

## Introduction

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This number fits in the sequence of *Techné* volumes as a sequel to the special number (5:1, Fall 1999) on Joseph C. Pitt's *Thinking about Technology* (2000) which I also edited. Both of these author/critic numbers, moreover, fit within a larger and growing literature on what is called (with different emphases) either philosophy *of* technology or philosophy *and* technology.

It used to be said (e.g., Pitt, 1995-6, 3d unnumbered page; see also Higgs, Light and Strong, 2000, p. 4) that the philosophy of technology, as an academic discipline, had no canonical texts. That seemed to mean that, unlike, say, the philosophy of science or social studies of science and technology, there are no seminal books or foundational journal articles that generate the kind of academic dialogue that constitutes a field or subfield within the welter of academic specialties and subspecialties that dominate university departments in the contemporary world. (For a contrary view—that fields are products of *consensus* rather than conflict—see McInnis, 2001). This alleged lack is surely no longer true today.

The Higgs (2000) volume explicitly strives to represent the beginnings of an academic subdiscipline (see pp. 371ff.). And that book appeared more or less simultaneously with Hans Achterhuis's collection, *American Philosophy of Technology* (2001). Further, both were preceded by efforts on the part of individual philosophers of technology to fill the alleged gap. The earliest was Don Ihde's *Technics and Praxis* (1979); but that groundbreaking book was followed in quick (?) succession by Frederick Ferré's *Philosophy of Technology* (1988); Andrew Feenberg's *Critical Theory of Technology* (1991), my own *Social Responsibility in Science, Technology, and Medicine* (1992); Pitt's own book (2000); and, of course, all had been preceded by Friedrich Rapp's *Contributions to a Philosophy of Technology* (1974). Most seminal of all, finally, was Carl Mitcham's *Thinking through Technology* (1994), which many people, inside and outside of the field, consider *the* basic text. So by the time Pitt's volume had appeared, his lament about the lack of foundational work (at least a basic textbook) had surely been answered—no matter the philosophical orientation or approach of the dedicated philosopher *of* technology.

Larry Hickman's *Philosophical Tools for Technological Culture* (2001) thus has a rich background against which to be viewed.

I will, moreover, not turn to the reviews of Hickman's book without reminding readers that, at least within the Society for Philosophy *and* Technology, there has always been resistance to construing philosophical concerns over technological problems as an academic issue, let alone as an academic subdiscipline (see Durbin, 1990, pp. xiv-xv).

That said, I turn to Hickman and his critics, and first to Hickman. There surely will be readers of this special number who have not yet read the book, so I offer a brief rundown, as close as possible to Hickman's own formulation. Along the way, I offer a set of asides, but they are intended just as asides, not to be interpreted as substantive modifications of Hickman's own outline.

John Dewey has been called the pre-eminent American philosopher by many people throughout the world, friend and foe alike. And Hickman has gained a great deal of prominence as an advocate of Dewey's philosophy—most recently as director of the Dewey Center at Southern Illinois University. In addition, Hickman claims that Dewey's voice has until recently been sadly neglected in philosophy of technology discourse.

We should begin with a summary of Hickman's book for those who have not yet read it. Hickman tells us (p. 12) that his first chapter "sets the agenda" for the volume. I make that chapter the key to my summary of the book here. Hickman makes references and links to his earlier book, *John Dewey's Pragmatic Technology* (1990), as well as to criticisms of it; however, since it is our focus here, I will concentrate exclusively on the present volume.

### **1. Technology as Social Problem Solving:**

Chapter 1 opens with a discussion of various uses of the term "technology" in recent years and provides Hickman's own definition:

Technology in its most robust sense...involves the *invention, development, and cognitive deployment of tools and other artifacts, brought to bear on raw materials...with a view to the resolution of perceived problems...*[which, together] allow [society] to continue to function and flourish (p. 12).

In important ways, this is simply Dewey's classical definition of "inquiry" as successful social problem solving—now clothed in language that makes the definition relevant to philosophy of technology controversies in the twentieth century.

### 1a. Aside

Dewey has sometimes been faulted for neglecting what his friend and colleague, G. H. Mead (1938, p. 23), called the "consummatory phase" that gives meaning to all the hard work involved in social problem solving; though Hickman might be accused of the same relative neglect, he does emphasize the following:

[Dewey] sought to reconstruct [in *A Common Faith*, 1934] the noun "religion" as "religious," an adjectival term that would refer to the qualities of energy and enthusiasm that infuse and motivate all those experiences that produce enhanced adjustment within life's situations (p. 77).

And in an edited collection, *Reading Dewey* (1998), Hickman places an essay by Thomas Alexander, "The Art of Life: Dewey's Aesthetics," exactly where Dewey would say it belongs—namely as the lead essay in the volume. Much misinterpretation of Dewey's "instrumentalism" and Hickman's broad use of "technology" might be avoided by making it explicit that "social problem solving" is not all hard work; it includes and is motivated by a hoped-for "consummatory phase."

### 2. "Naturalizing" Technology:

Hickman next turns to what he calls the "naturalizing" of technology. He distinguishes between habitualized "technical platforms" that support *routine* implementations of technology (as he has defined it) and the "reconstruction of technological platforms." The latter, he says, "requires reflection...[and] is therefore best termed 'technology'...in its etymologically correct sense" (p. 16). Hickman then says: "My theme in this section...[has to do with] locating technology within the evolutionary history of human development" (p. 17). At least for philosophy generally (and here Hickman is applying it to philosophy of technology), this is again classical Dewey.

## 2a. Second Aside

For Hickman, this leads to correcting a misunderstanding, by philosopher of technology Carl Mitcham, of Hickman's earlier book. Mitcham had said that, "If virtually all knowledge, and indeed all human activity, is or ought to be at its core technical, this raises the specter [that] the concept of technology becomes vacuous" (Mitcham, 1994, pp. 74-75). Using Dewey's *Logic* [1938], Hickman makes a case for distinguishing the "technical"—activities that tend to be "habitualized or routinized"—from the "technological" in the good sense: "When habitualized techniques...fail...then more deliberate inquiry into techniques...is called for" (p. 23). By "naturalizing" technology, Hickman wants us to see that not everything technical is technological in the sense in which he is using the term. And (according to Hickman) Mitcham fails to appreciate this key distinction.

## 3. From Analysis to Action

This is one of the few places in his volume where Hickman attacks analytical philosophy. (Dewey had been less restrained in his critique. See, for example, *Reconstruction in Philosophy*, 1920, 2d ed., 1948. See also William James: "The Ph.D. Octopus," 1903. In a similar vein, see Richard Rorty, *Achieving Our Country*, 1998.) Hickman's characterization of analytical philosophy, which he thinks is not overly negative, is this: "Perhaps [analysts think] philosophy should restrict itself to analyzing and tuning up skills associated with natural and artificial languages" (p. 24)—whereas he and Dewey are concerned with real-world problems.

Though Hickman does not spend too much time critiquing analytical philosophy, he does say that the only part of it he considers to be ultimately worthwhile is attempts "to deal with the specific problems engendered by the use and development of specific techniques...in [for example] medical ethics, agricultural ethics, and environmental ethics" (pp. 24-25).

In this context, Hickman carves out a niche for a Deweyan philosophy of technology:

Somewhere between these broad and narrow philosophical tasks—the theory of inquiry on one side and technical field-specific studies on the other—there lies yet another area of

activity, uniquely philosophical but at the same time intimately associated with anthropology, sociology, history, and other disciplines, such as economics. This is the field known generally as the philosophy of technology, or the philosophy of technological culture (p. 25).

### 3a. Third Aside

I would add (and Hickman has since agreed, in personal correspondence) that he should have included among his “associates” not just academics of various kinds but also the progressive social activists so often associated with them in social problem solving. This would be thoroughly Deweyan, as I have pointed out (Durbin, 1992 and 1997), and it is something that Hickman acknowledges in his book (p. 197, note 25 and chapter 7).

### 4. Dewey’s Philosophy of Technology

Hickman, in the next section of chapter 1, provides an explicit discussion of Dewey as a philosopher *of* technology. After he takes another muted swipe at analytical philosophy, Hickman says that: “For Dewey...one of the most important concerns of philosophy was not so much epistemology, or the attempt to deal with the [post-Cartesian] problem of skepticism, but logic [considered as]...the theory of inquiry...as a matter of [social] experimentation (p. 28).”

On this basis (as in his earlier *John Dewey’s Pragmatic Technology*), Hickman claims that Dewey *explicitly* identifies *philosophy as technology*: it should be an instrument of social melioration. For Hickman, the best kind of philosophy of technology is not so much interested in traditional philosophical topics—though Hickman notes how Dewey did contribute to aesthetics and even metaphysics and philosophy of religion, among other subfields—as he was interested in the overall critique of our technological culture. What Dewey wanted (and Hickman wants) is for philosophy to help society solve its problems, to improve the culture in which we live.

How does this Dewey/Hickman approach to philosophy of technology compare with others?

In 1995, Pitt said there was no single “must read” article; there was, he added, “no canon.” Now we have Pitt’s own book, to represent what he clearly was seeking,

an analytical approach with affinities to the philosophy of science. Actually, there had long been such a canonical book, Mario Bunge's "Technology: From Engineering to Decision Theory" in his *Treatise on Basic Philosophy* vol. 7 (1985); and Rapp's *Contributions to a Philosophy of Technology* (1974) had attempted to open up a dialogue with the analytical approach as a focus.

Similarly, the introduction to the Higgs, Light, and Strong volume (2000), after claiming that, "What is needed is a redirection toward a set of questions that may reorient us and help us to decide the grounds upon which we can determine if the field is progressing apace" (p. 6), the editors offer their own volume as a candidate. And they say, justifying their choice of Albert Borgmann's work as a focus, the following: "If philosophy of technology is to reorient itself, then focusing on issues of the good life will remind us of the importance of keeping the field connected to the concerns of most citizens rather than digressing into another intramural conversation, potentially of interest only to other philosophers" (*ibid.*).

Presumably, the last phrase here is a swipe at analytical philosophy of technology, but it could also be aimed at many academic elaborations of Martin Heidegger's approach to a philosophy of technological (anti-)culture.

But neither of these approaches exhausts the possibilities for a "canonical" (?) philosophy of technology in our times. We should, obviously, recall Don Ihde's early *Technics and Praxis* (1979), with its echoes of academic arguments over theories of perception with special reference to Maurice Merleau-Ponty (1962). Or Frederick Ferré's attempt, in *Philosophy of Technology* (1988), to devise a post-Whiteheadian "organicist" philosophy of technology. Or—without attempting to be exhaustive—Andrew Feenberg's *Critical Theory of Technology* (1991), an attempt to update Herbert Marcuse's critical theory and place it squarely within controversies over how to improve technological society.

Nor should we leave out of this list Carl Mitcham's valiant attempt, in *Thinking through Technology* (1994), to sum up all these controversies and systematize them under an overarching conflict between what Mitcham called "engineering" and "humanistic" philosophies of technology.

Finally, the field has been enormously enriched by our Dutch colleagues—in Hans Achterhuis's *American Philosophy of Technology* (2001)—who have seen in North American philosophy of technology a concerted effort to escape the old global philosophies of technology (e.g., of Heidegger and Jacques Ellul) in favor

of more down-to-earth approaches. In addition to Ihde and Borgmann, Achterhuis and his colleagues include such intriguing philosophers of technology as Hubert Dreyfus (1992; see also Dreyfus and Dreyfus, 1986) in his critiques of artificial intelligence and Donna Haraway (1991 and 1996), probing the cyborg/human analogy—along with their reminder that Langdon Winner’s (1977, 1986) claims about “technological politics” also amount to a distinctive philosophy of technology.

So when Hickman claims that Dewey offers a distinctive philosophy of technology—Hickman, of course, thinks it is the *best* philosophy of technology—Hickman is making the claim against a rich background of alternative claimants. *Pace* Pitt (and Higgs et al.), the field is, if anything, cluttered right now—rather than standing in need of “canonical” texts or controversies.

I would not be as bold as Higgs and colleagues, who offer their collection as a new beginning. The present collection has a narrower focus: to test Hickman’s claim that Dewey’s pragmatic approach to the amelioration of technological culture (or society) is *better* than any of the myriad other approaches to a philosophy of technology that confront the newcomer to the field today. All I would say is that the authors collected here believe, with Hickman, that Dewey’s approach (as presented by Hickman) deserves philosophers’ attention.

Joanne Baldine is probably the least critical (in the usual sense of the term) of critics of the Dewey/Hickman approach. She says, for instance: “While I was already converted to the Deweyan point of view when I read Hickman’s . . . book, I am nonetheless enormously enriched by it. He offers us new insights about the many ways that philosophy can critically enhance everyone’s lives by forging deep connections and improvements in technological culture through art, ethics, social and political philosophy, and science.” Baldine thus provides a sympathetic reading of Hickman to introduce the set of critiques.

Albert Borgmann, as one might expect, confronts Hickman more directly: “Hickman’s pragmatic definition of technology,” Borgmann says, “is weak not only when it comes to the critique of contemporary culture, but also as regards norms for reform.” And later: “If ends are as variable and adaptable as means, then the critics whom Hickman cites as complaining that productive pragmatism ‘is too weak’ . . . are right. . . . In fact, absent values or norms, there is no guidance at all.”

My own critique is not much more critical than Baldine's; all I do is challenge Hickman to be as authentically Deweyan—in avoiding an either-or of theory/practice—as Dewey was by urging him to come clean about the practice/activism aspects of his personal Deweyan philosophical career. I put my Dewey (and Mead)-inspired philosophizing in the context of my equally Deweyan (and Meadian) activism, and ask Hickman to do the same.

Andrew Feenberg's critique is, principally, a reaction to Hickman's claim that he (Feenberg) has, willingly or not, become a *de facto* pragmatist. Here is Feenberg's strongest statement of his differences with Hickman:

I can . . . accept all of Hickman's claims about my agreement with Dewey while still reserving my doubts about the identity of our views. Dewey, and evidently Hickman too, do not have a strong sense of the tension between science and technology and the everyday lifeworld in which . . . democratic initiatives [are] nurtured. They blur this all important boundary with the likely result that . . . they will lend credence to the technocratic ambitions of those who see themselves as the bearers of the "methods that have proven successful in the technoscientific disciplines.

Feenberg, further, thinks that Dewey's and Hickman's writings betray a "historical limitation," a view "excessively friendly to Enlightenment rationalism." And Feenberg claims to have found a "fundamental difference between our approaches. While Dewey and I no doubt agree on many things, I have reconstructed the dystopian critique of technology *inside* the constructivist approach."

Robert Innis, among our authors, is the one least directly connected to philosophy of technology controversies as I have summed them up in my list of potentially "canonical" (?) books and controversies. Nonetheless, Innis sides with Borgmann—the Borgmann of *Holding onto Reality* (1999)—against Hickman. "What I would interpret Borgmann as doing (and doing well) is delineating the different semiotic and cognitive powers of [our] various meaning systems." In a concluding assessment, which he views as supplementing rather than confronting Hickman's work, Innis says: "Ultimately, I think, along with [Ernst] Cassirer (and maybe even [C. S.] Peirce), that technology must be schematized within a



semiotic frame...Rather than looking at meaning-making as a kind of technology, technology would be seen as an essential (productive and constructive) dimension of a...meaning-making that arcs from the affective, through the perceptual, to the conceptual, scientific, and aesthetic.”

Paul Thompson, like Feenberg, feels constrained to deal with issues about how (authentically) Deweyan he is, in contrast to Hickman himself. Thompson says that Hickman’s claims in defense of Dewey as a largely unrecognized philosopher of technology “are certainly correct.” But he goes on, again echoing Feenberg: “Yet both as a society at large and as a philosophical community we are far from being able to work within a pragmatic technology when approaching the problems that we face. Instead, we confront many of the same assumptions and attitudes that Dewey sought to counter in his own time.”

For Thompson, Hickman’s most significant failure lies in not addressing adequately the situation within the philosophical community today:

I am happy to be characterized as a fellow-traveler with Hickman...[His book] is, nevertheless, something of a disappointment from the standpoint of pragmatic philosophy of technology. Neither pragmatic enough nor sufficiently *about* technological culture, [the book] fails to undertake a reconstruction of our field on the principles that [Hickman] advocates. Our current intellectual milieu, so depressingly like Dewey’s own, demands a philosophical practice that engages technological [not just social and political] problems.

Finally, Hickman replies to this rich—yet admittedly limited—set of reactions to his *Philosophical Tools for Technological Culture*. The result would not count as a “canonical” introduction to the philosophy of technology, in Pitt’s sense, but the collection does demonstrate an ongoing vitality within an ongoing dialogue within the community of philosophers of technology. As a group, we may remain small in numbers, but all the philosophers gathered here feel that our ruminations ought to have a broad impact outside philosophical circles. We differ chiefly over how that impact should be effected.

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