

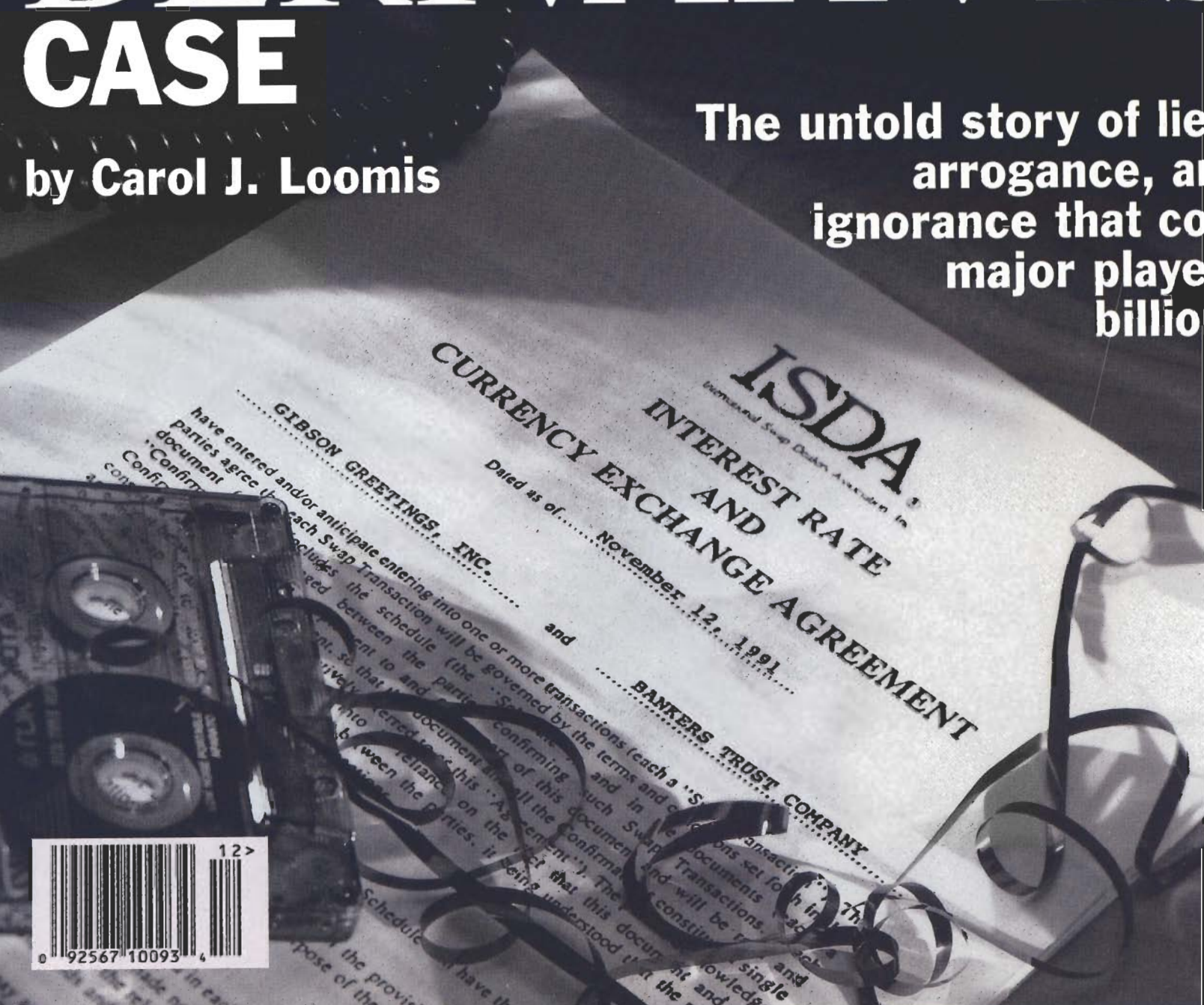
Your Career in  
Managerless  
World

# FORTUNE

## CRACKING THE DERIVATIVES CASE

by Carol J. Loomis

The untold story of lies,  
arrogance, and  
ignorance that cost  
major players  
billions



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"Every time you talk to someone about a fish taco, it's a negative thing immediately."

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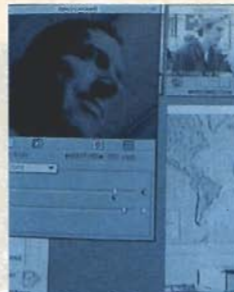
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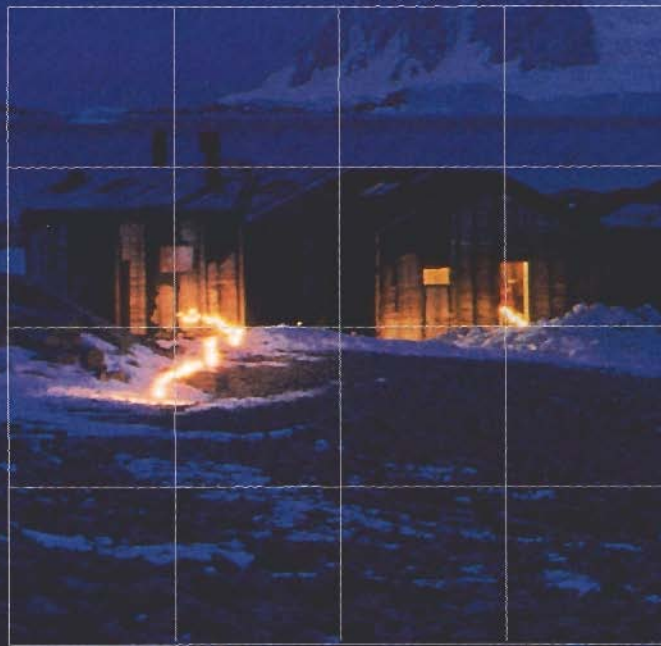
**COVER:** To illustrate this story, photographer **Mark Weiss** placed an unspooled tape cassette on top of a derivatives agreement between **Bankers Trust** and **Gibson Greetings**.




# ALONE WILL BEING WIRED TOGETHER SET US FREE?

Networks will obliterate the industrial model of society. The fear is that they will destroy solitude, and with it human intimacy.

■ by Andrew Kupfer







**I**MAGINE, if you can, a small room, hexagonal in shape, like the cell of a bee. An arm-chair is in the centre, by its side a reading-desk—that is all the furniture. And in the arm-chair there sits a swaddled lump of flesh—a woman, about five feet high, with a face as white as a fungus.

An electric bell rang.

“I suppose I must see who it is,” she thought. The chair was worked by machinery, and it rolled her to the other side of the room.

“Who is it?” she called. She knew several thousand people; in certain directions human intercourse had advanced enormously ...

The round plate that she held in her hands began to glow. A faint blue light shot across it, darkening to purple, and presently she could see the image of her son, who lived on the other side of the earth, and he could see her.

—E.M. Forster

“The Machine Stops,” 1914

“Come on, honey. Remember those IBM machines. Let’s get at it before people go out of style.”

—Bobby Darin pickup line  
in *State Fair*, 1962

Ever since protohumans with sloping foreheads learned to set things on fire, people have feared and hated technology as much as they have been in its thrall. They have eyed with suspicion the printing press, the automobile, the telephone, and the television as solvents of the glue that binds people together. Each new technology brings a warning: To fall under its spell will be to sacrifice not only simplicity but also community, to metamorphose into alienated, isolated, sedentary blobs. In Forster’s story, when the machine stops, everybody dies.

This kind of trepidation is sometimes overdrawn—even the advent of the washing machine produced expressions of yearning for simpler times—but it isn’t really misplaced. The printing press vanquished the knowledge

oligarchy, yet popular culture seems ever more trivial and debased. Modern medicine often prolongs life beyond all reason or desire.

Now information technology is poised to alter the scope of human intercourse, and the familiar combination of promise and dread makes itself felt once again—with an urgency seldom seen in the two centuries since the Industrial Revolution. The new technology holds the potential to change human settlement patterns, change the way people interact with each other, change our ideas of what it means to be human.

Information technology will have the power to reverse what may have been an aberration in human history: the industrial model of society. While people in agrarian societies had for millennia worked the land around their homes to the rhythm of the sun, industrialization created the time clock and the separate workplace. Wired technology already is assaulting the industrial concept of the workday; as technology brings greater realism to electronic communications, the workplace for many will become untethered from geography, letting people live anywhere. The fear is that in liberating us from geography and the clock, networks will destroy intimacy, both by making solitude impossible and by making physical presence immaterial to communication.

One reason we are wary about information technology is that it is still strange to us, new enough that we notice it all the time. We still marvel at what computers can do, and how we can carry in our laptops enough computing horsepower to have filled an entire laboratory not so many years ago. We view information technology as special, almost magical. Vincent Mosco of the Harvard Center for Information Policy Research, who has written extensively on the history of technology and the way electrification changed population distribution, says people felt the same way about electricity when it was introduced in the 19th century. “Companies used elec-

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**Antarctica is on the Internet too. East Base was an early U.S. settlement there.**

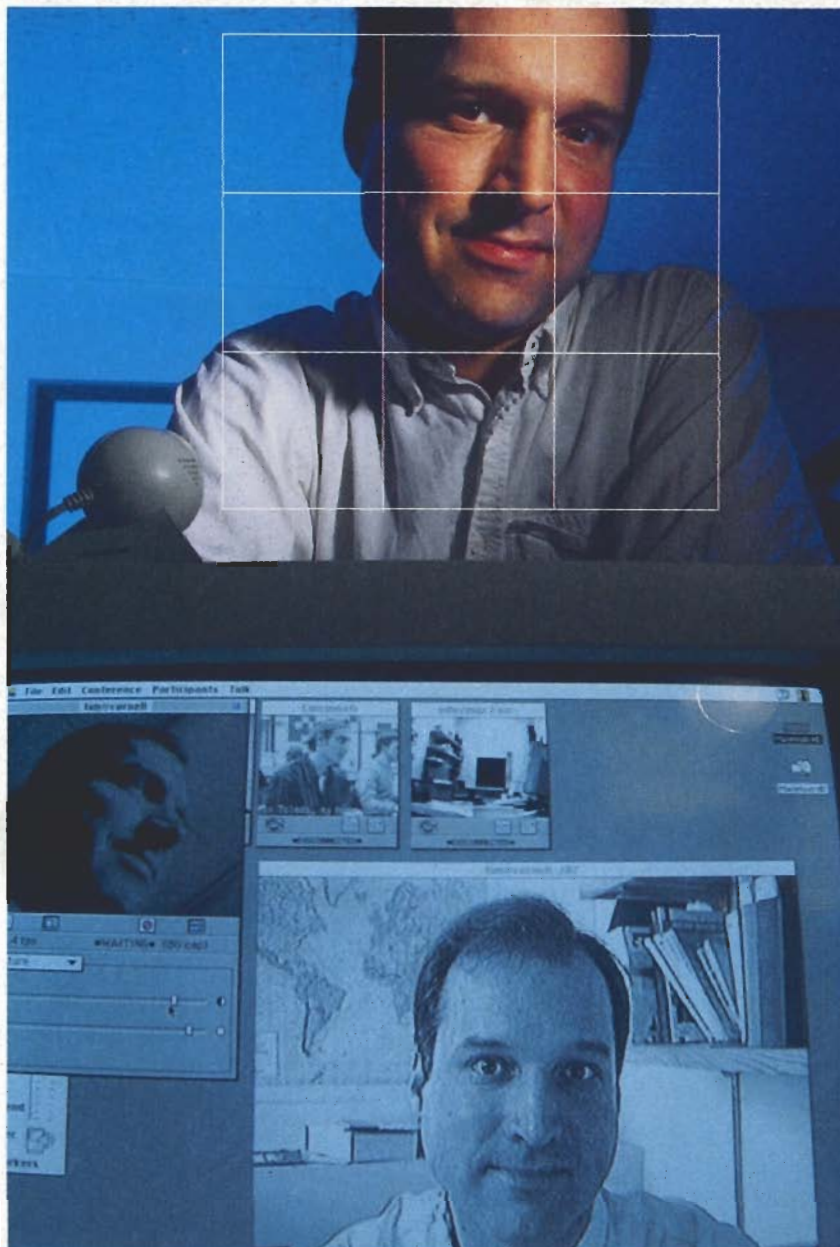


tricity to flash advertisements off the clouds," much in the way that Gothamites summon Batman in times of trouble, says Mosco. "I like that image of people gathering outdoors and watching lights flashing in the sky and seeing that as the spectacle of communications." Today computers, the Internet, and the information superhighway are the magical elements, and even the basic rules of etiquette are unformed, reminiscent of the early days of the telephone. Paul Saffo of the Institute for the Future in Menlo Park, California, says: "Alexander Graham Bell proposed a greeting of 'Hoy! Hoy!'—a variation of 'Aho!' It didn't catch on." Instead his great rival Thomas Edison stole a bit of the jam from his crummet by inventing, as a telephone salutation, the word "hello," a variant of the British exclamation "hallo."

Eventually, though, computer communications—like electricity and telephony—will quite literally fade into the woodwork. When that happens, wired technology will obliterate the significance of two of the great symbols of the Industrial Revolution, the train and the clock, and along with them the idea that society can organize everything to run on set schedules. The temporal shift this technology permits—even demands—is likely to be its most profound and enduring effect.

With an economy that straddles many time zones, the nine-to-five workday will disappear for those for whom it hasn't already. People will become accustomed to flitting between their different roles of work, recreation, and repose, constantly prey to interruption, even addicted to it. "The rush and flow of events is like electronic heroin," says Saffo. "And once you get it into your veins it's really hard to stop. You'll figure out a way to interrupt yourself." People may live in bucolic and pastoral settings but not live a pastoral life, competing via cyberspace for work

REPORTER ASSOCIATE Rajiv Rao



**FACE TO FACE** Soon video conversation will seem as real as talking through a window. Tim Dorsey of Cornell calls his software program CU-See Me.

against thousands of others, finishing each job in days or hours, then moving on to the next, like electronic versions of Charlie Chaplin's assembly-line worker in *Modern Times*.

Many assume that people who can leave company headquarters will choose to work in their homes, and wired enthusiasts anticipate a resurgence of familial togetherness. But at least one expert on how the home reflects changes in American society says we may well see less family interaction than we do today. Clifford Clark, an American studies professor at Carleton College in Northfield, Minnesota, predicts: "We will see different family members sitting around different

screens in different rooms."

That could touch off domestic turf battles: Our houses aren't suited to these purposes, having evolved over the past century from a large number of little spaces to a small number of big ones. The kitchen was once isolated in the back of the house to keep a continuously fired-up stove from overheating the living quarters, but with the invention of the gas range it moved forward and became a social room as much as a workplace. Today it sometimes flows right into the so-called great room, where families sit in front of the jumbotron to watch surround-sound movies. A shortage of solitary workspace may become just one more source of family disharmony.

Knowledge workers, selling their labor to new species of business that will flourish in the wired economy, may need to be ready to go at a moment's notice. Employers already seek workers via computer networks. But in the future the process will be more pervasive and almost automatic. Professor Thomas Malone of the Center for Coordination Science at MIT says such wired workers will form "overnight armies of intellectual mercenaries."

Imagine a company with a task that needs urgent attention—say, designing a lawn-

mower or writing a computer program. The company might not maintain a cadre within its ranks to do the job. Instead, it trolls the net for talent, sending out a bulletin that describes the tasks to be done and the skills required of team members. The notice might go directly to qualified applicants, based on résumés filed online. Specialists anywhere in the world instantly submit bids to do a piece of the job, simultaneously triggering a query to their personal references. Winning bidders work together via video hookup, each at his or her home base. The project might last a few weeks or a few days or a few hours. Afterwards the team disbands and the members melt back



into the talent pool to bid on new jobs.

Socially, the wired society is likely to bring flip-flops in behavior like the changes wrought by the telephone, which made it acceptable for a man to talk to a strange woman without a formal introduction by a third party. The Internet is making it acceptable for a man to exchange explicit sexual fantasies with a strange woman—or with someone who claims to be a woman but who may really be a trio of male cross-dressers sitting around their screen laughing. At times people breach the bounds of decency and stray into the realm of the allegedly criminal: A college student was recently jailed for distributing via the Internet a depraved story in which he imagined the rape, torture, and murder of a woman he knew, and whose name he disclosed. Another young woman soon replied with an online revenge fantasy of her own.

Many fear that wired communications, by permitting a unique combination of intrusiveness and anonymity, will make people even ruder than they are today. Already people communicating online are rethinking what kind of information they feel comfortable sharing. Mark Weiser, principal scientist at the

Computer Science Lab in Xerox's Palo Alto Research Center—and an inventor of the technology that let the Rolling Stones transmit a live video concert over the Internet last November—says that at a business dinner we are likely to talk about our spouses and children but would not usually exchange résumés. Online, though, people are guarded about their personal lives since they feel less able to size up, or even identify, their correspondents. Yet they can, in many cases, call up *curricula vitae* that disclose everything their Internet friends have done since high school.

"People are starting to put up different barriers to their interactions," says Weiser, speaking as one who doesn't like barriers very much. He usually has eight video windows open on his computer screen at work, showing his engineering colleagues' offices. Weiser also confesses to being the drummer for a band called Severe Tire Damage that sneaked onto the Internet before the Stones concert as an unscheduled opening act.

In time both the guardedness and the anonymity will evanesce, Weiser says: "As more and more business is conducted online, it will become more of a real place, and real-life expectations will take over. One is that I know who you are. We will stop talking to people we don't know." The wired connection will no longer seem like a strange way of meeting people—which won't be the first time a method that once seemed mad became a part of quotidian routine. And the change in attitude might not take as long as you think. A decade ago, if you telephoned a friend and reached an



**FALSE PRIVACY** The Colinos of Toms River, New Jersey, are wired for interactive TV. Future networks will keep track of what viewers buy and will sell the data to marketers.

answering machine, you probably thought, "How rude!" Today you are more likely to be miffed by your thoughtless friends who refuse to buy one.

**D**ESPITE its potential to free people from geography, the likely effect of wired technology on where people live is murky. While some will be able to leave cities, others won't, and still others won't want to. True, some jobs have already headed for the sticks, particularly back-office operations of financial firms, intensifying a long-term trend that began earlier in the century with improvements in transportation. But many potential movers seem to have sticky feet. Blame this partly on that hobgoblin of managerial minds, force of habit. People might love the idea of sending E-mail to their grandchildren, but as supervisors the same folks don't have the stomach for remote management. People want to see their employees and want to watch them work.

They can't do that via video yet because existing technology is too crude: The picture transmitted by a typical desktop computer videoconference system is a low-resolution, herky-jerky postage stamp. Within the next ten years, though, better devices will be able to send crystalline images with lifelike color and perfectly fluid motion, conveying words and body language, expression. What will it mean when gazing at a face on a video screen is no different than looking at a face through a window? Will the cities empty and the people disperse like leaves in a fall wind?

If history is any guide, wired technology will create forces that pull in the other direction as well. Successive waves of technology, from the telephone to the automobile to rural electrification, have brought predictions of the emptying of cities. Yet the cities endure, and so they will a century from now. The telephone, for example, led to both dispersion and concentration. Not only did it open up remote areas to commerce, but it also helped make possible the most highly concentrated form of living and working space that we know: the skyscraper. Without the telephone to deliver

messages, occupants of upper stories would be cut off unless the architect devoted the entire core of the massive structures to elevators and stairways for messengers.

In the information society, expect to see similar pushes and pulls. Most mobile will be the knowledge workers: people whose jobs largely involve talking to others and handling information—in other words, white-collar office workers. For them, electronic links will mostly suffice; they will be able to choose to live by the seashore, say, or near family and friends.

But as if to obey Newtonian laws of motion, information technology will also pull people to the center. By permitting dispersion, information technology promotes the globalization of the economy, guaranteeing a *raison d'être* for international cities like New York, London, and Tokyo that serve as the nodes for world communications networks—a major reason New York has shown much more resilience than city-bashers predicted. The eco-



conomic vibrancy of these cities will attract the many people who thirst for amenities like theater, concerts, restaurants, and the continuous paseo of cosmopolitan life.

As they do today, the city dwellers of the information society will depend on a tier of lower-level service workers like barbers and burger flippers, whose work, involving physical contact with other people, cannot be liberated from place by communications technology. (Some higher-level professionals like surgeons will also remain tied to population centers.) Not all the people will be able to follow their bliss to the mountaintops.

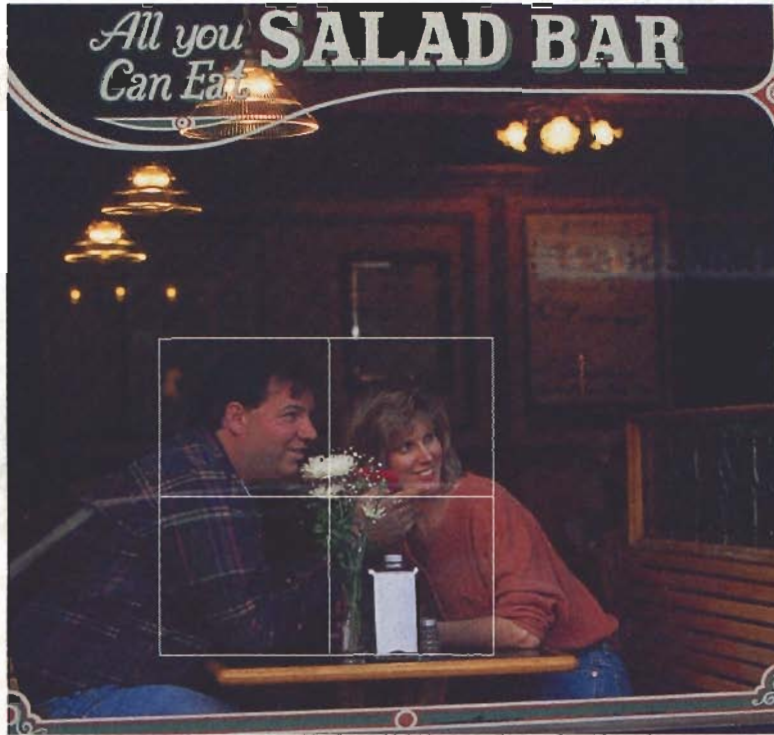
Wherever we live, the nature of routine intercourse is likely to be changed by electronic agents—drudges, really, programmed to take over the tedium of interconnectivity. The first commercial prototypes of these agents have recently appeared, including one called Wildfire that acts as an electronic secretary, answering the phone, taking messages, obeying simple verbal commands, and routing phone calls to users wherever they happen to be.

As they become more sophisticated, these software agents will do our shopping, buy our plane tickets, and make our appointments for us, traveling through cyberspace like ghostly echoes of the self. “They won’t be intelligent enough to make the clerics nervous,” jokes Saffo of the Institute for the Future. “But they will exhibit whimsy and humor, and be interesting enough to convince people to interact with them.” Not only will people be talking with these soulless beings, but agents will be interacting with other agents as well. The Hollywood patter of the future may remain “Have your agent call my agent,” but people won’t be talking about ten-percenters.

Our ghosts may come to haunt us as well. One nightmare scenario not yet on many worry lists is location tracking. With the auctioning off of vast swaths of the radio spectrum for new wireless services and the promise of cheap, lightweight cellular phones, the cellular industry is poised to sweep into the mass market. New low-powered cellular systems will blanket the country with great numbers of closely spaced transmitters. Nearly everyone will be carrying some sort of wireless communications gadget. **Whenever they are on—and**

they are likely to be left on all the time—a signal will travel to the nearest transmitter, letting the network know where to send each user’s messages and phone calls.

Cellular companies will be able to use their fine-meshed networks to pinpoint nearly everyone’s location and track their movements. This is how the police, with the help of the phone company, tracked down O.J.



**CYBERLOVE** David and Barbara Wilber might never have found each other but for the Internet, via which they met in 1991. They wed in 1992.

Simpson as he was driven along the highway in the infamous white Bronco. Anyone with a cellular telephone scanner could also keep tabs on people’s locations, even when new digital cellular systems make our conversations secure from eavesdroppers. (Only our words will be encoded; our identification numbers must stay unscrambled so the network can authorize our calls.)

If you don’t think anyone really cares where you go from moment to moment, be assured that plenty of companies would pay to find out. Marketers, for example, would love to know who visits which stores, and when, and for how long. They could legally buy this information from the telephone company as easily as they buy mailing lists today. And as with mailing lists, we would have no control over who gets access to this information.

If our ever cosier relationship with wired technology makes us fear for our souls, perhaps that is because the stuff is so seductive. Unlike TV, the new technology requires our

participation, drawing us in. As such it is insidious. Management professor Alladi Venkatesh of the University of California at Irvine, an expert on the impact of technology on the household, says: “Television is easy to dismiss. Its limitations are obvious. The danger of the computer is that it gives us the impression that it can do for us what TV has not: make us better people.”

It is true that the power to make instant connections anywhere in the world, at any time can bring inestimable comfort. For the millions who are stuck at home because of age or infirmity or because they are caregivers for young children, for insomniacs who need someone to commune with in the blue hours past midnight, for people who want to find out if their car is a lemon, or how to buy a house, or how to cope with a child’s asthma attack, being wired may be the fastest way to connect with others who are willing to share their feelings and knowledge.

But with these gains there is loss. While people may feel just as intensely about friends they make via cyberspace as they do about their face-to-face confreres, the ease with which they form these links means that many are likely to be trivial, short lived, and disposable—junk friends. We may

be overwhelmed by a continuous static of information and casual acquaintance, so that finding true soul mates will be even harder than it is today. And the art of quiet repose and contemplation may one day seem as quaint as the 19th-century practice of river gazing—staring at riverscapes to discern their coloristic and picturesque attributes.

MIT’s Malone is worried about these risks but tries to remain an optimist. He says he feels closer to some people he has met over the net than he did even to the friends he made growing up in a small town in New Mexico. Those relationships were mere accidents of geography; he and his new friend chose each other through common interest. In an eerie echo of the cautionary tale that E.M. Forster wrote more than 80 years ago he says, “There must be thousands of people I know personally ...”

This machine will not stop. In time we will no longer ponder its existence, or be able to imagine a world without its constant hum. ■