

## Chapter 9

### *An Early Attempt to Turn Philosophy and Technology into Philosophy of Technology: Joseph Pitt*

According to his own web account, Joseph Pitt has research interests in history and philosophy of science and technology, with an emphasis on the impact of technologies on scientific change. He was founding editor of the journal, *Perspectives on Science: Philosophical, Historical, Social*, published by MIT Press. His historical interests include Galileo, Hume, and American pragmatism. He is author of several books and numerous articles in the history and philosophy of science and technology. Recent books, for example, include: *The Production and Diffusion of Public Choice: Reflections on the VPI Center*, co-edited with Dhavad Saleh-Isfahani and Douglas Eckel (2003), and *Thinking about Technology* (2000). I will focus on the latter, as well as a set of critiques of that book that I edited for the SPT electronic journal, *Techné*.

After four presidents of SPT—Mitcham, Michalos, Shrader-Frechette, and Wartofsky—to which I have added Bunge, Margolis, Agassi, and Byrne; and after four international meetings: Bad Homburg in (then West) Germany, New York City, Twente in the Netherlands, and Blacksburg, Virginia (Pitt was host there), and proceedings volumes for each of these—after all of that, Pitt was still not satisfied. In what we have seen so far, the early years had covered most of anybody's philosophical spectrum: metaphysics (Mitcham), the social responsibilities of technically trained experts (Michalos), ethical and philosophy of science analyses of particular expert projects (Shrader-Frechette), Marxism (Wartofsky), a systems/exact philosophy analysis of technology (Bunge), a philosophy of technology closely linked to major figures in analytical philosophy (Margolis), social-movement activism (Agassi), and a workers' perspective for technological society (Byrne). The non-proceedings volumes of *Research in Philosophy and Technology* added still more perspectives. But Pitt wanted philosophy of technology to be more like philosophy of science. He wanted, not a great variety of perspectives, but a professional discipline in the academic sense.

So, in *Thinking about Technology*, he set out to produce a textbook for the new field. Here is a summary of the book, drawn from my introduction to the *Techné* author-meets-critics number: "Pitt says his approach can be summarized briefly. He proposes a 'Commonsense Principle of Rationality (CPR): Learn from

experience' (p. 22) to be applied in assessing particular technologies, not Technology in general. And this, he says, amounts to . . . having shifted our ground from worrying about providing an abstract philosophical justification for something that only philosophers worry about to a pragmatic condition of success. . . . To adopt this attitude is to reject . . . logical positivism, and to embrace pragmatism" (p. 40).

For the rest, I let Pitt summarize his own book. He does so in two places, one at the beginning and one at the end. In his preface, Pitt says: "The structure of the book is fairly straightforward. First, I develop a framework for thinking about specific issues that arise in the context formed by a specific technology [the Commonsense Principle of Rationality]. Second, I introduce and explore a set of concepts that are counterparts to concepts that have already been the object of intense analysis by philosophers of science . . . [e.g., explanation, evidence, law; although] I suggest that maybe science and technology ought not be thought of as so closely linked . . . [since] philosophical questions about technology [turn out to be] first and foremost questions about what we can know about a specific technology and its effects and in what that knowledge consists. This amounts to knowing what we as human beings can know about the world and our impact on it. That is why I think epistemological issues should be addressed before we engage in social criticism. I then proceed to attack a set of assumptions about 'technology' put forth by social critics. Whatever else 'it' may be, I argue that technology is not autonomous or a threat to democracy. I further argue that talking about technology in this way misleads in important ways. Finally, I address the problem of technological change. After examining extant models of scientific change, showing them to be inadequate, I explain the inadequacy by appeal to their failure to take into account the technological infrastructure of science and the manner in which science is embedded in and fundamentally tied to it" (pp. xii–xiii).

At the end, Pitt says: "I have looked at technological change as a counterpart to scientific change. I have argued that understanding scientific change required putting the science in context . . . [within] its technological infrastructure. The strong conclusion emerging from this . . . [is that] the growth of science can be seen in similar terms [to] the growth of human culture, that is, made possible by the tools and mutually interactive support systems we have come to call technology" (p. 138).

The critics—none of these represent the perspectives that Pitt hates—take several

points of view. For example, Davis Baird, “Organic Necessity: Thinking about Thinking about Technology”: “This leaves us with a final irony in Pitt’s work. He complains at length about ‘the social critics’ of technology. At one point, Pitt subjects the passage that gave the title to Langdon Winner’s book, *The Whale and the Reactor* (1986 p. 165) to extended and sharp criticism (pp. 72–75). In the passage, Winner describes returning to a California beach near his childhood home. He comes over a bluff and is confronted with a vista that sends him reeling. There nestled on the shores of a tiny cove, was the gigantic nuclear reactor . . . a huge brown rectangular block and two white domes. ‘At precisely that moment [he says] another sight caught my eye. On a line with the reactor a California Grey whale suddenly swam to the surface, shot a tall stream of vapor from its blow hole into the air, and then disappeared beneath the waves’ (Winner 1986 p. 165).

“Pitt decries Winner’s rhetoric, ‘the pitch to the emotions.’ Pitt correctly points out that Winner is ‘making a series of explicit value judgments.’ He complains that Winner is ‘pushing an ideology.’ As I understand this passage, Winner is attempting to change the value matrix that was in place in the mid-1980s. If successful, this might prompt different decisions about nuclear power. Pitt is right to rail against the idea that we fall helpless before the steamroller of Autonomous Technology. The social critics whom Pitt trashes are attempting to gain more insight and control over our technologies. They are fighting against an Autonomous Technology, and attempting to realize Pitt’s own vision of conscious human decisions creating technologies that offer ‘new and promising avenues of human development’ (p. 120).

“I like Oppenheimer’s phrase, ‘organic necessity.’ It captures two central features of the autonomy of technology. In the first place it recognizes a kind of autonomy. There is a necessity here. But it is not a logical necessity or an *a priori* necessity. It is an organic necessity. I understand this to mean it changes over time and it changes in response to our decisions about our technologies. We are not helpless victims of Autonomous Technology. Neither are we Masters of the Universe. The relationship is more complex and interdependent, more organic.”

Kristin Shrader-Frechette, “Reductionist Philosophy of Technology: Stones Thrown from Inside a Glass House”: “Pitt’s selective citation of the philosophy of technology literature, his countering the claims of his opponents with falsehoods and without citations, and his falling into ideology and rhetoric are

problems about which this essay has been especially critical, in large part because Pitt was so brutal in his criticism of others for allegedly making the same mistakes. When someone like Pitt proceeds from a moral-relativist, positivist, technocratic, autocratic stance, then one expects him to defend his position, particularly because he is critical of others who do not share his stance. Yet there is no adequate defense anywhere in Pitt's book. He argues for his ethical relativism, for example, in one short, 7-sentence paragraph that is nothing more than a string of question-begging claims. Ethics demands better.

“Given that a philosopher of science could make a good case for an epistemic emphasis in philosophy of technology, the fundamental problem with Pitt's volume is not its overall theme. The problem is that he has handled his theme badly, that he has so many gratuitous, undocumented, ideological claims, while he criticizes others for these faults. Pitt should be wary of throwing stones at other thinkers when the glass of his own house is so extraordinarily thin.”

Paul Thompson, “Thinking about Thinking about Technology”: “In my view, E.P. Thompson's type of social history is part and parcel of an adequate epistemological analysis of technological change, as is Borgmann's type of existential epistemology. I am not sure that Pitt would disagree, but there are tendencies in *Thinking about Technology* to suggest that he might. One is the aforementioned tendency to emphasize engineering design and breakthrough technology. The ‘how it works’ question relevant to seventeenth-century rural villages is simply that roads and wagons make it much cheaper (meaning physically easier and less time consuming) for someone who has already harvested a crop and put it in bags to search for millers and bakers who will offer the most attractive terms of trade. The ‘how it works’ question relevant to Borgmann's 1984 discussion of devices concerns the way that, in making our lives easier, they may deprive us of experiences that enrich and give meaning to our lives. In my view, these are still epistemological points, and social ones at that, but is this ‘technical explanation’ in Pitt's sense?

“The more disturbing tendency is Pitt's quickness to find ideology, rather than philosophy, in the thinking of the social critics. This is particularly evident in Pitt's patronizing advice to social critics: ‘[R]ecognize that not everyone will accept your values and that others are equally well justified in rejecting your claims of superiority. You will have to work toward building a consensus, and this is fundamentally a political activity, not necessarily one governed by reason’ (p. 120). So tell me, Joe, if consensus building is not governed by reason, why

have you led us through a hundred odd pages of griping about the need to introduce more rigor into the social critique of technology? It is not as if the social critics have no arguments at all. We must evaluate those arguments, improve them when possible and reject them when necessary. You are right to tell us that we should attend to 'how it works,' when evaluating, improving or rejecting those arguments, but we must see both epistemology and social critique as amenable to improvement to do that. And for a pragmatist that is what 'governed by reason' comes down to."

Douglas Allchin, "Thinking about Technology and the Technology of 'Thinking about'": "Under Pitt's new definition of technology, philosophy counts as a technology: a tool for making sense of things. He also views technology assessment as essential. Here, then, honoring the spirit of Pitt's comments, I assess his own philosophy of technology. . . Finally, I comment on the dynamics of social discourse, where we need an effective technology for reflecting jointly, for building consensus, for rational discourse. I think a model of consilience through reasoned discourse and creative problemsolving is missing in most philosophy—including Pitt's."

Pitt replies to each of his critics in turn, but to me (even though I edited the collection), these accusations and replies reflect the atmosphere of an author-critics session at a philosophy meeting more than they reflect the real controversies that Pitt and his critics want to get involved in. Some of the atmosphere is further tainted by Pitt's pugnacious attitude in such meetings. Here is my attempt to get at what the real issues are that the critics and Pitt are involved in:

1. I begin with Shrader-Frechette, whose surprisingly personal attacks on Pitt (he may have deserved it) mask her agreements with those friends in history and philosophy of science from whom Pitt says he derived his concerns about the actual content of philosophy of technology as they understand it. They believe, as Pitt claims, that philosophers of technology, as he and they read them, offer no account of technological explanation, evidence, or laws (if there are any technological laws) that would parallel treatments of such features in philosophy of science. Shrader-Frechette limits herself to saying that Pitt limits himself to only one model of explanation (a somewhat old-fashioned one), and that his commonsense principle of rationality is too vague to satisfy any tough-minded philosopher of science.

2. There is a real issue here, and it takes us back to Mitcham's controversies with those philosophers he lumps under the label, "engineering philosophy of technology." While opposing them, Mitcham recognized that at least some of them wanted to develop careful analyses of what goes on in actual technological communities. (See Chapter 5 on Bunge, above.)
3. Thompson also gets somewhat carried away by the tone of the situation, focusing on Pitt's misreadings of Heidegger and Winner. But he really wants to push Pitt to practice more of the pragmatism that both claim to espouse. Like Shrader-Frechette, he wants something more than Pitt's commonsense principle of rationality; he wants philosophers to engage, actively, with those who are attempting to do something about the regulation of such things as agricultural biotechnology. (See Thompson in Chapter 23 below.) Here the controversy is over the degree to which philosophers ought to get actively involved in real-world settings. (See Chapter 14 on Hickman, where he and Thompson, both avowed pragmatists, disagree on the issue.)
4. Baird's version of "Pitt should get his facts straight before criticizing others" also masks a serious issue. Baird ends up defending a limited sense of technological determinism that he finds acceptable in Winner, whereas Pitt finds it offensive. The issue of technological determinism is a serious one, with a whole range of responses. (See Chapter 11 on Winner.)
5. Allchin raises what may be the crucial issue for Pitt's approach. His focus is on the public disputes that so often accompany technological decisionmaking, and Allchin (as the quote above says) favors "consilience" or reasoned discourse and creative problemsolving. Pitt replies, citing David Hume, that what is likely to win out in most such controversies is not reasoned discourse but raw political (often meaning economic) power, and disputants are more likely to insist on having things their way than on the reasonable compromise Allchin seems to favor. This is a perennial issue, not only in philosophy of technology, but in all political philosophy. (Here it is treated in many chapters, including the one on Winner but also in the two chapters on Marxist thought, Chapters 4 and 12.)

*Summarizing these controversies*, Pitt has opponents even in his favored philosophy of science community. He favors a radical change there, introducing much more of a focus on the role of an instrumental infrastructure in scientific change than he thinks is customary in discussions of that issue among philosophers of science. (On this, see Chapter 10 on Ihde.) I don't count here objections such as that of Shrader-Frechette, that Pitt has been careless in what he set out to do; but Shrader-Frechette would be another advocate of philosophy of science who offers a critique of such ventures as technology assessment with which Pitt does not agree. She accuses Pitt of totally disparaging cost-benefit analyses—as some other philosophers of technology do—while she wants to improve the process, adding an equity dimension. There are also controversies over the role of raw power, and how to limit its scope, in discussions of technological controversies. To Marx-based critics and others like Winner, Pitt's Hume-based caving in to raw power seems more conservative than pragmatic. Which brings us to another set of controversies associated with Pitt: the extent to which his thinking is pragmatist, and the role pragmatism ought to play in philosophical treatments (I don't say “analyses” deliberately) of technological developments. And we should not forget that the basic point of Pitt's book is to attack philosophers of Technology with a capital T—the very sort of philosophy we have seen Mitcham defend as essential to a reform of technological culture as a whole.

In the end, the *big* controversy with Pitt is his very proposal—offered in the name of friends in the history and philosophy of science communities—to transform philosophy of technology into an academic discipline parallel to, and following the lines of, philosophy of science. All the other disagreements are mere quibbles in contrast with this.

As we will now see, during the next ten years, it continued to be other approaches that dominated in SPT, including the approaches of Heidegger-inspired Don Ihde and Pitt's nemesis, Langdon Winner.