I was poised with camera in hand, pointing at the emerging head. There was no slick hospital procedures or pulled up white sheets to block the important scene from my view. It was happening right out front.



1



2

3

photos: Tobe Carey

Push by push the baby moved out, and the tape got it all . . . the hard work, the stretching agony of the baby's head against Linda's vaginal walls, the excitement of the onlookers and helpers trying to urge the baby out.

Then, all in a rush, the head popped out, and the pressure lessened on Linda. The midwife aided the rest of the way, and a healthy baby girl was born. It was a moment of joy felt around the room. Linda lay back, exhausted and nerve wracked . . . too tired to move. It would be a few hours before she was able to hold her child. Cutting the umbilical cord and

4

5

pushing out the placenta came next, and signaled the end of the delivery itself. What remained was for the baby girl to be looked at, admired and cooed over, while Linda was treated for her exhaustion and slight shock. The midwife attended to it all, professional and competent, while we enjoyed the delightful little bundle.

Now, months later, whenever the tape is viewed, it still gives me a rush. I find myself pushing along with Linda, trying to get that all important head out into the open. I've been told by many that the tape constitutes their only real information about birth. It's important stuff to know . . . and regardless of the heavy moments involved in this particular delivery, it can go a long way towards opening all those closed minds and secret doors about the origin of life.

The tape was shot in February, 1972. By July, I had shown it a number of times throughout the local area, and had received a warm reception everywhere. People seemed to feel it was an important tape, one which clearly showed the process of birth.

With that in mind, I designed a show for Kingston Cablevision, which would include the delivery sequence from the birth tape, along with hard facts and information about giving birth in the Kingston area.

The doctor and nurse who appeared on the show were both very involved with promoting Lamaze childbirth methods. They spoke clearly and effectively about the attributes of the Lamaze method, and I assembled their talk along with the birth sequence.

Now, I knew that the birth itself was not an example of a 'good' Lamaze delivery. The woman was not happy and smiling, and was not without distress. I felt it was important to have a disclaimer in the tape, absolving the doctor and nurse of any relationship with the actual birth, and stating that the birth sequence was not meant to depict Lamaze methods. I thought the disclaimer was clear and forthright. It proceeded the birth sequence, and also gave anyone viewing adequate time to switch the channel away from the "sensitive" material to follow.

Little did I know that the audience (or at least a part of it) would be unable to make the distinction between talking about Lamaze as a method of childbirth, and showing a childbirth that was clearly stated to not be a Lamaze delivery. The viewers connected the pieces for themselves, and both local doctors and pregnant women called the doctor who appeared on the show, complaining to him about the strong birth they had witnessed on their living room screens. Many women were afraid that this would be the situation they would meet in labor and delivery.

The doctor called me, and told me what had transpired. Since the show was scheduled to be repeated the following week, he asked that the part in which he appeared be separated from the part showing the birth. He was under great pressure from his colleagues and patients. They were taking the delivery sequence as an example of Lamaze; an example that he felt was harming the cause.

So I agreed to separate the sequences, and to show only the informational part, leaving the childbirth for another time. Indeed, in my mind that was the most vital part of the show, the part that really 'explains' what childbirth *can* be like. So, the key is to now develop a format in which that footage can be used without fear of misinterpretation by the audience.

Maybe I'll cut it with the sequence I recently shot of a cat giving birth to two kittens. Maybe I'll just show the human birth by itself, with a statement by the mother on the front. What is obvious is the lack of hard information most humans have about the process which brought them into the world, and the importance of having readily available this and other video material on giving birth.

Tobe Carey

Giving Birth: A 30 minute tape showing a live childbirth shot in the Yucatan, Mexico in February 1972. All the pressure and reality of giving birth are depicted—no punches pulled—very dramatic. $28 for tape + the information. $15 if you provide the tape. For more information contact: Tobe Carey, True Light Beavers, Willow, N.Y.

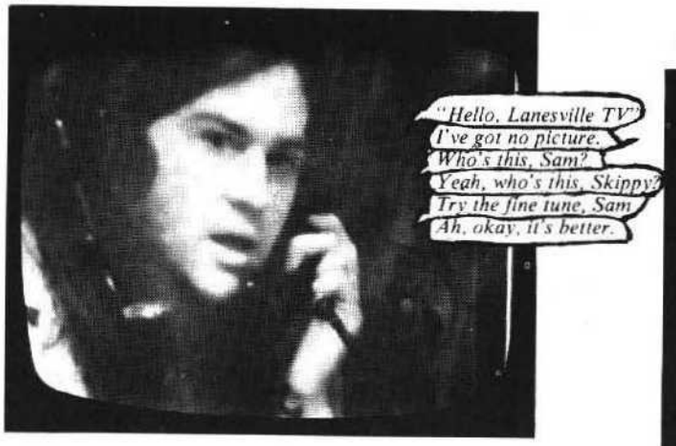
LANESVILLE TELEVISION

CHANNEL 3

Maple Tree Farm
Lanesville, N.Y. 12450

SUNDAY NITE AT 8:30 PM

6



7

8

9

10

11

photos: Buckaroo Bart and Annie

HAPPY TRAILS

Pilchuk Proposal

Ten years ago glass blowing schools in this country were non-existent. Now there are over sixty. For the first time in history glass has broken away from the traditional needs of the consumer and his factories. In the summer of 1970, Ruth Tamura and I began planning for a glass center that would have a rotating faculty representing the various new approaches and attitudes towards glass. It was time to provide an atmosphere where people could get together to discuss and explore these new ideas. From the beginning we wanted to be located in an isolated setting, feeling that such an environment would be conducive to concentration and total involvement. When Mr. and Mrs. John Hauberg learned of our search for property, they offered us the use of their Tree Farm fifty miles north of Seattle overlooking Puget Sound. The result is Pilchuck, a glass blowing center in the foothills of the Cascade Mountains.

With the sanction and aid of the Union of Independent Colleges of Art (UICA), two other teachers and I, along with sixteen students from throughout the United States, started building Pilchuck on June 1, 1971. Sixteen days later we finished the shop, lit the furnaces and started blowing glass in one of the most ideal situations we could hope for.

Pilchuck was a total educational experience, functioning on the premise that the way people live, learn, cook, eat, and relate to each other is all part of how they express themselves—their art. The faculty used this environment to encourage students to design their own program and direction, and to open themselves to new demands on their imagination and intuition. Everyone built their own shelter and prepared their own food. When they woke up in the woods, started a fire and cooked breakfast, they had a lot more energy and confidence for the day than they would waking up in a dormitory and standing in line in a cafeteria.

One must have this confidence and energy to become totally involved in the nature of glass and its complex processes, as in any highly disciplined skill. Students quickly learned to take care of themselves in the woods, and gained the confidence to become completely in tune with glass. They were relaxed and absorbed, the two most important prerequisites for learning how to handle the molten material.

Probably the most satisfying aspect of the eight week program was the obvious skill and spirit that almost everyone displayed in an exhibition we held in a Seattle gallery, where we raised $800 towards our $2,900 deficit. Equally encouraging was the hope and enthusiasm young people have when given an educational atmosphere that allows them the opportunity to express themselves fully without the usual distractions and restrictions of our overcrowded and confusing cities and their highly structured schools.

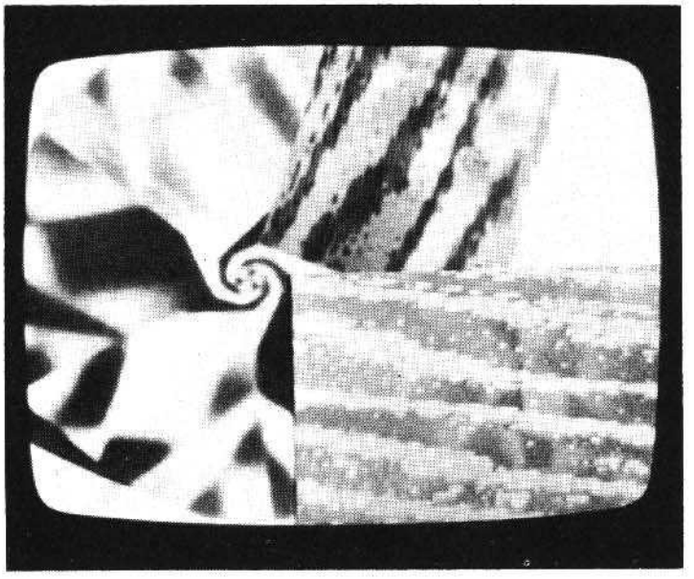
Our conclusion at the end of the summer was that a workshop such as Pilchuck offers students an alternative that complements rather than competes with the normal art school curriculum, giving them a truly broadening educational experience. After Pilchuck we returned to our own home institutions with new energy and purpose, encouraged in our hopes for an expanded program for the second summer.

This summer at Pilchuck we wanted to make available to thirty students an enlarged glass shop with additional new facilities and an expanded program. Many glass blowers, myself included, have been incorporating the use of different types of audio-visual hardware to illustrate certain glass phenomena that would be impossible to exhibit otherwise. As an example: *three out of the twelve glass blowers chosen to exhibit at the First International Glass Symposium in Zurich this June (myself included) are using video TV equipment to illustrate certain aspects of their work.* Others will be employing the use of projectors and films to inform the public about techniques and to illustrate work that might have been too fragile to transport. Because of this fragility of glass and its newly discovered sculptural possibilities, many of us are executing projects that are designed primarily to be recorded and exhibited with audio-visual equipment. After the piece has been recorded it is often left on location because of its fragility or impossibility to transport—the only record of the work being the video tape, slides, and films to be distributed to museums and galleries.

Employing this audio-visual equipment obviously allows a much greater freedom in our collective search for new forms and techniques. As a complement to the glass shop this summer, therefore, we are initiating a media shop which will include film, sound, photography, and video equipment, and will be under the direction of Lewis Simpson. The expanding possibilities in glass, and the growing interest in the potential of audio-visual hardware, will create an exciting relationship.

The audio-visual equipment with its communication possibilities will provide us with many other important services. *In order for Pilchuck to function as a Glass Center representing the various attitudes and ideas from this country and abroad, it will be necessary and important to document the numerous rotating and visiting faculty. We will make complete audio-visual records of the summer, containing all the discussions, material sources, technical information, ideas, experiments, and other information which we will then make available in the form of film, video, and slide kits to interested schools, companies and individuals in this country and abroad.*

For information on how things progressed this past summer; how to obtain the videotapes made there; or how to apply for next year's program write to: Dale Chihuly, Pilchuck Project Director, Rhode Island School of Design, 2 College Street, Providence, R.I. 02903.



Video Directory

In issue 5, volume 1 of *Radical Software* the video directory included as complete a listing as possible of all the people we knew working with ½" videotape. The following is a continuation of that directory with a brief synopsis wherever possible of the type of work particular groups or individuals are doing and the equipment available to them.

In this issue we did not include a separate data bank section. Therefore, wherever you see an *asterisk* * next to the name of a group or individual we have included their present tape offerings, or a description of the *kinds* of tapes they're offering, and/or special announcements they wished to make. Where groups or individuals have articles in other parts of the paper the tape offerings are listed there.

If you are not included in this directory or the one in issue 5, though you submitted the appropriate information to us, or if you've never written to us, or if your listing is incorrect or needs additions, please fill out the form below and return to us.

Michael Goldberg of the *Video Exchange Directory* pointed out to us that our list in the past had functioned primarily as one-way access, while Intermedia's was designed for a two-way *communication.* Thus as we announced in *Radical Software* #5, volume 1, in addition to feeding back to *Radical Software* (c/o Box 135, Ruby, N.Y. 12475) it would be helpful if you returned a xerox of the form to *Video Exchange Directory* c/o Vancouver Art Gallery, 1145 West Georgia, Vancouver,5 British Columbia, Canada).

PLEASE PRINT - EN LETTRES MOULEES, S.V.P.

Name
Nom

Address
Adresse

AREA CODE
Tél. ( )

Equipment at your disposal **Equipement à votre disposition**	**VTR use/interest** **Usage/intérêt vidéo**
½"	
1"	
	CORRECTION OF LISTING ☐ ADD MY LISTING ☐

ALASKA

***Michael Fisher**
c/o Nome Public Schools
Box 131
Nome, Alaska 99762
Is working with Eskimo elementary and secondary school children in the position of dramatic arts coordinator. *Has ½" equipment and would like very much to start a tape exchange between Eskimo students and other young people. Has a demonstration tape showing the type of material he'd like to see exchanged.

CALIFORNIA

***Coelho Video**
424 Francisco Street
San Francisco, Calif. 94133
Makes 1" and ½" tapes ranging from art to documentary; is building a woodshop and machine shop to construct everything the group may need: i.e. special tripods and hoists, their own sound studio, complete mobile unit, a foundry to cast the floating heads necessary for their tripods and parts for special dolly system and mobile equipment, etc. to go into two domes with studio between them on Mt. Tamalpais. *Have a great deal of tape and say that groups and individuals with production ideas may submit an outline of proposed tape project and may have it executed without cost.

Community Sponsored Alternate Television Station
John Broholm
P.O. Box 7849
Stanford, Calif. 94305
A group looking to set-up a community based alternate tv station; working with Committee for Open Media in Stanford and other media groups throughout Bay area. Looking for new perspectives towards the medium, not only from programming standpoint, but managerial, economic, legalistic. Need advice, feedback, from other groups and individuals involved in similar undertakings.

Reconnaissance Project
College of Environmental Design
Dept. of Architecture
Berkeley, Calif.
Attn: Joe Cucchiara
Through travel to Europe and other parts of the world, in cooperation with other architecture people at Univ. of Minnesota, the idea is to gather tapes of concern and interest to people in environmental design as a first step towards establishing a tape exchange network in this field.

Video Sources of Marin
1615 Bridgeway
Sausalito, Calif. 94965
Tel: 415-332-6848
Are interested in all facets of video production, e.g., entertainment, education, information, therapy, and post-production. They sell, rent, supply and service equipment and instruct their clients and associates through workshops in the use of video. Have six Sony AV 3400's, three Sony AV 3650's, two Sony SEG-2's, and assorted sound and film equipment. Also have access to one and two inch recording and editing facilities, and two inch color studio availability.

CONNECTICUT

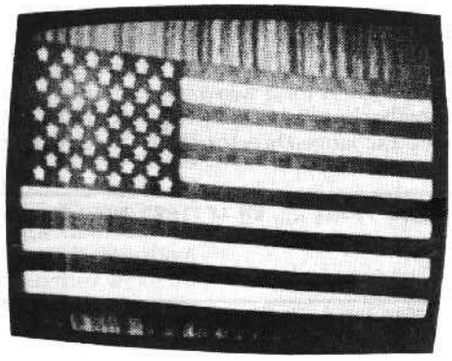
Philip Bowles
19 Hillside Ave.
Woodmont, Conn.
Has access to ½", 1" and 2" Sony equipment through Yale University.

HAWAII

***Father Palani**
Wailua University of Contemplative Arts
Kapaa on the Garden Island
Hawaii
Each of the nine schools with Wailua is concerned with a different aspect of inner life, and together they encompass contemplative New Age living: yoga, meditation . . . There are AV3400 video systems installed at its campuses in Hawaii, San Francisco, Virginia City, Nevada and Alaveddy, Ceylon. *They've made tapes of meditation, hikes into the interior of their island, lectures by their Guru, Master Subramuniya . . .

ILLINOIS

Richard Hoppe
RR#2 Box 50
Winnebago, Illinois 61088
Tel: 815-335-2746



Runs a video studio for a local community mental health center where there's Ampex 1" 7500vtr, Panasonic ½" 3130vtr, grass valley proc. amp, gen lock, EIA broadcast sync gen (for all those who still say ½" time based sync won't work over cable on some home receivers). Also, 2 GBC cameras, mikes, mixers and Ampex AC 125 production center. It's a real institutional hardware trip . . . Is presently spending much time in Champaign trying to help prevent a cable rip-off. Will be locating there but hopes meanwhile to get a sympathetic person to take his job at center so people still have access to hardware. Personally he owns Sony portapak and accessories.

John F. Moormann, Jr.
Director—TV Programming and Production
Southern Illinois University
Edwardsville, Ill. 62025
Working to encourage tape exchanges between universities through college unions.

***Positorium Inc.**
M.J. Vilardi
466 Main Street
Glen Ellyn, Ill. 60137
Now using ½" CV equipment as educational and therapeutic tool in schools for emotionally disturbed adolescents. Hopes to produce training and idea tapes to spread concept of using young, specially trained para-professionals in the mental health field. *Badly needs either more CV equipment (especially portable or with editing capacity). Positorium is non-profit, tax exempt, state licensed and in need of hardware contributions.

INDIANA

Interface Video
Stephen Duplantier and Roger Ishkan
P.O. Box 1122
Bloomington, Indiana
. . . Into community access video in conjunction with a local cable franchise. Interests do not stop at community access; ultimate goals are derivation of a general system-theoretic scheme of socio-cultural behavior. Theoretic input includes E.S. Maccia, Magorah Maruyama, L. von Bertalanffy, etc. Video as tool of praxiological exploration. Have 2 ½" Sony portapaks and a mobile van with portable 1" cameras, monitors and switching board.

***Stephen Duplantier**
Video Rangers
507 Redbud Hill Apts.
Bloomington, Indiana 47401
May edit future issue of *RS* on general system theory and video. Has been working with Elizabeth Maccia (at Indiana University) who has developed the most comprehensive and integral elaboration of general system theory for application to social systems. Her theory needs field testing which is what Interface Video and/or Video Rangers is into. *Might also be what other people are into, so: A CALL FOR PAPERS, FIELD NOTES, HYPOTHESES AND HUNCHES IN THE AREAS OF GENERAL SYSTEM THEORY, VIDEO PRAXIS AND MACRO-SOCIAL THEORY for future *RS*.

IOWA

David Sundance
Route 4
Iowa City, Iowa 52240
Co-ordinating a course: "video as a tool for self-investigation"; also, as it relates to primal oral traditions. Previous work with conceptual art and with pre-schoolers. Have ½" Shibaden through A-V dept. —Univ. of Iowa.

KENTUCKY

Steve Edwins
College of Architecture and/or School of Telecommunications
University of Kentucky
Lexington, Kentucky
Tel: 502-258-5376
Uses video mostly to make it available for developing communications community. Teaches VTR class and works VTR into architectural studio work. Is also intimately connected with Appalshop (Appalachian Film Workshop, Whitesburg, Ky.).

Stuart Robertson
College of Architecture
University of Kentucky
Lexington, Kentucky 40506
Tel: 502-257-2610
Is one of a growing number of architects into exploring new communication forms and examining the link between structural and humanistic forms. Has Sony Rover and access to compatible Panasonic ½" editing and studio mixing.

MAINE

Rick Holicky
P.O. Box 4133
Portland, Maine 04101
Has a portapak.

ImMediArts Inc.
Box 283
Bar Mills, Maine 04004
Working with kids with ½" equipment towards immediate information media school community process. . . .

MASSACHUSETTS

***Vietnam Veterans Against the War**
67 Winthrop Street
Cambridge, Mass. 02138
or
Earthlight Video
Tel: 617-876-1807
*Have available a series of ½" tapes of pilots, navigators, intelligence personnel, infantrymen, doctors, Asian scholars, drug addicts, jobless vets testifying on the Vietnam air war, electronic battlefield, herbicides . . .

Bill Roberts
Sassi Preparatory School
P.O. Box 2231
Springfield, Mass. 01101
Tel: 413-734-4417
Uses ½" equipment as video coordinator of a school for inner-city drop-outs aged 16 and up.

MICHIGAN

Richard Heldmann
Thomas Jefferson College
Allendale, Mich. 49401
Using ¼" Akai equipment very happily. Getting good, clean edits and high resolution. "Akai editing is flawless, except that the weight of 1½ hour 10½" reels slows sync speed down, but we've cablecast edited tapes with no problems. Portapak to editing deck resolution/clarity/fidelity *does not* degenerate. We've made our own Akai patch plugs which we will give away to anyone using AKAI . . . Developing a system of body kinesics to reduce "portapak shoulder", "trigger finger cramp", "video squint", etc.

MINNESOTA

Built Environment Communication Center
Brian Smith
110 Architecture School
Univ. of Minnesota
Minneapolis, Minn. 55455
Tel: 612-373-2198
Are using ½" video to expand architecture students' concepts of environmental design, and to help initiate a tape exchange network along these lines (see Reconnaissance Project, Berkeley, Calif.).

Thomas Drysdale
Minneapolis College of Art and Design
200 East 25th Street
Minneapolis, Minn. 55404
Tel: 612-339-8905 Ext. 282
Have Sony 3600, 3650, 5000A, SEG 1, cameras, portapak. Also 1" black and white Ampex.

North County Video Center
Bruce Doepke
1078 11th Ave. S.E.
Minneapolis, Minn. 55414
Tel: 612-331-2279
Are into production of a kids show using ½" equipment, and being a resource center for video artists.

***Video Theatre**
Brian Lee and Bill Tifft
2624 30th Ave. So.
Minneapolis, Minn. 55406
Tel: 612-722-1652
Opening a theatre which aims to introduce people to ½" video, and to its potentialities, as well as being a place where tapes can be shown and produced. *So far tapes have been made of encounter groups, dance classes, yoga classes, theatre classes, and of local people and events. Equipment includes two AV portapaks, 11" monitor, extra mics, 4

antique TV sets . . .

West Bank Union
Video Access Center
Attn: Miles Mogulescu
110 Anderson Hall
University of Minnesota
Minneapolis, Minn. 55455
Tel: 373-9838
A new group working to make video equipment and information available to student and community groups and agitating around the cable franchising process. Working closely with Minneapolis Community Video Center. Would like to enter into tape exchanges with people by providing blank tape to have information dubbed onto at no cost or minimal cost since at this point they have small budget to begin operation.
Presently, have two portapaks and a 3650.

West Bank Union
Jim Nelson or Gary Grefenburg
110 Anderson Hall
University of Minnesota
Minneapolis, Minn. 55455
Tel: 612-373-4658
Establishing a video access and cable tv information center for students at Univ. of Minn.

NEW JERSEY

Barrier Breaking Inc.
Peter Malcolm, Pres.
60 Prospect Ave.
Montclair, N.J. 07042
Tel: 201-746-1890
Making tapes of Newark, N.J. community environment, and helping coordinate Newark business leaders' social efforts through use of 35mm and ½" Sony. Hopes to use fees to acquire free equipment and studio to train community toward producing for public access CATV.

Urban Communications Teaching and Research Center
Barry Orton
Dept. of Community Development
Livingston College
New Brunswick, N.J. 08903
Tel: 201-932-4009
Using ½" Sony to do work in community communications, environmental documentation, CATV access, communications planning.

NEW YORK

AEF Video Software Inc.
Alan Miller and Douglas White
P.O. Box 182 Planetarium Station
N.Y., N.Y. 10024
Tel: 212-799-8126 or 874-4722
Origination and articulation of new directions and alternative futures within the educational process. Presently producing "Profiles of Architects" series. The first is on John Johansen.

Ronald C. Bowman
Director, Educational Communications Center
c/o State Maritime College
Fort Schuyler
Bronx, N.Y. 10465
Tel: 212-892-3000, Ext. 341
Make instructional videotape of a primarily technical nature plus shipboard utilization of videotape.
Have ½" Sony AV 3400 and 3600.

Captain Video
Seven North Front Street
New Paltz, N.Y. 12561
Tel: 914-255-1278
Tapes about a lot of things: the new technology (domes, polyurethane foam) the old technology (how to make maple syrup, seventy eight year olds into organic gardening, etc.). Have mucho software. Has ½" Sony AV and CV.

Sam Kanter
333 East 34th St.
N.Y., N.Y. 10016
Tel: 212-889-2492
Has ½" Sony and is working at Lincoln Hospital in the Bronx.

***Steven Kolpan**
Seven North Front Street
New Paltz, N.Y. 12561
Tel: 914-255-1278
Experimenting with video feedback, video distortion, oscilloscope images, and audio experiments. Also, taping people. *(For tape listing in this issue see Cable section.) Has ½" Sony AV series.

Meatball (Westside Software)
Tom Bigornia
243 Riverside Drive #804
New York, N.Y. 10025
Tel: 212-865-4679
Into establishing community viewing centers, consultant work and training people in the use of the equipment. Also do work on scripted and documentary material. Have ½" portable Sony pack and editing equipment and access to 1".

Media Associates
Peter Weiner and Jim Tick
RFD Hanover St.
Yorktown Heights, N.Y.
Tel: 914-YO2-4761
Interest is in documenting lifestyles of people the general public is aware of but not familiar with e.g. craftsmen (glass blowers, potters, dome builders), cops, videopeople, etc. Also, have worked with people teaching them to use the equipment. Presently, trying to get tapes onto cable. Have 2 portapaks, 1 Sony 5000a, 2 Panasonic 3130 vtr's, 1 Panasonic 3150. Also, 1" Ampex, 2 studio cameras, audio mixer, switcher/fader, special effects generator.

Metropolitan Training Institute for Drug Abuse Treatment
Alan Miller
154-27 Horace Harding Expwy.
Queens, N.Y. 11367
Tel: 212-939-8883
Development and use of video in counselor training including: feedback experiments, program designs for training. Have Sony ½" portapak, AV3600, AV3650, studio camera, monitors, SEG-2.

New York Public Library
Fifth Ave. at 42nd St. Room 103
New York, N.Y. 10018
Tel: 212-790-6466
Ten weekly sessions for teenagers from H.S. of Art and Design, H.S. of Music and Art, Forest Hills High, Trinity School, Rhodes School, I.S. 70 in the use of ½" video sponsored by Library's Office of Young Adult Activities and the NYPL Film Library. Funding is made possible through NYSCA.

Osis Film Inc.
645 West End Ave.
New York, N.Y. 10025
Tel: 212-874-6933 or LO5-2081
Have ½" equipment.

***Portable Channel**
308 Park Ave.
Rochester, N.Y. 14607
Tel: 716-244-1259
Operating an equipment pool which services artists, photographers, students, community groups, it trains people in the use and potentialities of the equipment. Is currently presenting a series of tapes on the public access channels in N.Y.—both on Teleprompter and Sterling Manhattan. Its data bank of ½" tapes is impressive and they can be written to for a copy of their tape log. *Its range of material is broad and extensive: it covers entertainment and music, local culture, education, politics and social action (farm workers' meeting, Shirley Chisholm in Rochester, 3 Attica Inmates, Thomas: Merton: The Truth about Reform, etc.), Women, Health, Video, Cable and the Medium, etc. etc.

Port Washington Public Library
Walter A. Dale-project director
Port Washington, N.Y.
Tel: 516-883-4400 Ext. 45
Developing vtr as a citizen production access center within the institution of the library. Emphasis is on people: programs by, for and of people. Have 2 Sony portapaks, and AV3600 and 3650 editing and playback decks.

Queer Blue Light—Gay Revolution Video
P.O. Box 410
Old Chelsea Station
New York, N.Y. 10011
Tel: 212-875-5997 or 875-6273
Are an all gay group working with other gay people to explore through video what it means to be gay, to capture some of the reflections of our life-style which we can share with the gay community. Have Sony ½" equipment.

***New Address:**
Richard Rubinstein
c/o The Ultimate Mirror, Ltd.
127 West 79th St.
New York, N.Y. 10024
*Has completed a 15-minute short subject, "The Thing About Sculpture," the first of a series of programs about American artists living abroad. Program shot on ½" video at the artist's home on an Island

of the Balearic Group (off the coast of Spain), providing a unique look into the creative process of a particularly gifted sculptor. Originally shot on ½" AV Rover and transferred to highband 2" for editing. Low band dubs also available (½" AV).

Serafini Electronics Co.
P.O. Box 404 (154 West Hoffman Ave.)
Lindenhurst, N.Y. 11757
Tel: 516-842-9043
They are going into ½" sales and service. Interested in Europeans working in alternate television.

***New Address and Name**
Survival Arts Media
595 Broadway
New York, N.Y. 10012
Tel: 212-966-6530
*Formerly, Peoples' Video Theatre. See Cable section for article on *public access experiment.*

***True Light Beavers**
c/o Tobe Carey
Willow, N.Y.
Have begun a community school outside of Woodstock where they have used ½" videotape in workshops with young children. Also, have tapes of a recent trip to Mexico where they took children from the school. Tapes include archaeological information. In addition, as a collective venture they have written a cookbook called *Feast,* published by Doubleday and out in bookstores in late October. Recipes from *everywhere.* First eclectic cookbook of the new consciousness and with some interesting additions: tips on feeding an infant, tips for vegetarian survival, raising chickens and chicken recipes, berry picking, meat cutting for the beginner, fasting and some short stories. *See video experimentation section for article on child birth tape and information on its availability. Have ½" Sony Portapak and Panasonic 3130 editing deck.

Videofile
Jim Gallo
203 East 27th St.
New York, N.Y. 10016
Tel: 212-OR9-4937
Produces documentaries independently and for business; also theatre productions; and educational. Has Sony AV 3650 and Sony studio cameras. Also on occasion uses an Akai ¼" portapak which he's found to be very reliable.

West Side Video
c/o Film Forum
256 West 88 Street
New York, N.Y. 10024
Just beginning. Want to serve the greater West Side Community and to initiate own program for Channel "C" public access CATV.

***Women's Video Collective**
152 West 76th St.
New York, N.Y.
Tel: 212-362-4164 or LT1-6470
Group formed with grant from NYSCA to use video as a process tool in men's and women's consciousness raising groups. Have started series of tapes on women's health. Tapes available are "May Wilson: Portrait of an Artist", "Women on Sex"—a discussion, and "Gynecological Examination." Have Sony portapak.

***Women's Video News Service**
same address as above
Coalition of women working in video. First project was to cover women involved in the Democratic Convention. Write or call for information on how to get the tape.

Woodstock Center for Religion and Worship
475 Riverside Drive
New York, N.Y. 10027
Tel: 212-866-7646
Street taping; classroom use; study of theatre, dance, play as applicable to new forms of worship. Have 3400 Rover, 3650 editing deck and 2 monitors.

OHIO

Howard R. Banchek
171 West Maynard 4-A
Columbus, Ohio 43202
Is into Medical Communications. Plans to visit hospitals in different parts of the country and record a. patient education classes, b. medical and paramedical training sessions, c. community involvement (especially in rural communities), and d. community hospital feedback.

PENNSYLVANIA

Diagnostic and Rehabilitation Center
Emilio Tappan
109 Arch St.
Philadelphia, Pa. 19106
Tel: 215-WA5-3909
Taping of drug or alcohol group therapy. Have Sony AV3650, 3600, camera, shintron special effects generator and monitor.

University Television
c/o A-V Dept.
Bucknell University
Lewisburg, Pa. 17837
Formal grouping of students, staff, professors and local community folk. Have been using video with groups for feedback and off-air taping. Recently been making tapes for art exhibits, student government and publicity to get funds. Exchanges welcomed. Have ½" porta-pak, 3650, and other studio equipment. Also 1"

RHODE ISLAND

Buz and Dale TV
21 Hobart Ave.
Providence, R.I. 02906
Using ½" equipment and conducting video workshops in conjunction with the Pilchuk School (see article in issue).

Meta Ltd.
The Institute for Art Research
432 Morris Avenue
Providence, Rhode Island 02906
Film, video, performance, media research, educational consulting.

TENNESSEE
F. Randall Hill
Church Architecture Dept.
Sunday School Board of the Southern Baptist Convention
127 Ninth Ave.
Nashville, Tennessee 37203
Disseminating the uses and potentialities of ½" video to other churches and suggesting the following applications: taping church services, teacher training programs, connecting entire educational building with closed circuit tv for devotions, films, announcements, awards, songs, etc., recording church history, taping youth events, training the choir, in "baby picture surprise" banquet programs and other fellowship events, etc.

Mike Tolleson
525 Barton Springs Road
Austin, Texas
Tel: 512-477-0146
Has access to Sony CV and AV ½" equipment.

WASHINGTON

Don Jensen
W. 1203 9th Ave.
Spokane, Washington
Tel: 509-TE8-5878 and RI7-0037
Working with a new school here in Spokane. Work so far has been in creating feedback on the personal/interpersonal level and helping the "new school" community to see itself in other dimensions (videospace). Also working with and taping people in this city who will be affected by a projected Worlds Fair scheduled to screw Spokane over in 1974. Has AV 3400. Expecting to have 3650 soon.

WASHINGTON D.C.

(New Address)
Video Software Inc.
Toby Murphy
P.O. Box 39082
Washington, D.C. 20016
Tel: 301-656-6042
In addition to ½" equipment has 1" including Sony's 320F and EV200.

***Washington Community Video Center**
Box 3157
Washington, D.C. 20010
Tel: 202-ST3-2903
New group born out of the Community Video Center at Federal City College in order to become more responsive to the people in the local D.C. community and to work outside the college structure for the first time in two years. Planned projects are: *Cable Television Resource Office,* to involve citizens and community organizations in the decision-making process for cable TV in D.C.; *Survival Information Network,* to develop videomedia in areas of health, nutrition, legal services, sanitation, consumer affairs, and to make information available through access centers in clinics, waiting rooms, schools, libraries, etc.; *Anacostia Community Communications Center,* to develop means for this community to access the

cable and to explore alternatives for CATV ownership as model for other neighborhoods in the city; also, research on television as a common carrier for social services and a training and production service for community people. Also, may edit an issue of *Radical Software* on communications in the 70's and will distribute a newsletter every three months to community organizations, institutions, agencies, and local media both as a public information service about current activities and as exploration into important issues in communications. Open invitation for people to become involved in their activities.

CANADA

ALBERTA

***Fifties Room Video**
Box 301
Vermilion, Alberta
*Some of the tapes we have made are "Kitscoty-tomb of a Saxon King" "Trades", "Hinterland Historical Conclusion", "Women", "Introduction to Vermilion."
Have Sony ½" portapak.

Hinterland Historical Group
Box 34
Vermilion, Alberta
Begun a community project with ½" tape to research history of the area, interview some of the old timers, study the land—how it's been used, and relating all this to us and the future.

BRITISH COLUMBIA

***Matthew Speier**
University of British Columbia
Dept. of Anthropology and Sociology
Vancouver 8, British Columbia
*Has taped a documentary on a local urban commune and in it sought to present key aspects of everyday life in the commune and the underlying commitment of its members to this alternative to conventional nuclear family arrangements. Also, conducted a project with elementary school children which focused on children's visual and spatial interaction and non-verbal communication. Another involved following two three-year olds through different social environments in the city. All projects employed use of ½" equipment.

***Unemployed Citizens Welfare Improvement Council**
1726 W7
Vancouver, British Columbia
Tel: 731-0131
*Patchwork Trap: an in-depth one hour ½" tape of the welfare and unemployment situation in Vancouver—looks at food, clothing, housing, positive action and legal aid.

NEW BRUNSWICK

Tele-Publik
Le College de Bathurst
Bathurst, N.B.
Canada
Tel: 506-546-9851
Public Television for area never before served by a production facility. Our programs will be aired on a private television station through a Scan Converter (SONY IB-4)

Television publique pour le Nord-est du Nouveau Brunswick. Nos emissions passeront une fois la semaine sur les ondes d'un poste prive. Objectifs poursuivis: information, et auto-information par la population.

Have ½" Sony portapak and 3600. Also, 1" B20 F, 310, AVC-4600 cameras, and Sony SEG-2.

NOVA SCOTIA

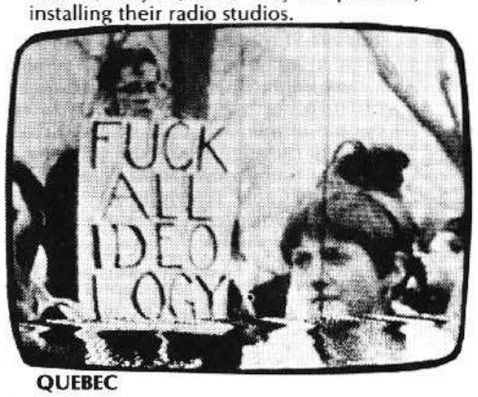
Alan Sondheim
Nova Scotia College of Art and Design
6152 Coburg Road
Halifax, Nova Scotia
Is forming an information access center with ½" videotape, print media and some film, for the dissemination of scientific, technical, artistic, philosophical information.

Video One
Ann Bromley
Y.M.C.A. South Park Street
Halifax, Nova Scotia
Are into all aspects of video as a tool for social change: training unemployed

youth in the use of the equipment and having them work within communities; establishing a videotape information center containing all information on vtr equipment and its uses, providing complete information on current videotape projects in North America, plus general information and regulations concerning cablevision and listings of people using video in Halifax as well as listings of tapes available in Halifax for public use. Also, creating a course format for teaching about the equipment as well as creating a public forum for community discussion of Halifax's New Community Cablevision Channel.

ONTARIO

Wired World, Inc.
Waterloo County Community Media
1342 King Street West
Kitchener, Ontario
Tel: 519-579-1150
Main effort is in establishing a non-commercial open-access community FM radio station. Radio, they feel, is simpler for people to use and more effective than video. For the past year WW has used its ½" videotape equipment (2 Sony portapaks, 2 Sony 3650's) to give access "to interested groups with resulting tapes often appearing on Grand River TV's Channel 12. In January CHYM's FM station made an hour available on Sundays for WW's community programming, but this only meant that the group was dependent on outside media hospitality for access. For about a year WW has been laying the groundwork for a publicly owned FM station. If a licence is granted the facility will be available to anyone who cares to make a program . . . no commercials, no profits. . . . The problem is to write an application that will convince the CRTC to open its doors to a new concept of programming. The station would be the first of its kind in Canada, requiring major revisions of the Broadcast Act . . ." (*Kitchener-Waterloo Record,* May 25, 1972) They are presently installing their radio studios.



QUEBEC

Videographe
1604 Saint-Denis
Montreal 129, Quebec
With a grant from the National Film Board of Canada they developed an organization to foster individual expression with video amongst French Canadians. They have a production facility which provides equipment to individuals; a theatre for viewing tapes; and a library where people can come, take out a tape, and watch it on a cassette machine. Their tapes are available on Sony reels or cassettes.

AUSTRALIA

Bert Deling
"Eurutta"
Sages Rd.
Baxter 3911
Victoria
Are working to prepare people for the advent of the cable in 1975. Have Sony AV3400 and AVC3400. See letter in Cable section.

HOLLAND

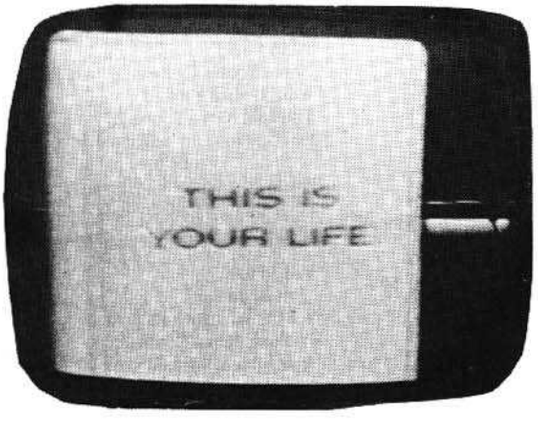
Address correction:
Shinkichi Tajiri
Baarlo (Limburg)
But from August to December 72 will be visiting professor at the Minneapolis College of Art and Design, 200 East 25th St., Minneapolis, Minn., 55404.

NETHERLANDS

Rotterdamse Kunststichting
Lijnbaan 165
Rotterdam
The Netherlands
Video productions with ½" tape include an interview with Man Ray, Captain Beefheart and his magic Band in concert, women's abortion demonstration, theatre group rehearsing, etc. For complete listing of their tapes write to them and ask for listing *in English.*

SWEDEN

Timo Toiviainen
Arkivgatan 21
22359 Lund
Recording the circus of life with ½" portapak.



VIDEO TOOLS AND TIPS

TECHNIQUES FOR MAKING CLEAN EDITS

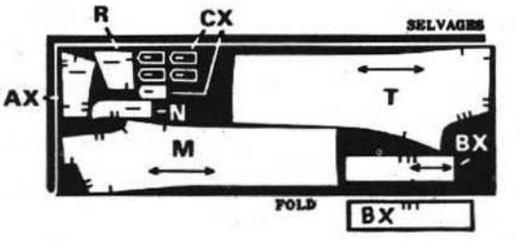
There are several different approaches currently popular for making precise, clean edits with half-inch and one-inch helical scan videotape equipment. In each method it is necessary to roll back the tape on both the playback and record decks an equal amount from the point where you choose to make your edit so that when both machines are started simultaneously the record deck has sufficient time to synchronize with the control track of the playback deck before the selected edit point is reached. It takes a few seconds for the record deck to match its speed exactly to the playback deck, and capstan servo editing depends on 1) identical speeds, and 2) control track pulse synchronization. Both tapes must be rolling for at least eight seconds in order to lock up properly.

The following methods are examples for achieving accurate *manual* backspacing:

(Contact Videographe, 1604 Saint Denis, Montreal, 129, Quebec, Canada, for information on their *automatic* backspacing device. Also, look forward to another editing aid which Morty Schiff of Woodstock Community Video is devising by building a control track counter which can count an equal number of control track pulses on both record and playback decks in forward and reverse modes.)

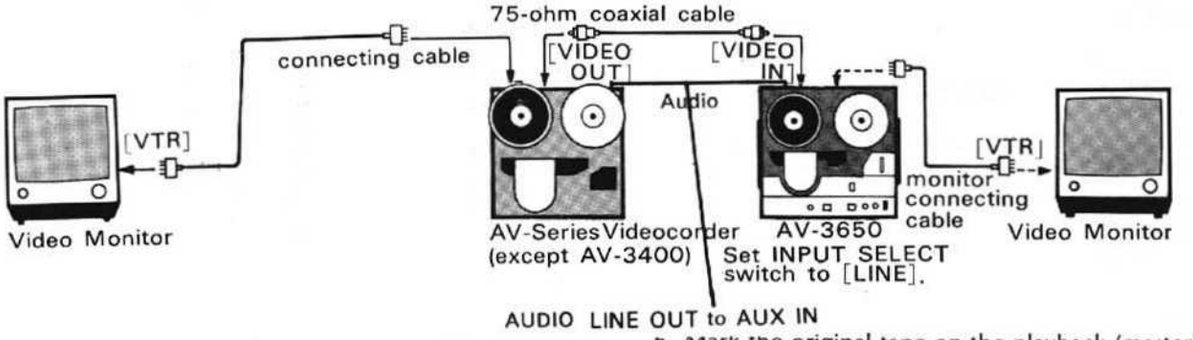
«»

Terms:
playback deck=master deck=original pre-recorded tape material
record deck=slave deck=edit



#1—YELLOW GREASE PENCIL METHOD: Advice from Andy Mann

Having had hours of practice, I have had little trouble with the technical end of editing videotape. I am printing these instructions in hopes that you may be able to cut down your editing time and come to enjoy working with the equipment a bit more.



1. Hook up all equipment as shown.

2. Plug in A/C power cords.

3. Thread tape on record (slave) deck, being sure to leave about 30 seconds to leader.

4. Thread and play original tape on playback (master) deck. Check tracking, adjusting tracking control if necessary.

5. Mark the tape on the record (slave) deck. Turn off power before marking tape. Turn function lever to pause.
   (a) Mark an X on the tape over the erase head.
   (b) Make a timing mark on the tape over the audio head. (Each of the 4 timing marks should be a recognizable symbol. For instance 1= , 2= , 3= , 4= . When the first timing mark is over the erase head, the tape has been backed up 2 seconds.)
   (c) Make the second timing mark over the audio head, and wind back the timing mark back to the erase head. The tape has been wound back 4 seconds.
   (d) Make the third timing mark over the audio head and wind the tape back by hand until the 3rd timing mark is over the erase head. The tape has been backed up 6 seconds.
   (e) Make the fourth and final timing mark over the audio head and back up the tape until the mark is over the erase head. The tape has been wound back 8 seconds from the point (X) where the edit will be made.

6. Mark the original tape on the playback (master) deck. *Turn off power* before turning function lever to pause.
   (a) Make the first timing mark over the audio head and wind back the mark to the erase head.
   (b) Make 3 more timing marks over the audio head, and wind each mark back to the erase head as it is made. Both decks are now cued-up at a point on the tape where it is 8 seconds of rolling time prior to the point where the edit is to be made.

7. Both decks remain in pause/still position. *Turn on the power switches* on both decks.

8. When ready to make the edit:
   (a) Throw both decks into FORWARD at the same time.
   (b) Quickly hit the edit button on the record (slave) deck.
   (c) Focus attention on the running tape on the record (slave) deck. Put your finger on the record button.
   (d) When the X is directly over the erase head, hit down the record button HARD! The best edits are made with a sharp snap of the button.

9. At the end of the edit, turn the function switch to Pause —Still. This should cause the record button to pop up. If it doesn't pop up, then turn the function lever towards Fast Forward until the record button does pop up.

10. Rewind the record (slave) tape, and cut the power to the playback (master) deck.

11. Playback the record (slave) tape and check your edit. If it is good, erase all grease pencil marks.

12. Finally, set up the tapes and equipment for the next edit.

(a) Cue-up the end of the segment which has just been recorded on the record (slave) deck. Mark an "x" over the erase head.

(b) Cue-up the beginning of the next segment on the playback (master) deck.

(c) Repeat the entire editing operation starting with step #5.

NOTE:
In order for this method to function optimally grease marks must be erased after an edit is completed, OTHERWISE THE GREASE CAN CLOG HEADS AND PRODUCE TAPE PATH BUILD UP. Erase grease marks with soft rag.

Also, check each edit as you do it. About one in four will probably not be clean. If the edit is not clean hit the button a little sooner on the next attempt. When you check the edit, be sure the power is off on the playback deck, or the record deck will try to lock to the random noise generated by the playback deck.

#2—STOP-WATCH METHOD

1. With this method, as with the first, the new point of edit is selected for both the playback and record tapes.

2. Then an arbitrary cue point is selected (either a previous edit point, or a change of scene, or some distinct auditory or visual cue) 10 seconds or *more back* from the new edit point.

3. Once the arbitrary cue point has been selected for each tape, playback each tape starting the stop-watch at the arbitrary cue point and stopping it at the new edit point.

4. Using 10 seconds as the distance you want between cue point and edit point make the following adjustments:

(a) If the timing on one tape is 17 seconds between arbitrary cue and new edit point, you must playback and start the watch again at the same cue point as before but stopping in the pause position 7 seconds *after* the cue point and thus 10 seconds *before* the new edit point.

(b) If the other tape's cue point turned out to be 29 seconds *before* the new edit point, then you would start the tape at the arbitrary cue point and stop in the pause position *after* 19 seconds. Again leaving a 10 second space between this new cue point and the new edit point.

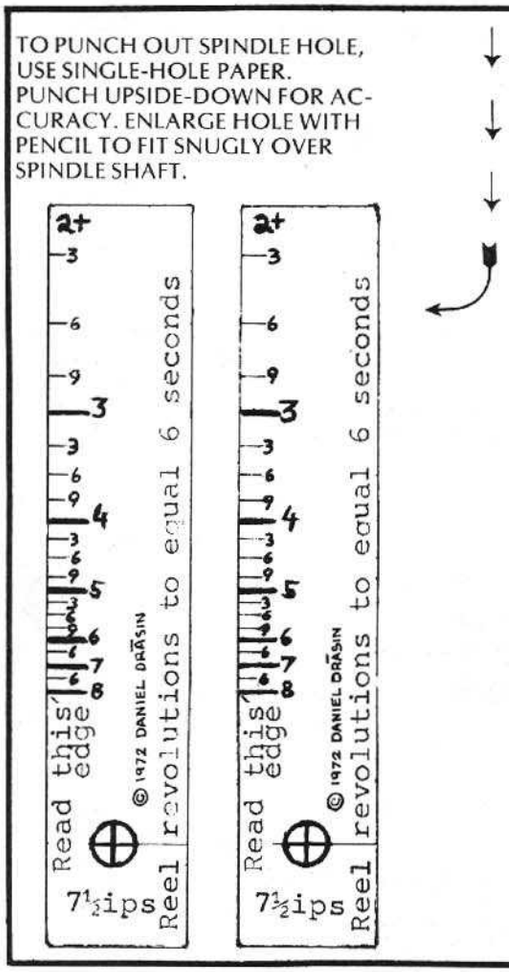
(c) If the arbitrary cue point is *less* than 10 seconds away from the new edit point you must select another point 10 or more seconds from the edit point, since with this method 10 is our standard.

5. When both decks are cued to a position 10 seconds from the new edit point you are ready to make your edit.

A drawback to this method is that if you make an imprecise or unclean edit you must retime both tapes from the cue points since there are no physical marks on the tape indicating the actual 10 second space between cue point and new edit point.

#3—BACK-SPACING SCALE METHOD

TO PUNCH OUT SPINDLE HOLE, USE SINGLE-HOLE PAPER. PUNCH UPSIDE-DOWN FOR ACCURACY. ENLARGE HOLE WITH PENCIL TO FIT SNUGLY OVER SPINDLE SHAFT.



This scale is for use with EIAJ-1 videotape or any system which runs at 7.5 ips, including the older CV system. It can also be used with Sony one-inch (EV) equipment which runs at 7.9 ips, as described below.

It should be cut and punched out, and attached to the takeup reel of each machine being used, with scotch tape. The scale should be placed to allow reading through the holes in the reels (mandatory in the case of opaque reels). To make permanent back-timing reels, simply attach securely and put scotch tape over the whole scale for protection. For half-hour reels, simply cut off excess length.

IMPORTANT: WHEN MAKING COPIES OF THIS SCALE, THE REPRODUCTION MUST BE *PRECISELY* THE SAME SIZE AS THE ORIGINAL. ANY ENLARGEMENT OR REDUCTION WILL RENDER THE SCALE USELESS.

VIDEO TOOLS REPORT

HOW TO READ THE SCALE:

The large numbers represent whole turns of the reel. The smaller numbers indicate additional fractions of a turn, in terms of clock positions, i.e. 3 o'clock equals one quarter turn, nine o'clock equals three-quarters of a turn, etc. Do your own interpolating by eye.

HOW TO USE:

When you have determined your exact edit points on the original and master tapes, back-time each machine exactly 6 seconds as follows: Look STRAIGHT DOWN at takeup reel, lining up the outermost layer of tape with the numbers on the back-timing scale. Scale reading indicates exact number of takeup reel turns which will equal 6 seconds. READ THE SCALE CAREFULLY. Hold the rim of the takeup reel with your right hand, and then engage REWIND mode. Use right hand as a brake to slowly wind back tape the required number of turns. Make any final precise adjustments after the machine has been switched to STOP or PAUSE (STILL) mode.

When editing between formats which run at the same speed, make your final startup of both machines at precisely the same instant. Start from PAUSE (STILL) mode, rather than STOP mode, for a more precise startup. Punch your edit button by visual or audio cue, or by counting revolutions of whichever takeup reel is most convenient. When editing between different formats, startup time must be staggered appropriately. Example: When editing from EIAJ-1 half-inch to Sony (EV) one-inch, start the half-inch deck one quarter of a second sooner.

TIPS FROM DAN DRASIN:

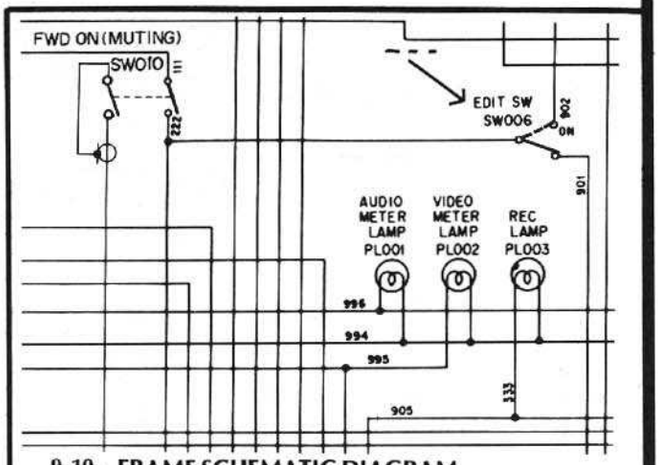
When doing electronic editing with ½" equipment, the SKEW (tape tension) control should be precisely adjusted on the playback deck for EACH SCENE. *This will increase time-base stability of edited master.* Adjust skew as follows: playback deck should be connected to an *underscanned* monitor, or one whose *height* or *vertical linearity* controls have been adjusted to squeeze the picture so black appears at the bottom. This will make the bottom few lines easily visible. (On Sony monitors this can be achieved by allowing the vertical to roll.) NOTE THAT THE BOTTOM FEW LINES "BREAK OFF" HORIZONTALLY FROM THE REST OF THE PICTURE. Adjust SKEW control of playback deck so the last few lines line up with the rest of the picture.

Black spots on the video picture, especially when the lens is stopped down for daylight shooting are caused not by dirt on the lens but by dirt on the vidicon tube face. Remedy: Clean vidicon carefully and thoroughly with Q-tips moistened with Kodak lens cleaner. Blow out all dust (even most microscopic will cause spots). ALSO CLEAN REAR OF LENS and blow away dust and chrome chips from C-mount thread. THEN ALWAYS KEEP LENS ON CAMERA. (If shipping camera, arrange case so lens can safely be left on.)

INFORMATION CONCERNING FIRST SERIES SONY 3650 MODIFICATIONS

(compiled in discussion with Morty Schiff of Woodstock Community Video who has innovated some recent modifications discussed below)

In first series Sony 3650 editing and playback decks (before #32,000) there is approximately a 2 second sound lag after the video appears when you are making edits. When the record button is pushed for an edit it activates a microswitch which turns off the audio amplifier to the record head thus causing the delay. In the past one way of dealing with this disturbing delay was to make a modification on the machine to eliminate it. This was done by placing a jumper wire between normally open and normally closed contacts of the edit microswitch. (See diagram below.)



9-10. FRAME SCHEMATIC DIAGRAM

However, people who were having this modification made to their machines found that it eliminated the possibility of making video inserts (adding video over a prerecorded section of both video and audio without interfering with the audio). This was the state of 3650 modifications when we wrote about it in *RS* #5.

In a recent discussion with Morty Schiff of Woodstock Community Video, he mentioned that he believed that by placing a switch on the jumper wire you could have a choice of no sound delay when the switch is in the "on" position, or video insert capability when the switch is in the "off" position.

Woodstock Community Video has, however, been using another method for achieving the effect of video inserting, and in addition, eliminating audio lag. They have made a modification (see explanation of modification and diagram below) where they choose their visuals first, lay them down, with or without the audio, go back and overlay the sound they want, and then switch back to the video that goes with the overlaid sound without stopping the machine and with no sound delay. In other words, *with this modification you can go from "audio dub" to "record" sequentially without stopping the machine.* **(Normally, it's impossible to depress the record button once it is in the audio dub mode.)**

Example:
Woodstock Community Video has used this technique in what they call *assembly editing*. For example, they tape a straight interview. They also tape some visuals they'd like to see included in a presentation of the interview. When they begin to edit they start by selecting the visuals they want to use and lay these down with or without the audio that goes with them. They then go back to the interview itself, and audio dub its sound over those selected visuals. *Next, they switch back to the interview setting itself continuing the sound which goes with the interview, without stopping the machine, and without causing any sound delay. To reiterate, they go from "audio dub" to "record" sequentially without stopping the machine.*

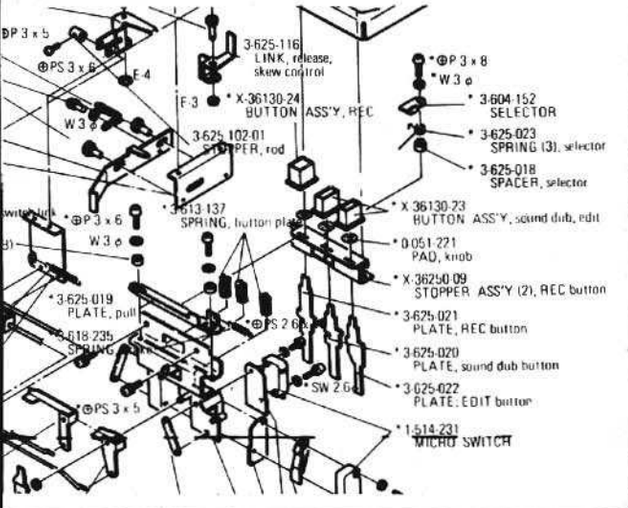
"At the Catskill Game Farm we are aiding the preservation of near extinct species.

For example, we have here the Przwalski horse which is the only truly wild horse alive today."

HOW THIS IS ACHIEVED TECHNICALLY: ➔ ➔
You pull out selector 3-604-152 and spring selector 3-625-023 and put back the screw.

(By the way, we believe you can continue to do standard video inserts after you've made the above modification by manually depressing the edit button for the duration of the insert.)

11-5. RECORD SWITCH LINKAGE— EXPLODED VIEW



WANTED: Video technician to work with a program origination staff of a CATV system in New York State serving 50,000 people. Knowledge of ½" and 1" video technology necessary. Opportunity to help develop an effective grass roots video project. This is a salaried position. For further information contact: Andrea Kaufman, 20 Van de Bogart Road, Woodstock, N. Y. 12498, 914-679-9540.

VIDEO TOOLS REPORT

Newer series 3650 editing decks have less of a sound lag than the first series (approx. only ½ second delay). This is not so disturbing and thus has not created the same need to make audio modifications as with the early 3650 series (up to #32,000). The following is a brief discussion of how to make a standard video insert, and how to compensate for the sound lag without making any modifications.

MORE NOTES FROM ANDY MANN TO YOU:

Making a Video Insert:
A video insert erases a portion of the video on your edited tape replacing it with new video. Sound is not effected.

The AV3650 shifts from the assembly mode (when, as in regular edits, both video and audio are recorded) to the insert mode (video only) when you keep the EDIT button depressed as you hit the RECORD button. A finger on your left hand keeps the EDIT button down, your right thumb hits the RECORD button.

The timing marks for video inserts are the same as for regular edits. You may want to include an additional mark on the tape to signal where the insert is to end. (I write OUT on the tape.)

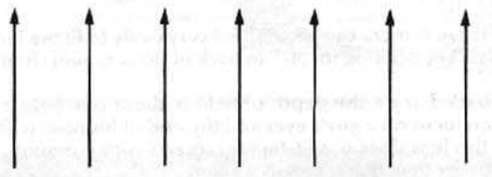
Compensating for Sound Lag on the Newer Series 3650
If there is an audio delay after you hit the record button on your record deck (and there *will be* unless you have had a modification made) you can avoid losing the audio you want by making the audio your cue for the edit rather than the video. Consider the following steps:

A. Take a look at the video edit you made.
   1. Playback the edit, and stop the tape as soon as the sound fades in.
   2. Then locate the X you marked on the record tape which signaled the edit.
   3. Mark an arrow on the black plastic part of the head drum cover assembly directly above the X on the tape. This arrow is your point of reference.

B. Re-do the edit
   1. Mark both tapes as usual, except,
   2. wind back the last timing mark on the record tape only as far as the reference point.
   3. Proceed normally.

Using this method, edits can be made so that the sound recording begins at exactly the time you want it to.

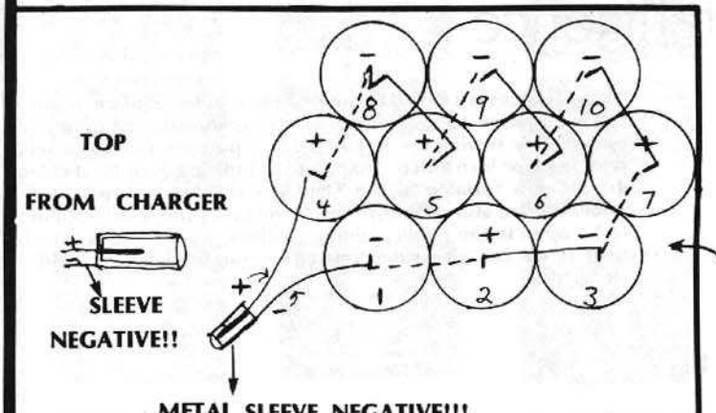
However, as mentioned, there will still be a few seconds of extraneous video without audio. It can look terrible if somebody's mouth is flapping away and there is no sound. If it looks bad, cover these few seconds of unwanted video with an appropriate insert (perhaps a still frame).



THERE'S A TIME TO ASSEMBLE AND A TIME TO INSERT.

The following was sent to us but without a name attached, or else we lost that information, so whoever sent this in if you want credit for the information let us know and we'll include it in the next issue of RS.

After getting ahold of a Portapak, I decided that a long range battery would be nice. Since Sony made one I figured, shit, I may as well buy theirs . . . until I found out the cost. So I made Sony's battery for about one-half the cost.



Suggest that you attach a handle and wrap tightly in plastic tape.

Needed:
10-4. Oscl #400469-205 @ $5.35 (with solder lugs)
Purchased from:
Gould National Batteries (1.2v X 10=12v)
Gould, Inc.
NiCad Battery Division
1110 Hwy. 110
St. Paul, Mn. 55118
Tel: 612-425-1500

1-Battery Charger Output 14.5 vdc @ 400ma. Constant current. Cost $7.50.

Purchased from:
Dynamic Instrument Corp.
115 East Bethpage Road
Plainview, L.I., New York 11803
Tel: 516-694-6000

1 male and 1 female external power source (connectors donated by my trusty, rusty Sony dealership).

The following is the best packing scheme I came up with:

Gould is *supposed* to have a new gelatin cell that is cheaper, lighter, better, etc.
Charging time: 14 to 16 hours. Thus a one hour run would mean about a four hours charge since it is a four hours battery. DO NOT charge with regular power supply; the charge rate is too excessive.

Dear Radical Software People:

A couple of things I've run into:
For $60.00 Dan Gibson Sound Parabola—it makes a dynamite highly directional mike out of *any* microphone. Absolutely perfect for outside with windscreen.

I've set it up as follows:
monoral headphones
parabola
microphone
camera
AV 3400
Sony
double co-axial for stereo hi-fi

Thus, the sound man can hear what's coming in the microphone; the microphone is far enough away to eliminate camera and recorder noise; plus, the added directionality that the parabola affords! I love it!

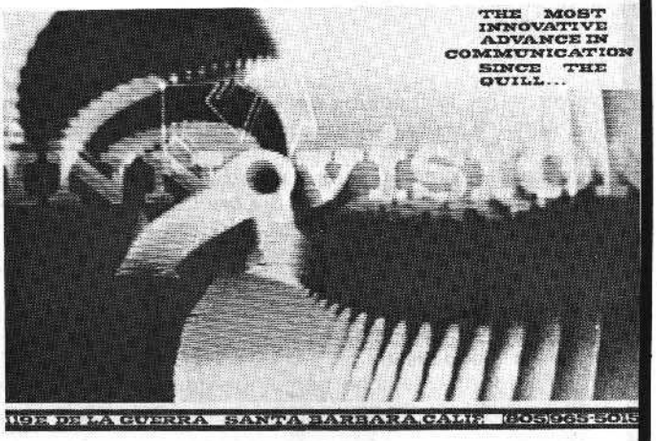
What's needed next is AGC defeat system so the sound won't be so shitty.

The other thing is a Canon 25mm f0.78: almost 3 f-stops faster than any other lens you'll run into.

A portapak camera can be adapted very easily to fit the lens, since the glass keeps going for .47" in back of the c-mount shoulder.

Drawbacks: at .78 the depth of field is about one bean!! I mean you can focus on a guy's eyes and the end of his nose is all blurry. Also, this lens does *not* fit 16mm cameras with c-mounts. It's a tv lens. Other than that it's really a killer.

Love and kisses,
Orey Owsley
c/o Fishtank
314 S. Fifth Ave.
Ann Arbor, Michigan 48108



VIDEOTAPE
"PROGRESSIVE INDUSTRIAL COMMUNICATION THROUGH VIDEO"

Applications of closed-circuit T.V. and V.T. recordings have become increasingly important to industry. Not only are video products being used in an ever-increasing number of fields, but in growing ways within those fields.

FOR EXAMPLE:
Salesman and equipment training can be done through video. How about a five minute tour of your plant? Or document an important business meeting for immediate broadcast to other management members unable to attend.

Security problems? Closed-circuit systems can help you keep an eye on larger areas where otherwise six or seven security personnel would be needed.

A lecture? Or speaking to a prospective client outside your office but you desire to fill them in on the efficiency of your personnel, or quality of your construction—videotape is the answer.

THESE ARE JUST A FEW APPLICATIONS OF VTR AND CCTV SYSTEMS. THESE SYSTEMS ARE NO LONGER AUDIO-VISUAL NOVELTIES, BUT EFFECTIVE, HARD WORKING FORCES OF A NEW "AGE" IN BUSINESS, SCIENCE, INDUSTRY AND EDUCATION.

FOR CONSULTATION:
CHARLIE BENSINGER
IRA G. OPPER

random intelligence

VIDEO EQUIPMENT EXCHANGE CENTER is being set-up in New York City by Technisphere. It is designed to provide a convenient outlet for those who wish to sell their used video equipment and will provide a more readily available source of used equipment for those wishing to purchase. Technisphere will publish up-to-date listings of equipment for sale which will include an evaluation of each piece of equipment, and the history of its use whenever possible. Furthermore, it is prepared to provide repair services and warranty arrangements on this and other equipment.

For further information contact Technisphere, 141 Lexington Ave., NYC 10016, tel: 212-684-3136.

Video Sources is a PEOPLE oriented retail Video Equipment outlet, as opposed to the commercial, educational, and industrial outlets now serving the Bay Area. Our purpose will be to sell, rent, lease or loan video equipment to individuals or local video groups now forming in San Francisco vicinity at a reasonable price. We are also planning video seminars, production facilities to be open to the public, editing facilities, service, and as much help as we can give video related organizations and individuals . . .

VIDEO SYNTHESIZER

For information about video synthesizer presently being built contact: Walter Wright, Wright Computer Graphics, 464 West Broadway, NYC 10012, 212-674-1006

HARDWARE DEALERS

Adwar Video, 100 Fifth Ave., N.Y.C., N.Y. 10011
CTL Electronics, Inc., 86 West Bdwy., N.Y.C., N.Y. 10007
M.P.C.S., 424 W. 49th St., N.Y.C., N.Y.
Technisphere Corp., 141 Lexington Ave., N.Y.C., N.Y. 10016

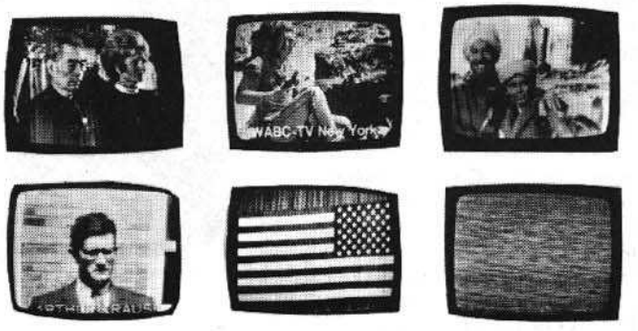
PANASONIC NV3130 IS HERE!

It's an EIAJ NTSC color ½" editing deck with dropout compensator. List price is $1550. There is no sound lag at the beginning of an edit. However, there is a two second sound loss at the end of an insert edit.

We know only a few people who own this new machine, and though they loved it at first, they soon afterwards have had breakdowns with both its editing and color capabilities. It seems as with all new video hardware the kinks are not yet ironed out and the consumer pays the price.

Also, Panasonic now has the NV 3040 which is an EIAJ solonoid black and white deck with remote control and auto-rewind capability at additional charge. This is not an editing deck.

Look for **Ben Sidran: I Lead a Life**, Blue Thumb Records, BTS 40.



MEDIA:

ACCESS is "a newsletter for individuals and organizations interested in or participating in Public Access Television." It is compiled and edited by James D. Smith. Write to him at the Genus Project, c/o Thurber, 56 West 75th St. #1A, NYC, NY 10023 to announce events, submit comments on Public Access, and to inquire about obtaining copies of *Access*.

APRIL VIDEO COOPERATIVE is a group of people from around the country who came together to work on various community related projects—April Video Conference and Jamboree at Livingston College in New Jersey, Chicago National Cable Television Association Conference in May, Stockholm Environmental events in June, Miami convention and whatever has required concerted group energies. They have put out a publication called *The Dumping Place* which is a print-out of information relevant to video people. Information (technical, news, goofs, contacts, and other video experience to be shared) is sent in on 5x7 cards ready to be pasted up and reproduced and sent out to subscribers. Anyone wishing to be included in the mailing should send information to P.O. Box 132, Bearsville, N.Y. 12409.

CABLE INFORMATION is a newsletter for churchmen, educators and community leaders. Yearly subscription is $10. Write to them at 475 Riverside Drive, Rm. 852, NYC 10027 for a sample copy of their publication.

HANDBOOK FOR COMMUNITY CABLEVISION is available for 30¢ from Room 304, 790 Madison Ave., NYC 10021. It is a basic introduction.

MAGNETOSCOPE, published by Video White Light, is issued ten times a year. It contains news on hardware, production, cable, etc. A one year subscription is $7; two years is $13. Make all checks payable to Video White Light and mail to them at P.O. Box 298, Planetarium Station, N.Y., N.Y. 10024. (Inquire about foreign rates.) Contribution of video news and other media information for publication should be addressed to the editors Richard and Lisa Robinson.

MEATBALL is a Dutch/English international video newsletter, approximately 80¢ an issue and $5 a year for 8 issues. Write to them at Hartogstr 5a, den haag (the Hague), Holland.

METROMEDIA print-out is a monthly newsletter of the MetroMedia Association of Greater Vancouver. Letters and submissions should be mailed to Print-Out, c/o 1688 West 4th Ave., Vancouver B.C., Canada. Print-Out is edited by Craig Ferry.

URBAN TELECOMMUNICATIONS FORUM is published in association with Urban Telecommunications Workshop and describes itself "as a monthly journal of the current research and practical state of the art and science of using broadband cable communication for the purposes of government, institutions, private and public organizations, business and individuals in urban areas, generally, and municipalities, in particular, with emphasis on exploring and shaping the potential public benefits; and, as a forum for reviewing the resulting implication for urban interaction, dynamics and form." Write to them at 276 Riverside Drive, N.Y.C. 10025. Subscription rates are 12 issues for $17. This seems steep so write for sample copy first.

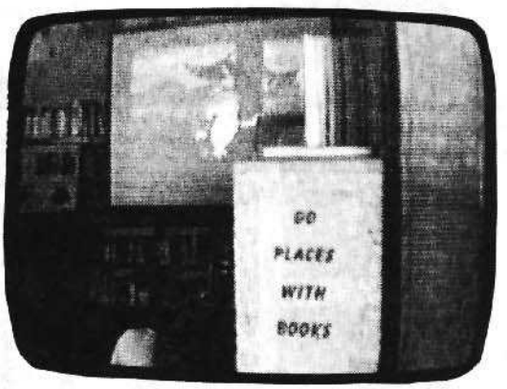
ctl **VIDEOTOOLS** vol. 1, #1. This is a big equipment catalog with helpful hints on production and editing. It can be obtained from CTL Electronics, 86 West Bdwy, NYC 10007.

Look for **Time Forms** by Vic Gioscia, published by Gordon and Breach Science Publishers.

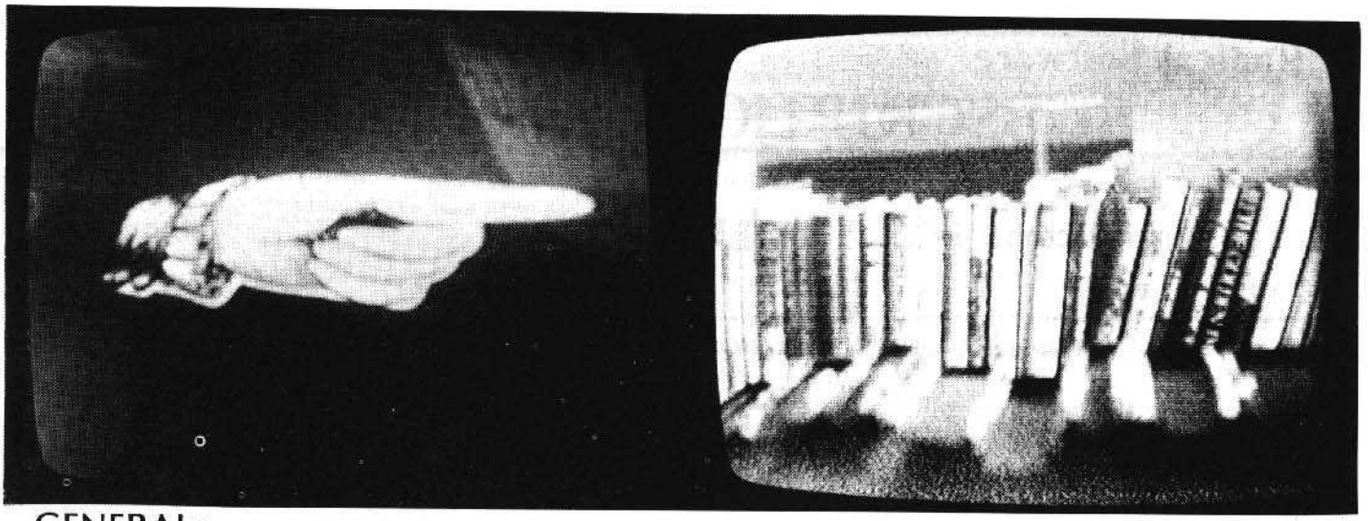
PRINT PUBLICATIONS

BIBLIOGRAPHIES

By far the best bibliography we've seen on video, cable, broadcast, etc., is the BROADCASTING BIBLIOPHILE'S BOOKNOTES—a mass media publications reporting service. It is published monthly by Christopher H. Sterling of the Dept. of Radio-TV-Film, Temple University, Philadelphia, Pa. 19122. The service is available only by subscription for the current volume year (subscribe at any time in the year and get all 12 issues for the September-August period). Cost, beginning with Volume IV (September, 1972), is $3.50 per year (Volume III and earlier volumes at $2.00 per year), and should be prepaid with order (please make checks out to Christopher H. Sterling). IT IS WELL WORTH THE COST.



Three other excellent bibliographies we've come across which relate to all aspects of CABLE TELEVISION are: 1) an *annotated* bibliography on CATV (compiled 1971) by Jon Shafer of 1510 East 23rd St., Minneapolis, Minn. 55404; 2) a selected list of materials in the Connecticut State Library Collection (recently compiled) which covers the evolution of CATV, general information, possible uses, CATV and libraries, CATV regulation, and can be obtained if you write to Rose Harrison, General Reference Dept., Connecticut State Library, 231 Capitol Ave., Hartford, Ct. 06115; and another recently compiled listing published by Berkeley Cable Access, 2616 Russel Street, Berkeley, Calif. 94705.



GENERAL:

Architectural Design, comes out monthly, subscription rates are $12 for students, $18 for others or $1.20 per issue. Write to: Standard Catalogue Co. Ltd, 26 Bloomsbury Way, London WC 1A 2SS.
A well-designed magazine with photos and plans of original structures by young designers. Stress is on flexibility, transportability, and dweller as builder. Also, contains theoretical articles on shapes, forms, materials of new structures.

Communitarian, single copy $1, 6 issues (1 year) $5.50. Write to: Annex Station, Box 969, Providence, R.I. 02901.
Includes articles which describe the life of different kinds of communes, co-ops, collectives as well as theoretical articles which examine the "new age." They are merging with another group of people themselves and will be changing the name of their publication. Write to them for that information.

Environment, comes out monthly, $1 an issue. Write to: Committee for Environmental Information, 438 N. Skinker Blvd., St. Louis, Missouri 63130.
A technology information magazine on the problems of our present environment: air and water pollution, their effect on us, as well as the peaceful and military uses of nuclear energy. It is presently produced by 57 professors and doctors of science.

The Foundation Journal, comes out quarterly, subscription $7. Write to: The Foundation Journal, University Station, Minneapolis, Minnesota 55414.
Attempts to fill the gap left by the absence of the Whole Earth Catalogue, by telling "how you may get where you want to go, rather than where to go . . ." A publication for making idea and action interchanges public . . . what is sent in determines what is sent out. It is another fine passageway for information flow. The issue we saw contained an interview with John Platt, lists of Free Universities, an article on the New World City, how to set up a Free Medical Clinic, valuable books to discover . . .

Journal of Architectural Education, comes out quarterly, subscription $5.00. Write to: Association of Collegiate Schools of Architecture, c/o David Clark—Executive Secretary, 1785 Massachusetts Ave., Washington, D.C. 20036.
Scholarly and professional articles dealing with the architectural design question: how to create humanistic environmental structures. Examines the effects of built environments on behavior and outlines research methods for such examination. Also, about "redesigning architects: education, research and practice," (an article in the issue we saw).

Journal of World Education comes out monthly, students' subscriptions are $5.00 a year. Write to: Association of World Colleges and Universities, c/o George Nicklin, Treasurer, Westbury, N.Y. 11590.
A small pamphlet dedicated to the ways and means of developing world educational communities. Reports on groups and institutions throughout the world who are engaging in educational experiments and using telecommunications as extending tools.

Mother's Truck Store, 6 issues a year, $1.00 an issue. Write to: Box 75, Unionville, Ohio 44088.
Catalogue and Buyers' Guide. An index of basic antique and modern synergistic tools . . . from the Franklin stove, to looms and wooden toys, to Geodesic Domes. Throws in antique recipes, helpful garden hints, products you never heard of but always wanted.

Native Press, comes out every three weeks, 20¢ an issue. Write to: Indian Brotherhood of the Northwest Territories, Box 2338, Yellowknife, Alaska.
Reports on environmental issues, politics, local events of vital concern and interest to survival needs of the people of those territories.

Problem/Possibility Focuser, Swallow Press, 1139 S. Wabash Ave., Chicago, Ill. 60605, price per copy 25¢, minimum order $1.
This is a new type of document designed to set down the views of a single person about an issue, and then to circulate the document to people who subscribe to the service for feedback to the originator. Ones that we've seen have dealt with distribution of resources/income, the future, the young child, education. They are all of high calibre; high information value.

Science for the People, comes out bi-monthly, 50¢ an issue. Write to: SESPA, Box 59, Arlington Heights, Mass. 02175.
Each issue is put together by one of approximately 29 collectives, mainly in the U.S., reporting on the social-scientific-political environment, and pointing the direction towards positive change.

Undercurrents, comes out quarterly, subscription $2.60. Write to: 34 Cholmely Gardens, Aldred Road, London NW 6 1AG, England.
In an open folder it contains information sent in and recirculated. The material is as diverse as: uses of vacumatics as environments, "what it's like to be a worker in a Chinese factory", ways of setting up community radio stations, CATV, computer programming, science fiction. . . The low cost is attributable to their low printing costs—most articles are sent in with 1000 copies to redistribute.

Radical Software **Radical Software**

SUBSCRIPTION INFORMATION

Beginning October 1972 **VOLUME TWO** Nine Issues

Radical Software, Suite 1304, 440 Park Avenue South, New York, New York, 10016.

Please enter my subscription for volume two of **Radical Software** to begin in October of 1972. Enclosed is $12.50 for all nine issues (a $5.05 savings since single issues will sell for $1.95).

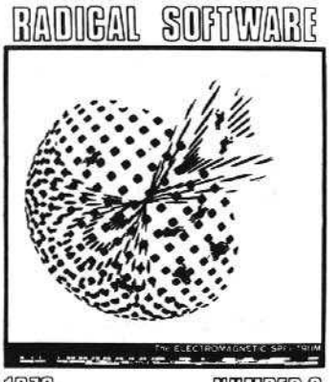
NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

VOLUME ONE

Back Issues #'s 1-4



And/Or #5

Radical Software, Suite 1304, 440 Park Avenue South, New York, New York, 10016.

Please send me the following back issues of **Radical Software:**

_____sets of issues 1-4 in a binder (@ $10.95).....Enclosed is $_____
_____copies of issue one (@ $3.00).....Enclosed is $_____
_____copies of issue two (@ $3.00).....Enclosed is $_____
_____copies of issue three (@ $3.00).....Enclosed is $_____
_____copies of issue four (@ $3.00).....Enclosed is $_____

_____copies of issue five (@ $3.00).....Enclosed is $_____

_____copies of **Guerrilla Television** (@ $3.95).....Enclosed is $_____

And/Or

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

Changing Channels