# THE JOURNAL OF
COMMUNITY
COMMUNICATIONS

Contents

Introduction

Since the first issue of the *Journal of Community Communications,* we have been wary of letting the sexy new computer technologies overrun our pages. The temptation has been great, because the *Journal's* publisher, Village Design, has worked closely with the Community Memory Project, a group designing a public access computer network. (For information on Community Memory, see "Community Computing" by Andrew Clement, in this issue.)

Those of us who participate in these projects -- most of whom can be described as computeroids with a social consciousness -- like to think that we have a balanced view of computer technology. On the one hand we believe that computers have the potential to do away with a lot of drudge work, to allow broad participation in decision making, to link communities of interest in huge, ever-changing webs. On the other hand we see how computers are being used to extend and consolidate a much tighter control over every aspect of society than was ever before possible.

These conflicting views lead us to some rather giddy questions and doubts. For instance, we wonder whether community groups (like us) that use computers, thereby boosting their acceptance, are ultimately softening people up to tolerate the hardware that will monitor them and enslave them.

The articles in this issue partake, in varying measures, of the same ambivalence, wishfulness, and paranoia that bedevil us.
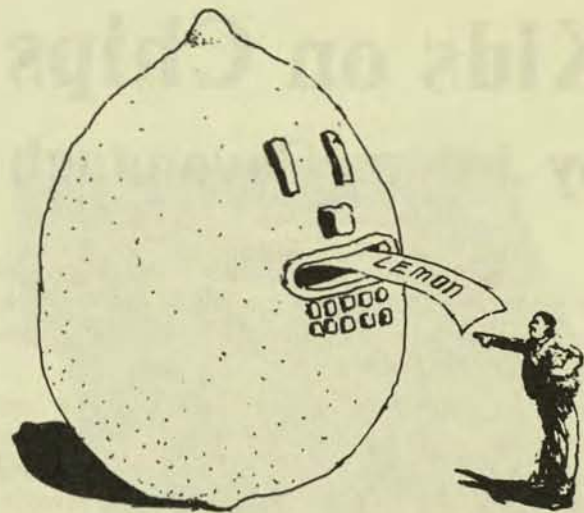
Our cover story, by James Cavenaugh, is on kids and computers -- a heady combination for computer vendors eyeing billion-dollar markets. Most of the VDT generation is getting its computer baptism in the video game arcades, but children are also beginning to find computers in their classrooms.

Jeff Taylor is a Briton who toured the US visiting public access computer projects, many of them also directed at kids. Taylor subjects these projects to a rigorous scrutiny based on his belief that an awareness of the social impacts of computer technology is much more urgent than a narrowly defined "computer literacy."

Both Andrew Clement and Tim Haight discuss the use of "new media" by community organizations. Though these are fairly new phenomena, some of their pitfalls are already painfully obvious to the grassroots groups that have been willing to experiment with them.

"Kinky Computers" describes the new sexually explicit software and the controversy it has generated.

John Markoff reports on the ambience in a more traditional citadel of computer applications -- the defense complex.

And, in our sole departure from the computer theme, Michael Singsen of the Public Media Center comments on the attacks by broadcasters and the FCC on the Fairness Doctrine.

-- *Marcy Darnovsky*

Kids on Chips

by James Cavenaugh

Child with computer. If this image makes you uncomfortable, get ready for a jolt of future shock. For better or for worse, the 80's belong to the computer kids.

The budding relationship between kids and computers is one indication of the shape our silicon-based world will take. The headlong enthusiasm of marketing departments and advertising agencies for promoting computers to kids reinforces it.

At a Los Angeles computer conference in May 1980, a presentation called "Home Computing: A Vision in Search of a Marketplace" tried to pinpoint the areas of greatest and least resistance to "the introduction of a computer-assisted lifestyle." The importance of children as a "lifestyle variable" that influences the purchase of computer products and services was not overlooked. To the marketeers of the new machines, the message is a universal belief in computers and the medium is young minds -- before they get used to a non-computerized world.

America has conjured yet another dream: a computer in every home. According to Joseph Plummer, senior vice president of the Young and Rubicam advertising agency, which represents Atari Computers, "The typical family of the late 1980's is a working couple with two children, one car, a small house and. . . a home computer for paying bills, banking, monitoring their energy use, specialized research services and access to data for personal and business use." Computerless for millennia, we've needed only the last five years to begin asking, "How did we get along without them?"

The computer utopia is being sold with a fervor than outdoes even the marketing of television thirty years ago. There's a lot at stake.

IBM, for example, the world's largest mainframe computer corporation, introduced its first personal computer in August 1981. It was a royal birth. Or, in the words of James Finke, president of Com-

modore Computers, "It's like the second coming." IBM is combining aggressive pricing with a ubiquitous marketing approach that leaves no doubt of its intention to be the volume producer in an industry that most observers agree is only one percent of its projected size. *Business Week* estimates that the home computer market will grow from the 500,000 units shipped in 1980 to four and a half million in 1985 and about 33,000,000 in 1990.

In the summer of 1981, Apple, by some counts the largest manufacturer of personal computers, launched the first national ad campaign for home systems. The ad series is unique for two reasons. It's the first major computer industry effort to educate the public to brand allegiance, a process generally taken as proof of industry maturation. Second, the campaign consistently pushes parents to buy the machines for their children's sake. In one ad depicting Dick Cavett with a computer-precocious child, Apple suggests their micros as both live-in tutor and controlled entertainment environment.

These types of ads hit a responsive note for many parents. In the computer-hip San Francisco area, the developing attitude seems to be the one voiced by a Berkeley father who said, "I figure computers are a kind of educational enrichment that's cheaper than private school tuition."

The Video Arcades

For many kids the video display terminal is displacing the television tube. "Video arcades give kids their first exposure to the possibilities of computers," explains Atari public relations officer Margaret Lasecke. "We see them as a kind of demystification center for the whole family."

Arcade nomenclature, which varies along the line of "Skills Center," "Computer Playland" and "Family Fun Center," provide an advertised image of respectability to the video games. The idea is that useful skills can be developed at two bits a game.

James Cavenaugh is a television producer at Video West in San Francisco.

Bob Albrecht, co-founder of Computertown USA! and self-styled "Grand Dragon of the world's first computer literate city" (Menlo Park, California), is another staunch defender of arcade games. "I encourage kids to spend every quarter they can find on video games," he said. "It teaches them future skills such as scanning ability and chip logic."

With or without a "grand dragon" in the vicinity, little encouragement is necessary for kids all over the United States or in the 17 foreign countries to which the games are being shipped. A recent study by Atari, which makes the all-time arcade money-maker Asteroids, showed that 86% of the population between the ages of 13 and 20 has played some kind of video game. According to the trade magazine *Vending Times*, the video game industry chalked up $308 million worth of revenues in 1978, $968 million in 1979, and $2.8 billion in 1980.

That's a lot of quarters. In fact, arcade and home video games may soon surpass pop music as the number one money maker in the under-18 market. This is an impressive feat considering that pop music -- currently a $3.7 billion dollar a year market -- has taken the biggest bite out of teenage dollars ever since the early 1950's. And Tippy Adlum, general manager of a monthly magazine called *RePlay*, says, "Common opinion these days is that video games have become bigger than the movie industry. But I don't think anyone really has a handle on how big it is and how much it's worth. All I can say is it's absolutely breathtaking."

Frank Ballouz, Director of Marketing for Atari's Coin-Operated Division, anticipates a 100% increase in sales in 1981. With distributors experiencing six to eight-week delays for machine delivery, and hour-long waits to play certain games, there is no doubt that the games will be moving into new territories at a furious pace. Aladdin's Castle, a hamburger-plus-video-game chain in the Midwest, has already doubled its stores from 100 to 200 in the last two years and plans to open another 100 stores by late 1981.

Video games are now a common sight in fast food chains, laundromats, theaters and convenience stores. The owners of corner grocery stores who "wouldn't think of putting in a pinball machine," are wedging a Galaxian and an Asteroids Deluxe between the magazines and the gumball machine.

With an average weekly take of $225 per machine, the local distributors are finding advertising and marketing unnecessary. These are the good old days when neither builder, distributor nor proprietor can help making a profit. Depending on
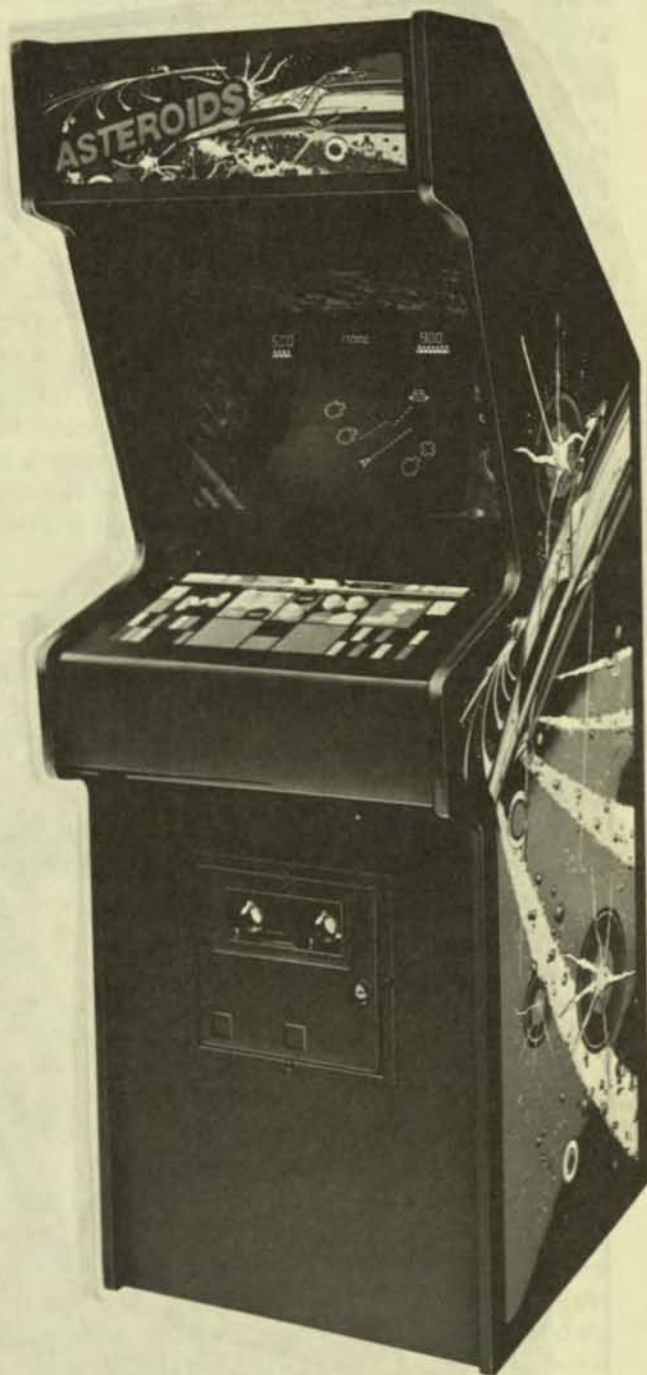
its location and newness, in fact, a machine can make as much as $800 a week. More than a few teenagers have scraped together the money -- between $2500 and $3000 -- to buy their own machines and "pimp" them in the neighborhood arcades.

More than a source of slot earnings, the local arcade functions as a working advertisement for games that can be played "for free" if a child can cajole his parents to spot him an Apple for Christmas. In thousands of communities across the country, the manufacturers and their machines are settling in for the take like the two famous Uncle Remus characters: "Tar Baby, she don't say nuthin', and ol' Brer Fox, he lay low."

Despite their similarity to pinball, video games have so far escaped the gambling and moral stigma that has plagued the coin-operated business for 50 years. But other complaints about the proliferation of arcades have begun to surface.

Those who object to the arcades cite violations of zoning laws and complain about the nuisance of teenage hangouts. But the real issue is deciding what's best for kids and the neighborhood environment.

Affluent neighborhoods may be able to afford pay playgrounds on every block, but in poorer areas the arcades become electronic allowance eaters. A recent article in the *San Francisco Chronicle* quoted teenagers who spend up to $26 a night on the games. A 9-year-old self-described "punk" who was parked in front of a "Scramble" machine in a San Francisco ice cream parlor told the reporter how he and his friends finance their habits. "We rob old ladies' purses," he said.

"It puts tremendous pressure on the kids," said one mother in Portland, "to come up with money to keep their scores among the top ten in the neighborhood -- to shoot down as many aliens as possible before their supply of quarters runs out." Parents in the New York City suburb of Irvington who complained that their children were cutting school and spending their lunch money on the games recently tried to outlaw the playing of video coin-operated games by anyone under 17. Similar resolution are certain to crop up as the lure of high profits separates neighborhood merchants from the best interests of their customers.

The usefulness of arcade games in giving kids their "first computer experience" is being studied

photo by James Cavenaugh

by Stanford, MIT, and other institutions. Most educators would grant them only primordial status in the evolution of the computer literate adult. But the debate is still open. After all, the kids and chips relationship is barely four years old.

Computers in the Classroom

Although nearly 90 percent of the school age population has played with chips by way of video games and arcades, only 2 to 3 percent has ever sat down in front of a programmable computer keyboard. The common location for this first encounter is the classroom.

Budget slashes notwithstanding, estimates indicate that more than 60,000 computers are in use in the country's schools. Though the price of minicomputers has stayed relatively constant since they were made available in 1976, the attitudes of school boards about the machines have changed from "expensive frill" to "affordable must."

This shift in attitude may be explained in part by the "relatively cheap" school of thought, which holds that what cost a half million dollars six years ago can now be replicated for a "mere" $50,000. But the most compelling reason to buy computers is their apparent inevitability. Everywhere they turn, the message to educators is being blipped home: computer literacy will be the crucial skill of the new age.

The computer-in-every-classroom model already exists in some communities in Minnesota, thanks to the never-never land financing made available by the Minneapolis-based Control Data Corporation, the world's second largest builder of mainframe computers. School systems in other states, not lucky enough to have the sons and daughters of computer salesmen in their classrooms, may be forced to go to Washington for acquisition grants and loans.

But budgeting for the new technology is one thing. How to use it is another. In 1981 most public schools are deep in the arc of a slow pendulum-swing back to the basics, and proficiency in the three R's is the purported measure of all budget items. So even the most chip-wise of teachers are likely to put computers to use as drill and practice machines.

Ellen Benjamin, a teacher at San Francisco's D'Avila Elementary School, likes computers precisely because they teach and reteach math, spelling and other basic skills without taxing the teacher. "A child doesn't have to please me with the right answers, except indirectly," she said. "He has to please the computer. And the computer has more patience with repetition than any teacher."

photo by James Cavenaugh

Drill and repetition have never been exciting for either students or teachers, but they have always been part of mass scale education. Today, when mass education correlates with truancy and failure, and the attention span of children has eroded to a television-like cadence, teachers are under pressure to make everything as jumpy and immediate as the evening news.

A 48,000-character microprocessor is highly competent as a force-feeding, anti-boredom device. But this use ignores a great percentage of the machine's capabilities. "The microcomputer isn't just an expensive monkey tester," San Mateo high school teacher Leroy Finkle explained. "It's true that most of the software being used is for drill and practice kind of things, but that's because it's what teachers, parents and administrators think of first."

Finkle believes that teachers would use more creative programs if they were available. "Publishers are very conservative," he said. "They're only going to offer what sells, and right now they're writing computer drill programs to augment the textbook."

A few companies are looking toward more "exploratory" uses of computers in schools than can
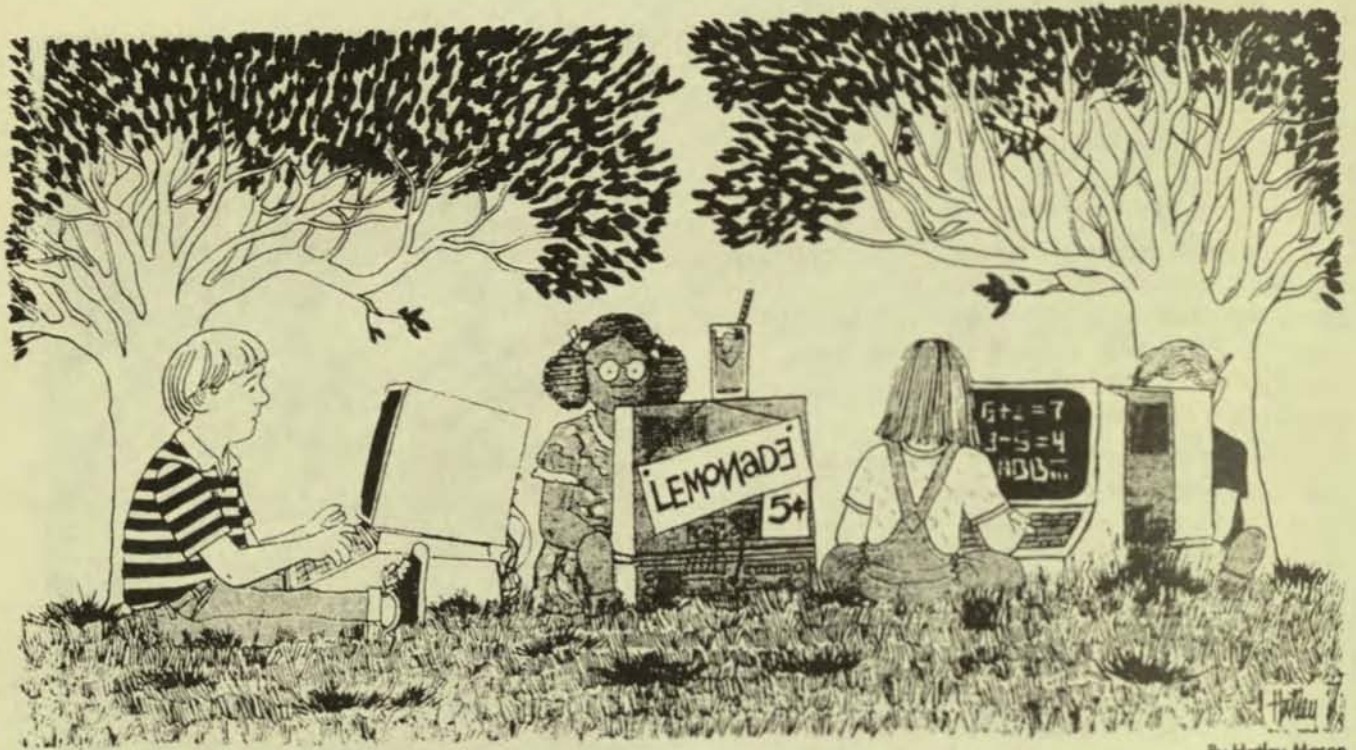
By Hatley Mason.

be found now. Ann Piestrup of Advanced Learning Technologies in Portola Valley, California insists, "Our purpose isn't to serve the needs of the curriculum where that means only rote memory exercises. I do think there are sequences of skills that are needed. But we aren't going to use this wonderful new tool simply to teach long division or turn the pages of a Dick and Jane reader."

Based on her experience, Piestrup believes that "kids can learn things on a computer that the teacher might not be ready to teach, like the logic of circuit design or the building of a spaceship. We've

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A child who becomes computer conversant may no longer be learning sanctioned information at the prescribed pace.

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proven that these things can be understood by second graders. They loved it."

Some of the reluctance to experiment with schoolside computers can be traced to fear of the new technology. No one is exempt from the constant jolts of future shock -- no one, that is, except kids. Children accept and interact with computers completely without fear, and therefore progress very rapidly. But when they learn math on a computer in half the time usually required (as one study in the Los Angeles public schools has showed), the people who write the curricula for the nation's schools get uncomfortable. A child who becomes computer conversant may no longer be learning sanctioned information at the prescribed pace. The student is "out of control."

Reg Fleming, an instructor in the UC Berkeley Department of Education, has written in "Microprocessors in the Classroom":

> "Let's speculate on what might happen were the microprocessor [and its on-line data base] to be available to all faculty and students. At this point, the power of the teacher over software ceases. . . The computer network would personalize and individualize the curriculum, for each person has access to the information he or she needs at that moment. . . the computer would rapidly become the legitimate authority in the classroom. Such an idea is exactly the one which classroom teachers fear and which will prevent the technology from ever being anything other than a corollary to teaching."

Fleming believes that the solution lies in redefining the teacher's role in the classroom from an "information transmitter" to a "curriculum designer" who would guide the design of a study

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course suited to each child. The computer's capacity to facilitate individualized learning is a powerful argument in the age-old debate between "subject-oriented" and "learner-oriented" education.

The idea that learning should be centered on the student's needs instead of the dictates of the curriculum has always been resisted because it decentralizes control over education -- something no bureaucracy worth its pecking order would passively allow. When it has been tried, it has usually been pronounced a failure because it was not "cost-effective" -- in other words, it was too much trouble for suspect results. Now, computer education can give kids greater control over their own education than at any time in history.

State-of-the-art future shock

In her 1970 book *Culture and Commitment*, Margaret Mead repeatedly states that for the first time in history, change is so rapid and so complete that the past is no longer of use to the future. "We have to realize that no other generation will ever experience what we have experienced," she writes. "In this sense, we must recognize that we have no

GUINDON

WHAT ARE YOU THINKING ABOUT, JIM?

WHY NOT SHARE IT?

NOTHIN', I AIN'T THINKIN' 'BOUT NOTHIN'!

QUARTERS! QUARTERS! QUARTERS!

Little Jimmy Fenster, in a halfway house for kids trying to kick Space Invaders is proving to be a very tough nut to crack.

descendants, as our children have no forebears."

Describing the effects of this newness on education, Mead states, "Now, as I see it, the development of prefigurational [future] cultures will depend on the existence of a continuing dialogue in which the young, free to act on their own initiative, can lead their elders in the direction of the unknown. . . It is only with the direct participation of the young. . . that we can build a viable future."

A British author, C.D. Renmore, has suggested

"Hypercomputers should be placed permanently at the disposal of babies from birth."

a computerized scenario for this child-directed world in his book *Silicon Chips and You*. "The most adaptive and powerful computers, the hypercomputers, should be placed permanently at the disposal of babies from birth. Let them play together; let the babies create whole new universes. . . These computers would be lifetime companions, providing an intellectual stimulation as valuable to the child as the emotional stimulation from its mother's love. . . They would never insult, never discourage and never desert the child to whom they were first given."

This might not be everyone's idea of computer utopia. But there is *no* possibility of a non-computerized world for our children.

Many parents, educators and even science fiction writers are haunted by visions of other-than-human beings germinating in our midst. Naturally, these fears are held *for* children, not *by* them. Children of the 80's are daily encountering computers and artificial intelligence with openness and wonder.

Years will pass before we learn the impact of computers on kids who may find their first real friend etched on a silicon chip. But even more urgent than understanding the new child/machine relationship is understanding and controlling the old relationship between technological innovation and social needs. Now, while we're still numbers on the charts of the think tank walls, is the time to ask how we want our computer world to look and what can be done to insist that it be created in our image and at our pace.

The future may belong to the children, but it should bear the mark of our intelligence.   o

Can Micros Help the Movement?

by Timothy Haight

Devil or angel, I can't make up my mind. Can the new communications technologies be made to assist progressive social change?

In order to come to an answer, the focus must be shifted from the technology onto social change. The question then becomes, "Will adopting new telecommunications technology be good for organizations trying to change the system?"

Right now, nobody knows. Neither the government nor the foundations have funded any studies, probably because these partisan groups are too controversial. Some community groups are starting to adopt new systems, but it's too early for results.

Suspicions

I suspect that most groups aiming at real social change have common characteristics that affect how valuable new telecommunications and computer technology can be for them. First of all, these groups have little time to spare and less money. Paid staff members are usually about one weekend away from "burnout." They're often caught between duties to please whoever funds them and the work the organization really needs. In short, there's the resource problem.

Then there's the magnitude of their task. Organizing means disorganizing -- breaking down the preconceived notions that are constantly reinforced by the mass media. This is an extremely labor-intensive process.

Finally, every group's communication needs differ, and every group has many different kinds. One week, a group may need a meeting, the next week a press conference, the next a lobbying campaign -- or perhaps it needs all three in the same week.

For the meeting alone, the group must make telephone calls, hand out leaflets, write a press release and convince the media to run it. It has just used four media. Which new technologies could substitute for these tasks or make them easier? Call this the complexity problem.

Before installing any new communications technology -- and by technology I mean the hardware, the software *and* knowing when it's appropriate to use them -- these three problems should be considered.

Devil in Disguise

Adopting telecommunications technologies may involve hidden dangers. Even large organizations often go through a period of disruption after the new technology has arrived. A small, overtaxed group may not be able to pull through such an initiation.

Other implementation problems, such as faulty hardware that has to be shipped across the country to be repaired, are also common. In bureaucratic settings, certain employees are assigned to nurse the new system. At the grassroots, it means more staff burdens.

The Great Pretender

Some not-so-new communication technologies can be ruled out using these criteria. One is cable access, which requires that group members invest quite a bit of time in learning how to produce programs. Even if they succeed, they then have to organize an audience to watch their productions. This time could be spent getting people to a meeting, where they would find face-to-face contact. The more controversial your message, the truer this rule of thumb.

The kind of "two-way" cable offered by Qube is also a trap. You don't organize people by polling them, even if community groups get to determine the questions.

But the picture is not completely bleak. In some situations, new communications technologies

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have shown great potential. None of the cases cited here involve groups that are strictly grassroots, but the parallels are clear.

Groups of senior citizens in Reading, Pennsylvania, for example, got the opportunity to run a two-way cable system. It was not like Qube, but instead linked together three meeting rooms in clubs and housing projects. In addition, the mayor's office, a high school and other locations were put on the two-way video loop. Over time, the seniors developed programs that generated a lot of learning and organization, as well as good feelings. Participants rated it highly, and it survived its experimental period.

In New Jersey, the League of Women Voters used telephone teleconferencing to link local chapter presidents together to discuss statewide issues. The conference partially overcame the oligarchical influence of the League's State Board.

Specialized satellite hook-ups have provided coverage of demonstrations without editing by the media. They have also been used for interesting computer conferencing, although without much grassroots participation so far.

Did You Ever Have to Make Up Your Mind?

The real gap in knowledge about communications technology and social-change groups is in understanding the groups themselves. Not only are we in the dark about how they use new technology, we have very few studies of how they communicate at all.

A lot of experience is stored in the heads of a lot of organizers, and there are manuals on how to write a press release and the like. But there is little information on how much time organizers spend doing which kind of communicating, on how much cost and effort is involved, or on which communicating works in which situation.

This is not a commercial for social scientists. Groups working for social change have not had the time to record or study their behavior for posterity. But in order to assess the new communications technology, we have to know what the old practices are.

It would also help to know how many groups have considered new technologies and rejected them, and why. Is it just that the possibilities are unknown?

Come Together

In the next months, a number of groups will be taking their first steps with microcomputers, teleconferencing or other media. Their experiences,

if shared, can be invaluable. Many organizations will want to know how their innovations work out and how much they cost. They will be interested in implementation problems and cooperative arrangements to share costs. And they will be curious as to new communication patterns, and whether they help or hinder democratic procedures.

Somebody's Watching You.

Even if the new technologies get good notices, an awareness of their potential use in surveillance must be cultivated. Reports of social-change organizations communicating electronically will be read with interest in many places. I do not presume that I am speaking to terrorists. I remember that not so long ago the Democratic National Committee was bugged and Martin Luther King was smeared.

Groups assessing their communications procedures should be reasonably careful about where that information goes, and people wanting to study them should be sensitive to the issue and able to prove their trustworthiness.

All I Have To Do Is Dream

An alliance of community groups and communication specialists interested in social change could usefully inventory current communication behavior and assess innovations. It might be able to identify community communication consultants or create a process by which groups could do their own preliminary evaluation of technological possibilities.

Such a group should include people with very current knowledge of the new technologies, and should make the results of their study available through whatever organizational networks seem appropriate.

In some ways, informally, this process is already going on -- the existence of this journal being a case in point. But it would be nice to spread the net wider and more systematically. With such shared knowledge, many groups could face their communication choices with a little more confidence.

It Will Stand

No matter what decision community groups make about them, computers and new telecommunications technology are going to be around. The movement of the future will have to compete with the office of the future. The irony is that the people who are so aware of society have so little information about how they themselves communicate. Resources permitting, we should spend some time studying ourselves.   o

Community Computing

by Andrew Clement

"Community computing" -- the use of computers by grassroots community organizations -- is a recent phenomenon. Thirty years ago, most people couldn't really imagine what electronic thinking machines would be good for. A few of the biggest corporations and government agencies put them to work on relatively mundane clerical chores, and thus began "corporate computing."

The pace of development since then has been fast, furious, and much remarked upon. Most of the emphasis has been on the rapid miniaturization of computers and their shrinking prices. But from the point of view of the mammoth enterprises that nurtured computers at their birth, the crucial change is in their vastly increased capabilities. The most powerful computers still cost millions of dollars and occupy large rooms.

Not entirely coincidentally, the power of the corporations has grown dramatically too. They have continued to foster computer technology and have diversified its applications in order to extend their control both geographically and in fineness of detail. Their global reach extends to the smallest transactions of clients and employees -- even an individual typist's keystrokes can be timed, recorded and turned into grist for the great information mills. Computers and corporations have got along very well together; in fact computers have been molded into near-perfect instruments of bureaucratic control.

Complaints about the extent of computer-aided corporate power evoke the response that large enterprises are more efficient and that big computers are essential to handle the increasing complexity of social life, which has mysteriously grown in parallel with the use of computers. Without computers, we are told, half the population would be required as bank tellers or telephone operators in order to handle the volume of transactions necessary to modern life. (We don't need to ask which half is being referred to.)

Another set of complaints, this one about invasion of personal privacy, dehumanization and screw-ups that can't be fixed, has elicited more concrete results. Some privacy legislation has been passed. The blame for the other problems has been assigned to badly designed systems which, it is said, are now being perfected.

IBM, for example, has run an expensive ad campaign on the "depersonalization" problem. Other companies have introduced "computer ombudsmen." A new discipline -- "human factors engineering" -- has been called upon to create "user-friendly" interfaces that will call you by your name and say "please" and "thank you." And inevitably, one hears the argument that is supposed to end all argument -- that the' free play of the market will weed out the companies that fail to deliver the product the public wants.

Personal computing

Not all critics of corporate computing have been satisfied by these developments and promises, but for many years there was nothing they could do. Then, with the development of the microprocessor on a chip in the mid-70's, some computer enthusiasts thought they saw a chance to turn the tables on the big guys. Now the home brew computerists could take on the "software priesthood" (Fylstra and Wylber, *BYTE*, 1977). Popular computer magazines ran banner headlines like "Computer Power to the People" (David Ahl, *Creative Computing*, 1977) and "The Great Equalizer," a phrase that originally referred to the Colt-45 in the days of the Wild Frontier. (Nels Winkless III, *Personal Computing*, 1977.)

Of course, reality hasn't measured up to the dramatic billing. In fact, far from posing a serious

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threat to the big computing guns, personal computing can be seen as a supportive and profitable complement that in many ways encourages technical, economic and social centralization. (1)

The owners of personal computers are in much the same position as people who own personal vehicles -- cars. We have seen in recent years how the imperatives of a transportation system based on private automobile ownership have been used by oil suppliers and auto manufacturers to hold entire populations and apparently even some governments at ransom. Personal computing, of course, hasn't yet reached the same level of strategic importance. But it soon may.

A personal computer without outside software and data is not particularly useful. It's something like a car without gas or roads. When the computer games get boring and you want to plug your machine into something more exciting than an AC power outlet, some very eager vendors will be waiting for you. The convergence of giants from diverse areas -- IBM, Xerox, ATT, and Exxon -- indicates that the stakes in the home and office information market are very high. The struggle for market dominance will be very fierce, perhaps even more so than that of the oil and automobile industries earlier in this century.

In parallel with these processes of economic concentration is a related social process. The private world made possible by microelectronics and

A personal computer without outside software and data is something like a car without gas or roads.

telecommunications may help speed the atrophy of social relations in families, neighborhoods and at work. (See Weizenbaum, *Computer Power and Human Reason* and the "Hacker Papers" in *Psychology Today*, August 1980, for extreme examples.) Without effective local organizations, which are usually based on community or work ties, it is much more difficult to counter government and corporate initiatives or to propose alternatives. And when individuals need assistance but the traditional social support mechanisms are not available, they are

"Sometimes it seems to me the old Romans did just as well studying the entrails of a sacrificial goat."

forced to turn to government agencies and other impersonal institutions.

Of course, the phenomenon of social atomization coupled with the centralization of control is not exclusively associated with computing. It has much deeper roots in our society and has been going on for some time. However, corporate and even personal -- or "individualistic" -- computing are tending to further social *polarization*.

Corporate computing and individualistic computing may not be all bad. But a "community" alternative is being steadily eroded, if only by default. The attempt to reverse this process, to help foster community activities through the use of computers, is the subject of the remainder of this article.

Community Computing

Computerists have a bad habit of promoting solutions -- often involving a program or piece of software that they have personally designed -- before they find out what the real problems are. Most community organizations are already stretched fairly thin and can ill afford to be led onto wild goose chases by computer enthusiasts, no matter how well meaning. Even large corporations have had to tighten the reins on runaway computer staffs.

In general, one of the most important tasks of community organizations -- food cooperatives, parent-run daycare centers, environmental action

1. Evidence of this can be found in a recent quote in the *Wall Street Journal* (May 19, 1981). A computer industry trade association leader in England said, "Big companies are already turning down mainframe computers on industrial relations grounds. I advise getting into small computers. An Apple a day, I say, keeps the union away." (From *Processed World*, #2, page 29-30.)

groups and the like -- is to maintain the active involvement of informed participants on a willing and often entirely voluntary basis. While computers are increasingly regarded as powerful communications tools, the formalization and standardization they require are often inappropriate for community organizations, especially because direct personal interaction is highly valued.

Typically the most useful applications of computers in a community context are in the area of office support -- mailing lists, simple bookkeeping and word processing. But the equipment required -- video display, central processing unit, dual floppy disk drives, and letter-quality printer -- is still more expensive than the typewriter/photocopier combination that has traditionally accomplished these tasks.
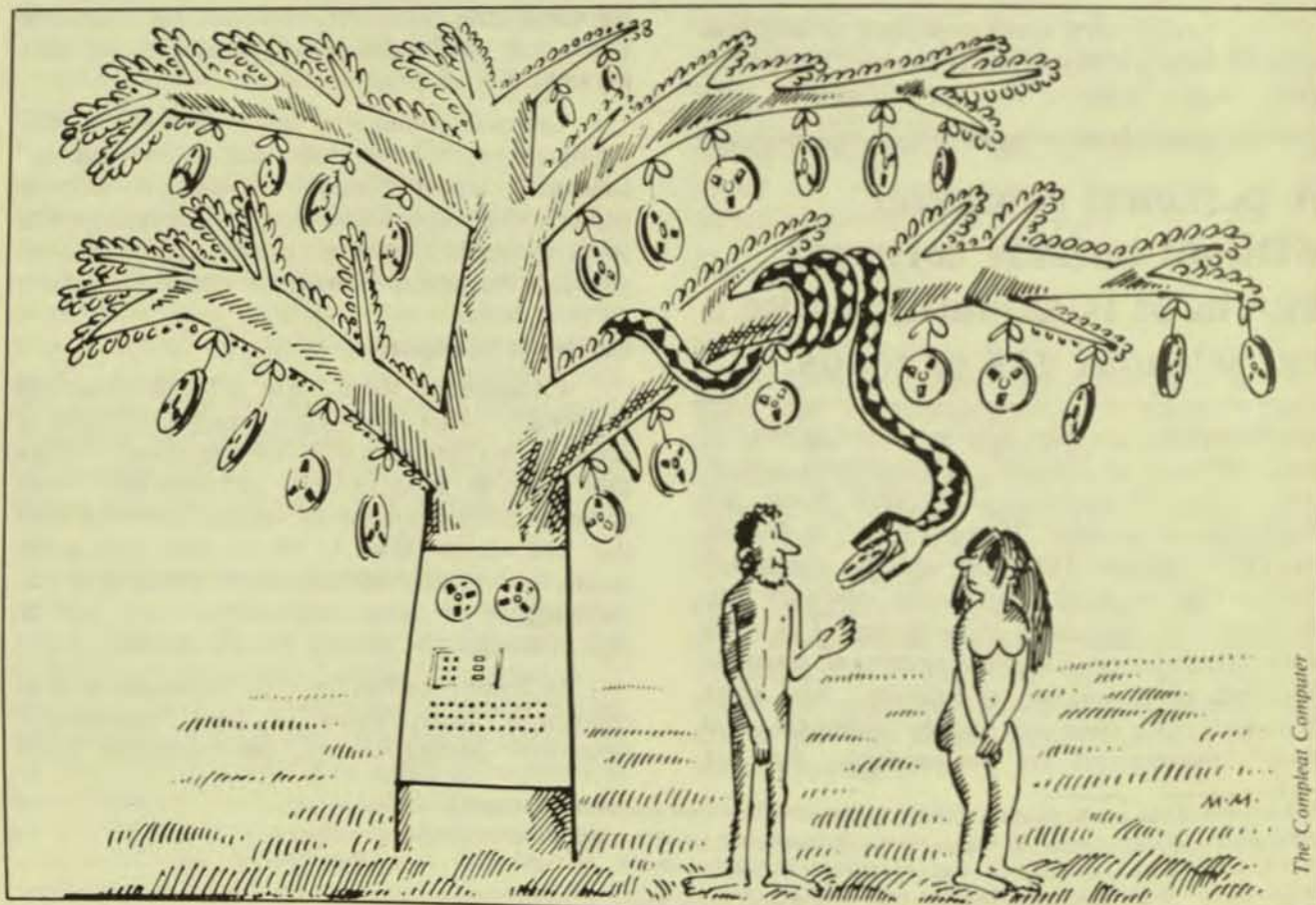
One way to overcome the cost obstacle might be to establish community computing resource centers -- places where expertise and expensive facilities can be shared by several community groups. More advanced computing facilities could be put to good use by the information and referral centers that are found in most North American cities. (2)

These groups, whether service or advocacy oriented, collect information on local community resources and social services and make it available to the public via a phone-in service and by the publication of directories and pamphlets. Typically they compile a great bulk of information that is constantly in need of updating and that should ideally be retrievable in several ways, for example by type of service, by locality, by eligibility requirements.

The potential here for computerization is obvious. But care must be taken to ensure that the counseling role played by these groups is not submerged in the "efficient" delivery of an information "product."

The computing resources demanded by such applications are typically greater than what is presently offered by commercially available personal computing systems. But some information centers are trying them out, generally using them to prepare conventional paper documents or microfiche. The Commmunity Information Centre of Metropolitan Toronto has installed a commercial word processor, for example, and the Greater Vancouver Informa-

2. Some of the larger information and referral agencies stretch somewhat our definition of community organizations because they are heavily supported by major government and business grants. In fact they are sometimes extensions of government departments, as in Alberta, Canada.

The Compleat Computer

tion and Referral Service is using a simple database system.

On-line access to community information resources is currently rare. But with the introduction of videotex services we will likely see community information made available on the home television set, even if only as a way to sell videotex to the public and to make it more socially acceptable. (3)

Besides the use of computers in the offices of community groups, there are now a number of experimental computer communication projects that are unlike any corporate or individualist computing applications. They are designed to foster active and egalitarian participation on a community level.

The Community Memory Concept

The concept of a "community memory" was a significant innovation in community computing. The Community Memory project installed a number of public computer terminals in the San Francisco Bay area and in Vancouver during 1973-75. Through these terminals, people could enter any message of any length, and index it with subject or topic "keywords" for retrieval by others.

Technically, Community Memory's closest relatives are computer conferencing and on-line information retrieval. Historically it is the precursor of PCNET and the computerized bulletin board systems that have become popular among amateur computerists. While it has many similarities to these systems, there are some crucial differences.

Community Memory is a design for a highly distributed network of public terminals. These ter-

With the microprocessor on a chip, some home brew computerists thought they could take on the "software priesthood."

minals are for use by the general public for a wide range of purposes. As much control as possible over the information-handling process remains with the individual user. In this many-to-many communications medium, everyone can participate both as consumers *and* as producers of information. In short, it is intended as the memory for the community "mind." Such a system is more than a technical innovation; it is a social innovation too.

Although Community Memory has been dormant for a number of years, other public access

The contrast between what is technically possible and what is actually available will become much harder to hide.

computing projects are now beginning to appear. (4) While Community Memory and other community computing projects have enjoyed some success, they have not so far become widespread. The most obvious reason is lack of money, always a chronic problem for community organizations.

A second problem is the lack of computing expertise. Sophisticated technical skills are expensive, and are usually provided by computer enthusiasts who volunteer their services -- and on whom an excessive dependence is easily developed.

Another kind of expertise, a general familiarity with computers on the part of all members of the organization, is equally vital. When people don't have a clear idea of what is going on they tend to make more mistakes, overlook possibilities, feel left out, resist improvements and generally fail to contribute to and benefit from the organization as much as they could. Especially in organizations that are committed to the widest possible sharing of effective control, ignorance about fundamentals is intolerable. Community organizations that use computers in any significant way must be dedicated to the continual training and self-education of all participants.

Some of us who were involved in community computing in the early seventies -- a period when we used large timesharing machines and spent a lot of time battling with university computing centers,

3. Videotex is a two-way information service using conventional television sets linked to central computers by means of telephone or cable TV networks. Services proposed for videotex include access to databases (stock market quotations, department store catalogues, etc.), consumer transactions (banking, ticket reservations, purchasing from catalogues), and person-to-person communication (electronic mail).

4. A pamphlet describing the Community Memory Project -- its history, how it worked and the social philosophy that inspires it -- is available for $1.00 from The Community Memory Project, 916 Parker Street, Berkeley, CA 94703.

The first Community Memory demonstration project, Berkeley, California, 1973-75.

nursing flaky systems, swapping disks and showing people where the RETURN key is on a terminal -- naively believed that the development of microcomputers and the rise of personal computing would mean a blossoming of *community computing.*

That this has not taken place suggests that even more difficult problems than money and expertise may be at work. The general retreat from social activism that marked the seventies and public suspicion about the liberatory potential of high technology may be part of the explanation. But there are other social factors that must also be analyzed.

Non-profit community computing projects can present an alternative to the way power is exercised in the dominant social institutions. Innovations that challenge the prevailing order are not welcome, and the forms of resistance to them are varied and often subtle.

When a corporation embarks on a major new product it usually does exhaustive market and technical research, prepares an elaborate strategic plan and then either draws on its own wealth or elicits large sums of money from people who are promised a substantial return on the capital they "risk." No matter how socially beneficial a community computing project might be, it is simply not going to attract this sort of private investment money, since it is not intended to turn a profit.

Alternative sources of substantial sums -- governments and foundations -- are also often

unwilling to fund projects that appear radical or are simply too "exotic" to fit nicely into their established funding categories. Unless wealthy patrons can be found, much slower routes to the necessary capital must be found. Usually this means finding outside employment or developing spin-off products that can be sold commercially.

And what if a community computing system like Community Memory did become widespread and successful? Entrepreneurs would undoubtedly move in to grab the more profitable sections of the markets that will have been opened up, and could ultimately deflect the enterprise from its non-commercial objectives. The reaction of for-profit companies serving existing markets (for example, housing rental information) might also have a negative effect.

The issues of management and coordination on the basis of effective decentralization of control are also critical, particularly for a large network. There will be increasing pressure to adopt a hierarchical model just to keep the whole thing running smoothly. Food cooperatives and credit unions seem to have fallen into this trap. They may provide slightly better service to their members but they are otherwise indistinguishable from conventional commercial businesses. Models of large, effectively decentralized organizations are hard to find and people are generally not socialized to function within them.
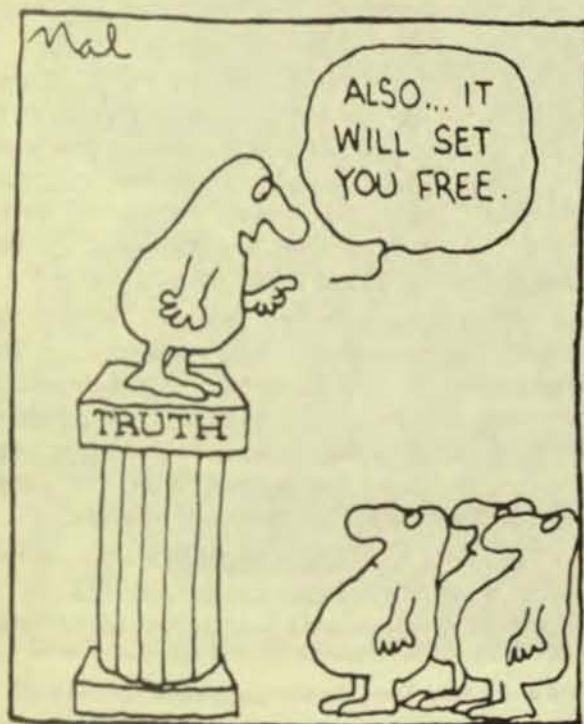
If a community information network should manage to pose real alternatives to "business as usual," then resistance to it would become more overt. The threat that it poses would not be simply as competition for a share of the market; it would be correctly perceived as a threat to the way in which control in our society is exercised.

We could then expect the mass media to start pointing out the system's weaknesses and mistakes. Litigation over issues such as libel and common carrier status could divert energy and resources for years. Fluctuations in the general availability of electronic components could even be used to undermine the technical base of the system in ways similar to those which the major oil companies used to squeeze out independent dealers during the "oil crisis."

To avoid these problems, a community communications network must steadily diminish its dependence on the conventional economy. It can do so by soliciting economic support from its users, by expanding expertise among its users, and by trading services with other non-mainstream groups. It must encourage active public support and become diversified and integrated in its activities. Strategic weaknesses must be identified and corrected early.

Even if a "community memory" experiment is only performed in a limited way, it would still be valuable as a standard against which commercial videotex systems and other new media can be measured. The contrast between what is technically possible and what is actually available, between the humane potential and the confining reality, will become much harder to hide.

In the mean time, steps should be taken to get computer experts and progressive community organizations together. Achieving a deeper understanding of the dynamics of control in our society, the role that computing plays in those dynamics and how computing can be used to support positive alternatives is essential to building a humane technology and a humane society.   o

Hardcore Software

by Marcy Darnovsky

The microcomputer revolution, we are constantly being warned, is about to change every aspect of our world. But what will it do for our sex lives?

In the last year, three unabashedly pornographic software programs have been released onto the booming personal computer market. Those who want to get personal without purchasing special software can simply dial up one of the new computer bulletin board systems that specializes in sex. And a new quarterly "user's guide to erotic software," The Dirty Book, is being launched in New Orleans to act as broker and promoter of sexually suggestive software.

The front-running commercial program is Interlude, which has sold 15,000 copies at $21.95 per diskette for the Apple or TRS-80. This "stimulating computer game" is advertised by a scantily clad woman reclining in bed while fingering the keyboard of her terminal.

The Interlude program accepts either two players, for a romantic evening by video display light, or one player, for a session of computer-assisted masturbation. The game begins with an on-line interview that determines what Interlude's ad copy calls the participants' "feelings about lovemaking at the moment." On the basis of this exchange, the program gives "personalized" instructions for participating in fantasies like "From Here to Ecstasy" (Interlude #30), "Caveman Caper" (Interlude #82), and "The Ultimate Experience" (Interlude #99).

Softporn, made by On-Line Systems of California, is selling at 600 copies per month and climbing. Its full color ads in *Infoworld* and *Soft Talk* show three naked women being served champagne in a hot tub.

Softporn is an adventure game, the object of which is to find three girls and seduce them. The message on the screen tells you where you are -- a bar, a casino, a bathroom -- and what objects are in sight. The adventure proceeds as you type in commands that couple a verb with one of these objects.

My experience with Softporn was extremely frustrating -- I couldn't even find any girls, let alone get them in the hot tub. When, in a moment of frustration, I gave the command "Fuck you," the program replied huffily, "Not tonight, I have a headache."

Softporn doesn't tolerate a wide range of sexuality. When I typed, "Fuck bartender," I got, "No way, wierdo! You're sick!"

Larry Bain, general manager of On-Line Systems, explained that the decision to market the program was based on its not being "too offensive." "If you use moderately phrased commands, you get moderately phrased responses," he said. "If you're lewd and obscene with the computer, it will be lewd and obscene with you."

"Our employees love the game," Bain said. In fact, the women in the hot tub ad all work at On-Line Systems. One is Bain's fiancee, another the wife of the company's owner, and the third its accountant. But On-Line probably won't pursue pornographic software. "We're not in the pornography business," he insisted.

It's likely that Interlude, Softporn, and Pornopoly (a strip-poker version of Monopoly available for all four major home computers) are just the beginning. Bain predicts that pornographic computer graphics are next. "But I don't think it will work," he said. "Your imagination can do a lot better than anything that can be put on a computer screen."

Hardcore software may be in its infancy, but the kinky computer games have kicked up a controversy among the upscale technological sophisticates at whom they're aimed. Ads for Interlude in *Infoworld*, a fast-growing microcomputer newspaper published in Silicon Valley, have prompted a angry letters and several subscription cancellations.

Infoworld has been accused of "a sordid form of merchandising" and "image assassination [of women] on a mass scale." Another reader urged

Marcy Darnovsky is an editor of the *Journal of Community Communications* and of *It's About Times*, the newspaper of the Abalone Alliance.

the newspaper to refuse to run the ads: "Let's nip this thing in the bud."

The issue has been batted around at several stormy *Infoworld* staff meetings. "The discussion has been complex, with many facets," said Maggie Cannon, managing editor at the newspaper, "from the appropriateness of these ads to a computer publication, to freedom of expression, to sexism." No final decision on continuing to accept the ads has yet been reached. "There was a great uproar, and it's still up in the air," she said.

Cannon was surprised that most of the irate letters were from men, and that half of them objected not to the obscenity of the ads but to their sexism. "It's true that the computer industry is dominated by men," she said in explanation. "But I found it heartening that these guys are saying, 'Hey, that's not right for women.'"

I met similar responses as I perused the yellow pages looking for a computer shop that carried the software porn. When I called the Apple Computer Store in Oakland, owner Andrew Beretzas told me he was surprised to hear a woman asking for the programs. "We don't believe in carrying that stuff because it discriminates against women," he

explained. "Don't you think the ad is awful -- the lady with the sexy smile and her pussy hairs showing?" But Beretzas admitted that his service engineer has the promotional poster of the ad hanging next to his desk.

In the few stores I found that carried the programs, they were under-the-counter items. One retailer explained that the computer stores are family affairs, with lots of kids hanging out at the keyboards.

On-Line Systems' Larry Bain seemed amused by the controversy. "Computer people are typically a bit stuffy," he said, though he agreed that "some person somewhere -- and not necessarily a little old lady -- is going to take offense at that kind of advertising in a magazine that lies around in people's homes." He was not sympathetic to the charges of sexism. "It's all a matter of a sense of humor," he said.

But Bain was offended at the possibility that *Infoworld* might refuse to accept the Softporn ads. In fact, he told me, On-Line Systems has recently decided to pull all of its Infoworld advertising. But that policy has nothing to do with the sexually suggestive software. Instead, On-Line objects to

Softporn advertisement.

Infoworld's carrying ads for program-copying devices (which cut into the business of software manufacturers).

The image of computer wholesomeness that the pornographic programs challenge is also at issue in the rest of the industry. Computers have become entertainment machines only in the last few years, and not everyone is sure how to go about shifting gears. Manufacturers and marketers of video games, for example, are anxious to fend off the stigma connected with pinballs and slots. (See James Cavenaugh's "Kids on Chips" in this issue.)

In fact, the commercial software porn is pretty tame stuff; the fuss about it reveals more than do the programs themselves. More explicit bits and bytes can be found on computer bulletin boards, a sort of electronic alternative press where anyone with a terminal, modem and telephone can leave a message. Once filled entirely with computeroid chatter, there are now computer bulletin boards focusing on many topics, including astrology, astronomy, music, satire and sex.

Most of the sexually oriented boards simply warn you about the contents when you sign on and then let you wander where you will. But a network in St. Louis, SLUMS, only lets you into its "Underground" -- a gay sex message system -- if you enter a special code.

The moral to this tale of machine-readable decadence is that the computer era may look a lot more familiar than we think. If the early attempts at computer erotica are any indication, the new age will come complete with sexism and censorship, prudes and prurient interest.

How's your love life?

INTERLUDE
#99
THE ULTIMATE EXPERIENCE...

A little dull around the edges? Routine? Predictable? Boring? Maybe all it needs is a little Interlude. Interlude is the most stimulating computer game ever conceived. It combines a computer interview, an innovative programming concept, and a one-of-a-kind manual to turn your love life into exciting, adventurous, delicious fun!

Interlude advertisement that kicked up a storm at *Infoworld*.

I've Seen the Future and Its Quirks

by John Markoff

Several years ago I sat in a glittering Las Vegas hotel and listened to an earnest Air Force colonel tell me what electronic warfare meant to him. Searching for an appropriately upbeat note on which to end an interview, the colonel exuded the confidence of a true believer. "Electronic warfare is more than just a science," he said. "It's an art."

"More than that," he implored, groping for precisely the right word, "it's. . . it's a religion."

The image of the colonel, a colorless man who earlier in the day had given me a tour of an electronic warfare exhibition, continues to haunt me. Here is a man who is destined to fight the next war from a sterile air-conditioned command bunker hundreds or even thousands of miles from the battle zone, and yet he has the zeal of a gladiator. He bitterly hates the abstract communist enemy whom he will never see, except perhaps as a ghostly signature on a cathode ray tube. Yet he is clearly ready for battle.

The colonel's commitment to the struggle pervades the military-industrial complex. At another electronic warfare convention in Anaheim, California almost two years before Ronald Reagan's election, a journalist who was attending told me he was struck by the "euphoria" among those present.

The outlines of the new American defense strategy were already clear: technology and more technology. Pentagon strategists had fixed on the "Force Multiplier" as the new shibboleth of the technocratic elite.

Where does the Pentagon's technological imperative come from? More than any other force driving the arms race, the industrial apparatus that has emerged since the end of World War II has come to dictate the pace and the explosive growth of a technological revolution that has transformed the nature of warfare. The impetus of the Pentagon's technical fix is deeply rooted and interlocked in a very basic technical transformation -- what is popularly referred to as the "microprocessor revolution."

The word "revolution" has been tremendously overworked in connection with semiconductor technology -- there is the information revolution, the second (or third) industrial revolution, the microprocessor revolution, the communications revolution, and probably several more lurking just over the horizon. But in this case, I think it fits. The microprocessor is destined to profoundly transform social relations in ways we can only speculate about today.

What is overlooked in most of the speculation is that the transformation is Janus-headed. Marx observed that one of the principal features of nineteenth century capitalist economies was the continuous transformation of the means of production. It may be that the principal feature of twentieth century capitalism is the continuous transformation of the means of *destruction*.

Much of the impetus for the development of computer technology and more recently semiconductor technology has come from military necessity. From the use of early computational machines in building the first nuclear weapons to the acceleration of microelectronics development by the size and weight constraints of the Minuteman missile program in the early 60's, at key junctures the military has played a guiding role in defining technological priorities.

Today the intertwined relationship between the military estate and the scientific and technical communities has created a new imperative all its own.

The new warfare state

The dissolution of the line between the civilian and the military sectors is a process which began with the American and French revolutions and the transition from feudal wars conducted by an elite caste of warriors to modern wars fought by a mass army. More recently another significant change has

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taken place. As described by Harold Laski, "In the new warfare, the engineering factory is a unit of the army, and the worker may be in uniform without being aware of it."

The magnitude of the technological base needed to wage modern wars dictates that entire societies be organized to support their preparation. The modern nation-state has been designed along regimented militaristic lines and entire populations are held hostage in the complex balance of nuclear terror. In fact, a new "warrior elite" has emerged.

Councils such as the Joint Chiefs of Staff are increasingly constituted of engineers instead of the so-called "bomber admirals" who ran the military in the aftermath of the Second World War. George Brown, former chairman of the Joint Chiefs of Staff, is an excellent example. He was the first non-Strategic Air Command officer to occupy a position on the supreme military command group.

More importantly, most key decisions about weaponry and military planning are now being made not in the Pentagon per se but in cloistered think tanks and the R & D centers of defense corporations.

Technological change has also removed the decision-making locus of the modern military apparatus to increasingly greater distances from the battle zone. Electronic command and control mechanisms are centralized, and decisions percolate out through the military chain of command. Vietnam is a clear example of this trend. It was not a general in the field who ran the war but a corporate executive in Washington. Robert McNamara, formerly of General Motors, conducted the war from the Pentagon, with predictable results.

American military planners have missed these obvious lessons of the Southeast Asian war. A non-military electronic warfare expert recently explained with pride that in future wars the interwoven C3I (Command, Control, Communications, Intelligence) network would permit the president to communicate instantaneously with his entire forces, all the way down to the soldier in the foxhole. (He didn't suggest, however, what the commander-in-chief might have to say to the grunt in the field.)

The technological basis of the modern military apparatus foreshadows another important trend in war planning techniques. A researcher at the SRI International Artificial Intelligence Center recently told me that the results of AI research have induced a sense of "euphoria" inside the Pentagon -- the
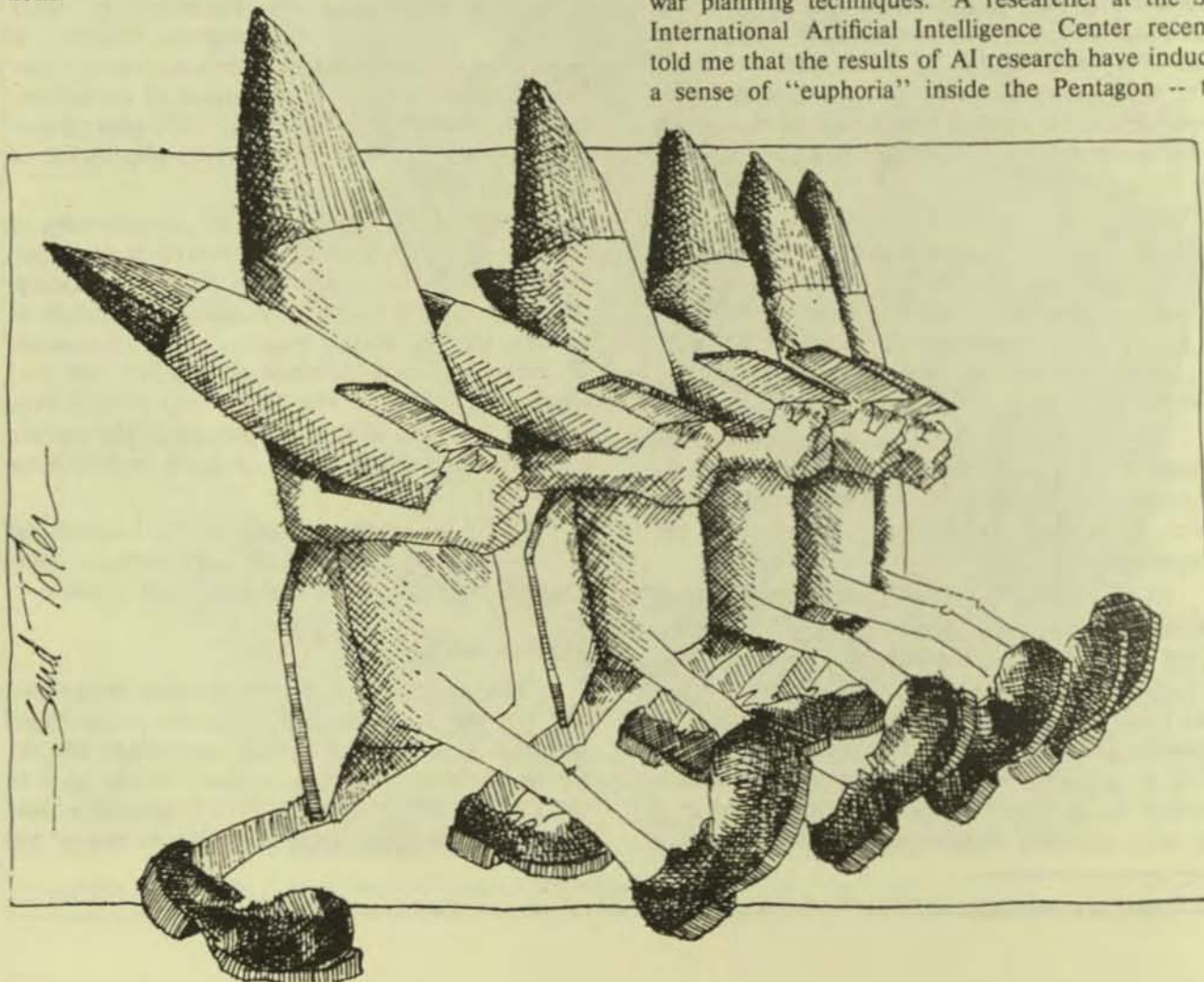
second time I'd heard that word used to describe the psychological state of the military elite. He said, "The US military sees artificial intelligence as a perfect solution to its most pressing problems -- manpower shortages and the low educational ability of troops."

AI has been seized by the military as another panacea, and one of its first applications is in electronic warfare where decision-making processes now take place at speeds that made human intervention useless. These speeds are stunning. A programmer in a Silicon Valley "spook shop" (one of a new breed of defense corporations that act as high technology adjuncts to the intelligence community) told me that he is now creating a model of the "electronic warfare environment" in a hypothetical NATO/Warsaw Pact war in Europe. His model is broken down into thousandths of a second.

The dangers inherent in the Pentagon's reliance on machine intelligence are painfully obvious. The recent failures last year of the NORAD early warning system, in which false alarms of a Soviet missile attack were communicated, gives some indication of what could happen when one of these machines makes a mistake.

The military has denied that they have applied AI techniques to the early warning system. However, it takes little investigation or imagination to realize that all the components of a launch-on-warning system are already in place and that it's only a matter of time before the process will be fully automated. The "man in the loop" is being pushed out.

The intensity of the modern technological battlefield, even in a "non-nuclear environment" (in the sterile language of the war planners) is unprecedented. The 1973 Arab-Israeli war, one of the first "unlimited" tests of modern weaponry, consumed $10 billion worth of weapons and supplies in the space of two weeks. The potential levels of destruction continue to escalate exponentially.

This technology has become the driving force behind the arms race. A constant electronic cold war rages between the superpowers as they probe and test each other's defenses.

Electronic technologies are also expanding the arena of modern warfare, from the bottom of the sea to deep in space. Here too military planners have come up with a rationale. "Space is a dandy arena, actually," says one Pentagon scientist. "You've got to attract strategic war off the planet. The notion of abhorring war in space is just plain wrong." Tragically, things aren't so dandy: military destruction is simply moving into new dimensions, not leaving the planet in peace.

Is there any way out? The sheer size of the military sector of the economy alone makes solutions hard to come by. A tour around Silicon Valley, the heartland of US high technology, gives a striking portrayal of how tightly interwoven the electronic warfare industry is with the civilian semiconductor industry. Corporations with names like ESL, Antekna, Ford Aerospace and Dalmo-Victor are interwoven with non-military electronics manufacturers. This military demand on the market economy severely distorts technology that could otherwise be applied in a socially useful manner.

And the trajectory of American policy offers little optimism. Even before Reagan's election the Pentagon was planning on spending $245 billion over the next decade on electronic technologies. That figure has since dramatically expanded.

Perhaps a metaphor for our situation is the ubiquitous video game made by Atari called "Missile Command." The game depicts a strategic missile attack on six cities which are nestled at the bottom of a brilliant color screen. As the attack progresses the player martials his force of ABM's to fend off incoming warheads. But no matter how good he is, all of his cities are inevitably destroyed. Then, out of an orange mushroom cloud, emerge the words "THE END."   o

The Real Challenge of the Chip

by Jeff Taylor

photo courtesy Lawrence Hall of Science

The development of microcomputer technology has been compared to everything from the harnessing of fire to the creation of the electric motor. Its dispersion is bringing with it a flood of debate over whether microelectronics will bolster the existing social structure or provide tools for greater democracy.

The need for a general awareness about how to direct the social impact of microelectronics should not be limited to computers. It should also concern itself with the conglomeration of technology that microelectronics makes possible -- interfacing computers and robot systems, artificial intelligence, telecommunications in general. *La telematique,* as the French call it.

In Britain, the need for an informed citizenry that can direct rather than merely be persuaded to accept the impact of microelectronics is considered crucial. In fact, it has been remarked that the country's only growth industry is talking about the

Jeff Taylor is a doctoral candidate in London.

chip. British awareness of the micro-revolution has been fed by, and has in turn spawned, a plethora of media response.

In 1978, a BBC documentary called *Now the Chips are Down* boldly raised the issues of automation, unemployment, and government apathy. The program was a phenomenal success, and prompted then Prime Minister James Callaghan to announce a 500 million-pound microelectronics development program for the U.K. (This program shocked me into resigning as a primary school teacher in bucolic Derbyshire in favor of full-time London-based research into the educational and social implications of microtechnology.)

Recently, Margaret Thatcher's government committed funds to develop a national network of regional centers for software development and exchange and for teacher training. There is also a new commitment to subsidize the purchase of British microcomputers for secondary schools, which is notable for being the only exception to a general policy of drastic cuts in educational spending.

In America, the mass media has been relatively silent about the social impacts of microelectronics, perhaps in accord with the wishes of their corporate sponsors, usually major computing companies whose multinational futures are contingent upon spreading just enough computer awareness to ensure ever-expanding markets for their products. Any social implications that are raised are usually whitewashed with superficial optimism.

My complaints about American ignorance notwithstanding, things are not that much better in Britain despite the media assault, the programs in the schools, and the out-of-school initiatives. In Britain as well as in the U.S., an emphasis on functional Computer Literacy, which dilutes computer awareness to the level of easily testable skills, is spreading. Both countries seem intent on using small computers to provide competent industrial fodder and to cultivate new kinds of consumers.

Meanwhile, the gap between the haves and the have-nots is increasing exponentially in both countries. The US may reach the critical flashpoint that sets off riots like the ones now commonplace in Britain. Or perhaps the displaced and unplaced workforce will be contained by sophisticated micro-surveillance prefaced by Reagan's recent move to create an extensive databank on welfare recipients.

A glimmer of hope

In the midst of all this gloom, a hopeful British effort was initiated in November of 1980. ComputerTown UK! (CTUK!) is a nationwide network of voluntary computer literacy centers, at present loosely linked by the British magazine *Personal Computer World*.

CTUK! aims not to establish a "nation of programmers," says *PCW*, but to do something "on a very wide scale to introduce the public to some basic truisms of computers." CTUK! centers, which rely on "computer enthusiasts" for their operation, have spread rapidly from community to community throughout Britain. (1)

Despite its grassroots success, CTUK! seems to suffer from some confusion about its goals. On the one hand, *Personal Computer World* speaks of using CTUK! to overcome "fear of the unknown" (computers) in order to remove a great "barrier" to change -- in other words to placate a potentially hostile public by endearing them to the technology that threatens them. It also seeks to prepare citizens to "help create the new industry that this country requires."

Small computers are being used to provide competent industrial fodder and cultivate new kinds of consumers.

On the other hand, the magazine describes CTUK! as "subversive." It *is* subversive in its appeal to get children, "the weak point in society's anti-technology block. . . well and truly hooked." CTUK! may either subvert public apathy to matters both social and technological, or wind up merely creating an expanded consumer base.

This ambivalence of direction made me curious about CTUK!'s origins. I found that it is in fact another American import, another triumph of "American know-how." Before long, I got the opportunity to study its progenitor, Computertown USA!, during several months in the United States early in 1981.

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1. The following quotations on CTUK! are taken from the November, 1980 issue of *Personal Computer World*, in which CTUK! was introduced.

When I left England, I assumed that CTUSA! had gone forth and multiplied, just as CTUK! had quickly grown into a nationwide network. What follows is an impressionistic diary of a 6000-mile drive that meandered ever west in search of American computertowns en route to CTUSA!'s California birthplace.

Sesame Place

My first stop was Sesame Place, a computerized amusement park in a wealthy suburb north of Philadelphia. Its founders boast that it houses the largest collection of educational computers in the US.

Sesame Place is a joint venture of the Children's Television Workshop and Busch Entertainment Group. For the past ten years, Children's Television Workshop has been subsidized by grants. Now that these funds are drying up, the organization is looking to commercial ventures on the Sesame Place model for new sources of revenue.

Plans call for cloning Sesame Place in at least six other sites, all of them presumably wealthy suburbs like the original. The park's chief software designer, Dennis Sullivan, explained that the Sesame Place software, designed primarily to entertain with secondary educational value, will soon be offered for sale to the exploding home computer market.

Upon arriving at Sesame Place and paying the park entrance fee of $5.45, visitors are offered tokens at three for a dollar. Armed with the tokens, each worth four minutes of computer time, they approach the Sesame Place Gallery with its 70 Apple microcomputers. All of them are bullet-proofed in heavy metal with touch-sensitive screens.

Despite Sesame Place's educational undertones, arcade mercantilism prevails. When four minutes are up the game is over, even if the user is left halfway through the new "learning experience."

In part, Sesame Place is aspiring to provide hands-on science education modeled on the Exploratorium in San Francisco and the Lawrence Hall of Science in Berkeley, from which its key staff emerged. Yet there is precious little education about computers here. Nothing informs visitors that the machines from which they are being fed canned trivia are in fact microcomputers, rather than terminals to a mainframe. As an afterthought, tucked away on a side wall, is a cryptic and untitled display of Apple circuit boards. I observed no one being distracted from pumping tokens into the machines by this free attraction.

Nowhere, for example, is there a microscope with which to gaze and be amazed at a silicon chip. Nowhere is there a small browsing library with books and journals that might address the social implications of the technology so casually displayed.

photo courtesy Lawrence Hall of Science

photo by Dennis Galloway

First graders with frogs and calculators in a "learning activity" developed by the Lawrence Hall of Science.

There are no bulletin boards with news clippings, no films or videotapes being shown. One would think that at least a single machine could be spared to offer educational programs that already exist, like the simulation of the Three Mile Island accident available on Apple.

Perhaps I am overcritical of Sesame Place, especially in the context of other amusement parks that offer only passive experiences built around thrill rides. But it is clear that Sesame Place is designed to entertain rather than to provoke and educate. Its ties with Busch, the hand from which it is fed, prevent it from presenting material of too contentious a nature. But there seems little excuse for missing so many opportunities to demystify the technology.

In fact, the Sesame Place Gallery sometimes does the opposite. When a machine is down, for example, instead of exploiting the educational opportunity to explain that the computer is a fallible mechanism, the anthropomorphic message is displayed: "Computer is resting."

On the bright side, Sesame Place is beginning to offer special workshops for teachers and students. One of them, called "Meet the Playful Computer," aims at teaching how computers work and what they can and can't do, rather than concentrating on pro-gramming.

But Sesame Place's public access to computers and education about them are still very limited. The cost of entering the park and paying for computer time, plus its location in wealthy Bucks County, ensure that only an already-advantaged population will use it. This is a situation I was to encounter throughout my tour.

The Franklin Institute

While in Philadelphia I stopped at the Franklin Institute. The staff there explained that it would like to educate about microtechnology, but lacks the necessary funds. Yet the Institute has nine Apple microcomputers buried in exhibits, none of which informs the viewer that it is computer-driven.

One likely candidate is an eight-foot tall ply-wood box with a screen and keypad which the visitor uses to obtain a "personalized" suggested tour of the Institute. This exhibit corresponds to the popular mythology of what computers are supposed to look like. Yet sitting behind the plywood box on a shelf, invisible to the public, is a microcomputer.

The Franklin Institute claims it can't afford to educate the public about the technology that will dominate civilization to the end of the century. However, it evidently can afford to perpetuate myths about this technology by displaying a micro in main-frame clothing.

The Capital Children's Museum

The Capital Children's Museum, located in a Washington, D.C. ghetto, has just been given thirty Atari computers by Warner-Amex. The Museum now considers itself the largest public access computer center on the East Coast, not counting Sesame Place which the Museum considers an arcade.

The Museum focuses on exciting hands-on facilities for children, and will be using its new computers in existing exhibits, in its Communications exhibit scheduled to open later this year, and in its Future Center, a computer classroom. The Communications exhibit sounds promising; it will attempt to reveal computer applications such as graphics, robotics, text editing, electronic mail, simulations, games, musical composition, and an electronic library. Hopefully the social implications of these applications will be explored in this context.

Executive Director Ann Lewin believes that the "further disenfranchisement of the poor" is the major problem that will be exacerbated by the proliferation of computers. She sees the Museum's role as providing a public computer center in an area

accessible to the "permanent underclass." Yet in outlining the objectives for computer activity at the Museum, the staff has not included the spread of awareness concerning such social implications. The Museum is delightfully inexpensive to enter, but has just made the unfortunate decision to charge $7 per session for classroom instruction.

## The Museum of Science and Energy

Oakridge, Tennessee, infamous as the birthplace of nuclear power, is the home of the Department of Energy's Museum of Science and Energy. It was formerly known as the Atomic Energy Museum, but its name was hastily changed after the Three Mile Island fiasco.

In "educating" the public about energy, the Museum offers one of the country's largest public accesses to computers. Unfortunately, as a Museum official commented, it seems to be DOE policy to educate *with* computers, and deliberately not *about* them. The reasons are not merely bureaucratic.

The Museum is primarily concerned with clearing the public image of nuclear technology. To point out that it is using computers, another technology with a somewhat blemished image, could prove counterproductive. Here is a case of free public access to computers, yet half of the people I interviewed at the Museum did not realize that the machines they were using *were* computers.

The failure at the Museum of Science and Energy to explore the social implications of computer technology can be explained by conflict of interest. The political nature of the material runs counter to DOE policy, so it is omitted. (Conflict of interest may also explain the absence of such material at Sesame Place and the Capital Children's Museum, where it might offend someone and jeopardize funding.)

The Oakridge Museum also displayed another
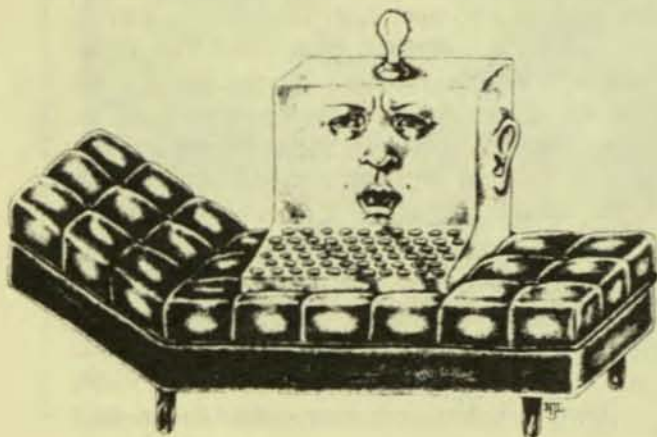
The Compleat Computer

computer-related conflict of interest. The "Energy Van" that brings the museum presentation to outlying areas originally had an Apple on board that was used to collect and graph public opinion about nuclear and other energy technologies. Visitors could access the data and add their views to the bank.

But the DOE put an abrupt halt to this form of computer and energy education, claiming that the availability of such information could prejudice citizens. The program, soon to be retired completely, now resides on a computer inside the Museum. It graphs visitors' responses only for a given day, clearing its memory when the machine is shut off at night. The DOE apparently does not appreciate this opportunity for democratization.

The Lawrence Hall of Science

After paying a $2.50 entrance fee, visitors to Berkeley's Lawrence Hall of Science get hands-on access to six terminals and two microcomputers. They are programmed with routines like stockmarket games, an animal guessing game, and Joseph Weizenbaum's famous Eliza program.

The nearby bookshop contains over twenty books on computing, but only one, Weizenbaum's classic *Human Judgement and Computer Reason*, addresses wider social issues. This book is extremely relevant, but is geared to an academic audience. No other material in the Hall discusses the social implications of the technology that fills it.

The cruellest irony is that the most popular exhibit in the Hall is the program Eliza, which Weizenbaum developed to mimic a Rogerian psychotherapist in order to demonstrate the dangers and limitations of artificial intelligence. Yet the Lawrence Hall of Science does not even see fit to place above the computer a modest placard mentioning Weizenbaum's intentions and warnings about Eliza.

Downstairs at the Hall are roomfuls of Apples, Ataris, Pets and Plato terminals. For $3 an hour time can be rented on Plato, and classes are given regularly on the microcomputers at $5 an hour. Prices are continually rising, but the staff hopes that eventually the Hall will be able to afford to subsidize access for the disadvantaged. Unfortunately, the immediate future will be the crucial period for gaining access to computers to ensure a foothold in the diminishing job market.

Right now, access to Lawrence Hall of Science is limited by its location atop a hill overlooking Berkeley and the San Francisco Bay. A computer van travels to outlying schools, but only the better districts can afford the fee of $250 per visit.

A ComputerTown event at a senior citizens center in Menlo Park, California.

Computertown USA!

Finally I arrived at Computertown USA! Its home is the affluent Shangri-la of Menlo Park, California, set between the San Francisco Bay and the coastal mountains in that heartland of microtechnology, Silicon Valley.

In April of 1979, CTUSA!'s founders, Bob Albrecht and Ramon Zamora, put personal computers in strategic places like schools, pizza parlors, bookstores, community centers, parks, and the eventual home base of CTUSA!, the Menlo Park Library. They managed to attract the support of a local representative of a computer manufacturer who provided the project with three machines. From then on, as the CTUSA! Bulletin #1 describes it, "the project was an instant success."

An important measure of that success was a $250,000 National Science Foundation grant for a three-year program to replicate CTUSA! in other libraries. The project was funded in September 1980, just before the Reagan budget cuts.

From my vantage point in England, CTUSA! had looked intriguing. Two California pied pipers were apparently attracting loads of children, each of whom would go away with a "My Computer Likes Me" badge after a micro-initiation. Yet, beyond its often-stated goal of bringing "computer literacy to the entire community," a process that the CTUSA! bulletin leaves undefined, there are no clearly stated aims, no mention of imparting an awareness of the social impact of computers, and no demystification to counteract the anthropomorphic myth that the graduation badge seems to reinforce.

Founder, project advisor, and brains-behind-the-scheme Albrecht predicted last year that by July of 1981, CTUSA! would have achieved its goal of making "the entire community" computer literate. At last count, according to its bulletin, CTUSA! had

"given more than 1000 persons, kids and adults the opportunity to use a microcomputer." At that rate, discounting demographic changes, seer Albrecht's dream should come true in 2007, 26 short years away. CTUSA! might want to assign its devotees the task of computing during what millennium, then, would the entire US become a Computer-Town.

CTUSA!'s genealogy is a confusion of what begat what, a tangle of conflicting interests. Its recently disowned parent, the People's Computer Company, began with a radical idealism best captured by the cover of Volume 1, number 1 of its newsletter, published in October of 1972. It said, "Computers are mostly used against people instead of for people, used to control people instead of to *free* them. Time to change all that -- we need a PEOPLE'S COMPUTER COMPANY."

At first (and perhaps to help it retain its non-profit, tax-exempt, low-postage status), the People's Computer Company tried to legally incorporate CTUSA! under its umbrella. Albrecht and Zamora, who are on the board of directors of People's Computer Company, quickly thwarted that move. They decided instead to trademark the name "CTUSA!"

For reasons still unclear to me after several weeks of living in Menlo Park and interacting with CTUSA! personnel, no attempts have been made to replicate the project, to proliferate ComputerTowns. Instead, CTUSA! has isolated its activities in Menlo Park, "bringing computer literacy to the entire community."

Albrecht's and Zamora's efforts toward creating other grassroots initiatives based on the CTUSA! model have been confined to the terms of their NSF grant, which directs them to produce an implementation package that will facilitate replication of the project in other libraries.

CTUSA! has long had access to the People's Computer Company's latest periodical incarnation, *Recreational Computing,* but has chosen not to publish its bulletin there or use it as a noticeboard. Instead, it has limited circulation of its bulletin to libraries, complying with the minimum NSF grant terms, and has used *Recreational Computing* only for free self-congratulatory advertising hype. Thus it has deliberately declined to instigate a nationwide network to share ideas and experiences to guide the mutual development of all.

This situation has taken its toll. Recently,

CTUSA! lost the committed, enthusiastic -- and hierarchically powerless -- half of its staff. Without the support of editor and community coordinator Pat Cleland and technical coordinator Cheryl Rhodes, CTUSA! has become a drifting shell, an aimless advertising float.

Suspicions cannot be suppressed when it appears that the goals of CTUSA!, both stated and implicit, are so cosily harmonious with those of computer manufacturers. That the fingers of CTUSA!'s leaders are all in the pies whose future depends on an exploding home computer market -- in developing software, in writing technical manuals for computer manufacturers, in direct stock investments in computer companies -- is perhaps mere coincidence. Anyway, I am sure it is none of my damned business.

Be that as it may, CTUSA!'s "educational" tactics point to the most utilitarian definition of "computer literacy" conceivable: the state of owning a computer. In CTUSA! staff meetings I attended, the success of projects was gauged by Zamora in terms of how many computers were sold. A functional translation of CTUSA!'s motto, "bringing computer literacy to the entire community," seems to be, in plain English, "selling people computers."

Suspicions cannot be suppressed when the goals of CTUSA! are so cosily harmonious with those of computer manufacturers.

Albrecht's latest inspiration is ComputerKid USA!, wherein grateful manufacturers supply computers that are seeded throughout "the entire community." As Albrecht explained to me over lunch, one computer would be "loaned" to a group of four youngsters, each having it for a week at a time. The rationale, according to Albrecht, is that after the frustration of withdrawal, the children will soon pester their parents into buying them a computer of their own.

CTUSA!'s fall from grace was predicted to me both by Art Melmund of the National Institute of Education in Washington D.C. and by Jim Warren, entrepreneur, publisher and instigator of the West Coast Computer Faires, who personally witnessed

Two California pied pipers were attracting loads of children, and giving them each a "My Computer Likes Me" badge after a micro-initiation.

similar conflicts of interest rapidly erode the Free University in Berkeley over a decade ago.

So, is this the obituary of CTUSA! and all other such initiatives? Is it time to lay horizontal their exclamation points and to leave permanently at half mast the flag of volunteer grassroots efforts? Or are there lessons to learned from CTUSA! that will increase others' chances of survival?

Lessons Learned

Lesson One certainly must be to give proper credit and recognition in print to the efforts of volunteers, the backbone of any grassroots initiative, instead of giving repeated press exposure to staff, as CTUSA! has done. It was irate volunteers who pointed out to me much of what is contained in the lessons that follow.

Lesson Two is to create, maintain, and increase the network of interactions with other projects.

Lesson Three: If the name of the game becomes self-interest, which blocks the accomplishment of anything useful in a community sense, then better to clear out.

Lesson Four is to be sensitive to the equity issue. CTUSA! is now based in the Menlo Park Library, located in a white affluent neighborhood. On the other side of the tracks, or rather freeway, is East Menlo Park, known by its predominantly Black inhabitants as "The Ghetto." People from East Menlo Park don't use the Menlo Park Library as a rule, but rather go to the East Palo Alto Library, which they describe as being "friendlier."

Yet CTUSA! wonders why it is not attracting new people to the library. CTUSA! has staged two "drop-ins" in East Menlo Park, plus one repeat for publicity purposes. But now, its policy is to curtail drop-ins, since they do not succeed in attracting people back to the library. Albrecht did donate his old Pet computer to the Hoover Boys Club in East Menlo Park.

So, if possible set up the main access base on neutral turf. If not, set up on disadvantaged turf, involving locals as volunteers. If neither of these is possible, make frequent "drop-ins" to disadvantaged areas and provide regular free transport back to base. It may in the end be unwise to use a library as base, since this may automatically serve to exclude access to the disadvantaged.

Lesson Five is to involve library staff as much as possible and integrate with library programs. CTUSA! has attracted resentment from Menlo Park Library staff for using its media access and other publicity mechanisms to advertise its own events, without in turn publicizing other library projects such as the struggling adult literacy program. Efforts to combine adult literacy with computer literacy could do wonders for repairing relations.

Lesson Six is to make availability of good software a priority. CTUSA! uses NSF funding to pay an outside evaluator (who co-authors with Zamora) to travel 500 miles from San Diego to have dinner with the Director and Advisor. If it invested as much to update the library software, perhaps there would be less of the computer vandalism and "fistfights" which now plague CTUSA! and no need for the "bouncer," as one library staff calls the new person that is being hired with NSF funds.

Lesson Seven is to facilitate exposure to the social implications of the technology. This can be accomplished by displaying books, articles and news items; by showing videos and films; by arranging visits to museums or to automated factories and offices.

The difficulties involved are not to be underestimated. I have spoken with many teachers of computer literacy who would like to expose their students to wider social issues, but are stymied by the pedagogical problem of motivating them. An average class of seventh graders will busily beaver away at Basic or adventure games, but just try lecturing on subjects as seemingly abstract as "social implications."

According to Zamora, CTUSA felt reluctant to displease the NSF by using its grant to educate about what it might consider to be politically contentious implications. In the U.K., where the amateur science tradition thrives, it is the policy of amateur clubs and societies not to accept government sponsorship.

Herein is **Lesson Eight:** Beware foundations bearing grants. By far the best path in the long run is one that leads to self-sufficiency.

Do we have the technology? Or does the technology have us? I believe that an awareness of the potential of the new technology and a vision of the possible futures it could bring may overcome both the apathy of students and the self-interest of computer enthusiasts.

Final Lesson: It's up to us.   o

The Capital Children's Museum

All's Fair on the Airwaves

by Michael Singsen

A year after the accident at Three Mile Island, the nuclear industry launched a million-dollar public relations blitz on 117 radio and television stations to convince a skeptical public to support "Nuclear Power. Because America Needs Energy."

Unable to match that kind of advertising budget, the Safe Energy Communications Council, a broad-based coalition of environmental and media reform groups, asked 34 of the broadcasters for an opportunity to respond. Citing the Fairness Doctrine, a federal law that requires broadcasters to balance their coverage of controversial issues, they won more than $150,000 worth of free airtime for their message: "Nuclear Power. We Can't Pay the Price."

Without the Fairness Doctrine, the nuclear industry would have succeeded in buying a one-sided debate. Not coincidentally, the doctrine is now under attack.

At its September 17 meeting, the Federal Communications Commission proposed that Congress enact a sweeping legislative package designed to get rid of the Fairness Doctrine. The proposed legislation would also do away with the "equal time" rules that force broadcasters to give all candidates for elective office an equal opportunity to obtain airtime.

Furthermore, the FCC has called on Congress to redefine communications law to reflect a new reliance on "relevant marketplace forces." In the words of its chairman, Mark Fowler, the FCC is the last "of the New Deal dinosaurs. And we are going to change that. Today we strike a blow in the cause of freedom."

These proposals were immediately attacked by Friends of the Fairness Doctrine, an ad hoc coalition of groups including the United Church of Christ, National Citizen's Committee for Broadcasting, United Auto Workers and Public Media Center. Coalition spokesman Andrew Schwartzman, director of the Media Access Project, argues that the Doctrine "enhances the First Amendment by giving people holding dissenting or not widely held viewpoints an opportunity to express them."

The FCC's present mandate -- to regulate broadcasting and other communications industries for the "public interest, convenience and necessity" -- is based on the premise that broadcast frequencies are a scarce and valuable public resource. Theoretically, at least, the public owns the electromagnetic spectrum. To prevent chaos on the airwaves, the government issues licenses to broadcasters to use certain frequencies at a specified power for a limited time period. Those fortunate enough to be granted licenses are considered "trustees" of the public airwaves.

But with the proliferation of new communications technologies, the FCC and the broadcasters it represents are proclaiming that the Age of Scarcity is over. We are now entering the Age of Abundance, they say, in which the profits promised by cable television, pay TV, satellites, video discs, fiber optics, videotex, and two-way television will entice new companies into this highly competitive marketplace to provide for every need and taste and viewpoint -- without government intervention.

Infused with the spirit of "deregulation," Congress and the FCC have already eliminated many key communications regulations. For example, cable television operators are no longer required to allocate channels for educational, governmental or community access uses. Radio stations have been relieved of all obligations to air news and public affairs programming or "ascertain" the most pressing issues of concern to the local community, and may now sell commercials in whatever length and number they choose. Advertising on cable television and on public television has also been substantially deregulated. And last summer, through an extraordinary and unprecedented legislative maneuver, Congress extended license renewal terms for radio and television stations from three years to seven and five years respectively.

Michael Singsen works with the Public Media Center in San Francisco.

In parallel moves, and as a response to complaints about AT&T's telephone monopoly, the government has moved to throw open the telecommunications market. Ma Bell, the largest corporation in the world (1980 *profits* exceeded $6 billion, more than the entire *revenues* of the broadcast industry), is now free to move its gigantic presence into the computer, data processing and cable television markets. At the same time, the lucrative long-distance telephone business has been opened to companies like MCI and Southern Pacific.

Attack on the Fairness Doctrine

Now the Fairness Doctrine has been made the target of resentful broadcasters. Basically, the Doctrine has two parts. First, broadcasters are expected to provide a reasonable amount of time for coverage of important public issues. Second, the coverage must be fair and balanced. The law does not force broadcasters to provide "equal time" for all sides, but it does say that all sides must have a "reason-

able opportunity" to present contrasting points of view.

Although the FCC rarely enforces these rules, the Federal Courts have upheld the Fairness Doctrine and forced the FCC to act. So when challenged by individuals or groups seeking to present

"For Congress to completely let broadcasters off the hook -- it may be too hard to stomach."
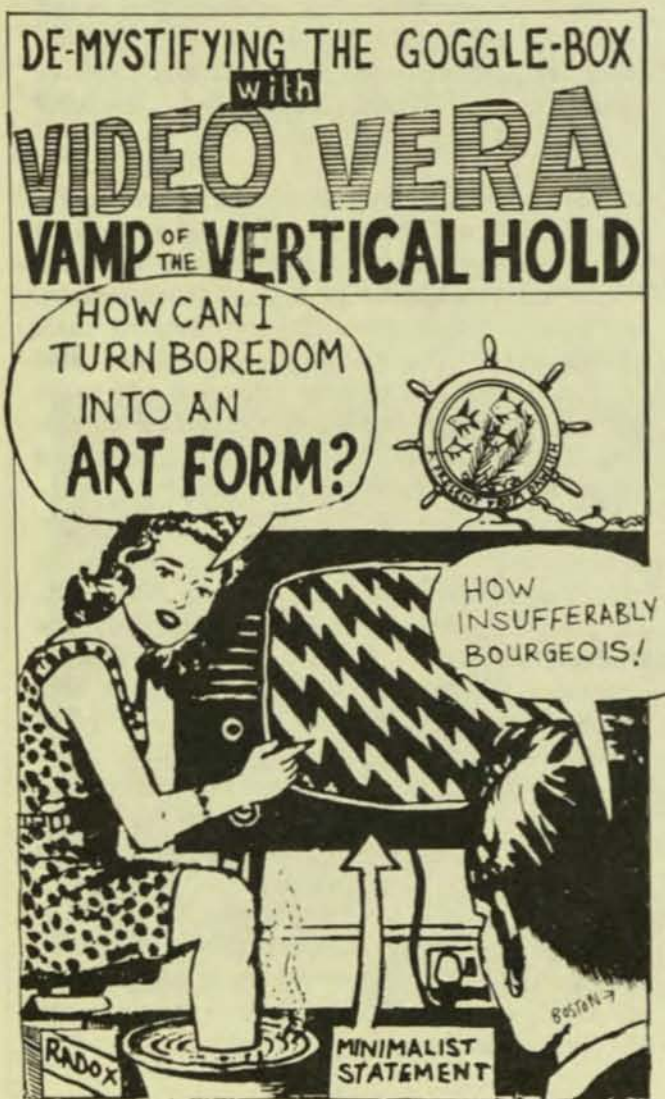
the other side -- either on a particular issue or during ballot initiative campaigns -- most stations would rather negotiate than risk the potential expense and hassle of a formal Fairness Doctrine complaint. In this way, citizens groups have won millions of dollars worth of free airtime to present alternative points of view in response to industry advocacy advertisements or lopsided initiative campaigns.

Broadcasters complain that the Fairness Doctrine makes them "second class citizens" in comparison to the print media, which are not subjected to fairness obligations. They argue that there is already a far greater diversity in broadcasting than in the ever-shrinking newspaper industry.

It is true that in the San Francisco Bay Area, for example, there are more than forty radio and television stations, yet only a handful of daily newspapers. But there are dozens of other flourishing publications representing the entire spectrum of communities in the area, while there is little real diversity among the television stations and most of the radio stations. Those who use this argument ignore or fail to grasp the essential difference between print media and broadcasting: all you need to start up your own newspaper or magazine is a bit of vision and enough money, but a prospective broadcaster needs a license -- a federal monopoly for use of a publicly owned resource.

Those who would eliminate the Doctrine also argue that it is no longer necessary given the new diversity of the Age of Abundance. But unfortunately, most people have somehow failed to notice its onset. Less than 25% of American homes have cable television, and even the most optimistic industry forecasters don't expect the number to surpass 50% by 1990. For the present, broadcasting -- primarily network television -- remains the dominant form of broadcast communication.

Broadcast channel scarcity is still with us too.

DE-MYSTIFYING THE GOGGLE-BOX with VIDEO VERA VAMP OF THE VERTICAL HOLD

HOW CAN I TURN BOREDOM INTO AN ART FORM?

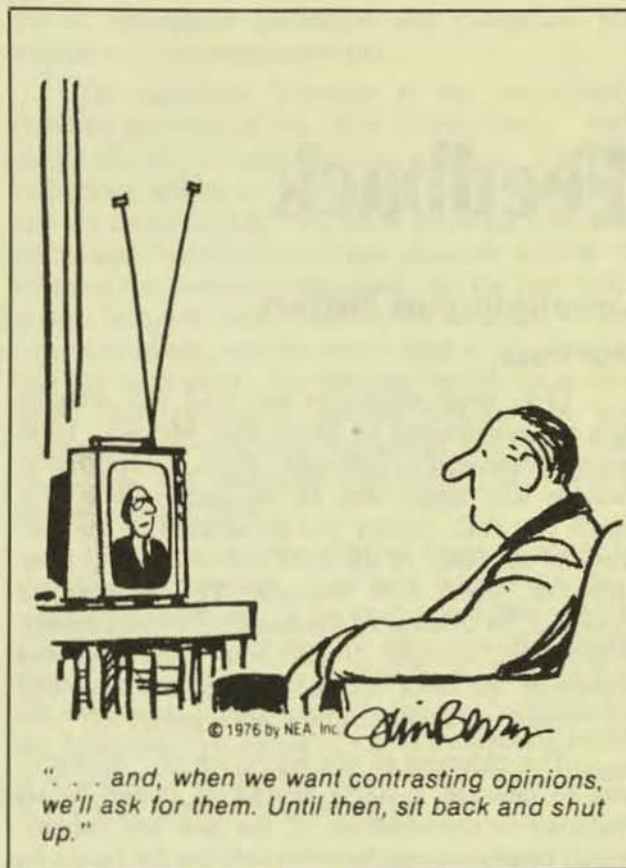HOW INSUFFERABLY BOURGEOIS!

MINIMALIST STATEMENT

When the FCC announced that it would begin accepting applications for new low-power television licenses, for example, it was swamped by more than 5000 requests and had to impose a freeze on further applications. It is likely that as few as three or four hundred licenses will actually be granted.

As for diversity, the predominant trend in both cable and broadcasting is increasing concentration of ownership. The days of the Mom and Pop broadcaster are numbered. The cost of buying a television station in most major markets runs to tens of millions of dollars. Cable is such a capital intensive industry that only the largest and wealthiest companies can afford to own a franchise in the larger cities. Industry analysts expect that less than a dozen companies will own every cable system in America by 1990. So while there may be more channels in the future, we will actually have fewer sources of information, tighter control of access, and less diversity.

The broadcasters' major argument against the Fairness Doctrine is that it violates the First Amendment and abridges their right to free speech. This contention might appeal to journalists and civil libertarians rightly concerned about attempts by the state to restrict freedom of speech. But the Fairness Doctrine does not restrict broadcast journalists', station managements', or anyone else's right to express any point of view. All it requires is that broadcasters provide the opportunity for *someone* to present contrasting opinions.

As the Supreme Court has ruled on several occasions, most notably in the unanimous *Red Lion* decision, "It is the right of the viewers and listeners, not the right of broadcasters, which is paramount. . . It is the purpose of the First Amendment to preserve an uninhibited marketplace of ideas in which truth will ultimately prevail. Preserving an uninhibited marketplace of ideas does more than protect the individual's right to express himself freely; it also safeguards the public's right to be informed."

The fate of the Fairness Doctrine in Congress in still unclear. Senator Robert Packwood (R-OR), Chairman of the Senate Commerce Committee, recently told the National Radio Broadcasters Association that the time might be right for a "frontal assault" on the Doctrine. "When the time is right," he said, "come to me. I think you'll find me not only a willing ally, but a willing leader." Other key senators like Barry Goldwater (a broadcast station owner) and Howard Cannon are also strongly opposed to the law. There appears to be little support for the Fairness Doctrine in the Senate.

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". . . and, when we want contrasting opinions, we'll ask for them. Until then, sit back and shut up."

On the House side, there may be some hope. The chairman of the House Subcommittee on Telecommunications, Timothy Wirth (D-CO), is a strong supporter of the Doctrine and is prepared to defend it. And according to Schwartzman, "the Fairness Doctrine has fairly wide, but not deep, support in the House. But unless [House] members see a strong constituency for it, they might be willing to let it go or trade it for other items on the legislative agenda. Once the bill gets before a joint Conference Committee, anything can happen."

Schwartzman is somewhat hopeful that this may be "one of those rare issues where members of Congress will really act on the basis of principle. There is a gut-level feeling that nobody should have as much power as broadcasters would without the Fairness Doctrine."

Congress might agree to deregulate license renewal terms, Schwartzman predicts, "but to completely let the broadcasters off the hook -- it may be too hard to stomach. They just don't trust them."

Whatever the outcome, the damage has already have been done. The FCC has let the broadcasters know that it will look the other way on future Fairness violations -- a signal that few are likely to miss. The result may be that free speech on the airwaves is worth what you can afford to pay for it.   o

Feedback

Complaints from Mercury

Dear Editor,

[You have written to me that] you disagree with my conclusions [in *Memo from Mercury: Information Technology* Is *Different*]. Yet it is not the conclusions but rather one of the speculations with which you deal. Surely you do agree with my conclusions as stated in the final and concluding paragraph of *Memo from Mercury*. The portion you extracted [in *Journal of Community Communications*, Volume IV, number 2] has been lifted from the middle of the work and is deprived of its context. As a result, an erroneous message is presented.

The objective of the study behind "Mercury" was to describe a viable alternative to the blatant materialistic consumerism of the past half century, which clearly can not be projected into the future for any significant portion of the globe's population. We who are fortunate enough to have resources at our disposal, for the moment, surely have the obligation to search out a more appropriate way of life that is gentler and less destructive of both physical and spiritual resources.

"Mercury," which was written some three years ago, contains a first attempt at describing an economic structure in which information flows would produce increases in real wealth for ordinary people. If society is bent on playing an economic game, perhaps it could learn to play the game with ethereal goods rather than energy and resource consuming tangible goods. Since the means of production of ethereal goods is very diffuse, no corporation has ever written a popular song or a great novel, the direct benefits from such a change could, if we handled it right, be very broadly diffused throughout the population.

Industrial technology requires a large "front end investment." Information technology, because of its adaptability, can require little more than the creator's time as front end investment. True enough, we could force this new opportunity to look like more of the past, but that need not be so. The choice is ours, and there is a choice.

The royalty payments received by the creators of ethereal goods look like interest payments earned by a block of capital that is generated by the creator's labor. The prospect of a widely available means for the direct conversion of ordinary people's labor into capital is an exciting social idea which may now be attainable with information technology, if we want it. The information marketplace was seen as such an instrument. Industrial technology gave us western liberalism. Will information technology bring us "convivial capitalism," in the Illich sense? It could, if we so choose.

In my work, the term "economy" is a means of managing the household, for the root meaning is this kind of idea. Also, money is a kind of information system that helps us manage the "ekos." A lot of accountant type economists have forgotten this, or so it would seem. The economics of ethereal goods is probably an economics of abundance. This was not understood when "Mercury" was written.

The evaluation or assessment of a society's information is probably its most important task. Today, people attach importance to the information displayed by the mass media. That information is chosen for its ability to attract attention. Therefore, to a large degree, our society assesses its information on the basis of the information's ability to attract attention, with little or no regard to the information's veracity or intrinsic worth.

Ethereal goods, as opposed to tangible goods, are very difficult to evaluate. Our present system for the evaluation of ethereal goods is, first of all, already highly technology dependent, involving the press, radio, TV and records; and secondly, too simplistic to adequately handle society's more complex information in any volume. Information technology should be able to help, and small experimental information marketplaces may provide much needed knowledge and experience to guide us into more socially responsible ways of dealing with society's outpourings of information.

The economic issue was just one of the two constraints put forth in "Memo from Mercury" that are inhibiting information technology's potential to trigger profound socio-economic benefits. The second constraint is language itself. This whole

area, which is, I believe, of far more significance than the economic one, you totally ignored. Yet here is the truly great potential for the next century.

In spite of your publication's apparent interest in networks, you chose to ignore the Serendipity Machine which is an intelligent network designed to make Ivan Illich's learning webs widely available. This particular speculation is based on avoiding the use of language in defining interest profiles, and instead, uses content usage patterns which become a behavioral surrogate for language. The whole idea is that it would be easy to communicate with those whose content usage patterns most closely resemble each other. With CB radio, it's easy to meet someone, but with this facility, the person you would discover would share a lot of your interests, and at matching skill levels. As Illich points out, students learn best from each other. The teacher is then the chief learner. The technology can provide an environment that stimulates such activities widely throughout the population. Again, if wisely deployed, authorship could be widely based.

Certainly there is an opportunity for such a scheme to be misused in terms of user privacy, yet there is much to be gained if we do it decently. Again, like the information marketplace, the notion can be distorted into something sinister, but at the risk of missing the true idea behind the effort. The Serendipity Machine is the only application of information technology of which I am aware that is capable of widespread application and recognizes the existence of linguistic constraint.

The significant invention of the last century could be described as the "time varying icon." This covers movies, TV and computer graphics. The new technology allows us to reassess the potential and costs of iconic writing. We know there are profound differences between iconic and phonetic writing in terms of the medium's messages. As the new technology becomes more available, we have this totally new opportunity, one for which little or no preparation has been done. Yet this may be the route to a whole new renaissance. Mouths talk to ears, and fingers talk to eyes. The technology can make that an exciting and wonderful experience. All this you chose to ignore. Pity.

You seem to have derived some pleasure in distorting my message. You have both deeply hurt and disappointed me. If by chance you think this is a large corporation trying to take over the world, please re-read "Mercury," with the knowledge that the work is no longer explicitly funded. Incidentally, the image Michael paints of me as a corporate heavy is so ridiculously off the mark that it is really ironic. If you only knew, I'm anything but that.

Yours sincerely,

Gordon B. Thompson
Communications Studies
Bell-Northern Research

Editorial Response

Dear Gordon Thompson,

We are not only sorry but also surprised by your reaction, since we sent you pre-publication drafts both of the excerpt we had chosen from *Memo from Mercury* and of Michael Goldhaber's response. When we spoke by phone, you enthusiastically agreed to our printing them.

Our purpose was not to distort your message -- we think you'll agree that excerpting the bulk of two chapters indicates a very different intention. We were, and still are, interested in stimulating a debate on the portion of your argument that was most significant to us. Since you devoted more than two of eight chapters to these ideas we assume they're important to you too.

We certainly agree with you about the need and desirability of "a viable alternative to blatant materialistic consumerism" and about the influence that new information technology could have on such an alternative. But like Michael Goldhaber, we think that an information *marketplace* is by no means the best social arrangement in which to make use of the new technology. In fact, it seems to require quite some effort to get information to behave like a commodity in a marketplace ought.

As long as we're making the effort to design a society without the objectionable features of the one we're stuck with for the moment, why not go all the way? Why assume that capitalism, even of the convivial variety, is our only option? Why not aim for a society where the production and use of tangible goods and information is coordinated in a way that supersedes a marketplace altogether?

That, I believe is what Goldhaber is driving at. Can't we agree to disagree, and discuss our differences so as to illuminate what's at stake?

-- Marcy Darnovsky, Editor

Memo from Mercury: Information Technology *Is Different is available from the Institute for Research on Public Policy, 3535, chemin Queen Mary, bureau 514, Montreal, Quebec H3V 1H8, Canada.*

Community Memory Kudos

Dear Friends,

Thanks for the information about the Community Memory Project. I'll admit it -- I was a little skeptical when I first heard about you. "Great," I thought, "a bunch of nerds forming a social club!"

But I'll get to the point. You have managed to follow through on a number of ideas that have occurred to me only recently. I am only beginning to sort out the techno- garbage and scientific fallout from the past three years, and it is helpful to hear from people like yourselves.

Specifically, I could not see the computer functioning in anything but a hierarchical context. It is a special tool, requiring specially trained operators. Its power, and the fact that there is really a limited access to its uses, via the programmer, has led to its easy incorporation into the corporate structure. It is a tool that has enabled increased centralization and control over many more details of our lives and work. Such detailed control not only has led to abuse, but to increasing stress in living and working.

One might expect that the advent of the microcomputer would in some way help to alleviate the situation by relieving the centralized aspects of computer control. It has, in most cases, done just the opposite. In most cases, micros are still used in applications that serve to reinforce the hierarchy and top-down structure of most businesses and work places. It simply enables the small fry to act just like the big boys.

The incorporation of the computer into grassroots organizing efforts can also lead to increased centralized control. In fact, it can become the actual basis for that control. I don't care how many $10 checks he receives from normal folk just like you and me, I still think that Richard Viguerrie is a fascist. I'm sure other examples abound.

But enough of the soap box. The interesting thing about the Community Memory Project is that you seem to have found a way of making the computer a tool of decentralization and power sharing, a possibility that I haven't really considered realistic. While the Community Memory Project does not directly address the issues raised by the prevailing methods of computer use, it does offer an interesting alternative. And it is honest about the limitations and desirability (or undesirability) of computerizing -- issues near and dear to my heart. Maybe some of the Community Memory Project participants will get the urge to organize to tackle some of those problems.

Which brings me to my other point. It is difficult to bring people together, to organize to do things, in anything but some form of hierarchical structure. We certainly have a lifetime of training and education that tells us that such structures are necessary and desirable. A responsive communications network requires a structure that is not only invisible, but fluid, capable of adapting to changing circumstances, and accessible to all of those who participate in it.

The Community Memory Project, when functioning at its best, will not supply the dogma or the organizational structure that contains all the answers. It is an invisible organizer that allows people to find their common ground, attack the problems that matter to them in the ways that they devise.

Sincerely,

Richard DeLaura
Somerville, MA

"You're a good computer but not a *great* computer."
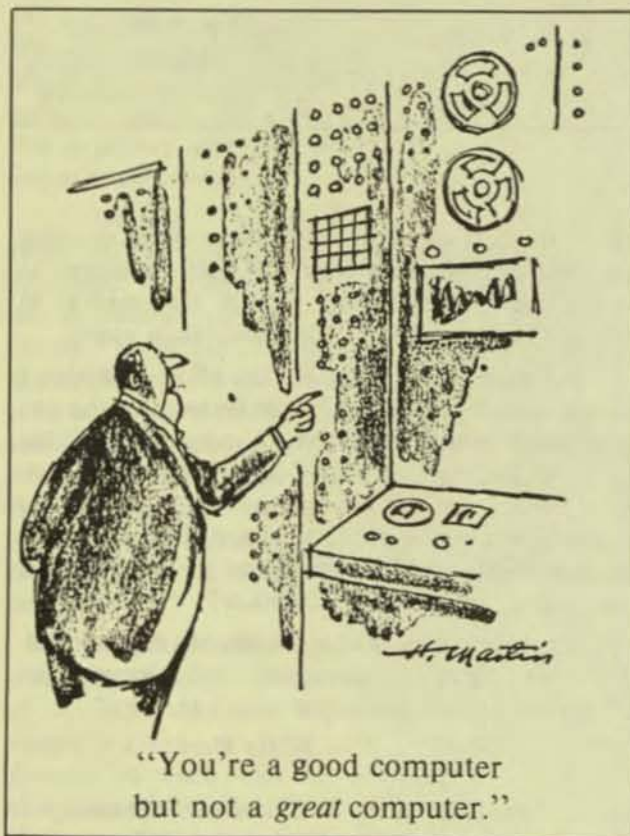
Community Memory is a design for a public access computer network. A description of the Community Memory concept may be obtained from 916 Parker St., Berkeley, CA 94710.

Short Circuits

No-Frill Novels

Shoppers have shown themselves willing to buy boxes labeled simply 'detergent' or 'peanut butter' and cans called 'beer,' but how will generic books go over? *Publishers' Weekly* reports that a new line of paperbacks is about to hit the racks, featuring "no title, no author, no reviews." Each book, covered in black and white, will simply be identified as 'romance,' 'science fiction,' 'mystery,' or 'Western.'

The books are said to be partly a gag, but they will include, in the publisher's words, "a real story with at least four characters, an interesting plot, and all the standard features readers expect." The generic romance, for example, will contain a man, a woman, a large house, one walk, a kiss and an event by the sea.

Zodiac News Service, 8-7-81

Second Thoughts

The man who is credited with inventing television thinks most of the programs shown today are "awful." In fact, says Vladmir Kosfazworykin, 92 years old, "I'd never let my children even come close to this thing."

Kosfazworykin developed the principle of television while working at Westinghouse in 1923, shortly after he had immigrated to the United States from the Soviet Union. When he showed his first crude TV pictures to his superiors, he recalls, they were unimpressed. He says that his immediate boss was told by a Westinghouse official to "please put this guy to work on something more important."

Zodiac News Service, 7-31-81

Pulling the Plug

The Federal Communications Commission is proposing a rule that would allow the government to stop all television and radio broadcasts whenever it decided it was necessary. The FCC made the proposal after it found that equipment used by the three major television networks interfered with NASA's ability to communicate with the crew of the Space Shuttle Columbia prior to its landing.

The networks' technicians voluntarily shut down their equipment, but in the future the FCC doesn't want to take any chances. It is asking for the authority to shut down broadcasters whose equipment interferes with "communications involving the safety of life or protection of property."

Zodiac News Service, 7-16-81

Videodisc Bust

Less than a year ago, several of the world's largest electronics firms introduced "video disc" systems that offered high quality video recordings on record-like discs. Now, according to *New Scientist* magazine, the video disc industry is bombing. Instead of bringing in a multi-million-dollar bonanza, the magazine says, companies like RCA, Philips and EMI are beginning to consider video discs multi-million-dollar headaches.

New Scientist attributes the flop partly to the fact that none of the video disc systems are compatible with each other. More importantly, the video discs are losing out to video recording systems that allow users to copy television shows on tape. Video discs don't have that capability.

Zodiac News Service, 8-7-81

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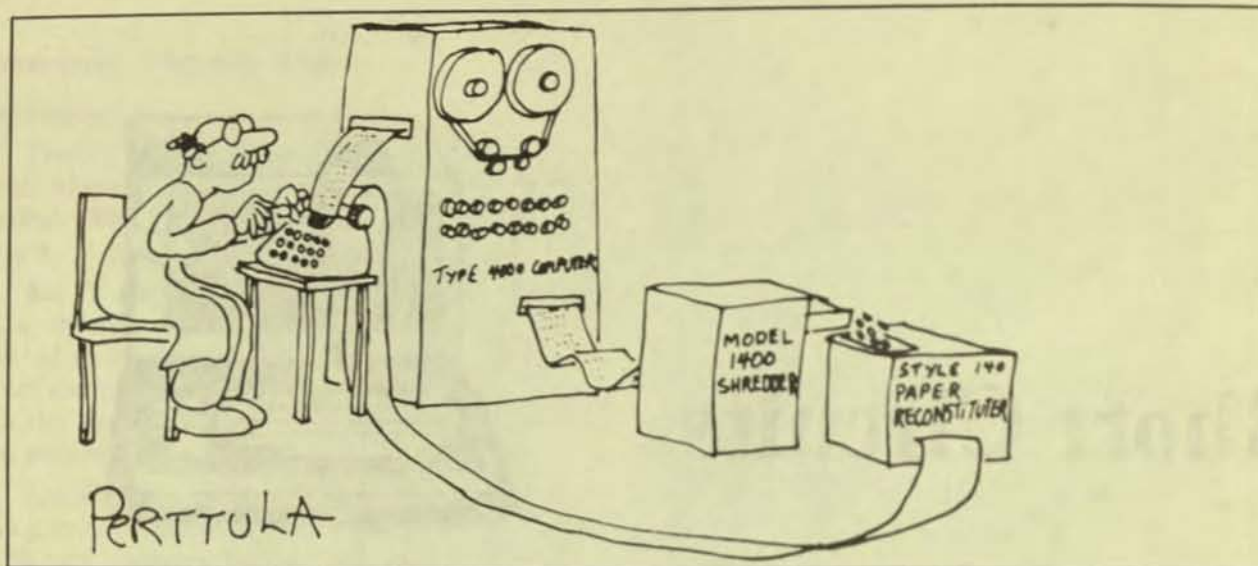
Confidential Shredding

The sole function of the Confidential Destruction Company is to get rid of unwanted documents. The Westbrooke, Maine company says it feeds as much as 25 tons of paper a week into its noisy, dusty four-foot by five-foot shredder. Once mulched down, the paper is compressed into 200-pound bales and sold for recycling.

Confidential provides uniformed, bonded employees in specially marked vans to pick up material from customers. Sometimes, Confidential says, the customer accompanies the cargo to witness its destruction first hand. The charge is between 15 and 20 cents a pound.

Zodiac News Service, 6-4-81

The Corporate War Room

Computerworld reports that major companies are installing "corporate war rooms" that feature tilt-swivel chairs, rear projection screens, sleek control consoles and even skin-sensitive controls which allow the corporate president to display a dazzling array of graphs with the sweep of a hand. More than 60 multinational firms are said to have bought these installations at costs of $500,00 to $600,000 each.

The Perils of Paperwork

Two defense companies reportedly have submitted 2.8 tons of paperwork in bidding for the contract to build a helicopter for the US Army. The helicopter, as it is proposed, will weigh one-and-a-half tons.

Zodiac News Service, 8-7-81

Censoring Cable TV

Teleprompter Incorporated, one of the nation's largest cable television system operators, is currently lobbying in the New York State Legislature for passage of a bill allowing cable systems to censor programming on their public access channels.

The proposed legislation is believed to be aimed at Teleprompter's Manhattan cable system, which airs some very controversial shows. Its programming includes *Screw* magazine publisher Al Goldstein's "Midnight Blue" series, "The Ugly George Show" which features live sex acts, and "Interlude After Midnight," the world's only all-nude talk show.

The Teleprompter-sponsored bill would permit cable operators to refuse programs deemed violent, sexually explicit, or "patently offensive." It is expected to be strongly opposed by many civil liberties groups who fear such censorship could be applied to political content.

Zodiac News Service, 6-11-81

But Can They Make Coffee?

A Japanese company says it has developed a fully automated secretary -- a computer that can instantly convert dictated speech into a printed letter. The Nippon Electric Company says tests on the machine, which sells for about $15,000, show that it is 95 percent accurate in turning spoken Japanese into printed script.

So far, the system can only be applied to Japanese because of the relatively small number of sounds and syllables in that language.

Zodiac News Service, 9-11-81

How to Write Computerese

The Writer's Workshop, an editing system developed by Bell Laboratories, can analyze text to rid it of run-on sentences and cliches. *Discover* magazine fed Lincoln's Gettysburg Address into the system. Here is its original opening:

Fourscore and seven years ago our forefathers brought forth on this continent a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation so conceived and so dedicated can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.

And here's the computer-corrected version:

Eighty-seven years ago, our grandfathers created a free nation here. They based it on the idea that everybody is created equal. We are now fighting a civil war to see if this or any similar nation can survive. On this battlefield we are dedicating a cemetery to those who died for their country. It is only right.

One Too Many

A British pilot project on the treatment of alcoholics found that patients were much more frank with computers than with a flesh-and-blood psychiatrist. Doctors said the drinkers questioned by the computer admitted to daily consumption of up to fifty percent more alcohol than when interviewed by a human shrink.

Zodiac News Service, 9-17-81

Computer Blackballs Houston Tenants

Landlords in the Houston Apartment Association are using a computer system to track tenants in a quarter of a million rental units. Whenever a tenant moves into a building, the information is entered into the system. When the tenant moves out, the landlord files a report on any bad checks, lease violations, or other objections he may have. The landlords' organization also sends a staff member to court every month to record all evictions for the master files.

The information is flashed to all landlords, who are then free to refuse to rent to anyone defined by the system as a "bad tenant."

Zodiac News Service, 9-11-81

The Talking Photo

The company that brought the world instant snapshots is reportedly working on a new product -- *talking* photos. The Polaroid Corporation has obtained a patent on an invention that allows users to record 26 seconds of sound on the back of a still photograph.

The product reportedly records the sounds of a scene onto exposed film through a built-in microphone and tape recorder as the film is being developed. Polaroid is also said to be planning special photograph holders for replaying the recording while the picture is being displayed. Polaroid is withholding comment on the talking photo, saying it is company policy not to discuss products until they are introduced on the market.

Zodiac News Service, 8-14-81

Announcements ०००

A Musical Offering

Twenty pieces by J.S. Bach are quoted in the 1980 Pulitzer prize-winning book, *Godel, Escher, Bach.* To enhance your enjoyment of the book, all the musical examples have been recorded on two high quality Dolby stereo cassettes. This should make an interesting addition to any scholarly library. For more information write to: SENOI, Suite 503, 2490 Channing Way, Berkeley, CA 94704.

A Critical Spring

The West Coast Critical Communications Conference will be held this year in San Francisco, on the last weekend of January or the first weekend of February, 1982. Prospective panelists are urged

to step forward. To volunteer, or to get your name on the mailing list, contact: Ed Whetmore, Chairman, Communication Arts Dept., University of San Francisco, San Francisco, CA 94117.

Union for Democratic Communications

The Union for Democratic Communications is becoming a national organization for media workers and students. The Union will focus on consolidating efforts to respond to national and international issues, and the reinforcement of smaller networks active on the local level. Memberships are invited. Contact: Serafina Bathrick, Dept. of Communications, Hunter College, 695 Park Ave., New York, N.Y. 10021.

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—Steve Johnson, *Rain* Magazine

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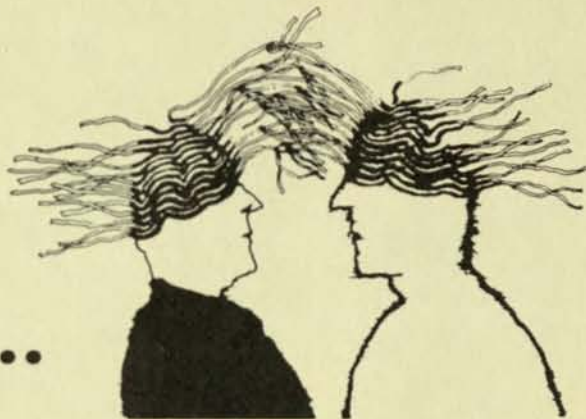
Single copies of some back issues of the *Journal of Community Communications* are still available. Here are a few of the articles you may have missed:

Issues III,1 and III,2 are out of print. Tables of Contents and photocopies of individual articles are available on request.

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