Technology, Productivity, and Psychological Needs

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Academic horror story

I wrote this paper for an interdisciplinary conference on Technology and Human Productivity at Arkansas State University in April 1985, when I was a graduate student. (Aside from the conference, I had friends in Jonesboro I figured I'd visit at my department's expense). At the end of the conference the organizers asked to include my paper in a conference book. I said sure.

The book came out in 1986. In 1987, when I asked why I had not received a copy, the publisher sent me the finished book.

Imagine my shock when I discovered that **the editors had added seven completely new paragraphs to my chapter! Complete with new references! Changing my viewpoint!** They did this without informing me, let alone ask permission. This was in addition to their generally heavy-handed editing.

Not that I let such things bother me....

I wrote the editors a letter on September 11, 1987, with a copy to the publisher. In part I said:

> Inserting completely new material, without my approval and without any indication to the reader that the published article no longer represents the work of the named author, is totally outside the accepted bounds of legitimate editorial discretion. If you felt that my article did not adequately portray the perspective you sought to advance, you could have added an editorial preface to place it in your preferred context. If you simply thought you were clarifying my own perspective, you were wrong. In any case, you should have sent me a preliminary draft for approval.

They never responded. More than two decades later, it still annoys me.

The paper presents a generally anti-technology perspective. It's consistent with my current view: **Although I use modern technology, I think its ultimate impact on society is inevitably more negative than positive**. That goes for the computer I'm typing this on and the Web you're reading it on.

My position apparently conflicted with the editors' more traditional approach: technology is okay as long as the right people control it. That's how the chapter now reads, and I disagree with it. Fortunately, the book is out of print. If you do find a copy, **please ignore** the two paragraphs beginning "Most important about these findings..." at the bottom of page 63. **And the final five paragraphs** (beginning "In point of fact" on page 64).

I'm including here the original conference paper rather than excerpting the butchered version.

This experience was on my mind when I edited *Critical Psychology: An Introduction*. I don't think I did anything this bad.

Abstract

Those who advocate technological development to increase productivity must question their assumptions (a) that technological advances are in fact advances, and (b) that productivity is, in and of itself, a worthwhile goal. An often-ignored issue is the degree to which the pursuit of productivity interferes with the balanced fulfillment of basic psychological needs for personal autonomy and a psychological sense of community. Such needs have in the past often fallen victim to overly optimistic technological euphoria, and the current computerization of society is following the historical path. In societies beyond scarcity, productivity for its own sake should not only be rejected as the *primary* goal, it must be rejected as a goal at all when it conflicts with autonomy and community.

Paper

It was almost a century and a half ago, during an earlier age of technological euphoria, when a forerunner of today's futurists intriguingly described the coming Age of Steam. J. A. Etzler, in a book called *The Paradise Within the Reach of All Men, with Labor, by Powers of Nature and Machinery* (1842, cited in Winner, 1985, p. 26), wrote the following:

> Fellow Men! I promise to show the means of creating a paradise within ten years, where everything desirable for human life may be had by every man in superabundance, without labor, and without pay; where the whole face of nature shall be changed into the most beautiful of forms, and man may live in the most magnificent palaces, in all imaginable refinements of luxury, and in the most delightful gardens; where he may accomplish, without labor, in one year, more than hitherto could be done in thousands of years.

Given the general cynicism that comes with hindsight, this Nineteenth Century promise strikes us today as somewhat over-enthusiastic, as do similar utopian expectations that paved the way for the arrival of other would-be panaceas; let us not forget that the birth of the nuclear power industry came with the assurance that the resulting household electricity would be "too cheap to meter." Yet despite our history of guessing wrong, we are now once again being urged from all sides to put our faith in the ultimate technological cure for whatever ails us: the computer. The Computer Age, we are told, with its desk-top computers and automated

factories, its speed and efficiency, its new-and-improved good-old American know-how, will increase worker productivity, educate our children more effectively, eliminate drudgery, bring about greater democracy, and ensure that, militarily, we stay one step ahead of--or perhaps I should say one satellite above--the Russians. The future is finally here, and even though the Steam Age didn't quite live up to its promise, we all know that most certainly the Information Age will; after all, the futurists' confident projections into the next century are fully verified by up-to-the-minute computer printouts.

It is often useful, during times of such euphoria, to reflect on some of the underlying assumptions that we generally take for granted. I would like to raise questions about two assumptions in particular that are held by many of those who now argue that technological improvements related to the introduction of computers into the workplace will increase productivity. These two assumptions are (a) that technological advances are in fact always "advances," and (b) that productivity is, in and of itself, always a worthwhile primary goal. Unfortunately, one issue that is too often ignored in this discussion is the degree to which the singleminded pursuit of productivity actually interferes with the fulfillment of the social and psychological needs of individuals. **Technological improvements may indeed boost our economic productivity and even our degree of material comfort. But occasionally we must ask ourselves: At what cost?** What do we mean when we say that productivity is an important goal? Is it something that is good in and of itself, a primary value for its own sake, on the same level as freedom, or happiness, or friendship? Or is productivity a good thing because it promises to bring with it more material goods more efficiently? Or is it good because the prospect of more material goods and the potential increase in leisure time and access to information may somehow bring us greater democracy and justice?

Discussions of productivity are often dominated by a mode of thinking common in economics, where sophisticated models incorporating a particularly selfish, supposedly "rational" view of human nature are common. Such thinking has, unfortunately, come to affect social psychology as well, resulting in views of what is "normal" that are steeped in the culture-bound assumptions of modern Western capitalist thought (Sampson, 1977). Social exchange and equity theories, for example, take for granted the cost-benefit analyses beloved of economists, as does much of the multidisciplinary literature on environmental crises, a literature that gives human beings very little credit for being able to take into account the larger social interest (seen most clearly in the literature stemming from Hardin's, 1968, article on the Tragedy of the Commons; see Fox, 1985a). Fortunately, such economistic views are not the only ones that exist.

Most people would probably agree that, in contrast to **economic** measures

of well-being such as productivity or Gross National Product, **human well-being must include the ability to meet psychological needs.** Although there is no universally accepted accounting of all such needs, there is general acceptance that **two broad kinds of needs must be balanced by the individual in order to achieve optimal functioning**: the need for personal autonomy (or "agency," in Bakan's, 1966, terminology) and the need for a psychological sense of community ("communion"). Personal autonomy and a psychological sense of community are each difficult to achieve even in the best of societies, and because the two sets of needs are often in conflict with one another, trying to attain both of them at the same time is even more difficult. I'd like to suggest that what makes life so frustrating for so many Americans is the fact that we have as a culture internalized the grossly distorted view that the way to achieve our deepest needs is not directly, through trying to take control over the forces affecting our own lives and engaging in mutually satisfying interactions with others, but indirectly, through trying to accumulate more material goods. Given the importance we have learned to place on material accumulation, it is not surprising that the computer's promise to boost our productivity--which is often translated as a promise to get us more things at less cost--is welcomed with so little question.

Clinical psychologist Paul Wachtel (1983) has examined in detail many aspects of this complex issue in his book, *The Poverty of Affluence*. Wachtel makes it clear that focusing on notions of growth and productivity, while important in helping those who are in poverty, actually harms those in the large middle class by making more difficult the attainment of their psychological needs. Despite the promise of countless television advertisements and the insistent drumming into our heads that progress is our most important product, increased American affluence has not yet brought us happiness, and the search for even greater productivity and affluence is most likely to be another dead end. The resulting environmental and other problems are in most cases simply not worth the supposed gains, for the simple reason that once our basic survival and minimal comfort needs are met, it is our social and psychological needs that become most important. Another television or car or ski vacation just won't satisfy our needs for friendship, common purpose, and sense of control over our lives, regardless of all those ads showing smiling yuppies.

It would be bad enough if the focus on greater productivity through advanced technology simply failed to deliver on its promise. What is even worse is that **the introduction of computerization may actually make the satisfaction of autonomy and community needs even more difficult**. A growing number of critics have argued that, contrary to optimistic expectations that sound suspiciously like those that greeted the Age of Steam, the computerization of the American workplace will in fact increase, rather than decrease, isolation, powerlessness, boredom, stress,

occupational illness, unemployment, job skill deterioration, and social inequality (e.g., Bereano, 1984; Burnham, 1984; Calthorpe; 1985; Goleman, 1983; Hunter, 1985; Mander, 1985; Menosky, 1984; Winner, 1985). Such negative consequences are likely to be accompanied by increased centralized corporate and governmental control, increased surveillance (accepted on the grounds that computers make new invasions of privacy necessary in order to protect us), and an increased number of accidents--unintended, of course--that negatively affect those who depend on the new technology.

Technology always has wider effects than intended, and as human beings are forced to adapt to ever more powerful and efficient machines, basic social and psychological needs are relentlessly dismissed as superfluous in the name of progress. One recent example reported in the press is the attempt by many banks to increase efficiencey and productivity by forcing reluctant customers to use Automatic Teller Machines. Some banks have actually closed branch offices, replacing them with machines (Glen & Shearer, 1985); others have required customers to make appointments if they insist on doing business with a live teller (Warren, 1985). The result, besides the teller unemployment that accompanies the greater technological productivity, is customer dissatisfaction and the increased intrusion into our lives of impersonal, faulty machines upon which we are becoming dependent, **machines that are forced upon us rather than chosen by us.**

A second, more disturbing example is the work being conducted by psychologists to produce an electronic device designed to monitor the brain waves of employees in high-risk occupations, "to determine whether individuals are concentrating on their jobs and functioning at appropriate mental levels" ("Bits of," 1984, p. 15). The hoped-for computerized headgear, with built-in electrodes by Westinghouse, will be used to help management keep tabs on day-dreaming workers. No doubt this system will eventually spread throughout the workforce, following the example of employee lie detector tests and of video display terminals that already monitor the time usage of row upon row of women clerical workers, women who sit eight or more hours a day in front of computer terminals that electronically pace the workflow in offices that increasingly resemble assembly-line factories (Serrin, 1984). Such developments further reduce employee autonomy and privacy in the name of efficiency.

It is important to remember that whether we choose to focus on the benefits or the drawbacks of technology has wider ramifications than any supposedly objective examination of the data. The effects of technology, like other questions in social science, cannot be examined in a vacuum; social science is not value-free (Rein, 1976), and the appropriate attitude toward technologial development is not so much determined by "the

evidence" as it is by basic values. For example, many technology advocates exhibit what I would consider to be a fairly unrealistic view of the relevant costs and benefits of proposed technological solutions to current problems. In a study I am now completing (Fox, 1985b), in which I extensively interviewed ten individuals who had written letters to the editor of local newspapers on a variety of political topics, those who were most enthusiastic about the virtues of technology tended to be those on the individualistic right end of the political spectrum. They were admirers of the philosophy of selfishness propounded by Ayn Rand and of the libertarian-survivalist science fiction of Robert Heinlein; they spoke simultaneously of the coming age of space colonies and of their own ability to get ahead in a competitive, capitalist society regardless of what happens to everyone else. "Anything thinkable is possible," insisted one. Another added, "Mankind is capable of almost anything."

Those on the left side of the political spectrum, on the other hand, were not nearly as enthusiastic about the possibilities of technological cures for social ills. Only one was completely negative; he identified technology with what he called the "coming fascist age." The others on the liberal-to-radical left had more mixed views, acknowledging the possible benefits of technological development but focusing more specifically on the view that political change is a necessary precondition for any useful technological improvements; they made a number of references to the role of technology in creating isolation and loss of contact with nature.

It might be useful to briefly examine the connection between technology and productivity in our own place of work: academia. What has been the result of increased computerization for us? Clearly, we can now get our work done more quickly; I wrote this paper on a word processor that enabled me to do it in much less time than it would have taken me before I joined the computer revolution. Statistical analysis speeds along; multiple-choice tests for students are computerized; more articles get published. So we feel more productive. Yet if we are more productive, why are we still working just as hard to get tenure? Haven't the standards simply been raised to take into account our new ability to get more papers out? Aren't the secretaries in our offices simply given more papers to type on their own new computers? Don't we get judged more than ever on the basis of sheer quantity rather than thoughtful quality? Computers have now become a necessity rather than a fantasy. But are we better off?

Focusing on the importance of psychological needs for autonomy and a sense of community has implications that go beyond decisions made by individuals about how to best meet their own needs. Those who recognize the futility of seeking life satisfaction through materialism and careerism must confront the workplace, whether that workplace is the university, the factory, or the corporate office. **Work itself must be transformed to meet**

people's needs for autonomy and community on the job; the notion that work is meant to be endured rather than enjoyed, while understandable from the point of view of management, stands in the way of progressive change. The recent focus on improving the "quality of work life" by dismantling or altering the assembly line and instituting more small-group production methods may be a step in the right direction, but there is still a long way to go to reach true self-management, where workers have meaningful control over their daily lives. Workers who are replaced by robots, of course, lose all control over their jobs and may understandably be less than enthusiastic about the wonders of technological improvements that benefit others at their own expense.

Changes in the workplace cannot be divorced from changes in the wider society. Personal autonomy and a psychological sense of community are not noticeable hallmarks of the average American citizen. It's possible to speculate about the reasons for such a state of affairs. Cultural assumptions about the nature of human needs, the growth of the centralized state (Sarason, 1976) and centralized corporations, the decline of small communities composed of people with common bonds, the individualistic ideology permeating American life--all these and more make the attainment of personal autonomy difficult, and the attainment of a true psychological sense of community more difficult yet (see Fox, 1985a).

Technological advances solely to boost productivity might be justified if human productivity were actually a worthwhile ultimate goal. In societies beyond scarcity, however, productivity in itself should not only be rejected as the **primary** goal, it must be rejected as a goal at all when it conflicts with autonomy and community. A culture that teaches us that money is the answer to all our problems, that greater productivity and more material goods can substitute for a missing sense of mutuality and friendship, for autonomy and creativity--such a culture may be "productive" in the formal economic sense even as it creates masses of people whose lives are truly unproductive when measured on any kind of human scale. Applying technological solutions to nontechnical problems may provide the illusion of "progress," but such an illusion is at the expense of allowing the continuation of political and social problems that stand in the way of more reasonable ways of meeting human needs. **What are needed are not technological solutions but value solutions** (Roberts, 1979), solutions that allow for greater autonomy and community rather than solutions that simply offer us more of what has been unsatisfying in the past.

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