

IS TECHNOLOGY STILL THE OPIATE OF THE INTELLECTUALS?

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NSF Workshop, October 18, 2007
(first draft)

Since we are paying so much attention to origin stories on the occasion of SHOT's 50th anniversary, I thought it might be useful to revisit one of my own, to see in what ways looking back could help me to look forward.

So, voyage with me, please, back in time to the summer of 1969. Richard Nixon has been in office for six months; Henry Kissinger, his National Security Advisor, has decided that the war Vietnam—which is, of course, raging—is unwinnable and he has started talking about “a negotiated settlement—although that does not stop the US from extensive bombing campaigns in Cambodia and North Vietnam. The streets and campuses of the United States are in turmoil. In February, Ronald Reagan, Governor of California, had called out the National Guard to quell protesters on the Berkeley campus; by May the entire city of Berkeley, not just the campus, was under military control. In Cambridge, Massachusetts the police have been called in to remove Harvard students from University offices—and in Hartford, Connecticut black youngsters have rioted for three days and nights. The Black Panthers have become a national movement—and several dissident members of the group have been murdered. At Cornell, in April, armed black students took over the student union, vowing not to leave until the administration had agreed to set up a racially segregated dormitory—and, in response, a fair number of faculty members, meanwhile, are refusing to teach until the same administration has removed every firearm, and every student who has carried a firearm, from the campus. In

July, Woodstock will happen and Senator Edward Kennedy will drive off a bridge in Chappaquidick, Massachusetts—drowning the young woman in the car with him. A month later Edward Manson and his followers will go on a killing spree in Southern California, hoping to stimulate a race war—and some of the Weathermen, after the failure of the Chicago “Days of Rage,” will go into hiding (only to emerge, a few months later, by blowing themselves up—they were preparing explosives-- in a Manhattan townhouse. In the midst of all this carnage and civil mayhem, John Lennon and Yoko Ono have just recorded “Give Peace a Chance,” and Neil Armstrong, has, of course, walked on the moon.

I spent a good part of that summer of our national discontent (which also happened to be the summer after I received my Ph.D.) in the main reading room of the research collections of the The New York Public Library. It was hot--in those days, most libraries, no matter how elegant and famous, lacked air-conditioning-- and I was very bored and very sleepy. A few months earlier, in response to the continuing, chaotic uproar on the campus at which I was then teaching, some junior members of the faculty had come up with the idea that, in order to make their education “more relevant,” we would create freshman seminars based on what was then called “process education:” we would learn with the students, giving seminars on topics we knew nothing about, so that our students could “learn how to learn,” from us, the learning experts, who had just finished writing our dissertations.

I had chosen, as my freshman seminar topic, “Technological Determinism,” a term which had been bruited about, sometimes surreptitiously, sometimes dismissively, during my graduate education in the history of science: it had, I thought, something to do

with Marx (whom one did NOT read in those days, for fear of violating the terms of the loyalty oaths we had been forced to sign upon taking up our fellowships) and, obviously, something to do with technology (whence the dismissive tone: technology being, obviously, a lesser intellectual pursuit than science), so technological determinism seemed a perfect seminar topic with which to confront, head on, those terribly disruptive times.

But I was cheating. I couldn't tolerate the notion of running a class on a subject I knew nothing about, so I was boning up, the summer before, in the New York Public Library. Or rather, trying to bone up, having discovered, early in the summer, that virtually all the books to be found under the heading "Technology and Social Change," had been written by anthropologists and archeologists. By the end of July, I knew more than I had ever wanted to know about the origins of domesticated animals and the significance of iron forging—and was so desperate to find something my students (and I) could relate to that I actually breathed a sigh of modernist relief when I encountered the intricacies of Lynn White's medieval stirrups and oxbows. Much of what I was reading was intolerably boring—and to keep myself from the embarrassment of drowsing off after lunch, I had gotten into the habit of grabbing some "diversionary" reading material as I left my apartment each day. That day, in what must have been early August, I had grabbed the most recent *New York Review of Books*.

Bham! There it was! I had found something exciting that I could give the students to read. Even better, it was relevant; it was about The War and about The Defense Intellectuals and about Technology. An activist/academic, John McDermott, had published an impassioned article in *The New York Review of Books*. "Technology:

The Opiate of the Intellectuals,” was not your usual book review; it was so long that the editors published it as a “Special Supplement.” McDermott was not your usual *NYRB* reviewer. That summer he shared book reviewing honors with such *eminences grises* of the left-cultural world as the novelist, Mary McCarthy, the psychologist, Erik Erikson and a Harvard Law Professor, Verne Countryman, who was then vice-chairman of the Committee to Abolish the House Un-American Activities Committee, but McDermott himself was a very newly hatched public intellectual: “a former editor of *Viet-Report*, an organizer for the New University Conference...[who] will join the Cambridge Institute and MIT in the fall.”¹

Although he was not an historian and apparently never became one, McDermott’s article had a considerable impact on our field—or at least on some members of my generation of historians of technology. I can remember exactly where I was and what I was doing when I read it—and there may be others in this audience who can as well.

McDermott was a Marxist. Although either he or the editors of *The New York Review* had not felt ready to use the forbidden “M” word, his theoretical stance was made crystal clear by his use of the dialectics of class—and, of course, by the title he had chosen. The Vietnam war was being fought, McDermott argued, with technologies that were so advanced and so complicated that ordinary soldiers could not understand them. These technologies had been developed by scientists and engineers in the employ of big corporations who had contracts with the overweening, imperial government. Together,

¹ The piece appeared in the issue of 31 July 1969, Vol 13, No.2, pp. 1-27. It can be accessed online at <http://www.nybooks.com/articles/11253>, and, because this version is so much easier to access, I will use its pagination throughout. Scholars ought, however, to read it in its original milieu, complete with advertisements, other articles, letters to the editor and cartoons—because it loses something crucial in its online translation. McDermott subsequently wrote, *The Crisis in the Working Class and Some Arguments for a New Labor Movement* (Boston: South End, Press, 1980). He taught labor studies at SUNY-Old Westbury for many years. .

McDermott argued, the managers of those companies and the managers of the government and the techno-scientific experts in their employ, were forming a new, 20th century elite class, a class which celebrated advanced technology—and, of course, used it, just as the predecessor elites of the 19th century had used their technology, to squelch democracy, to oppress workers, to drown the humanities, to destroy craftsmanship, and to decry creativity. McDermott's title said it all: Marx had taught that the priestly class used religion to obscure the injustices wrought by its aristocratic allies, so McDermott would teach that scientists and engineers, the new priestly caste, were using the wonders of consumer technology to obscure the injustices wrought by their allies in business and government, the new aristocracy. I thought my students would love it.

But they didn't. I remember feeling as if I was “pulling teeth” not just in that first freshman seminar, but also in several other iterations of the course. The piece had done its job for me--it had stimulated me to undertake a piece of research on modern technology and social change, the research that ended up, ten years later, as More Work For Mother--but it never stimulated my students. I brushed off their reaction as class based: many of them were first generation college students, probably, I thought, unable to shake off the parental hope that they would become members of precisely the managerial elite that McDermott found so appalling.

Going back to read “...The Opiate of the Intellectuals,” again, after the passage of almost forty years, I have come to the conclusion that my students were smarter than I was. The trouble with the article, for teaching purposes, was that it was, to borrow a phrasing, 10% technology and 90% ideology. McDermott used only one specific technological example in the entire piece, a technological system being used, for the first

time, in the Vietnam War. “Intelligence data is gathered from all kinds of sources,” he wrote:

...And fed into a computer complex located...in Bien Hoa. From this data and using mathematical models developed for the purpose, the computer then assigns probabilities to a range of potential targets, probabilities which represent the likelihood that the latter contain enemy forces or supplies....Again using models developed for the purpose, the computer divides pre-programmed levels of bombardment among those potential targets which have the highest probability of containing actual targets. Following the raids, data provided by further reconnaissance is fed into the computer and conclusions are drawn (usually optimistic ones) on the effectiveness of the raids. This estimate of effectiveness then becomes part of the data governing current and future operations, and so on.²

From the point of view of the system’s designers, McDermott argued, this system is very rational, because it doesn’t waste American lives or materiel. There are, he went on to say, two points of view from which it is very *irrational*: the point of view of the Vietnamese peasants whose lives and livelihoods may be destroyed—and also the point of view of the American servicemen who do have no way of understanding the system and are therefore alienated from it.

My students had brothers and friends and cousins serving in Vietnam. I suspect that they knew that alienation from the computer systems that determined bombing patterns was the least of the problems facing servicemen in that conflict. My students lives were also embedded in technological systems from which they did not feel the least bit alienated: the cars that got them back and forth to school, for example, the television sets that brought sit-coms and major league games into their living rooms, the air-conditioners that relieved the oppressive heat of summer, and, maybe best of all, the portable, battery operated radios that brought music, your “own” music, to the beach. . . . From their perspective, McDermott’s piece was, therefore, vacant, or as the sociologists

² “...Opiate of the Intellectuals,” pp. 6-7.

of science have recently taught me to say, *evacuated*: there was no take-home message about technology that resonated, in any way shape or form, with their own experience of technology or with their own technological praxis.

Apparently, the readers of *The New York Review of Books* felt precisely the same way, or so I discovered when I recently went back to the microfilmed copies. For four whole months, there was no response at all; McDermott's lengthy special supplement generated not a single letter to the editor from that usually argumentative crowd, or at least not a single letter to the editor that the editors felt inclined to publish. Finally, on November 20th an article with the title, "Can Technology be Humane?" appeared. Its author was Paul Goodman, a noted poet, memoirist and cultural commentator, whose non-Marxist but left leaning credentials were impeccable; by the fall of 1969 had already published 25 books and more than two dozen articles in the *NYRB*.³

"Can Technology be Humane?" was clearly meant to be a response to "...The Opiate of the Intellectuals," even though Goodman does not deign to even mention McDermott. "Can Technology be Humane?" was—under a different, and duller title--almost word for word the same as the first chapter of a book, his 26th, that Goodman would publish a few months later, *New Reformation: Notes of a Neolithic Conservative*. In choosing the first part of his book title, Goodman intended to say that he thought that the intellectual ferment of the previous several years had something of the character of the ferment that had led, several centuries earlier, to Luther's revolutionary break with the Catholic Church: the Protestant Reformation. In choosing the subtitle, Goodman must have had his tongue firmly in his cheek, since no one but a young, committed

³ A not quite complete bibliography can be found at <http://www.nybooks.com/authors/5522>

Marxist rebel, like McDermott—who referred to holders of the doctrine he called *laissez innover* as “authoritarian elites” and a “unreconstructed cold warriors.”—would ever have referred to Goodman as either Neolithic or a conservative.⁴

Indeed, *New Reformation* was meant to be a commentary on the disruptions of the previous few years and was clearly occasioned, if not by McDermott’s piece in particular, than by the activities that McDermott and many other young people with similar views had been organizing for several years. Goodman begins, both the article and the book with these significant sentences:

On March 4, 1969, there was a “work stoppage” and teach-in initiated by dissenting professors at the Massachusetts Institute of Technology, followed at thirty other major universities and technical schools across the country, against misdirected scientific research and the abuse of scientific technology....I want to consider this event in a broader context than the professors did, as part of a religious crisis. An attack on the American scientific establishment is an attack on the worldwide system of belief. I think we are on the eve of a new Reformation, and no institution or status will go unaffected.⁵

Goodman, like my students, thought that there was more to technology than computerized bombing instructions—and, as the last two sentences make clear, he also thought that there was more to the campus protests than dislike for an unjust and badly prosecuted war. In attacking universities, in attacking science, Goodman believed that the radicals were making an extremely serious mistake, naively dismissing secular rationality and science in favor of irrational and undemocratic ideologies. In attacking technology, Goodman also believed, the radicals were also dismissing important, crucial

⁴ “...Opiate of the Intellectuals,” pp. 22-23

⁵ Paul Goodman, *New Reformation: Notes of a Neolithic Conservative* (New York: Random House, 1970) p. 3 and “Can Technology be Humane,” *NYRB*, vol 13, no 9 (20 November 1969) p. . Goodman made this point himself, in the preface to his book. “Compared with the tempered enthusiasm of my previous books,” he wrote, “this one is rather sour on the American young....As one of the half-dozen elder statesmen who have provided propoositions and points of view that the young have picked up, I really do not know how to cope with the dilemmas that arise when I dissent from their movement and they show me their hostility in no uncertain terms.” *New Reformation*, p. xii.

aspects of human creativity. To the question he raised in his *New York Review* title, “Can Technology be Humane?” Goodman was prepared to answer: yes, not unqualifiedly “yes,” but nonetheless, decidedly, “yes.” In explaining the reasons for that affirmation, Goodman also refers back to something that happened in the summer of 1969—actually just a week before McDermott’s article had appeared. “I am writing this chapter in July, 1969,” he explains in the second chapter of *New Reformation*,

When the two men have just walked on the Moon, and five hundred million viewers have watched it. Surely this is mankind being great at several of our best things, exploring the unknown, making ingenious contraptions, cooperating with a will to do it, drawing on the accumulation of culture and history, whether we think of the equations of Galileo, Kepler, and Newton, or of the roving Polynesians, Vikings, Columbus, and Magellan. And we have satisfied our lust to see at a distance: the pictures a second later were as sensational as the voyage. People do beat all!⁶

Goodman did not think that the technological systems that had gotten those two men to the surface of the moon and that had relayed the pictures and their voices to millions of people “watching” on Earth was an unmitigated blessing—he worried about the secrecy that had accompanied development and the nationalism that had inspired it—but he didn’t think it was an unmitigated curse either. Even more important—at least for my purposes—he did not think that either space technology or television were defining technologies, individual exemplars of some universal principle of “technology” or some universal indicator of “its social effects.”

This, of course, is what sets Goodman most clearly apart from McDermott and also from the author Emmanuel Mesthene, who was the immediate object of McDermott’s attack. Mesthene had worked at the RAND Corporation for a number of years and then at OECD, the Office of European Co-operation and Development. In

⁶ *New Reformation*, p.24.

1964, the IBM Corporation had given Harvard University several million dollars in order to establish, for ten years, the Harvard University Program on Technology and Society and Mesthene had been appointed the Director. Over the course of the next few years Mesthene had hired a fair number of young scholars and had asked them to work together, in interdisciplinary teams, in order to explore the relationship between specific technologies and their social impact, so as to also develop “action plans” that would ameliorate the social problems that technological change was creating. In his first report to *Technology and Culture*, two years after the Program began operating, Mesthene confessed that “The Study Group is currently learning to talk.” “An example of the process,” he went on,

Is our effort to understand the specific ways in which technological changes and social changes affect each other. We found the standard literature on each too self-contained to be illuminating of the relationship, and most current discussions of the interaction too impressionistic and lacking in conceptual rigor to serve as useful starting points.”⁷

Mesthene and his colleagues published a fair number of Research Reports (which were most notable for their very extensive bibliographies) in the next several years, but they never improved very much on the Mesthene’s original critique of the existing literature. IBM was unhappy with what the Project and pulled its funding two years early. Mesthene attempted to sum things up in a book that was published in 1970 as *Technological Change: Its Impact on Man and Society* and two years later in another book, *Harvard University Program on Technology and Society, 1964-1972*.⁸ Reviewers of both works weren’t any happier than IBM had been. Kenneth Boulding, writing in

⁷ Emmanuel G. Mesthene, “An Experiment in Understanding: The Harvard Program Two Years After,” *Technology and Culture*, 7,4 (Autumn, 1966) 479-480.

⁸ Emmaneul G. Mesthene, *Technological Change: Its Impact on Man and Society* (Cambridge: Harvard University Press, 1970) and *Harvard University Program on Technology and Society, 1964-1972* (Cambridge: Harvard University Press, 1973)

Science, referred to *Technological Change* as an extended essay (indeed, it was only 75 very small pages long). “It has the judicious, rather lofty quality of Emerson’s essays, and at the end of it one has the same slight feeling of emptiness.”⁹ George Basalla, writing in the same journal three years later, called the summary volume an example of “bland and sterile philosophizing.”¹⁰

McDermott had been reacting, in the summer of 1969, to the Fourth Annual Report of the Program on Technology and Society, which had been privately printed and distributed free of charge in the winter of 1968-69. He was furious with Mesthene (who had been his mentor at one time, apparently) for failing to discuss military technology, for proposing that technocratic elite might be better able to control the “ill effects” of technology than elected officials, for preferring the authoritarian character of technocracy to the chaos that would ensue if the “hippies and the anarchists,” had their way, and for optimistically believing that innovation was inherently a good thing—if only mechanisms could be found for foreseeing and then counteracting its occasional negative side effects.

Looking back, again from the vantage of point of 2007, it is easy to see that Mesthene’s work was as vacant, evacuated as McDermott’s. Both thinkers had the habit of referring to technology as somehow just one thing—and society as equally simple and straightforwardly understandable. “Failure of society to respond to the opportunities created by technological change means that much actual or potential technology lies fallow, that is, is not used at all or is not used to its full capacity,” Mesthene wrote, for example, in 1970, leaving the reader to wonder how a whole society manages to respond

⁹ Kenneth E. Boulding, “Tools on a Grand Scale,” *Science*, 168, 3938 (Jun 19, 1970) 1442.

¹⁰ George Basalla, “Addressing a Central problem,” *Science*, 180,4086 (May 11, 1973) 584.

to an opportunity and then how to tell when a technology is being wasted.¹¹ “Technology creates its own politics,” McDermott wrote, “[the point] of advanced systems is to minimize the incidence of personal or social behavior which is erratic or otherwise not easily classified,” leaving the reader to wonder what it might mean to say that making personal behavior erratic is a politics or how, alternatively, something like an electric power system (which seems quite advanced) causes social behavior to be classified.¹²

Despite these vacancies, McDermott’s essay was inspiring to a generation of scholars who, like myself, wanted to investigate something that would—somehow—make a difference in our national social life. In the course of our scholarship, I have now come to believe, we turned the word “despite” in the previous sentence into “because.” “Despite” McDermott’s vacancy many of us started out as technological pessimists, convinced that our national, Goodmanian, love affair with the technological was the fundamental reason for our national malaise. Because of McDermott’s vacancy, many of us were able, in the course of our research, to fill in many of those blanks, and to come away with a much more subtle, much more nuanced, much more sophisticated understanding of the multiple relations between various kinds of technologies and various aspects of society. Along the way we also discovered, with some help from Mel Kranzberg, that both technological pessimism and technological optimism were ill founded.

In this space, I can only skim the surface of the many lessons we have learned from historians of technology in the years since 1969. Merritt Roe Smith, for example, showed us that the interchangeable parts system of arms manufacture created some kinds

¹¹ Mesthene, *Technological Change*, p.35.

¹² McDermott, “...Opiate of the Intellectuals,” 9.

of job opportunities in Springfield at the very same time that it closed down other kinds of opportunities in Harper's Ferry; he also showed us, of course, that while we long for some aspects of early 19th century artisanal culture--devotion to craftsmanship and a respect for the regular alteration of work and leisure—we are perfectly delighted to have put others far behind us—nepotism, violence, feudalistic corruption, and racism.¹³

Similarly, David Mindell has shown us that a single technological system, *The Monitor*, can debase a set of values, military heroism, for one group of people (the men who served onboard) while enhancing the same set of values for another (the civilians who celebrated its victory).¹⁴ Through the works of Alex Roland and Janet Abbate, we have learned that a complex technological system developed for military purposes—the internet—can, *pace* McDermott, actually enhance civilian life, at least in part by taking control of communications out of the hands of elites.¹⁵ Similarly, Tom Hughes has taught us that technological and managerial elites are themselves, *pace* McDermott again, at the mercy of non-technologically-minded elected and appointed politicians.¹⁶ By advocating for in depth, empirically grounded research into the history of technology, the founders of SHOT were asserting, to turn McDermott's title on its head, that technology should be and could be a stimulant, not an opiate.

Having begun with my own experience, I should end with it as well. After being bored by what I could find in the existing literature about technological change and social change, I resolved to try my hand at a research project that would be both modern (that is,

¹³ Merrit Roe Smith, *Harper's Ferry Armory and the New Technology: The Challenge of Change* (Ithaca: Cornell University Press, 1977).

¹⁴ David A. Mindell, *War, Technology and Experience Aboard the USS Monitor* (Baltimore: Johns Hopkins University Press, 2000).

¹⁵ Janet Abbate, *Inventing the Internet* (Cambridge: MIT Press, 1999).

¹⁶ Thomas Parke Hughes, *Networks of Power: Electrification in Western Society, 1880-1930* (Baltimore: Johns Hopkins University Press, 1983).

after the founding decades of industrialization) and relevant to some contemporary social difficulty. After reading "...The Opiate of the Intellectuals," I resolved to demonstrate that modern household technology had been responsible for the high level of discontent that existed amongst educated American housewives of my own generation because it had eliminated every possibility of meaningful work inside of homes. The very first file folder that I opened when I started research about household technology was labeled "Resistors," because I was sure that domestic artisans, women who made butter and cheese, who baked their own bread and canned their own vegetables, would have resisted industrial technology in the same way that English weavers and American armorers once had, the same way that McDermott had assured me ordinary servicemen in Vietnam were resisting computerized warfare.

My forays into the primary sources about housework were full of surprises. The vast majority of American women, I discovered, were perfectly delighted to have motors ease the drudgery of household labor and many, especially those who had not been affluent as children, welcomed the improvements in living standards that accompanied what advertisers liked to call the "modernization" of American homes. My "Resistors" file remained very, very thin. In the end, there were only three items in it—and all of them were about very rich women who had resisted the electrification of their homes because they were unwilling to modernize their servants out of jobs while simultaneously being rich enough to be able to continue to live luxuriously without refrigerators, fans, electric lights or electric coffee pots. By the time I wrote *More Work for Mother*, I knew that neither the technological pessimists nor the technological optimists were subtle enough in their analyses, which is part of the reason why the book bears a subtitle that

includes the word *irony*.¹⁷ I had, to put the matter more concretely, come to realize that technologies were different from each other--that washing machines, for example, are not like assembly lines—that work processes were different from each other--that household work, for example, is not like factory work—and that people are different from each other--that women, for example, are socialized differently from men.

My most recent research project, an exploration of the history and impact of the technologies of genetic screening, has ended up being as surprising as the first; the hypothesis with which I began the research was almost completely reversed by the time I finished.¹⁸ Thus, for me, the most important thing that SHOT hath wrought, and will, I hope continue to encourage, could well be called evidence based history of technology. This is something that neither McDermott nor Mesthene appeared to have had (although they both laid claim to it) in 1970: a complex, subtle and sophisticated understanding of technology, based on meticulous research in primary sources, which had explored the relationship between human beings, in their multitudinous diversity and the artifacts, in their own multitudinous diversity, that human beings create and use.

¹⁷ Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).

¹⁸ Ruth Schwartz Cowan, *Heredity and Hope: the Case for Genetic Screening* (forthcoming, Cambridge: Harvard University Press, spring, 2008).

