

SPT AT THE END OF A QUARTER CENTURY: WHAT HAVE WE ACCOMPLISHED?

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I want to begin by referring to a headline in the *New York Times* (August 15, 1998), which some of you may have seen: “At the End of a Century of Philosophizing, the Answer Is Don’t Ask.” The story was about a panel at the World Congress of Philosophy in Boston, and the assembled group — W.V. Quine, Peter Strawson, Donald Davidson, Marjorie Grene, Karl-Otto Appel, and, to provide some diversity, Seyyed Hossein Nasr — were addressing the question: What have we learned from philosophy in the twentieth century? The author, Sarah Boxer, ends this way: “The original question had been torn to shreds (rather than answered.) The purveyors of logic and mathematics seemed to have ceded the floor to those who promised to bring back spirituality and reflection.”

It would probably just make a bad joke worse to contrast the lack of accomplishments of philosophers in the twentieth century with the accomplishments of science. Throughout this century, philosophers have attempted to piggyback on the successes of science: logical-positivist physicalists piggybacking on psychological behaviorism, philosophers of language on scientific linguistics, philosophers of mind on computer simulations of brain activity, and evolutionary epistemologists piggybacking on evolutionary theory. The philosopher-panelists at the meeting in Boston could have referred to these once-ballyhooed philosophical accomplishments. But they did not.

Meanwhile, a more popular image of our century stresses the miracles of technology rather than science as the mark of progress in the twentieth century: applications of Einsteinian relativity in the development of atomic weapons and nuclear power, radio and television, medical miracles, and the wonders of computers and the Internet. We philosophers of technology — at least those associated with SPT — have only been around for a quarter of a century. But it is fair for us to ask ourselves: What have we accomplished?

Before attempting an answer — something the Boston philosophers evaded — we need some kind of measure of success (see Durbin 1998).

Since I have been the editor of most of the publications of the Society for Philosophy and Technology, reviewers and I have always tried to assure that contributions to this body of literature meet the highest standards. But there is

the problem, that our members — and other authors — try to live up to very different kinds of standards. I would like to summarize some of the standards that I see others apply to our work.

First, there is the current dominant view within United States philosophy departments and academic philosophy that assumes there can be philosophical progress, like scientific progress, with one contribution building on others. In the United States, this has become the ideal of academic progress. However, once this academic standard was extended — by departmental committees and deans — to almost every field of higher learning, it began to come under attack. Critics maintain that to apply the standard to fields such as literature, history, and the arts is inappropriate. The only measure we can apply in these fields is greater originality (especially in terms of persuading whatever are perceived to be the relevant audiences in academia.) And here many of the critics would lump philosophy together with other humanistic disciplines. A few transcendentalist metaphysicians and theologians object to both the strict, progressive academic standard and the much broader originality standard; they say both are retrogressive, chasing after increasingly trivial minutiae. The only real progress moves in the opposite direction, toward more and more comprehensive syntheses — ever closer approaches to truth, beauty, or goodness (sometimes capitalized as “Truth,” “Beauty,” and “Goodness.”) Still others insist on what I would call an Aristotelian model that recognizes that academic fields are divided along disciplinary lines, each with its own standards. According to this model at least some of the sciences meet the criterion of progress within certain limited domains, but most intellectual endeavors can make only intensive or qualitative progress, providing no more than (1) a deeper appreciation of — or new insights into — old truths, traditional arts and crafts and (2) also such newer methodologies such as those associated with computers and other new technologies. Finally, there are those who eschew all academic standards, including some who insist on real social progress as the only appropriate standard.

A SUMMARY: EARLY EFFORTS

For my assessment, I refer to a dozen or so of the highlights of our twenty-five year history.

I begin with one of the contributions to our first conference at the University of Delaware in 1975. There Robert McGinn attempted to answer the question, *What Is Technology?* in a paper that became famous and served as a foundation for later McGinn elaborations (Hannay and McGinn 1980; and McGinn 1991). In Carl Mitcham’s magisterial summary of the developing field,

he refers favorably to McGinn's pioneering effort: "The path toward...a philosophical framework is pointed out by one of the most general philosophical analyses to date, Robert McGinn's" eight characteristics of technology as a "form of cultural activity" comparable to science, art, law, medicine, and sports (Mitcham 1994, 157-59).

Unfortunately, Mitcham's positive assessment is not shared by all — even within the pages of SPT's publications. In our electronic journal, Alberto Cordero undercuts McGinn's attempt to characterize technology as distinct from science: "Judging from McGinn's characterization, technology seems to include everything that is dear to the scientific project. ...Actual science can be as methodologically opportunistic and dirty as technology." (*Philo/Tech* 4:2 1998, 13) Presumably, McGinn wanted to have his accomplishment assessed by academic, and possibly even academic analytic standards; and it is by those same standards that Cordero judges McGinn's work as falling short. Given the current state of the art in philosophy of science — post-Kuhn, in an era of feminist, "cultural," and other critics of science (see Rouse 1996) — what we might say, in all fairness, is that McGinn's effort at clarification came at the wrong time.

What about Mitcham's characterization of technology in his famous four-pole technology as (1) knowledge, (2) activity, (3) object...(4) volition (Mitcham 1994, 159)? On the cover of Mitcham's book, Alfred Borgmann is cited saying in effect that "Mitcham has drawn the map that everyone will turn to for orientation and detail." Surely almost all of us would characterize Mitcham's book as outstanding, if not a masterpiece — though perhaps not as glowingly as Larry Hickman (1997, 163): "If it is ever decided that there should be a patron saint of technology studies, then Carl Mitcham is almost certain to be the prime candidate for canonization" Hickman's high praise, we should note immediately, is set within the context of a critique of Mitcham — indeed, within the context of three critiques of Mitcham by Jim Grote, Hickman, and Eric Katz. Aside from a variety of disagreements, all say that Mitcham's attempt to correct a deficiency in the philosophy of technology literature — namely, that humanistic critics of technology are not adequately aware of the objects of their criticisms, say, in engineering and other technical fields — leads him to give too much credit to engineering philosophy of technology. This is spite of the fact that Mitcham himself wants to criticize it. Grote also says Mitcham's text is hard to read; Hickman complains that Mitcham is Aristotelian in a way that John Dewey has discredited; and Katz laments Mitcham's hopeless distortion of environmental ethics because of his uncritical acceptance of Thomistic natural law theory — and these are all friendly critics! To sum up, even people who are impressed with the scope, and maybe even the outlines, of Mitcham's *Thinking through Technology* are not ready to say that the book has

no flaws. (For my part, I relate the flaws less to Mitcham's dependence on various aspects of Aristotelian thought than to his sympathies with Ellul and Heidegger).

Don Ihde (1979, 1983, 1990, 1993), who is perhaps next only to Mitcham — and possibly Albert Borgmann, to be mentioned in a moment —, has been widely praised by SPT members. His appearances at SPT meetings are only a tiny fraction of the appearances Ihde makes and the talks he gives all over the world. About Ihde, Mitcham says: “[He] not only wrote the first monograph on philosophy of technology in English, he has also produced the most extensive corpus devoted to the subject and has established a book series devoted to philosophy of technology” (1994, 78). On the other hand, Mitcham also raises questions about Ihde: “In light of the importance he gives to technology in human experience, his strong sympathies with pragmatism, and his criticisms of the critics of technology, ...it is not clear to what extent his phenomenological philosophy of technology is truly other than a sophisticated and subtle engineering philosophy of technology” — as opposed to the “humanities philosophy of technology” that Mitcham favors.

What to say about this quibble over what counts as a measure of success? Certainly Ihde has achieved academic success beyond most members of SPT, but the standards by which his work is judged are Continental rather than Anglophone analytical. (Ihde was a leader in the anti-analytical battles in the American Philosophical Association in the 1980s; see Mandt 1986). In spite of Ihde's fine-scale focus on particular kinds of technology-mediated experience, his dependence on Heidegger, Merleau-Ponty, and especially Husserl — however much he personalizes his own account using them as sources — suggests that he would want to be measured by comprehensive-synthetic standards. If so, I think it is safe to say, in spite of the massive corpus of works Mitcham refers to, that Ihde has not yet produced a comprehensive magnum opus on our technological world.

By contrast, Frederick Ferré is in the process of producing just such a work — see his *Being and Value* (1996) and *Knowing and Value* (1998, with a third volume to follow). Ferré explicitly appeals to comprehensive-synthetic, even avowedly metaphysical standards, as does Donald Phillip Verene in his magisterial *Philosophy and the Return to Self-Knowledge* (1997), where he says: “Philosophy as the love of wisdom that considers the true to be the whole has been replaced by the pursuit of method and the truth of the part” (ix). Verene's aim is to counter the technical, “to understand philosophy as a guide to life, having within its powers a path to civil wisdom that can be taken by considering

the insights held in common by the Socratic and humanist traditions” (x). Whether either Ferré’s or Verene’s well-argued attempts to set metaphysical limits upon the technical will be adjudged successes, I think it is too early to tell. Verene, for his part, at least recognizes what he is up against: “Thinking, acting, and speaking [today] have but one measure of credibility and effectiveness: the degree to which they are involved with the power of the technical” (x).

Perhaps the most famous of our SPT colleagues to try to set limits on the technical is Albert Borgmann. His *Technology and the Character of Contemporary Life* (1984) and *Crossing the Postmodern Divide* (1992) — as well as his most recent effort, *Holding onto Reality* (1999) — all have a common aim: to set limits on “the technological.” As everyone knows, Borgmann tries to do so by concentrating on “focal things and practices” and on those small communities in our consumption-oriented society who find meaning in these focal things and practices. Borgmann, more than any of the rest of our SPT membership, has attracted a following among younger philosophers of technology — most notably David Strong, who in *Crazy Mountains: Learning from Wilderness to Weigh Technology* (1995) explicitly applies Borgmannian distinctions to develop his philosophy of wilderness. Not everyone who participated in the Borgmann conference in 1995, “Technology and the Character of Contemporary Life” — a volume based on this conference is supposed to be published this year by the University of Chicago Press — should be considered a Borgmann disciple; but the very existence of that conference is indicative of a widespread conviction that Borgmann’s work is to be taken seriously.

In my contribution to the Borgmann conference, and to the forthcoming volume, I raise the question of the standards by which Borgmann’s work should be judged. Many critics see Borgmann as no more than a neo-Heideggerian, hostile to technology. (In his 1984 book, Borgmann had refuted that claim, saying it makes no sense to be antitechnological, even in the pursuit of focal things and practices.) Borgmann clearly is opposed to our contemporary technological worldview, which he says is sapping all our best traditions — even our democratic ideals. But that does not clearly say what he and others think his contribution to contemporary discourse on technology amounts to. He might be thought of as limiting philosophy’s scope to the analysis of technology or of our technological culture; or of offering a radical, even revolutionary, alternative to our device-dominated; or merely lamenting our sad, commodity-driven fate, the wasting our culture’s true democratic heritage. For my part, I invited Borgmann (and others) to join with me in an activist effort to change particular aspects of our culture.

In my opinion, most people see Borgmann as more of a secular preacher — calling our contemporaries to change their ways — than as a metaphysician. (Even a neo-Heideggerian anti-metaphysician.) But that leaves open the question as to what impact his books will have.

One thing that seems to me unquestionable is that Borgmann has had an impact on one area of contemporary scholarship, namely, on environmental ethics. Three of the organizers of the Borgmann conference, Eric Higgs, Andrew Light, and David Strong, are active in the environmental ethics movement — or environmental philosophy more broadly. Just consider Strong's (1995) book on wilderness and technology, already mentioned, or Light's *Environmental Pragmatism* (with Eric Katz, 1996), or David Rothenberg's *Hand's End: Technology and the Limits of Nature* (1993). These and a number of other books and essays relating a problematic technology to environmental philosophy (including ethics) have drawn inspiration from Borgmann's work. And few would deny the impact of the environmental ethics movement.

POLITICAL CRITIQUES

Another powerful stream in philosophy of technology in the last twenty-five years has been the preponderance of political critiques of technology. I will mention just two.

Perhaps the most eloquent and consistent critic in SPT has been Langdon Winner. And of course his impact has ranged much more widely than SPT; some would even say that he has been the gadfly of technological "progress" since his *Autonomous Technology* appeared in 1977, over twenty years ago. His *The Whale and the Reactor: A Search for Limits in an Age of High Technology* (1991) is also widely cited. And his position as a regular columnist for *Technology Review* — until he was abruptly dumped in 1998 — gave him a platform that was the envy of us all. Winner also regularly gets coverage in the mainstream media (see, e.g., *New York Times*, April 1, 1999, pg. E7).

Andrew Feenberg, with his several books (1991, 1995, 1999) that advance a Marcusean/neo-Marxist critique of technocapitalism, continues to make an impact of a different sort. After the fall of the Soviet empire, Feenberg has been viewed by many as a leader of the group of philosophers (and others) who doggedly insist on defending the importance of Marxian insights in the face

of a triumphant capitalism. Feenberg himself, on the other hand, sees himself as transforming Marx's — even Marcuse's — thought to provide a more realistic assessment of the world today. This includes a recipe for transforming our world, for turning it into a technoeconomic system that would be more just, more worker-friendly, and less damaging to the environment than the globalized economic system in which we actually live. The problem with Feenberg's intellectual neo-Marxism, as I have pointed out elsewhere (Durbin 1994), has to do with the question as to whether he is truly faithful to his Marxist roots. Recall that Marx said he wanted to change the world, not merely understand or explain it. I am sure that Feenberg would want his success to be measured by that real-world-payoff standard; I am just not sure that his books are actually leading in that direction.

So far (except for my brief mention of McGinn) I have concentrated on critics of technology and technological society. Such views clearly achieved a level of notoriety in the postmodern movement. One of our SPT members, Raphael Sassower (with Gayle Ormiston) made an explicit contribution in *Narrative Experiments: The Discursive Authority of Science and Technology* (1989). Ormiston and Sassower took pains to demythologize not only technoscience and its defenders but also themselves and other critics, with an explicit appeal to the *persuasiveness* standard of (non-)success. And of course the whole movement provoked a vitriolic counter-attack in the name of strict scientific standards by Gross and Levitt in *Higher Superstition: The Academic Left and Its Quarrels with Science* (1994).

CLEARLY ACADEMIC APPROACHES

I will not say that our in-house critic, Joe Pitt agrees with Gross and Levitt, but he has said that when he first came to our SPT meetings the only kind of work that “made sense was Kristin Shrader-Frechette’s attempts to critique risk assessment methodologies. She provided arguments, counter-examples, and rigorously thought through alternative methods” (1995).

Since Pitt is clearly using standard academic analytic measures of success here, I should pause to reflect on the philosophy-and-technology literature that does measure up to those standards.

Clearly Shrader-Frechette’s work does. Though her *Nuclear Power and Public Policy* (1980) was widely viewed as putting her in the antitechnology camp, her *Risk and Rationality* (1991) was equally widely perceived as a valid critique, even within the risk assessment community and among the academic philosophers of science who focus on foundations of risk assessment.

Where Pitt seems to me to be wrong is in his claim that Shrader-Frechette is alone — or almost alone — among SPT members. Though neither of them has been active in SPT as an organization, two classics in the philosophy-and-technology literature come immediately to mind as meeting the highest of academic standards, Carl Cranor’s *Regulating Toxic Substances: A Philosophy of Science and the Law* (1993); and Sheila Jasanoff’s *Science at the Bar: Law, Science, and Technology in America* (1995). Moreover, Pitt was personally responsible for bringing to our SPT meetings an extreme analytic philosopher of engineering, Ronald Laymon, and he has made positive contributions to the philosophy-and-technology literature (Laymon 1991). In

addition, a number of SPT members — including our incoming president, Deborah Johnson — have contributed to such fields as engineering ethics, computer ethics, and biomedical ethics. (See, e.g., Johnson 1991; and Johnson and Nissenbaum 1995).

SPT BOOK SERIES

As further indications that SPT work sometimes strives to meet academic/analytic standards, I can refer to two of my favorite volumes in our SPT publications series: *Philosophy and Technology*, volume 7 (in the Kluwer series), *Broad and Narrow Interpretations of Philosophy of Technology* (1990); and *Research in Philosophy and Technology*, volume 7 (JAI Press series, 1984).

In my introduction to the 1990 volume, I explicitly raised the issue of academic standards for assessing SPT work — and the lead symposium focuses on Pitt's challenge to Frederick Ferré's introductory textbook, *Philosophy of Technology* (1988). But the volume also includes recommendations for improving engineering ethics by an engineer (Taft Broome), a rigorous critique of Herbert Simon in systems theory terms (by Sytse Strijbos), another, more positive, systems approach (by Ladislav Tondl), and Steven Goldman's extremely well articulated paper, "Philosophy, Engineering, and Western Culture" — there are also more critical perspectives from Winner, Feenberg, and a disciple of Jacques Ellul — D.J. Wennemann.

The 1984 volume — intended as a sort of 1984 commemorative — was equally judicious in attempting to balance pro and antitechnology philosophers, along with others who have attempted to break out of the pessimism-optimism box. Pro-technology views are presented by Mario Bunge, Hans Lenk, and Emmanuel Mesthene, among others; but even the critics or balancers — for example, Steven Goldman, Joseph Margolis, Friedrich Rapp, and Marx Wartofsky — include philosophers with impeccable academic credentials.

So, while our best-known philosophers of technology may *appear* to be critics of technology and technological culture, SPT has also been associated with a variety of publications that implicitly or explicitly strive to meet the most exacting standards of academic philosophy — even of academic/analytic philosophy. Whether any of the philosophers making those contributions to the SPT literature will ever be mentioned in the same breath with W. V. Quine and Donald Davidson, or even Marjorie Grene, is another question.

But, then, we should remember the punchline of the *New York Times* story — that none of those famous philosophers could articulate any contributions that philosophy has made to our twentieth-century

A CALL TO ACTIVISM

Which brings me to a final point: I believe that the standard we should all strive to live up to is not academic. If our work is to be judged a success, I think it should be in helping our technological world become a better place in which to live. And here I will mention two more SPT contributions, Larry Hickman's *John Dewey's Pragmatic Technology* (1990), and my own *Social Responsibility in Science, Technology, and Medicine* (1992).

About Hickman's book, Mitcham says it "both retrieves the central texts from the Dewey corpus and provides the most extended defense of a pragmatist philosophy of technology" (1994, 74). Many others have hailed the book for bringing Dewey into the mainstream of philosophy of technology — where, they think, he belongs.

It would be arrogant of me to say anything about the contribution of my own book. I will, however, end this survey the way I end the book:

The specific approach I have recommended is socially responsible activism...in concert with other public-spirited activists....I have even tried to draw academic philosophers into the activist circle....In the end, the book is a plea to join in the struggle — a struggle, if you will, to prove the radical critics of technology wrong. There is hope, but only if we are willing to struggle to meet the many challenges that face us in today's world (201).

This is where I will stop for now. I still cannot think of a better challenge to offer, to both SPT members and those other philosophers who have worked and will continue to work with us in the twenty-first century.

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