

is 1974. Several of the early essays mention punch-card based systems; none of the essays mention the possible use of spreadsheets as analytic tools. Some of the essays contain unit cost estimates for particular tasks, but these are denominated in currencies of a particular time that are difficult to compare to other times and places.

An issue of importance in assessing cost is when and how to allocate overhead costs to particular functions. Several essays muddle this issue, and no clear sense of it emerges. Perhaps the editor could have commissioned an essay or searched more widely to find an appropriate discourse on this subject. Several of the essays would be clarified by careful consideration of how to treat overhead.

The economic analysis here is sometimes shallow. Rowe's "Application of the Theory of the Firm to Library Costing" (1974) presents the idea of an optimal size of a library. It's an interesting concept, however, one gets no help in understanding why there may be an optimal size, and so there is no guidance offered as to how one might discover whether a library is too large or too small.

Ultimately, one's view of cost analysis should depend on one's goal. If one is interested in managerial efficiency, one may be interested in the details of cost accounting. One might address the question, could manager X perform as well as manager Y but with fewer resources? One will probably want to omit consideration of overhead outside the manager's control. One will be interested in work flows and timing individual tasks. Although this volume includes some discussion of work-flow measurement, it does not extend to the point of evaluating managerial efficiency. If one has a broader goal—a goal of understanding how costs may vary under organizations of different design or under different technologies—one will require more powerful techniques that are not considered in this volume. Because I am more interested in the larger questions of the cost structure, I get little satisfaction from this book.—*Malcolm Getz, Jean and Alexander Heard Library, Vanderbilt University, Nashville, Tennessee.*

Poole, Herbert L. *Theories of the Middle Range.* Norwood, N.J.: Ablex, 1985. 159p. \$29.50. LC 84-28402. ISBN 0-89391-257-3.

Poole's work argues the benefits and outlines the process of extracting middle-range theory from the library and information science literature. An extremely earnest style, heavily laden with sociological theory and philosophical formalisms, is immediately apparent in the text and is a constant reminder of the Ph.D. dissertation origin of this book.

As part of an introduction and justification of a need for theory, Poole cites authors who find a crisis of several parts within information science. Some feel that the field has no definition, others that its researchers lack meaningful direction. For some there are feelings that information science lacks legitimacy in the eyes of other disciplines because of its shaky and not particularly exclusive knowledge base. Poole and his authors suggest that librarians writing within the field may not be sensitive to this crisis because of the nature of library training and the library work place. Librarians in their view are busily service oriented, think in overconcrete terms, and do not seem to absorb the critical research design habits of their faculty customers—nor are they particularly well rewarded for those efforts that they do finally see to print.

Poole and his authorities are certainly aware and very critical of librarians' publications, particularly some use studies. They judge many of them to be attitude surveys, exhortations to diligence, isolated case reports, ill-planned statistical compilations, and the like. Poole believes that this state of affairs will persist in the profession and literature unless theory is used to organize and legitimize inquiry.

Poole is clear in what he expects of theory and of librarians/information scientists (hereafter, librarians). His grounded, middle-range theory will explain and predict information behavior and will even help to control and shape it. His type of theory is not top down, grand, or all encompassing, but is built upwards from factual particulars and has an intermediate domain of explanation. Poole expects

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the enlightened librarian to stop thinking only in compartmentalized fashion and to start thinking on a higher plane of abstraction where connections between seemingly diverse phenomena can be recognized. Enlightened librarians will no longer document isolated behaviors as an end in themselves but will now look for research opportunities that will advance theory.

Ironically, Poole hopes to introduce the reader to his method of theorizing from a reworking of findings from the use studies he condemns. Documenting and discussing virtually every procedural option, marching the reader through the weeding out of this or that type of study, Poole presents as complete a baring of his thought processes and as extended a treatment of the sources for his ideas as the most critical reader could ever want. Poole's eventual procedure was to write a summary of each study in his sample. He indicated which "abstract information use concepts the data seemed to embody." He then works up a formal proposition in sentence form. A summary might mention: "Low use of a card catalog was due to the difficulty experienced by patrons in getting to the library from their offices." The conceptualized propositional statement might be: "Information channel use is an inverse function of perceived cost." While the working librarian might find this transformation a bit strained at first glance, Poole shows that when a seemingly different incident is subjected to this same treatment, a higher relationship can be discovered between the two incidents. An example might be the findings of a study that shows that less experienced scientists prefer simpler indexes, even when more complicated indexes might actually cover more material. Here the enlightened librarian can see that an index, too, can be an "information channel," and that those channels that are difficult to use (have a "perceived high cost") will see less use (an inverse function). Poole works through eleven examples and goes on to provide a good deal of tabular material on the frequency of some concepts and propositional statements. He then examines those that are frequent enough and are

sufficiently well documented for possible "theoretical import." Poole then outlines his options for a resulting "middle ground" theory: least effort, pain avoidance, and combination least effort/pain avoidance. While it is arguable that these theories are testable and grounded in fact, it is not clear that the librarian portion of information science will refocus their working lives and research efforts around them. Moreover it seems unlikely that librarians will gain the respect of chemists or physicists in announcing that these theories formed some of the basis of information science. (I do not doubt that a sociologist might be impressed). Of course Poole is only working up the theory that can be specifically based on his sample of articles, but these meager results seem so obvious and so above "middle" ground in terms of generality as to leave the reader feeling unrewarded for his or her considerable efforts in making it to page 89 to arrive at these conclusions. Indeed in this book-length version of what might very well be a dissertation with an important message about seeing the forest, not just the trees, most readers will probably get prematurely tired of chopping all that wood. Or, in Poole's terms, use of this information channel (by working librarians at least) will be inversely proportional to its cost in pain. Of course exceptionally devoted information thinkers like Poole might well reply with yet another "middle range" theory: "No pain, no gain."—Tony Stankus, *Science Library, College of the Holy Cross, Worcester, Massachusetts*.

Haas, Joan K., Helen Willa Samuels, and Barbara Trippel Simmons. *Appraising the Records of Modern Science and Technology: A Guide.* Cambridge, Mass.: MIT, 1985. 96p. \$9 (\$7 to SAA members). (Dist. by the Society of American Archivists.)

For archivists, the concept of documenting a discipline is a vastly different problem today than it was a hundred years ago. The volume of material at hand is, for once, masses more than is necessary rather than less; the disciplines to be documented have changed as well. The fact that archivists are thinking in terms of