

ELECTRONIC DEMOCRACY

A popular government without popular information, or the means of acquiring it, is but a prologue to a farce or a tragedy, or perhaps both. Knowledge will forever govern ignorance, and a people who mean to be their own governors must arm themselves with the power which knowledge gives.

—James Madison

THE FOLLOWING ARTICLES are about power — how to gain it, influence it, and exercise it in a modern democratic society. Big government, big business, big politics already know how to use telecommunication technologies to amplify their effectiveness. The cost of access to these technologies is no longer an insurmountable barrier to citizens, but the arcane knowledge of how to use these tools to provide leverage for community organizing activities remains an obstacle. The purpose of this article, and those that follow it, is to help demystify electronic mail, computer bulletin-board systems, computer conferencing, and other tools that can help citizens gain some of the communication and persuasion power that has heretofore been limited to large institutions. —HR



The Great Equalizer

by *Howard Rheingold*

Illustrations by Matt Wuerker

JN THE AGE OF MASS MEDIA, citizens and grassroots groups need an equalizer. The combination of personal computers and the telephone network might prove as important to citizens in the information age as the printing press has been for several centuries. The use of electronic mail services, computer bulletin-board systems, and computer conferencing systems as channels to make decisions and disseminate information can help grassroots political organizations, nonprofit groups, and other public interest groups to gather critical information, organize political action, sway public opinion and guide policy-making.

Just as the advent of the Colt .45 revolver during the taming of the West equalized the balance between a

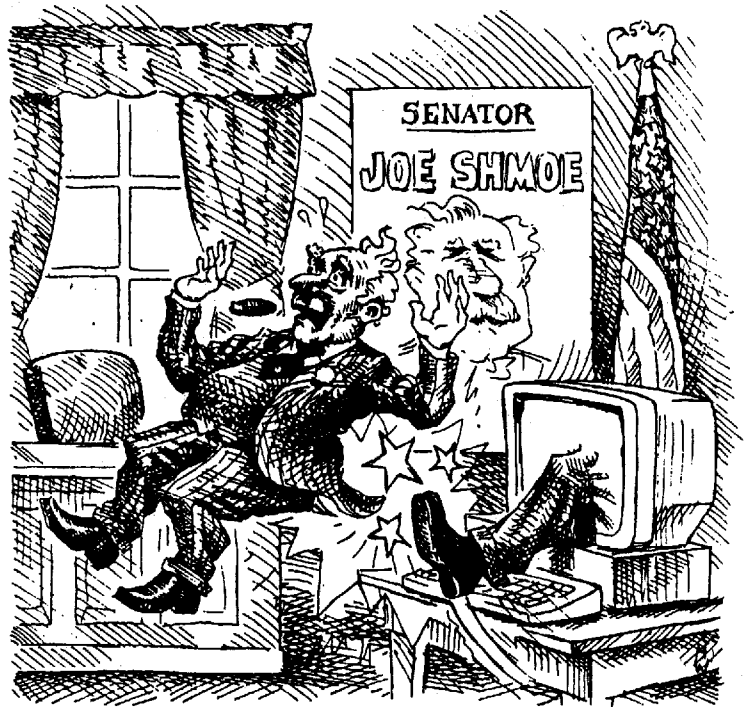
small person and a larger one, telecommunications, properly used, can equalize the balance of power between citizens and power brokers. The key to understanding this new opportunity is understanding the power of *computers as communication devices*. Many people understand that computers are no longer confined to number crunching for scientists or data processing for big businesses, and can be used by non-experts for word processing, desktop publishing, spreadsheet forecasting, and other mind-amplifying activities. Many people, however, have yet to realize that the power of personal computers can be multiplied by equipping them with communication hardware and software that allow them to "talk" over the telephone lines.

Most of the processes involved in formulating and advocating public policy are communicative in nature — meeting others, developing and refining ideas, persuading people to adopt your views, enlisting their support, negotiating compromises with opponents. These functions can all be enhanced significantly through the use of computer-mediated communications. And these communicative techniques are the core of what public policy influence is all about. Ask Dave Hughes, for example.

Dave Hughes is a pamphleteer and activist who uses a laptop computer and a modem in place of a printing press. Hughes, a retired West Point instructor and combat veteran of Korea and Vietnam, now uses a computer bulletin board system in Colorado Springs to mobilize action in local political matters.

"Electronic citizenship means freedom of electronic expression," Hughes claims. "I think that Benjamin Franklin would have been the first owner of a microcomputer. I think that the Declaration of Independence would have been written on a word processor. And I think that Tom Paine would have made *Common Sense* available on an electronic bulletin board."

The rest of this article explains how telecommunication technologies work and points to resources and references that can help you start using these tools. The articles that follow, contributed by a variety of organizations and organizers, will show you how people are using these tools today to amplify their ability to change the world.



The Fundamentals of Telecommunications

YOU NEED FOUR KEY PIECES of hardware to get started: a computer, a communications card in your computer that enables you to use it as a communication device, a modem that converts your computer's output into a form that can be transmitted over telephone lines (and reconverts it from the audible signals that travel over telephone lines into a form that your computer can use), and a telephone. A good introductory book on telecommunications, such as those listed in the bibliography to this article, can tell you how to locate, set up, and operate the hardware. A very basic computer that can be used as a telecommunication terminal can be obtained for a few hundred dollars (less than \$100 in some instances). A more powerful computer that can serve multiple needs for an organization can be obtained for \$1,000 or less. The price of modems has dropped dramatically and will continue to drop. You should be able to find one for less than \$100.

Telecommunication software and telecommunication services are the other components you will need. The most basic form of telecommunication software enables you to type commands on the keyboard of

your personal computer and send those commands through the telecommunication network to a remote service such as a computerized bulletin board system (BBS), electronic mail service, or conferencing system. Very inexpensive (or even free) forms of telecommunication software, known as "shareware," are available; this inexpensive or free software is often remarkably useful, especially for getting started. For less than \$100, very sophisticated commercial telecommunication software is available.

When you have your hardware and software working, you need to know the telephone numbers of services that can connect you with other people. The cheapest way to start is by using local BBSs, most of which are free. You can look in the classified advertising section of any controlled-circulation computer newspaper and find lists of dozens, if not hundreds, of such "boards." Almost every BBS has an online list of other BBSs. You can perfect your online skills, meet people, gain information, at very little cost. If you want to send electronic mail to a large number of people in a larger geographical area, you will need a subscription to MCI Mail, CompuServe, PeaceNet, EcoNet, the WELL, or other computer conferencing or e-mail (electronic mail) systems that interconnect with other networks. Because my electronic home, the WELL, has connections with Internet systems, as well as MCI and CompuServe, I can reach and be reached by millions of people worldwide. Costs for each of these systems vary (see the access information at the end of this article).

The missing element is support. Once you have your technology working and your service subscription, you need to figure out how to use it effectively. Fortunately, every system worth its salt offers online support and telephone numbers for access to people who can talk you through the procedures. Indeed, figuring out how to use telecommunication technology by questioning knowledgeable people is one of the best uses of telecommunication technology (see the article about CompuMentor on page 14).

Until you spend some time exploring these new communication media, terms can be confusing. The following sections explain how electronic mail, BBSs, and conferencing systems work, and briefly outline the advantages to using these media.

Electronic Mail



"I think that Benjamin Franklin would have been the first owner of a microcomputer. I think that the Declaration of Independence would have been written on a word processor. And I think that Tom Paine would have made *Common Sense* available on an electronic bulletin board."

WHEN YOU SIGN UP for an electronic mail service, what you get when you pay your entrance fee and/or fill out your registration is a user identification (often called a "username" or "userid"), a password, an account, and an electronic mailbox. The password is a combination of letters, numbers, and punctuation marks known only to you and to the service provider. Your username is known to every other person who has access to the service, and is the "address" that others use to contact you; conversely, when you want to contact others, you look in an online directory and send e-mail to the appropriate username. My username on MCI Mail, for example, is "hrheingold." So when you create a message on MCI Mail, and want to send it to me, you type "hrheingold" on the subject line. My password is a nonsense word that you wouldn't guess unless I told you. Because you are the only person who knows your password, you are the only person who uses your account, so you are responsible for paying the charges that accrue due to the number of messages or the amount of online time used by that account.

When you want to check your e-mail or send e-mail, you use your telecommunication software to dial the number provided by the service. When your modem connects with one of the service's modems, you see a "prompt" on your computer screen that asks you to enter your username. After you type your username on your computer keyboard, you are prompted to enter your password. The service's computer checks your username against the password, and if they match, you are permitted to send and receive electronic mail. If there is mail waiting for you, a message usually appears on your screen.


An electronic mailbox is a portion of the service's computer memory that is dedicated to your use. If somebody sends you e-mail, their message will be stored there until you read it. If you check your e-mail a few minutes after the message is sent to you, it is available. If you check your e-mail a few weeks or months after it is sent to you, it is available. When you read your e-mail, you can print it on your desktop printer, store it in the service's longterm storage (which is different from your e-mailbox), store it as a computer file on your desktop computer, and/or reply. ▶

Electronic mail has several distinct advantages over other forms of communication. Like the telephone, and unlike "snailmail" (as e-mail users refer to postal delivery), delivery is instant; at most, it takes a few minutes for the service to deliver your mail to the e-mailbox of the recipient. Unlike using the telephone, the recipient doesn't have to be online at the moment you want to communicate. This "asynchronous communication" aspect of e-mail eliminates telephone tag. Response is easy and immediate: instead of composing a reply, printing it, putting it in an envelope, and delivering it to a post office or mailbox, you simply type your reply on your computer keyboard.

The cost of e-mail is an advantage that increases in importance as the cost of snailmail and the more expensive delivery services — all of which are linked to energy costs related to moving physical objects around the planet — increase. E-mail services charge between ten cents and two dollars for messages up to 500 characters. Many services charge by the length of your message, others charge by the amount of time you are online; when you are charged for online time, you can compose your messages offline with a word processor, then "upload" them online very quickly. Another cost- and time-saving feature is the capability of sending your message to multiple addresses or even to a mass-mailing list. Some services offer substantial discounts for volume mail, and some services enable you to use your electronic account to send fax and paper-mail for an additional fee.

Electronic mail can give small organizations big leverage. For one example of this kind of leverage, see the article on page 39 about Earthtrust, an environmental-action organization that uses electronic mail to link remote monitoring stations all around the world.

A BULLETIN-BOARD SYSTEM is a large (or small) computer, with one or more modems and telephone lines connected to it, and software that allows people with computers and modems to call and leave messages. As with electronic mail services, you can send and receive e-mail on almost every BBS system. Unlike services that are devoted strictly to delivering e-mail, a BBS is literally an electronic



If you want to sell a bicycle, find out the cheapest way to fly to Saskatchewan, argue about politics, or learn about telecommunications, you can "log on" to a BBS, read what others have written in the public communication area, and add your own comments.

bulletin board where people can post notices and participate in public discussions. If you want to sell a bicycle, find out the cheapest way to fly to Saskatchewan, argue about politics, or learn about telecommunications, you can "log on" to a BBS, read what others have written in the public communication area, and add your own comments. It's amazing how apprehensive one can be about typing words on a keyboard in the security of one's home, knowing that those words are going to be stored in a computer on the other side of town or the other side of the world, to be read by complete strangers. And it's amazing how exciting it can be when you log on again a few hours or a couple days later and find welcoming letters in your e-mailbox and replies to your public comments. Many people find it to be a particularly addictive form of communication; many people, and I include myself, have formed deep friendships and have participated in true community-building through a BBS system located in somebody's home.

Tens of thousands of BBSs are in operation in North America alone, most of them in people's homes, most of them single-line operations (which means that only one person can access the BBS at a time), many of them devoted to a specific area of interest (paganism or Christianity, politics of the left or right, skateboards or science fiction, computer games or ecology). BBSing has created a full-fledged subculture, with national conventions, paper publications, and local social events, all organized online. Most BBSs are free, some of them charge users. There are even global networks of BBSs.

BBSs have the communication advantages of e-mail, plus a few of their own. First, a BBS makes "many-to-many" communication possible, just the way a bulletin board in the town square does — except you can visit the town square by typing a command on your computer at home or the office, and the "town" can consist of a small city, a state, or an entire country. The topic-oriented structure of a BBS system, the capability of "branching" discussions when they begin to drift from the original topic, the capability of using both public and private messages to build communities, the capability of "downloading" software (including software to run your own BBS — a self-propagating characteristic of this medium), the fact that communication style rather than physical appearance counts,

Electronic Bulletin-Board Systems

are all powerful advantages of BBSs and computer conferencing systems that I will discuss at greater length below. BBSs, when used knowledgeably, also can be superb tools for grassroots political organizing, or for leveraging the activities of any grassroots public interest or nonprofit organization.

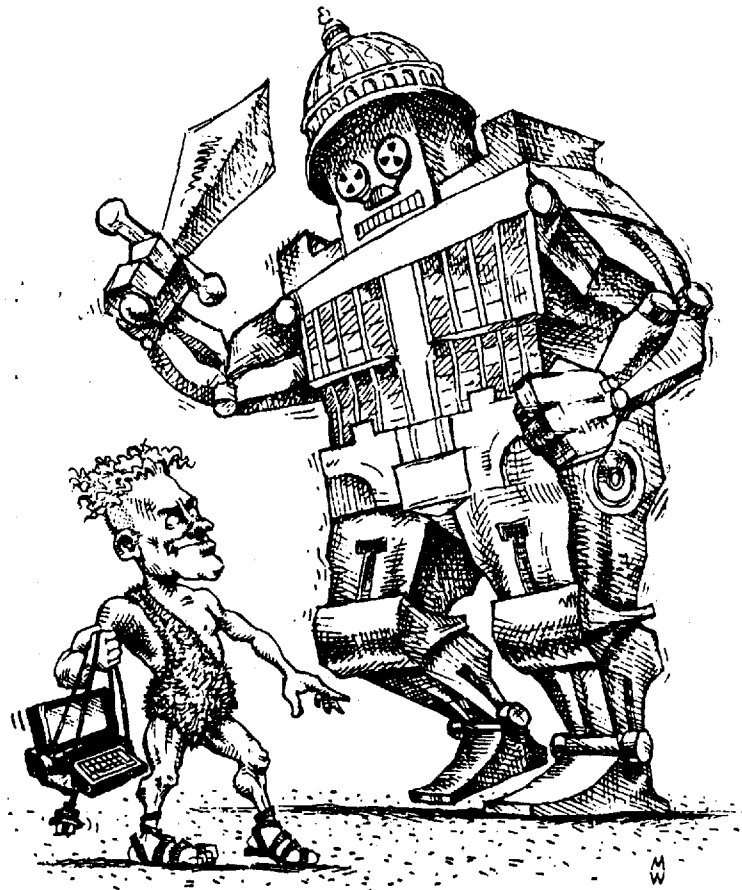
Dave Hughes figured out how to use a BBS to exert political leverage on local government. Ask anybody in Colorado Springs, where Hughes made his first foray into electronic democracy because he wanted to find a way of letting local vendors, who had been shut out of bidding on the county computer contract, air their complaints. The press logged on, asked questions online, and confronted the county commissioners with the complaints and the facts they had compiled.

"It got so hot that county staff members were observed reading from BBS printouts at the podium during formal meetings," Hughes recalls. "In the end," he adds, "the commissioners knuckled under, went to bid, the whole inefficient and incestuous system was exposed, and today there is a whole new approach to information management in the county. The key was that members of the press, who knew that something was wrong but lacked the technical expertise to ask the right questions, were able to use my BBS to meet, efficiently, with a wide range of experts, and thus tackle a difficult form of investigative journalism."

For his next foray into BBS politics, Hughes invited a candidate for city council to post his views on Hughes' BBS, and to respond to questions from voters. The candidate was elected, and the councilman continues to use the BBS to communicate with his constituents.

Hughes is a believer in "teleports" — communities like his own, where people can enjoy a small-town atmosphere and work from their homes using computers and modems. When the Colorado Springs city council looked like it was going to make a decision that would effectively prohibit telecommuting, Hughes went into action.

"The city planners of Colorado Springs decided to tighten the ordinance that regulates working out of the home," Hughes recalls. "Their proposal would not only have made home entrepreneurship suffer, it would have flown in the face of high technology, as an increasing number of people use computer tools at home to earn



money. I was the only person to stand up in front of the planning commission and testify against the ordinance; the planners tabled the matter for thirty days. I then brought the text of the ordinance home with me and put it on my BBS."

Hughes sent letters to the editors of his two local papers, inviting people to log onto his BBS and read the ordinance. Two hundred and fifty callers above the normal traffic level for his BBS called within the next ten days. What Hughes did not realize at the time was that many of those callers worked in large high-tech plants, and they downloaded, printed, copied, and circulated hundreds of copies of the ordinance throughout the city. At the next city council meeting, more than 175 citizens, representing every part of the political and social spectrum of Colorado Springs, showed up to protest the ordinance. It was defeated. Hughes points out that "Ordinarily, the effort needed to get involved with local politics is enormous. But the economy of effort that computers provided made

it possible for me to mobilize opinion and action."

Never one to rest on his laurels, Hughes prodded Colorado Springs to create a City Council Telecommunications Policy Advisory Committee, which does its business on the city's new BBS; the committee is proposing recommendations on how to make elected officials publicly accessible online. Penrose Public Library in Colorado Springs, working with the city, now has "City Hall Online," which includes all announcements, agendas, and minutes of meetings. Then Hughes decided to see what he could do for candidates on a county-wide scale: "I used my personal computer to log onto the county clerk's computer and download the entire registration list of all the voters in my precinct. Now anyone can dial me and go into the world's first political precinct BBS." Next, he told his local branch of the Democratic party that he could put 100 percent of the voters in every one of the 120 precincts of the county on a public BBS. The cost would be nominal, considering the fact that his county normally charges \$800 to print out the list. The Colorado State Legislature is implementing a modem dial-up service for legislative information. Last I heard of Dave, he was up in Montana, helping his friends Frank and Reggie Odasz set up the Big Sky Telegraph (see article on page 32). On the WELL, we often see the conversations that Dave has "ported" from BBS systems in China, Estonia, and Saudi Arabia. He might be a grassroots organizer, but he understands that he is dealing with a medium that has global reach as well as local leverage.



Conferencing systems structure discussions according to topic, making it easier for people to find interests, and to request and offer specific information. If your organization is concerned about ecology, you can go to an ecology discussion area and browse the list of discussions, selecting from topics devoted to local water resources or national air quality.

thirty or more people online at any one time. CompuServe has several hundred thousand members, and hundreds of people can be online at one time. In addition to mail and public discussion, computer conferencing systems often have facilities for receiving, storing, and displaying longer documents, which makes them a kind of instant-publication medium.

Like a BBS, a conferencing system is time- and distance-independent. People can log onto the system from different places at different times on different dates and participate in ongoing discussions. Many-to-many conferencing makes it possible for one person to communicate with many others, and to read communications from many others. Conferencing systems structure discussions according to topic, making it easier for people to find others who share their interests, and to request and offer specific information. If your organization is concerned about ecology, you can go to an ecology discussion area and browse the list of discussions, selecting from topics devoted to local water resources or national air quality. If you need to know how to operate a specific kind of hardware or software, you can read a list of discussions and find the one devoted to your equipment.

By organizing information this way, it is possible for networks of people to serve as informal support systems for one another. If I need help figuring out how to use a new kind of software, or want the titles of books about a field that attracts my interest, I can log onto a conferencing system, look for the appropriate topic, and post a query. Then I can log off, go about my business, and when I check back an hour or a day later, I often find that somebody I've never met has answered my question. A conferencing system that includes a broad base of members with a wide variety of expertise is a "living database" in which everyone can serve as a librarian and consultant for everyone else.

The combination of time- and distance-independence, many-to-many capabilities, and topic orientation makes computer conferencing attractive as a medium for conducting ongoing or time-limited "electronic meetings" (see the article on page 18 about an international health-care organization that has been using computer conferencing for this purpose since 1983). Meetings are the bane of most organizations — think of the time and effort required to get a group of people in the same place at

A COMPUTER CONFERENCING system is a more capable and powerful version of a BBS, but the principles are very similar. The central computer for a conferencing system is more powerful, and the software it uses more sophisticated, than the kind used by most BBS systems, and it is usually capable of communicating with several (or several hundred) telephone lines at the same time. The central computer stores, structures, and displays public discourse and handles private electronic mail among groups of people that number from a few hundred to several hundred thousand. The WELL, for example, has about 5,000 members, and there are usually

Computer Conferencing

the same time, and think of the quality of work that is done when people are watching a clock. Although there is no substitute for face-to-face encounters when people need to get to know one another or engage in debates that might require minute-to-minute diplomacy, online meetings have several virtues: people can attend meetings at their leisure, from a place of their choosing, with ample time to ponder what they want to say. Any organization can benefit from the proper use of electronic meetings.

Decentralized work, involving volunteers or paid staff scattered around the county or country, is facilitated at low cost by appropriate use of computer conferencing. Coordination of political or lobbying activities in a timely manner also can be facilitated (see the article about PeaceNet and EcoNet on page 20). Specific organizational goals, such as fundraising management, constituent or client communications, political reconnaissance, strategy planning, crisis management, technical support, can be leveraged by knowledgeable use of computer conferencing services. Computer conferencing is not a panacea, but it can be a powerful tool; the key, as with any tool, is to learn how best to use it — and when not to use it.

The powerful computers that run conferencing systems, and the attendant software, are expensive enough right now to be out of reach of most small organizations (although these costs are dropping steadily, which means the situation will change in a few years), so it is usually necessary to subscribe to a service that charges by the month or the hour. The listing at right gives examples of a few such services.

With the power of computer-mediated communications, it is possible to expand dialogue, to show people that individuals can be effective, and to organize groups of strangers into communities. There are few more important tasks at every level, from the neighborhood to the planet, in the days ahead. □



Resources

Books:

Alfred Glossbrenner, *The Complete Handbook of Personal Computer Communications: Everything You Need to Go Online With the World* (St. Martin's Press, New York, 1985).

Alan Green, *Communicating in the '80s* (The Benton Foundation, 1776 K Street NW, Washington, DC 20005).

Mary Gardiner Jones and Nancy Chasen, *The Potential of Telecommunications for Nonprofit Organizations* (Consumer Interest Research Institute, 1631 Suter's Lane, Washington, DC 20007).

Amalio Madueno, *Computers for Neighborhoods* (The Community Information Exchange, 1120 G Street NW, Washington, DC 20005).

Samuel A. Simon and Michael J. Whelan, *Phonewriting: A Consumer's Guide to the New World of Electronic Information Services* (Telecommunications Research and Action Center, Box 12038, Washington, DC 20005).

Electronic Mail Systems:

MCI Mail (e-mail, fax, telex) 1111 19th Street NW, Washington, DC 20038; 800/444-8245. Annual fee: \$35. Electronic mail: 45 cents for 500 characters; 75 cents, 501-2500 characters; \$1, 2501 to 7500 characters; \$1 each additional 7500 characters. Telex: per minute of transmission. Fax: 50 cents first 1/2 page; 30 cents each additional 1/2 page.

Computer Conferencing Systems:

CompuServe Information Service (conferencing and e-mail) — Customer Service Ordering Department, Attn.: Operator 281, Box L-477, Columbus, OH 43260; 800/848-8199. Membership: \$39.95 plus \$3 shipping/handling; specify computer. \$12.50/hour; 21 cents/minute. \$2/month support fee after 2nd month.

Echo (East Coast Hang-Out) (conferencing and e-mail) — 97 Perry Street/Suite 13, New York, NY 10014; 212/255-3839 (\$39.95 plus \$3 shipping/handling; specify computer. \$18.95/month unlimited use (\$9.95 for students and seniors).

The Meta Network (conferencing and e-mail) — Metasystems Design Group, Inc., 2000 N. 15th Street/Suite 103, Arlington, VA 22201; 703/243-6622 (voice), 703/841-9798 (fax). \$15 setup fee; \$20/month.

Portal System (conferencing and e-mail) — 10385 Cherrytree Lane, Cupertino, CA 95014; 408/973-9111. Menu interface service: \$19.95 membership; \$10/month, unlimited use. UUCP connection service: \$34.95/month; \$1.95/hour connect; unlimited support offered at \$95/month.

The WELL (conferencing and e-mail) — 27 Gate Five Road, Sausalito, CA 94965; 415/332-4335 (voice), 415/332-6106 (modem). Membership: free to credit-card customers, \$25 otherwise. Monthly fee: \$10; use fees \$2/hour, billed by the minute. ■

Media Technology and the Vote

Another sourcebook on politics and communication technology that grew out of a colloquium organized by the Annenberg Washington Program. Nonpartisan, wide-ranging, and full of juicy footnotes and bibliographies. More issues than answers, suggestions for research that needs to be done, and lots of case histories by political-campaign professionals about the ways new technologies are changing the electoral process.

—Howard Rheingold

We have a package that can take a map of any scale and overlay data onto it — take an existing database and throw it into the map. The geographic analysis that we can do will help with (1) finding out where particular points are in a political campaign's database, (2) overlaying this database onto actual maps and seeing what it means; and (3) comparing the geographic relationships among different sets of data. Thus, we can facilitate redistricting because the computer can now draw experimental boundaries and tell us what those boundaries mean. We can then shift the boundaries as desired.

Users can quickly modify a boundary on the screen and ask, "How does this affect the density of a certain age group, party affiliation or ethnic group?" Then they can shift the boundaries again and repeat the

calculations. The significance of tables of figures also can be easily grasped when they are displayed geographically.

MapInfo can work with multiple layers of data. On a street map of a city we can display points representing the location of voters, and in addition, show boundaries. We can display up to 50 layers of data and independently turn any of them on or off. We can also zoom in or out of any area, giving the user detail ranging from a neighborhood to the whole country. In this way one can see the "nitty-gritty" — where each voter lives, his or her party affiliation, race, sex or age — or zoom back and see the summary of the data for a county.

Media Technology and the Vote

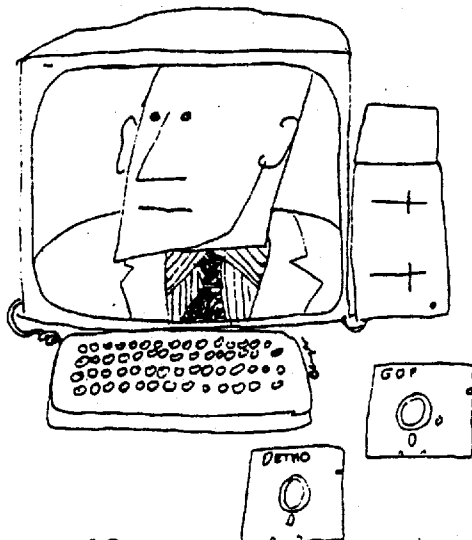
Joel L. Swerdlow, Editor.
1988; 240 pp.

\$18.50 (\$21 postpaid) from Westview Press, 5500 Central Avenue, Boulder, CO 80301; 303/444-3541



New Communications Technologies in Politics

This collection of papers asserts that, to be effective, local political campaigns must adopt the technologies of direct mail, computer conferencing, and market-polling software. Case studies analyze the successes and problems encountered when campaigns did so. —Kevin Kelly
[Suggested by Robert Horvitz]



Without the computer, the success of grass roots lobbying would not be possible. Where we once compiled lists manually from paper directories, we now purchase brokered lists on computer tape and merge them, letting the computer determine the "strength" of a name based on the frequency of its appearance. At the same time, duplicate names are eliminated.

Eventually, more and more voter registration lists will be available on computer tape, and that will give us an even greater targeting capability.

Instead of manually entering ID numbers to identify a potential participant, a bar code will be entered with a wand band, much like that currently used at the grocery checkout counter. Such a procedure will virtually eliminate the already miniscule .005 percent current error rate.

Other changes are ahead. Computers have made paperless phone banks possible: phone list, book, tally sheet and message will all be on a video display terminal. The computer dials the phone, so the telephone worker will not waste any time with disconnects or misdialled calls. Today 60 percent of our telephone efforts are wasted on that kind of erroneous call — despite the impressive percentage of volunteers per contact we achieve.

The Complete Electronic Bulletin Board Starter Kit

The Starter Kit not only explains how to set up a BBS with IBM-compatible computers — it also includes a disk with reasonably powerful BBS software. Detailed and comprehensive how-to information regarding the physical and social aspects of starting a BBS.

—Howard Rheingold

[Suggested by Matthew Rapaport]

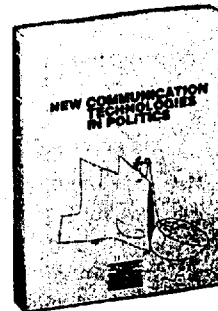
Tom Mack says three factors determine a successful bulletin board system and all of them concern either the nature of the information or the kind of people who need it. He says a BBS is the unique tool for the job when:

1. The people needing the information are geographically dispersed.
2. The information itself is complex — perhaps technical, or lengthy, or detailed — and when accuracy is important.
3. When time is an important factor, either in the value of the information or the availability of the people who need to share it.

Don't depend solely on other BBSes to spread the news; other media may also be

In the next two decades, there will be new levels of addressability. Eventually, two-way cable like the experimental QUBE program in Ohio will spread throughout the country. By videotext, direct-satellite broadcast, or cable, you will be able to go to a cable channel and broadcast a message directly into the home.

As our process and methods get more sophisticated, the issue of privacy could become more significant. The public must eventually decide what information we — both commercial and political communications consultants — have a right to know, and what information will remain "behind closed doors."



New Communications Technologies in Politics

Robert G. Meadow, Editor. 1985; 145 pp.

\$15 postpaid from Annenberg School of Communications, 1455 Pennsylvania Avenue NW/Suite 200, Washington, DC 20004

Here in West Virginia, we have several RBBS-PC installations up and running. On most, callers are greeted by a very familiar menu:

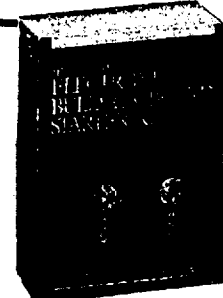
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RBBS-PC MESSAGE SYSTEM
--- COMMUNICATIONS ---
PERSONAL MAIL
[E]nter a Message
[K]ill a Message
[P]ersonal Mail
[R]ead Messages
[S]can Messages
[T]opic of Msgs

[ ]nswer Questions
[B]ulletins
[C]omment
[I]nitial Welcome
[O]perator Page
[W]ho else is on

[ ]elp
[J]oin Conferences
[V]iew Conferences
[X]pert on/off
[?]List Functions

[ ]doors Subsystem
[F]iles Subsystem
[G]oodbye
[Q]uit to other Subsystems
[U]tilities Subsystem
[!]Library Downloads
    
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The Complete Electronic Bulletin Board Starter Kit

Charles Bowen and David Peyton, 1989; 436 pp.

\$39.95 (\$42.45 postpaid) from Bantam Books/Direct Sales, 414 E. Golf Road, Des Plaines, IL 60016; 800/223-6834 (or Whole Earth Access)

By now, we know this old boy quite well. The standard menu, the one saved on your disk as MENU2, is used on RBBS-PC installations throughout the world.

interested. If your board is devoted to a specific hobby or profession, perhaps a magazine covering the same subject might print a notice. Even though BBSes have been around for a while, they are a new concept to many people, especially non-computerists. As a result, these same magazines might even be interested in writing a feature story about your system if you sell the editors on the idea that this is something unique for their readers.

And you might not have to go to a special-

ized publication. Many small communities still don't know about BBSes and the creation of one in the area might be judged newsworthy by a local newspaper. If you believe your board is the first for your town, contact an editor at your local newspaper to report what you have and what it does. Be patient; it may take some explanation about the nature of computer communications. Invite a reporter over to see the board in operation and suggest that the decision on whether to write a

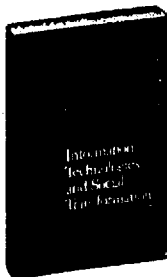
feature be delayed until he or she has seen it do its stuff. You'll probably have a better chance of selling this story to a general-readership newspaper if you are using the board for some purpose that's easy for readers to grasp. In other words, look for the editor to say "no thanks" if you say your system is devoted exclusively to the Pascal programming language or some other topic that's easily judged to be of limited interest.

Information Technologies and Social Transformation

John Mayo's essay on infotech trends and the physical limits that constrain them, and Anne Branscomb's on property rights in information, are two of the best overviews available on these important subjects. Also includes fine chapters on infotech in the home, the future of social hierarchies, and computers in business.

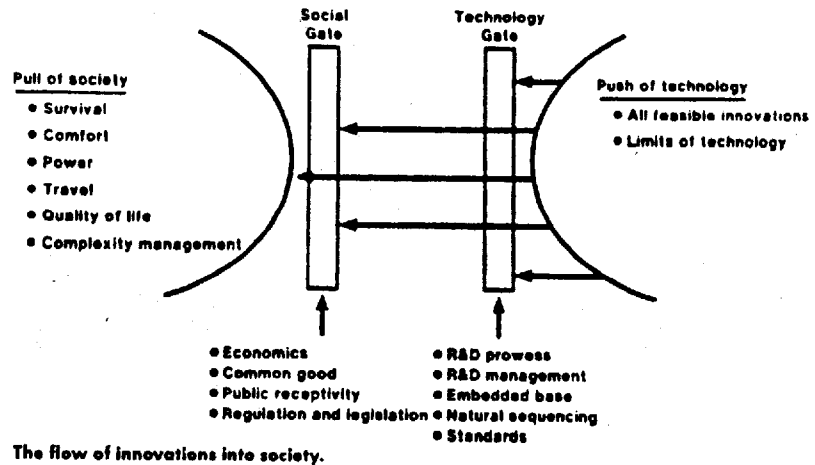
—Robert Horvitz

• That you or I can own a fact or an idea,



Information Technologies and Social Transformation

Bruce R. Guile, Editor. 1985; 173 pp. **\$14.95** (\$17.95 postpaid) from National Academy Press, 2101 Constitution Avenue NW/P. O. Box 285, Washington, DC 20055; 202/334-3313



The flow of innovations into society.

that a message of any kind belongs to a person or a corporation or a government, is (for reasons already cited from Colin Cherry's work) rather a peculiar notion to begin with. The person from whom you got the message did not lose it; any right you acquire by receiving it is at best shared with the sender, the carrier, and often a good many other nosy people who are privy to it. Even if you paid to get the message (if, for example, it was a piece of research you hired someone to do), or if someone paid to get it to you (a friend who sent you a cable, a company that sent you a commercial), it was the assembly or delivery service, not the information contained in the message, that was paid for.

The researcher could not own the facts and ideas that she or he strung together for your use, and neither can you, even if you use them as your own.

• It is a characteristic of our evolving civilization that we are developing an increasing respect for the individuality and privacy of every human being in addition to a recognition of proprietary rights in real estate and other material possessions. Therefore, it follows logically that we will also evolve a body of law to protect information about ourselves as well as information concerning our corporate enterprises and public institutions.

**SPECIAL INAUGURAL REPRINT ISSUE: INFORMATION ENVIRONMENT TOOLS
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