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Was Orwell's idea right, year wrong?

Anybody who has spent much time in front of a television set recently has probably seen the computer commercial in which a hyperventilating lecturer rants about the marvels of the "Information Revolution." The commercial condenses the message of George Gilder's recent book "Microcosm," which message is this: The Information Revolution has democratized access to both information and decision-making power. The age of hierarchy is over; democracy will now reign in all spheres of economic and political life.

There are less optimistic aspects of the Information Revolution. One troubling possibility has been identified by Greg Costigyan, a computer games designer. Writing in the January issue of Reason magazine, Costigyan warns: "The liberty for which the founders fought (may be) destroyed, not by war or tyranny, but by mere technological change."

Costigyan assumes that in the not-distant future (perhaps the mid-21st century) computer networks "Will be the primary means of information transmission, with print media merely its adjunct." There is a hint of a specialist's conceit about Costigyan's prediction. Print is doing just fine, and it will continue to do so (books and magazines aren't just user-friendly, they're user-seductive); however, it is useful to examine the reasons behind Costigyan's concern.

Early last year, the government conducted a crack-down on computer hackers in at least 14 cities. Such hackers had been accused of trafficking in stolen credit-card numbers and long-distance dialing codes; there had also been hacker interference with a 911 emergency network. The crack-



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down focused upon electronic bulletin board services (BBSs), networks accessible to anybody who owns a computer and a modem. More than 5000 such BBSs exist in the U.S., and perhaps millions of people use them to exchange information.

The government seized at least 40 computers and 23,000 computer discs. The investigation operated upon a principle of guilt-by-association: mere contact with a suspect network implicated an operator as a suspect. Costigyan is concerned that the investigation foreshadows future threats to the security of computer networks; he considers the issue to be one of free speech.

But the liberating immediacy of such networks also presents threats to property rights (for example, the security of industrial data bases and individual credit card numbers.) The collision between these rights may produce amplified police powers inimical to both.

Technology has also abetted pilfering in the musical realm. Rappers can electronically sample songs recorded by actual musicians. These song fragments can be recast as rhythm tracks over which rappers chant and bellow. Some actually

consider the result to be music. (Vanilla Ice's "Ice Ice Baby" and MC Hammer's "Can't Touch This" provide examples of such larceny.)

Granted, the result is more democratic: it permits the talentless to have access to markets once dominated by the talented. But such "democratization" is had at the expense of actual artists, who are losing the ability to protect the integrity of recorded property.

Computer technology can be used to manipulate photographs. Esquire magazine used such technology to correct the few miniscule imperfections present in a cover photo of actress Michelle Pfeiffer. Last July, Newsweek published a computer-generated "photo" of an improbable dinner party, one that featured Ronald Reagan, Muammar Khadafy, a bloated Elvis, Queen Elizabeth II, and Marla Maples. The accompanying article observed that the same technology possesses Orwellian potential. Imagine the uses to which such technology could be put by a regime determined to control the present by manipulating the past.

Were Orwell and Huxley right after all, or will Gilder's optimism be vindicated? There is no way to tell. Protection of rights requires tangibility: good fences do indeed make good neighbors. In the "Microcosmic Age," have fences become obsolete?

In 1904, Henry Adams prophesied: "At the rate of progress since 1800, every American who lived to the year 2000 would know how to control unlimited power." The power of the microcosm is making permeable the barriers that protect both privacy and property. Adams was not comfortable with that prospect, nor should we be.

U.S. weapons held at bay by computers

WASHINGTON — The Department of Defense is facing an enemy as formidable in its own way as Saddam Hussein — multibillion-dollar computer systems that are so complex they threaten to immobilize weapons.

Computer-generated orders have become vital to the Pentagon's newest and "most advanced" weapons systems. Without computers, the weapons can't identify their targets and fire, and the aircraft and ships can't navigate.

Some of the Pentagon's big-ticket items are being held hostage to their computers. According to two congressional investigations, the Army's Apache helicopter, the Air Force's B-1B and "Stealth" B-2 bombers, the Navy's Los Angeles-class attack submarines and the Trident II missile program all have suffered cost overruns and production delays because of the computer system they have in common called embedded computer systems.

Bugs and design changes in the BUSY 1 and 2 and the ALC-161 embedded computer systems have left some weapons of war brainless.



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reporter Paul Parkinson show, for example, that it takes more than 800 software programmers to input 3.2 million lines of instructions into the BUSY 2 so the Navy's latest super submarine, the Seawolf, can be launched.

The work is so complex and specialized on the BUSY 2 that the Pentagon contractor initially couldn't find enough qualified people to do it.

The Seawolf would be a bad idea even if its computer programs were as simple as Super Mario Brothers. As we reported last year, the Navy is hellbent on launching the first Seawolf at a cost of \$2 billion to face a threat that doesn't exist, use

technicians can catch up with the equipment. Or at the very least, the Pentagon should insist that its computers will work with its weapons before billions of dollars are thrown down the drain.

OUT OF FAVOR — Two old favorites to run for president from the Democratic camp in 1992 have fallen out of favor. New York Gov. Mario Cuomo and New Jersey Sen. Bill Bradley made a poor showing in the 1990 elections and that damaged their presidential prospects. Georgia Sen. Sam Nunn could become the front runner for the Democrats if the Persian Gulf conflict is still nipping at George Bush's heels. The most likely to get the Democratic nomination, as politics now stand, are Missouri Rep. Richard Gephardt and Nebraska Sen. Bob Kerrey.

MINI-EDITORIAL — Times have changed for the better on the Washington party circuit. In the old days, holiday revelry among the dignitaries was anything but dignified. But this past holiday season, the most titillating report was that