

Information Please

By Martin Morse Wooster

Fear of the electronic superhighway does not compute.

TO CONSIDER THE ENORMOUS changes that have affected communication in the last decade, think back to 1980. Only a few wealthy Americans owned VCRs. Only big businesses used faxes. Only a few homes received cable television; the rest of us were limited to the three networks, public television, and whatever old movies were on the independent station. Computers were large, punch-card-fed, and frightening.

What futurologist could have predicted today's world, with affordable faxes, personal computers with power unimaginable to a James Bond villain, and cheap videocassettes sold over the counter at McDonald's? And the information world of 2008 is as unforeseeable to us as today's information highway was in 1980. Will we watch television on our computers or run software on our TV sets? Will we still buy books—or go to a movie theater or a library?

Conventional wisdom holds that the large number of choices will result in our brains' bursting with "information overload." Every time I hear this phrase, I imagine it to be the mental equivalent of sticking your finger in an electrical socket. We'll be so burdened with knowledge that our brains will bulge and our hair will look like the bride of Frankenstein's.

Philip Elmer-DeWitt expresses these standard fears in the October 25 *Time*. In a bad piece of science fiction, Elmer-DeWitt predicts a future in which everyone will spend evenings slouching in front of "teleputers," agonizing over which one of the 500 channels to choose from. Will Americans in the 21st century spend their evenings watching interactive soap



operas? How about "laser-print coupon clubs"? Or electronic classifieds? Or video dating services?

"The only people who weren't plugged in were those pointy headed people who never owned a TV set in the first place," Elmer-DeWitt writes. "I saw one of them the other day, walking outside, making a fuss over the flowers. Hey, I'm no lowbrow. I used to go to the movies!"

Whatever the future holds, two things are clear: There will never be exactly 500 channels to choose from, and no one will ever need to read *Time*. (Since no one needs to read *Time* now, of course, the second prediction is not particularly daring.) Moreover, the possibility of hundreds of different things to do on your television set does not mean that people will become TV zombies. No one reads all the magazines on a newsstand or tries to watch every show on cable TV. Given more choices, people will probably watch the shows they like and skip the ones they don't. People won't spend more time in front of their televisions in the future—they'll just be more selective.

THE MAGAZINE *WIRED* PROVIDES A MORE plausible view of the future of information. This bimonthly is a general-interest magazine about the future of information that combines meditations on the future with reports about current technological advances. Once I got past the exceedingly loud graphics (the page numbers are fluorescent and illegible), I found it quite informative. The September issue, for example, reports that Singapore is trying to become the world's first "information island" and gives a list of new words that future technophiles ought to know. (To "cut steel," reports Gareth Branwyn, is to build a mold for a new product. A "knowbot" will be a software program that will act as a reference librarian helping users find the information they need.)

The most interesting thing about *Wired* is that it hires science-fiction writers to provide reports: The editors sent William Gibson to Singapore and Rudy Rucker to the set of *Jurassic Park*. Michael Crichton also spends several of *Wired*'s pages discussing the future of information. But the

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best article is by Bruce Sterling, discussing what the "information superhighway" of the future might be like.

Sterling describes "Bob Smith," testifying before a congressional committee in 2015, a year in which, Sterling says, "living without the Net would be like living without electricity." The Net, Sterling says half-jokingly, will foster individual liberty. He predicts that "one of the most feared political organizations in the world is the multi-national anarchist libertarian group called the Students for an Utterly Free Society."

In Sterling's scenario, encryption will be commonplace, enabling programmers to thwart police and government agents. He portrays an FBI raid on an information node in South Dakota used by Iranians. After decryption, the Feds find that 80 percent of the files are pornography, 15 percent pirated videos and films, and 5 percent "text files in the Farsi language describing how to build, deliver, and park truck bombs in major urban areas."

Other "information entrepreneurs" won't even need homes, says Sterling. He describes how police in "North Zulch, Texas" arrest a scruffy biker and destroy a cigarette-pack-sized device which turns out to be the node for a bulletin board with 15,000 users, some of whom are wealthy moguls. The enraged users go to North Zulch, buy the town, pulverize it, and donate the land to the Nature Conservancy.

ANOTHER FEATURE IN THE SEPTEMBER *Wired* is an interview with George Gilder, who is working on a book on the future of the "telecosm." Gilder's views, however, are better expressed in an article in a recent issue of *Regulation*, dated only 1993.

Gilder predicts that, by 1995, there will be chips with 100 million transistors; by 2000, chips with 1 billion transistors will be easily available. Tens of millions of cellular phones and personal communication devices will make the nation's existing telephone web a costly anachronism. Fiber-optic cables will be superseded by "all-optical networks" of silicon fibers

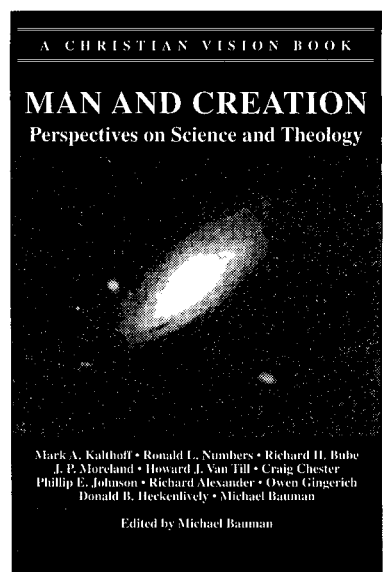
that "will make communications power virtually free."

These changes, says Gilder, will make the U.S. Postal Service a technological anachronism. It already costs only 13 cents to send a one-page fax coast to coast, compared to 29 cents for a letter; falling fax prices will check the Postal Service's ability to raise prices. Ultimately, Gilder argues, the Federal Communications Commission and state telephone regulators will lose their justification, since their

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raison d'être is that the electronic spectrum is scarce and therefore needs the firm hand of government to ration the finite airwaves and oversee such "natural monopolies" as the local cable-television franchise and the local telephone company.

The increasingly specious argument for such "natural monopolies," Gilder contends, will become even more dubious when silicon cables enable photon-based



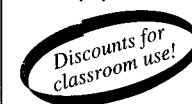
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messages to travel around the world at virtually no cost. But government can block this bright future by denying telephone-company competitors access to "dark fiber"—the one-third of the nation's existing fiber-optic network currently unused by the phone companies. Phone companies make 10 times as much money transmitting data as they do transmitting voices, and they don't want to lease the dark fiber to competitors without loading it with expensive—and, in Gilder's view, unnecessary—electronic enhancements.

Gilder cheers a recent FCC ruling that allows such competitors to the telephone companies as Electronic Data Systems, Shell, and McDonnell Douglas to buy as much "dark fiber" as they want. He feels this will stimulate a continuing fall in communications charges, which will encourage entrepreneurial drive and initiative.

"In a regime of boundless bandwidths and computational abundance, the key scarce resource will be the human mind," Gilder concludes. "Contributing the bulk of the value added and gaining most of the profits, human creativity will become ever more valuable and more highly rewarded. Slipping inexorably away into the trackless realms of human minds, economic activity will become ever harder to regulate, tax, or control."

One need not agree with every point Gilder makes (particularly when he slips into techno-mysticism) to conclude that his basic ideas are sound. It's clear that computers have freed people rather than enslaved them, and that forthcoming changes in the information world will encourage decentralization rather than strengthen hierarchy. "Infopreneurs" may not be scruffy bikers, but they'll be as free to live in Louisville or Bozeman as in Silicon Valley or Manhattan. Indeed, one consequence of the information superhighway may well be an increased pride in regional identity; if there's no need to move to a big city to do your work, you won't have to live like a rootless urban sophisticate.

But one can never underestimate the power of government to ruin the future,

so one must be wary of the Clinton administration's proposals for the information superhighway. It's hard to tell what these plans are, since they vary day by day. But there are certainly some questions about the information net that the Clintonites ought to address.

How, for example, will copyright laws be enforced in the electronic age? As Evan Schwartz notes in the November 22 *Publisher's Weekly*, some publishing firms are already putting works on the net, using "electronic bookstores" that can collect fees from users. At least one company, Wide Area Information Services, sells software that allows large users (Sun Microsystems, the Environmental Protection Agency) to post and retrieve large documents from the net and conduct keyword searches to find desired information. But without a reliable method of enforcing copyrights and ensuring that artists and authors get their royalties, there will be very little incentive for anyone to be creative.

And as Eliza Newlin Carney reports in the November 20 *National Journal*, nonprofits and liberal lobbyists (including such unlikely groups as the National Coalition on Black Voter Participation) have formed the Telecommunications Policy Roundtable, which Carney says wants to make sure that schools and the poor can get the information they need—or, as lobbyist John M. Lawson put it, to make sure that no one will "end up as 'road kill' on the information superhighway."

These fears are misguided. The history of computing is a continuing saga of better goods being offered at lower prices. If trends continue, information may not be free, but it will certainly be cheaper than telephone service or cable television. If the government allows market forces to do their job, the information net will end up making Americans freer, happier, and more self-reliant than they were before computers became commonplace. ♦

When not traveling the information back road, Contributing Editor Martin Morse Wooster is a visiting fellow at the Capital Research Center.

Dealing with the Devil

By Ellen Frankel Paul

Bargaining with the State, by Richard A. Epstein, Princeton, N.J.: Princeton University Press, 322 pages, \$35.00

RICHARD EPSTEIN'S *BARGAINING with the State* is intended to be the flip side of his 1985 book, *Takings: Private Property and the Power of Eminent Domain*. While *Takings* was concerned with reining in the government's regulatory, eminent domain, and taxing powers, *Bargaining* examines government in its role as dispenser of favors: subsidies, tax breaks, welfare, highways, limited liability for corporations, professional licenses, government jobs, unemployment benefits, and grants for the arts, medicine, and the humanities, among other things. The book is a rather unruly collection of topics that Epstein valiantly seeks to tame into something approaching theoretical consistency. He is undoubtedly right when he writes that this topic lacks the "dramatic sweep of a takings analysis." As he wryly observes, *Takings* is a tough act to follow: "Once the New Deal has been declared unconstitutional...it is hard to do it a second time."

Epstein is mainly concerned with the dispensation of largess by the state when it finds itself in a monopoly situation. For him, the purpose of constitutional law is to "maximize overall [welfare] by the maintenance of competitive markets." If the state's power to dispense benefits goes unchecked, the "social surplus" achieved in open markets will be dissipated by "bargaining games" that waste scarce resources on buying political indulgences or manipulating the political system. Hence, bargaining by the state—its power to contract and to grant—ought to be subject to as much scrutiny as takings, regulation, and taxation.

Bargaining is an attempt to come to terms with the welfare state while trying to find a constitutional way of restraining its excesses. Considering the Supreme

Court's hostility or indifference to economic liberties since the New Deal, this is no easy task. What Epstein comes up with is a fairly thin reed that often does not seem up to the challenge: the doctrine of unconstitutional conditions, which holds that the government may not require individuals to surrender their constitutional rights in exchange for government benefits. Developed in the 19th century, this is a relatively obscure legal tenet, which might explain how it managed to survive the Supreme Court's onslaught against the constitutional clauses that deal with economic liberties.

The unconstitutional-conditions doctrine emerged from controversies over state powers of incorporation. Corporate charters created a new form of ownership that bestowed limited liability on firms, a privilege they could not have bargained for in an open market under traditional contract, tort, and property law. Scandals abounded when the states exercised their powers in a discriminatory manner. Epstein notes how wasteful selective incorporation can be because it fritters away the social surplus from incorporation in bidding wars and intrigues that benefit only the government officials controlling the process.

One temptation for the states was to extract onerous conditions from out-of-state corporations. In exchange for the privilege of doing business within certain states, these "foreign" corporations were made to pay discriminatory taxes or waive their constitutional rights to the use of federal courts in cases involving parties from different states. The Supreme Court created the unconstitutional-conditions doctrine to prevent states from imposing conditions of this sort. The states could bar "foreign" corporations, or they could



Richard A. Epstein argues that the state's power to contract and to grant ought to be subject to as much scrutiny as takings and taxation.

allow them to enter on equal terms with their own corporations, but they could not condition entry on the forfeiture of rights.

In the "foreign" incorporation cases, one can clearly see the "paradox of unconstitutional conditions." The state has the greater power to withhold or grant a benefit but not the lesser power of granting the benefit with unconstitutional conditions attached. In the 1920s the doctrine spread from the incorporation arena to state regulation of public roads and highways, where it served to check disproportionate taxes on interstate trucking (extracted in exchange for the privilege of using state roads).

EPSTEIN WISHES TO PIERCE THE VEIL obscuring the true nature of such bargains. Although people consent to them because they will be better off as a result, he argues that the deals include coercive conditions that should not withstand constitutional scrutiny. Since the people *are* better off, however, they are unlikely to challenge the conditions.

Epstein is thus tackling Leviathan with an admitted "second-best doctrine," with few and reluctant plaintiffs, and with a smattering of obscure cases covering disparate issues. And, to make matters worse, the unconstitutional-conditions doctrine