

Philosophical Aspects of Information Systems.

Eds. R. L. Winder, S. K. Probert, and I. A. Beeson. London; Bristol, Penn.: Taylor & Francis, 1997. 258p. \$79.95 (ISBN 074807588).

The essays in this compilation apply philosophical approaches practically—specifically, to help solve problems in information systems. The authors, the majority of whom appear to have degrees in philosophy but who work in computer science departments, revised papers presented at a 1993 symposium on the Philosophical and Logical Aspects of Information Systems (IS). Dealing primarily with Britain, the book does not articulate a common problem set or orientation to its subject. Instead, the editors opt for eclecticism in approach. There is nonetheless implicit and frequently evoked previous work with which reader familiarity is assumed.

I am a relatively philosophically informed anthropologist who has spent the past twenty years doing the ethnography of information technology (IT). This has included two extended field studies in Sheffield, England, the second of which focused on IT, local public policy, and change in working-class culture. My willingness to review this book is a consequence of my appreciation of how much IT inevitably involves philosophizing. I am convinced, for example, that computers are ultimately general symboling, rather than primarily calculating, machines and that their use often lands one in some contemporary “crises of representation” or another. This is even more true if, like me and many of the authors, one’s desire is to encourage certain social correlates of IT and discourage others (e.g., “euskilling” versus de-skilling). It is especially true if one chooses to participate actively in what I refer to as “the cultural construction of cyberspace” by being involved in IT development projects.

Fenton Robb’s opening chapter is the only effort to survey the general issues addressable by IS philosophy. Among his points are questioning whether theoretical and practical work actually have much

to do with each other; the existence of what he calls “official views” of “information” and “system”; questionable assumptions underlying the official views that deserve closer attention (e.g., the world is well ordered and that IT systems operate in a stable environment); consequences of these assumptions (“half-baked systems cobbled together. . . grandiose plans for integrated corporate systems which never leave the planning stage. . . [and] . . . concealment of knowledge about the fragility and vulnerability of the information systems themselves”); ethical implications of current IS practice (how “the use of information systems forces on us an appreciation of the world through accountant’s or statistician’s eyes . . . simplified, but highly specific definitions of people”); and the dangers of electronic surveillance. Robb passes lightly and quickly from detached observation to scathing critique to pious hope. He articulates contradictory impressions, for example, contending that an organization’s IT system “can insure that correct behavior is constantly maintained,” but also that “the technology of surveillance is neither neutral nor reliable.”

Norma Romm takes up the issue of how to conceptualize “information,” advocating an approach that stresses its socially meaningful—produced through the participation of people—rather than neutral, factual character. Ignoring structural supports for the popularity of positivist conceptions of information, Romm’s repetitive argument leaves me dubious about this “philosophy first” road to successful activism. Like most of the authors, her approach, a survey of other thinkers on this issue with the occasional reference to empirical data, is typically philosophical.

Jim Gilligan again raises Romm’s questions on how to think about “information,” especially the various, often changeable, ways that informaticians distinguish it from “data.” He constructs a Wittgensteinian “language game” approach to these efforts in order to “highlight the need to question which game is being played in any particular situation,

and how useful it is to our purpose." An enthusiast in relation to recent IT developments such as object orientation and increased processing power, Gilligan would have us just enjoy the conceptual ride: "If we turn away from attempting to define and produce the substance of information, we may discover new benefits and new opportunities in providing for the activity of information."

John Mingers agrees with Gilligan about the lack of IS clarity regarding "information," but he thinks this is a problem. Its solution, as for Romm, depends on getting right the relationship of information to "meaning." Because humans are always already wrapped in meaning, we never interact with pure information: "Information systems is, therefore, a misnomer. We should really be concerned with the much larger domain of meaning systems or sense systems, seeing information as but a part of this." In essence, Mingers makes a case for repositioning IS similar to Romm's, but on conceptual rather than primarily ethical grounds.

Martin Spaul explores the philosophical roots of Heidegger's "tool perspective," arguably the most influential, as well as philosophically most explicit, alternative approach to "official" IS design. Sproul's intent is "to caution against the crusading tone of the principal formulations of the tool perspective and its portrayal as a replacement for, or improvement on, the Cartesian approach." He argues that (e.g., Scandinavian) writers' polemical appropriation of Heidegger's notion without adequate attention to its political and ethical dimensions compromises their interventions. Invoking Habermas, Spaul provides the book's most convincing, albeit indirect, argument for sustained philosophical eclecticism with regard to IS.

"[T]o create a space to explore an alternative understanding of the nature and generation of knowledge," Anne Moggridge's contribution performs the reflexivity so central to postmodern feminism. She situates herself in relation to the symposium as a woman and a person

whose "position reflects values which are often perceived as "inferior," apparently including the human-centered systems development and critical systems thinking that she briefly invokes. Abjuring critique, she sets her task at finding "a way of bringing my own ideas in." She does this by repeating the brief position paper she prepared for the symposium, reconstructing the talk she actually offered, and then reflecting on her experience, highlighting the male posturing that dominated discussion of her talk.

Frank Gregory takes up "the real world mapping problem" or "how a system that is an invention of the human mind helps us to understand a world that is not." Eleven thousand years of cultural evolution have given humans the "trial-and-error" time to create mathematics that map. Thus, distinguishing those artificial systems that help us understand the real world from those that do not is a problem in IS because it is "young," feedback deprived.

Richard Kamm philosophizes that aspect of the "official" view that holds that organizations evolve through a predictable developmental trajectory, the "organismic" metaphor. This idea is particularly central to current, very popular notions regarding flexible, "virtual" organizations. Finding this idea at the root of both systems theory and sociotechnical systems ideas, Kamm uses its articulation by Talcott Parsons "for discussing the possibility of developing a consistently organic definition of the nature of organizational information." Kamm focuses on Parson's functional theory of the creation of moral consensus and the role of information in it, which is not a mechanical, numeric process: "the development of organizational information systems is a normative activity similar to the practice of law or the writing of constitutions." Thus, the privileging of statistical measures in programs such as total quality management is a mistake. Perhaps most valuably, he recognizes the necessity for models of information in organizations to come to terms with disagreement, not only over

the meaning of data, but also what the relevant cultural constructs are.

Other papers take diverse approaches. Brian Petheram thinks the mess that is IS has to do with insufficient philosophical sensibility. Rather than select a philosophical package or adopt a single approach, Petheram echoes Spaul's call for eclecticism. Paul Wernick and Russel Winder apply the terminology developed by Thomas Kuhn with regard to scientific revolutions to the various moments in software engineering (SE). Their appropriation of Kuhn actually does little to illuminate this issue; indeed, their use of *paradigm* contributes to the plethora of widely divergent appropriations of this term. Stephen Probert, in contrast, offers a closely argued critique of soft systems methodology (SSM) via illumination of contradictions in its epistemological assumptions. His essential position is that, although SSMers overtly justify their approach in terms of a subjectivist epistemology, its more general rationale is firmly grounded in early science objectivist ontology.

A set of papers on the organizational context of IS shifts attention away from conceptual issues toward empirical ones. Nick Plant's efforts to help community organizations develop "sustainable" IS raise, he believes, important issues for IS philosophy. He identifies several distinctive features of IS in this domain, discovered via previous work in community IS development. Stuart Maguire critiques previous efforts to develop organizational IS as "product-led." He advocates a "market-led" approach as a "new philosophy." Like Plant, he argues that IS is different in organizations that are not directly profit oriented.

Like many people with a more social orientation to IS, George Bakehouse, Chris Davis, Kevin Doyle, and Sam Waters evoke anthropology in conceptualizing their role developing IS for a specific purpose. The philosophical contribution is to derive from General Systems Theory, Soft Systems Methodology, Cartesian philosophy, social science, and a large list

of other domains, a set of conceptual nuggets they feel are related to the "quick and dirty" ethnography they employ on their project. The philosophizing is also supposed to support a complex analytic framework oriented primarily to cost considerations. This is illustrated in several pages of charts, data for which are only indirectly related to their ethnography.

The book ends with two papers on IS and the biologically human. John Gammack and Carolyn Begg consider the implications of the phenomenon of synesthesia, the integration of sensory modalities in experience, for IS. Ian Beeson argues more generally that IS thinking, including even its more socially progressive forms, pays insufficient attention to the body in concentrating on disembodied mind. He argues for designing systems that develop fully into lived, situated experience.

Although predisposed to appreciate a philosophical approach to IT, I found this eclectic collection ultimately disappointing. In general, the pieces were well written and intelligible to a nonphilosopher, but I wanted sharper arguments over obvious points of difference between authors. I urge the group involved to have another go at specifying more exactly where current philosophy of IS is on the wide spectrum between "anything goes" eclecticism and demands that systems developers line up behind a single philosophical approach or methodology.—
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Shiflett, Lee. *Louis Shores: Defining Educational Librarianship.* Lanham, Md.: Scarecrow Pr., 1996. 304p. \$36, alk. paper (ISBN 0-8108-3114-7). LC-95-050041.

Louis Shores conceived of librarians working in American universities as teachers and worked for their promotion to a level equal to that of other faculty. His other contributions to librarianship include serving as editor of *Collier's Encyclopedia*; developing "educational librarianship," and establishing the ALA's Library History Round Table.