Syracuse Scholar (1979-1991)

Volume 1
Issue 1 *Syracuse Scholar Winter 1979-1980*

Article 8

1979

Technology and Human Freedom

Daniel Patrick Moynihan

Technology and Human Freedom

Daniel Patrick Moynihan

If I were to offer any far-reaching thought on technology and human freedom, it would be that our very choice of subject reveals the pervasive and scarcely concluded impact of technology on our society.

A century ago, for example, the good Methodists who played so large a part in the founding of Syracuse University earnestly affirmed the freedom of the human will, although they saw their adversary in the Calvinist theology of predestination rather than the realm of technology. The debate between the Calvinists and the Arminians still persists, but no longer does it command the same attention. It has been transmuted—or is it merely redefined—into secular terms? Today the debate between determinism and freedom is more often cast as a debate over the implications of science and technology for the human prospect.

In my view, only a person of what St. Augustine would have termed "indomitable ignorance" could deny that technology has vastly enhanced human freedom. The lot of the better part of mankind, up until just barely a moment ago in history, was scarcely human as we think of the word. The most that could be said for what Marx termed "the idiocy of rural life" is that, as the phrase suggests, those involved were scarcely aware of their condition. The historian J. H. Plumb, who has inquired unsentimentally into the social condition in England at the beginning of the industrial era, writes:

> No one in his senses would choose to have been born in a previous age unless he could be certain that he would have enjoyed extremely good health, and that he could have accepted stoically the death of the majority of his children.

Now there are those—the clear persistence of a certain religious sensibility — who would assert that the previous condition of mankind, precisely because of its suffering and pain, its brevity

"Technology and Human Freedom" was a speech delivered by Senator Moynihan at Syracuse University on January 28, 1979. The present version has been somewhat modified for purposes of publication in *Syracuse Scholar*.

Daniel Patrick Moynihan, United States senator from New York since 1977, is the author and editor of many books and articles including *The Politics of a Guaranteed Income; Coping: On the Practice of Government;* and the prize-winning *Beyond the Melting Pot* (coauthor). Senator Moynihan has taught at Harvard and has held numerous government positions including ambassador to India, United Nations permanent representative, and cabinet member. He received a Ph.D. in 1961 from the Fletcher School of Law and Diplomacy.

Syracuse Scholar (1979-1991), Vol. 1, Iss. 1 [1979], Art. 8

and uncertainty, its cruelty and violence, was more *human*. That may be. But none, I suspect, would assert that such a condition embodied more human *freedom*.

Freedom is choice, and technology vastly enhances choice—at least up to a point. Some will argue that, beyond this point, technology means control and the diminution of liberty; it was such a possibility that stirred the imaginations of the authors of *Brave New World* and *1984*. Other critics hold that the choices technology offers are in some sense false. C. P. Snow refers to adherents of the latter view as "the literary intellectuals," who regard the culture of science and technology at its best as "shallowly optimistic, unaware of man's condition." *Optimistic* is indeed an apt term, for (from that donnish perspective) what better describes democracy than the politics of optimism? The relation between technology and democracy is intimate. In the third volume of his historical trilogy entitled *The Americans: The Democractic Experience*, Daniel Boorstin argues that technological advance comes most readily to a democratic political culture and, if I read him correctly, most easily makes its impress on such a culture. Experimentation, variety, optimism: these are the ingredients of both technology and democracy.

Now to the main theme of this discussion: It appears to me that we are in a period when antitechnological sentiment is fairly high in the political culture. It may be subsiding somewhat. I hope it will subside more; for I feel that the position of the United States in the world, and thereby the condition of human freedom in its most direct sense, is being eroded by a weakening technological momentum in America. This condition is much advanced in New York State, incidentally, which was until recently among the most technologically innovative states in the nation. Our circumstances here may in some measure anticipate the experience of others.

It may be that this antitechnological animus rises and falls in almost cyclical patterns. Clearly the last upsurge began in the early sixties; it was itself a reaction against the somewhat desperate enthusiasm for scientific and technological education that followed upon the launching of the Soviet Sputnik in 1957. I was in Syracuse at that time, and I should acknowledge that I was already among those who associated technology with uninspiring purposes and lesser callings. At issue during the early sixties was the National Defense Education Act of 1958, the first great education enactment of the modern era.

To go back for a moment, there was an elemental reason why the Russians reached space first: They had tried harder. Our scientists and engineers were fully as good as theirs—even better. But theirs had been provided considerably greater resources, and, given the essentially technological nature of the task, these resources had the predictable result. But instead of asking what was wrong with the Bureau of the Budget, we turned instead on American education and, by extension, on American culture.

Five weeks after the launching of Sputnik I, the U.S. Office of Education released one of its few publications ever to be featured in a lead story in the *New York Times*. It proclaimed that the Soviet

Union was outstripping the United States in the production of certain types of technological manpower; that Soviet schools taught much more in the way of science and technical subjects; and that children gifted in those subjects were singled out in the Soviet Union for special education.

The report and its consequent publicity aroused such a furor that two days later President Eisenhower gave a nationally televised address in which he proposed a sweeping federal program to encourage scientific and technical education. The National Defense Education Act (NDEA) followed.

The problem, as I saw it, was that the 1958 NDEA addressed a technical issue (quality of education) that did not exist, rather than a political problem (budgetary allocation) that did. Some twenty years later, it seems to me, the problem persists. The Russians go on applying resources to their military, with predictable results. In the main, we do not — despite what you have heard. I doubt that a SALT treaty will get us out of that dilemma.

In addition, there was a particularly obnoxious loyalty oath attached to every stage of the application process for NDEA loans. This seemed to me a greater threat to American education than the shortage of engineers or the quality of scientists—both, incidentally, false issues, as the spectacular success of the Apollo project was to show when the president a decade later mobilized the political will to venture into space. There was also a deliberate effort in the NDEA legislation to diminish the research capacity of older regions such as the Northeast and to build new graduate facilities in the South and West. I noted this at the time, but with nothing like the alarm with which it would strike me today.

Paradoxically, the great transformation in the federal role in education that began with the passage of the National Defense Education Act, whether good or bad for education, had little bearing on our military capability. In fact, far from producing a host of scientific myrmidons, it helped to educate a generation that turned its best energies and skills to protesting the war in Vietnam and to bringing about a great shift in federal priorities—away from national defense and toward various kinds of domestic social endeavors. Education prospered, but not the kind of education that had been so earnestly pledged in the panic following Sputnik. Indeed, as education budgets and enrollments grew, the proportion of science students registered in college and university programs appears to have declined. Although the annual federal expenditures for higher education rose tenfold between 1960 and 1975 (from $916 million in 1960, measured in constant dollars, to $9,670 million in 1975), the percentage of all students in higher education awarded degrees in engineering and the physical sciences declined almost by half over the same period (from 13.9 percent in 1960 to 7.6 percent in 1975). A distinct anti-technological mood had come over us.

I do not know how close the connection is with such cultural movements and, for example, the decline in industrial productivity. But it appears evident that the political sphere is once more beginning to stir with impulses similar to those of the late 1950s. In Washington, the Department of Commerce has set in motion a

domestic policy review of industrial innovation. Here in New York State, the governor has established a task force on high-technology opportunity. The American Association for the Advancement of Science has held its own conferences on the subject.

I believe that government can and should seek to advance technology—as a condition of social progress, let alone security. But I would hope that this time around we would be a bit more sophisticated about it. There is nothing really the matter with our science: it is dominant in the world today. The question is, How can we connect it with technology? I dare to suggest that this is our first problem. It is no simple matter, to be resolved with a flick of a switch. Men of great scientific creativity can be as technologically uncomprehending as the rest of us. It may be recalled that in 1933, at a meeting of the British Association for the Advancement of Science, a theoretical genius of particle physics, Ernest Rutherford, declared: "We cannot control atomic energy to an extent which would be of any value commercially, and I believe we are not likely ever to be able to do so." But just nine years later the first pile had begun to run at Stagg Field in Chicago — with government intervention.

I would like now to consider the situation in which government and other institutions *retard* technology. The most intriguing assessment of our difficulties in sustaining the rate of technological advance that I have come upon is that of Mancur Olson, in a paper given at the American Political Science Association in 1978, nominally on the subject of Britain. It was Professor Olson's thesis that the very liberty of societies such as ours (the liberty that, in Daniel Boorstin's view, so encouraged technological advance during the past century) may now be the source of developments that make innovation considerably more difficult. A free society permits a host of interest groups to grow up — unions, professional societies, trade associations, business combinations. Soon these interest groups begin to exercise a powerful influence upon economic decision making. Competition and entry into the marketplace are restricted; wages are regulated; entrepreneurial choice is limited in a number of ways. While the existence of such common-interest organizations may have many benefits, they will at times, as Professor Olson concludes, "have a substantial adverse effect on the rate of growth of an economy." This is especially so when there are many such interest groups, when their purposes and constituencies are relatively narrow, and when they possess sufficient vigor. The paradox, he argues, is that

> Those countries which have had democratic freedom of organization without upheaval the longest, will suffer the most from growth-repressing organizations and combinations.

Some will find this a startling thesis. But before lurching to assumptions about Olson's conclusions, consider what the argument explains. Germany and Japan, the economic miracles of recent times, were both devastated in social terms by World War II. At the beginning of the postwar era, each was a sort of

economic tabula rasa. Each developed strong democratic institutions, but those institutions represented large constituencies and purposes and therefore had no compulsion to intrude into the small affairs of day-to-day economic life.

On the other hand, note Professor Olson's description of Britain:

> Britain has precisely the dense and powerful network of common-interest organizations . . . [to be expected] in a country with such a record of military security and democratic stability. The number and power of its trade unions is too well known to need description. The venerability and power of its professional associations is less famous, but still striking; consider the institutionalized distinction between solicitors and barristers, which could not possibly have emerged ,. . . in a free market innocent of professional associations or government regulations. . . . Britain also has a strong Farmers' Union and a great many trade associations of one sort or another. It is also the land where the word "establishment" first came to have its broader modern meaning, and . . . it does still suggest a substantial degree of informal organization of a sort that usually would emerge only gradually in a stable society. Many of the powerful common-interest organizations in Britain are, moreover, narrow rather than encompassing. There are, for example, a wide variety of different and essentially autonomous trade unions representing different workers in the same factory, and no union encompasses a substantial fraction of the working population of the country.

Professor Olson and an associate, Mr. Kwang Choi, have also applied their hypothesis to a study of the differences in the recent rates of growth of the various American states. Mr. Choi found that, excepting the states of the old Confederacy, there is a statistically significant negative relationship between the number of years since an area attained statehood and the current rate of that state's economic growth; that is, the longer an area has been a state, the lower its rate of economic growth. And if one assumes that full freedom of economic innovation was not present in the South until after the passage of the Civil Rights and Voting Rights Acts of the mid-1960s, the currently high growth rates of those states will fit the Olson model.

This hypothesis may provide some clue to the vastly different experiences of New York and California, states of comparable size and potential for research and development. In fiscal year 1977 New York received $1.2 billion in federal research and development funds, while California received $6.1 billion. In percentage terms, New York received 5.2 percent of the total, while California received 26 percent. New York received more dollars for research and development in 1965 than it did *one decade later*—a net absolute decline of $232 million over the period.

In 1976 we had a good year for government grants, with an administration trying to spend itself into reelection. Research and development funds going to New York increased by $49 million. But for California, the increase was $656 million. So we had a 1-to-5 absolute ratio with California and something like a 1-to-13 growth ratio.

Now it is not our universities or our scientists who are responsible for this imbalance; or at least the imbalance does not make its appearance among them. It is rather in the industrial sphere that

Syracuse Scholar (1979-1991), Vol. 1, Iss. 1 [1979], Art. 8

New York State's performance is so very lacking. Dr. Paul H. Silverman, provost for research and graduate studies of the State University, has addressed himself to this matter with great skill. He suggests that when the major private research and development facilities were being established in the two decades after World War II, the tax climate in New York made it undesirable for them to locate here. But this would hardly conflict with Olson's thesis.

Finally, let me return to our national problem of slow technological innovation and leave you with this thought: Can it be that the decline of American technology in the seventies has come about because we no longer feel the imperative to exploit technology for our self-defense? Perhaps the issue of technology and human freedom puts the matter the wrong way around. Perhaps it is from our commitment to protect and extend human freedom that we develop the technology that makes such a commitment possible to implement; and perhaps a certain waning of the passion for liberty among us has brought a slackening in our rate of technological advance.