



Editor: Will Tracz, Lockheed Martin Federal Systems, MD 0210, Owego, NY 13827-3998; will.tracz@lmco.com

*"Any clod can have the facts, but having opinions is an art."
Charles McCabe, San Francisco Chronicle*

What Can Computers Do?

Neville Holmes, University of Tasmania

Marty Leisner answers his own question "Do Computers Make Us Fools?" (Mar. 1997, p. 8), with the statement: "It seems that computers make people incapable of independent thought." On the other hand, he concludes that "reliance on them ... might make us fools," and this, together with many of his other comments, answers quite a different question and answers it well. But it seems to me that neither question is the real question—the basic question.

So what is the real question? What is the basic problem? The context is that computers are seen as underpinning social change. The mistake is that computers are seen as causing social change. Let me illustrate one relevant social change.

Computer as Scapegoat

In 1970 I returned to Australia after living for awhile in the Hudson River Valley, where there was fairly widespread use of computers and punched cards. The state of New York had a very simple and effective drivers' license system based on stub cards, which required only that you send back the stub with your payment each year; the remainder of the card was your license.

When I went to get a license in Canberra, I was given a three-part form. The form not only asked for many more personal details than New York ever required, it required them to be written three times. When I mildly criticized the form design at the counter, I was solemnly informed that

the design was as it was because of The Computer. I left it at that, but my later inquiries revealed that the department had neither a computer nor any plans to get one.

This incident alerted me to the most important social role of the computer, then as now: universal scapegoat. I have seen nothing since to change my mind on this, and indeed I have seen much to confirm it. The social change here is that people seem to be eager to use computers to avoid personal responsibility. Computers are being used to replace personal values with impersonal ones, like the ultimate abstraction—money.

Computer as Tool

Computers are merely tools. They are not members of society; they are not even pseudomembers, like corporations and governments. They are not independent agents. Like cars and telephones, they only do things if and when someone uses them. They can neither be blamed for what they do (are used for), nor given credit for what they do (are used for). If there is blame or credit then it belongs to the users, or to the owners, or to the designers, or to the manufacturers, or to the researchers, or to the financiers, never to the computer itself.

Computers cannot make us fools—they can only allow us to be foolish faster. And they can be used by others to make fools of us, for profit or power.

This is not understood by everyone because the computer industry and the computing profession seem to be saying otherwise. We seem to be saying that computers are like people; that they have memory, intelligence, understanding, and

knowledge; that they are even friendly. How foolish! How ignorant! How impressive! How profitable!

Attitudes to Computers

Those in the industry who warned against anthropomorphic language have been ignored. The people who put together the first standard vocabularies for the industry urged people to call the devices where data are put "stores" or "storage," not "memories." To suggest there is any likeness between the computer storage and the memories a human might reconstruct is farcical, if not insulting.

Those in the industry who urged that people be distinguished from machines have been ignored. The people who put together the first standard vocabulary for the industry installed such a distinction in its very first two definitions. In brief, they defined "data" as representations of facts or ideas, and they defined "information" as the meaning that people give to data. Only people can process information; machines can process only data. Embodying this fundamental distinction in the definition of the two most basic computing terms was a complete waste of ink.

As long as we allow people to think of computers as anything else than machines to be owned and used, powerful people and institutions will be able to use computers as scapegoats and avoid blame for the social inequities they are able to bring about for their own benefit by using computers. ❖

Neville Holmes is a senior lecturer at the University of Tasmania, and also answers to neville.holmes@utas.edu.au. He refers readers with concerns about computers and social inequities, in particular through the global financial market, to George Soros, "The Capitalist Threat," The Atlantic Monthly, Feb. 1997, pp. 45-48.