GUEST EDITOR'S INTRODUCTION

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This set of papers requires some context. It results from a longstanding custom of the Society for Philosophy and Technology to hold author-meets-critics sessions at regional meetings of the American Philosophical Association. One such session, at the Central APA meeting in 2000, was devoted to Joseph C. Pitt's *Thinking about Technology: Foundations of the Philosophy of Technology* (Seven Bridges Press, 2000). Some of the critical comments presented there are printed here in revised form, though some critiques presented at the APA meeting do not appear here. Others were prepared for the session but could not be presented there. And Pitt's replies to his critics have been prepared especially for this issue.

Pitt's book also falls within another tradition of SPT to include work by philosophers (and others) *of* technology within a broader, more inclusive heading, philosophy *and* technology. In my introduction to a 1990 SPT collection, *Broad and Narrow Interpretations of Philosophy of Technology* (volume 7 in the Kluwer series, Philosophy and Technology), I sketch the outlines of the conflict between these two schools of thought in the ranks of SPT authors: roughly a conflict between those who would turn philosophy of technology into an academic subdiscipline and social critics opposed to academicism.

Pitt represented the academic faction in that volume, and he occasionally exaggerates the loneliness of his advocacy of academic philosophy *of* technology. For example, in the first number of the current (electronic) incarnation of SPT's journal, Pitt has this to say:

> Without a determinate literature to study, which lays out the problems and the methodologies to employ, I started looking for conferences and groups with the word "technology" in their titles. That is what got me to attend a session of the philosophy of technology at some APA meeting and then to attend the second conference of the Society in New York in 1983.

Unfortunately, Pitt says, at SPT meetings he heard only two kinds of contributions, and he was dissatisfied with both.

> One . . . made sense to me, . . . one which I understood, but
> which seemed inadequate to the jobs which could be set on the
> table of the philosophy of technology. The discussion 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.
> But there was surely more to the philosophy of technology than
> risk assessment. ("On the Philosophy of Technology, Past and
> Future," *SPT Electronic Journal* 1:1-2, 1995. In the first volume
> of the SPT electronic journal, the pages ended up unnumbered;
> these quotes are from the 3d and 4th pages of Pitt's article.)

The other approach Pitt discovered was that of philosophers he labels "social
critics" attacked vigorously again in *Thinking about Technology*.

Because Pitt sometimes speaks as though Shrader-Frechette were a lonely voice
in the wilderness among SPT authors, I provided in the introduction to *Broad and
Narrow Interpretations of Philosophy of Technology* a brief summary of
academic, even narrowly academic, contributions to SPT publications in the first
fifteen years of the Society's existence. Here I expand on that summary of the
philosophy *of* technology literature in SPT.

If one looks at the first three or four volumes among SPT publications, it is true
that Shrader-Frechette was one of a few who applied rigorous analysis to specific
features of technology; for examples, see her analyses of the concept of
information and the method of risk-benefit analysis as well as her critique of the
specific technology of nuclear generation of electricity in volumes 2 and 3 of
Research in Philosophy and Technology. However, though they focused on Pitt's
nemesis, technology in general, such philosophers as Joseph Margolis, Robert
McGinn, and Stanley Carpenter had already, in volume 1 of *RPT*, provided
rigorous philosophical analyses.
    As the years progressed, in subsequent volumes of *RPT* and later in the
Philosophy and Technology series (Reidel/Kluwer), such rigorous analyses both
increased in number and began to focus on narrower specific technologies in
Pitt's sense: Edmund Byrne as well as Shrader-Frechette on technology
assessment (*RPT*, vol. 5); Tom Rogers, Albert Borgmann, Stanley Carpenter, and
even Langdon Winner (Pitt's scapegoat) on the concept of "appropriate

technology" (*RPT*, vol. 6); Helen Longino on nuclear radiation standard-setting as well as Shrader-Frechette on nuclear power (*RPT*, vol. 8).

In the first volume of the new series (P&T, vol. 1), Shrader-Frechette and Carpenter, but also Alex Michalos, once again analyzed technology assessment; Ted Lockhart provided an extremely careful analysis of engineering practice in volume 2 (where Shrader-Frechette also generalized her critique, taking on risk/cost/benefit analysis); in volume 4, Carpenter again examined appropriate technology, but new explicit analytical voices those of Andres Sarlemijn and Pieter Kroes from the Netherlands were added to the mix; in volume 7, Steve Goldman provided one of his careful critiques of modern engineering; and in volume 9, Shrader-Frechette once again provided a careful analysis, this time of risk analysis generally.

I have skipped two volumes in the P&T series, volumes 3 and 11, for which Pitt had primary editorial responsibility (with Edmund Byrne in volume 3); in those, he clearly tried to add more analytical voices to the mix, so presumably he has no objections to those volumes.

I also skipped my favorite volume in the two series, volume 7 of *RPT*, where specific well known philosophers were invited to reflect on the Orwellian/dystopian idea of "1984." Even some of the critics of technology among the contributors were admirably careful in their analyses, but there were several pro-technology critics of the critics; and there was even a summary of his views by Mario Bunge, the granddaddy of all analytical philosophers of technology (in the abstract! though, like Pitt, he thinks the real focus ought to be on particular technologies).

By the way, this reference to Bunge should remind us that Pitt's analytical approach has forerunners that antedate SPT. Bunge's analysis of technology goes back at least to 1966, and is most fully elaborated in Bunge's *Treatise on Basic Philosophy*, volume 7, part II (1979; four years before Pitt says he could find no "canonical" writings).

After SPT switched to its current electronic journal format, the number of careful analyses of specific technologies grew rapidly: Albert Anderson, Stanley Carpenter, and Cesar Cuello on sustainable development (volume 1); Paul Thompson on the same topic, as well as Davis Baird on scientific instruments

and John Sullins on so-called Artificial Life (volume 2); and Pieter Kroes on technological explanation (in volume 3) among many others. (I have left out of these lists most non North American philosophers, as well as anyone I suspect Pitt would not accept as adequately analytical.)

What all of this suggests to me is that Pitt's endeavor, in *Thinking about Technology*, has a longer pedigree than he suggests when he says: "Unfortunately, the kind of attention that contemporary philosophers usually give to matters of technology consists primarily of social criticism" (p. vii). My list also suggests that Pitt also tends to exaggerate when he talks about "the disturbing tendency of the social critics and others to speak about 'Technology' as if it were one thing" rather than a multiplicity of "problems, techniques, and materials" that we employ (pp. x-xi). He has many predecessors in SPT who have focused much more narrowly than on technology in general.

That said, we can even if we reject foundationalism praise Pitt's version in *Thinking about Technology* of an attempt to be foundational in his philosophy of technology; not to mention his careful and frequent recurrences to his own and others' accounts of one particular (scientific) technology, telescopes and telescope-based astronomy.

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Another bit of context is also required here, before letting Pitt's critics have their say. That is a summary of the book.

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 will 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. . . [though] I suggest that maybe science and technology ought not to 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).

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Given these contexts, it is time to turn to Pitt's critics. They are, as is our SPT custom, presented in alphabetical order Allchin, Baird, Shrader-Frechette, and Thompson. However, in his reply, Pitt has chosen to reverse this order.