Dissident voices on the social impact of the computer revolution

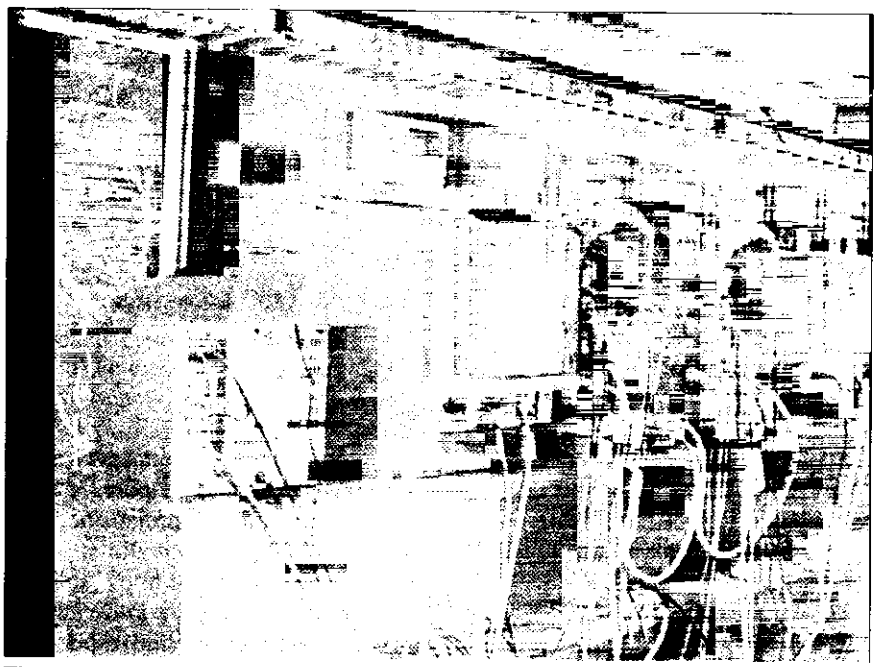
Even as we celebrate the computer revolution, it is perhaps timely to heed the voices of its critics and their concern about the wide-ranging negative social aspects of this revolution, says *Yusuf Progler.*

THERE is a computer revolution going on, paving the way for a new information age. Ever faster, cheaper, sleeker, and accessible personal computers are making their way into more and more households in the affluent West, while industries, government agencies, and military establishments are increasingly dependent upon computers. If Third World mimicry of Western ways in the past and present is any indication of trends, then the West's computer revolution may become a future global phenomenon, from which few people will be insulated.

Promoters of the revolution have done a wonderful job of selling computers, spending billions to tell citizen-consumers of the benefits of the revolution: increased access to information, cheaper means of producing and publishing, ease of communication across longer distances, added accuracy in research and manufacturing, and more efficiency in shopping and commerce. The revolution is slated to improve everything from education and incarceration to health care and resource management.

Most critics of the computer revolution tend to focus on individual and personal concerns: exposure to radiation, access to pornography, effects of violent games. All are to a certain extent supported by research, and have even led to warnings and legislation. But focusing only on individual concerns obscures the wide-ranging social impact of the computer revolution.

Joseph Weizenbaum sounded the alarm a quarter-century ago, in his classic work *Computer Power and Human Reason*. An esteemed computer scientist and accomplished programmer, Weizenbaum was ideally situated to see the ways in which computers would profoundly affect the societies that adopted them. He believed that it was the duty of scientists to reveal the negative implications of their research, and to urge discussions on the negative as well as positive aspects of the computer revolution.



The computer revolution is entangling humans in unanticipated systems.

Powerless

Weizenbaum saw that computers adjusted human intelligence 'from judgment to calculation,' that they privileged mathematical models and instrumental reason as the basis for action, and that they created a paradoxical situation in which computers initially empower humans but will eventually render them powerless. He urged his colleagues not to put themselves in the service of the military and other death industries, and specifically called for computer scientists to refuse to conduct research on projects that would couple organic and mechanical systems, and to avoid speech recognition research because it would profoundly alter the way people understand one another.

Though much of Weizenbaum's challenge fell on deaf ears, several strands of his thought were picked up by cultural ecologists in the 1980s. Their criticism focused attention on several wide-ranging implications of the computer revolution. Jerry Mander, whose *Four Arguments for the Elimination of Television* (1978) asked crucial questions about another pervasive technological system, insisted on the necessity of the negative view. In a more recent work, *In the Absence of the Sacred* (1991), he turned his attention to the emerging computer revolution and tried to identify seven negative points about computers.

Pollution and Health: Computer manufacturing uses tons of acids and

carcinogenic solvents, and these by-products of the revolution end up in toxic dump sites and poisoning water supplies. Silicon Valley in California, the centre of the American computer revolution, is one of the most polluted places on the planet. Environmental agencies have identified dozens of similar sites that have been polluted by computer manufacturers.

Employment: The computer industry initially sold its revolution in terms of developing a 'work-free society', in which people would have more time to develop their interests. What has happened, though, is that computers have replaced many jobs once completed by people, and the much-touted high-tech jobs of the information age are not nearly enough to replace those lost to the revolution. Consequently, people have less free time as they have to work longer hours at more low-paying jobs just to make ends meet, and even more to pay for their home computers.

Quantification and Conceptual Change: Building on Weizenbaum's insights, Mander developed the negative implications of the computer revolution in terms of its impact on the way humans think and act in relation to their environment. Mander stressed the problems of using quantitative reasoning in areas traditionally handled by qualitative thought, such as the care and maintenance of natural ecosystems. Furthermore, as computers pervade society, the quantitative mode of thought may push aside all others, creating a society driven by hard-edged, data-based objectives dependent upon human-computer interfacing.

Surveillance: Computers make it easier for government and industry to monitor citizen-consumers and to root out dissent and subversive elements, resulting in gross infringements on privacy. As artificial intelligence applications make it easier to sift through massive amounts of surveillance data, and with the integration of law enforcement, health, and banking databases, governments and corporations will know more about citizen-consumers than they know about themselves and each other.

Silicon Valley is one of the most polluted places on the planet. Picture shows birds swirling over Santa Clara's sanitary landfill.

The Rate of Acceleration: Part of life speeds up in the computer revolution, to the point that humans become slow and lumbering creatures. This exacerbates the mind/body split in Western civilisation by allowing the mind to wander at high speed in cyberspace as the body reclines and goes soft. While citizen-consumers recline in front of their computers, large institutions benefit from increased speed of transactions.

Centralisation: The computer revolution seems to provide useful tools for activists and non-governmental organisations to do meaningful work, but in reality they put in place a system that must by definition move them more toward centralised authority. Banks, corporations, and government institutions have already figured this out, and Mander thinks that it is naive to believe that activists can try and beat the system at its own game.

Worst-Case Scenario – Automatic Computer Warfare: Once the stuff of science fiction movies, the possibility of global nuclear conflagration initiated by computers became a reality in the 1980s. Mander notes several cases where malfunctions and miscalculations nearly led to catastrophic launchings. More importantly, as military officials depend more and more on faster and faster computers, the time allowed for reasonable thought and careful consideration decreases, which increases the likelihood of choosing a total nuclear war as a viable option.

Not neutral

Mander's warnings preceded the latest phase of the computer revolution, which has placed much more emphasis on personal computers and the Internet than he may have anticipated. Scholar of education C A Bowers has taken into consideration this aspect of computers, and especially the ways in which the computer revolution will affect child development and education.

Bowers believes that computers are not neutral tools for humans to use as they please. In his *Educating for an Ecologically Sustainable Culture* (1995), he suggests that computers select certain forms of knowledge and amplify them, while simultaneously reducing other forms of knowledge. The lost forms of knowledge are those that depend on face-to-face human communication, that emphasise tacit awareness, and which are part of larger sensory interactions. Computers privilege Western typographic culture, and exacerbate the conditions of late industrial societies, which runs contrary to proclamations of the computer revolution that there is something new emerging.

The negative view of computers developed by these and other dissident Western thinkers ought to give pause for reflection for those who are celebrating the computer revolution. This is not to say that computers are all bad, or that they are of no use to people outside the Western world in which they were born and developed, but it does suggest that any adoption of the trappings of the computer revolution will likely bring with it many of the evident pathologies of late modernity, and for this reason alone caution and critical awareness seem necessary. ◆

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