remote sites), students, and tutors. It presents an interesting view of services currently provided to franchised students, along with each group's perceptions of those services and the libraries. Recommendations include enhanced communication between university librarians and college librarians, greater collaboration with instructors, provision of more copies of materials at both university and college libraries, allocation of additional funding, and implementation of more user and librarian training.—*Barbara J. D'Angelo, Southeastern Louisiana University, Hammond.*

Hjørland, Birger. *Information Seeking and Subject Representation: An Activity–Theoretical Approach to Information Science.* Westport, Conn.: Greenwood Pr. (New Directions in Information Management, no. 34), 1997. 213p. alk. paper, $59.95 (ISBN 0-313-29893-9). LC 96-51136.

Hjørland is a member of the faculty of the Royal School of Librarianship in Copenhagen; his academic background is in psychology and information science. This work should interest theoretically inclined research librarians because it is centered on information gathering by and for researchers—indeed, it is almost exclusively focused on researchers. It is a work on theoretical foundations, not of practical details; and it has a very strong programmatic aim. The author wants to change the orientation of information science research from what he sees as the dominant individualist and subjectivist approach to information science's problems, to an objectivist, group-oriented approach that completely accepts and appreciates the social character of scientific and scholarly research. He refers to this orientation as "methodological collectivism," contrasting it with an established "methodological individualism."

The author describes various psychological theories favored by, or consonant with, different approaches to information science problems, contrasting, for example, a widespread affinity for an information-processing model of human cognitive processes with the approach he prefers—activity theory. This last approach is derived from the work of Russian psychologist Lev Vygotsky and emphasizes social and cultural factors in cognitive development. Hjørland also shows the relationships of information science research strategies to philosophical theories of knowledge, and argues that activity theory is highly compatible with philosophical pragmatism, both of which support the kind of objectivist, socially oriented approach he calls methodological collectivism. Reflection on pragmatism's view of knowledge and activity theory's approach to cognition leads Hjørland to propose that we understand the concept of the subject of a document in terms of the document's epistemological or informative potentials, that is, potentials for helping to solve research problems and thus contribute to knowledge.

Information needs are to be understood in a similarly public, objective way, as relative to scientific problem-solving, not (or not primarily) as inner psychological states. Literature searching by individual researchers must be seen as guided, and in a sense disciplined, by established practices within the disciplines and smaller research communities. A fruitful approach in information science research is domain analysis, the study of the information and communication structure of a discipline or smaller specialized field, with an interest in improving the information systems available within the domain. Such research can usefully draw on the history, sociology, and philosophy of science as background.

The proposal, to define the concept of a subject in terms of informative potentials, sounds strange if understood as an analysis or reconstruction of what people ordinarily think about a document's subject. But it can be revamped easily into a

proposal: The best way to do content description would be to describe informative potentials. In that form, it clearly parallels the proposal, which has been around for years, to describe content by predicting subjective utilities of documents (which the author oddly does not discuss, though it obviously provides another striking case of subjectivism to be opposed by methodological collectivism.) In that form, of course, it is subject to the objection that prediction of future epistemological or informative potentials is bound to be excruciatingly difficult, made all the more so by the author's insistence on long-range as opposed to short-range utilities (he rejects "short-term pragmatism," which he blames on William James). And it is oddly optimistic to suppose that many documents now produced actually have any future utility or informational value for solving future scientific problems. So Hjørland's proposal faces very serious challenges. Despite this, however, it is a major proposal, an addition to the small repertory of serious alternative approaches to content description, and deserves to be reflected on and worked over carefully by others.

Some of the other proposals, such as the advocacy of domain analysis, are less controversial. Every good subject specialist in a research library practices an informal kind of domain analysis simply by accumulating knowledge of the bibliography of a field, of its literature patterns and types, its intellectual leaders and centers of activity, and the like. Many of Hjørland's proposals will sound intuitively plausible to the subject specialist. The emphasis on the philosophically pragmatic foundation of the proposals probably will seem attractive as well; activity theory is not described in enough detail to provide really solid backing, and in effect is treated as a Russian version of John Dewey's approach. The whole direction of this work will make sense to those familiar with the literature on the sociology of knowledge and, in particular, the sociology of scientific knowledge and of social epistemology.

However, a big question remains. Hjørland starts by proposing that information seeking is the key problem for information science but then concentrates exclusively on literature searching by research workers. What about information seeking by others? What about information seeking that does not take the form of literature search? As one works through this book, it appears that the author really does think that information science has as its subject matter primarily, or exclusively, the research use of literature. The study of information use by others is apparently to be left to others— for example, students of the mass media. This seems a quite unnecessary limitation on the scope of information science, for which the author presents no convincing argument. We should ignore this limitation, but we should welcome methodological collectivism and apply it widely to the study of knowledge and of information production, distribution, and utilization.—*Patrick Wilson, University of California-Berkeley.*

Outsourcing Library Technical Services Operations: Practices in Academic, Public, and Special Libraries. Eds. Karen A. Wilson and Marylou Colver. Chicago: ALA, 1997. 239p. $38 ($34.20 ALA members) (ISBN 0-8389-0703-2). LC 97-22901.

Published by ALA, this volume was issued under the sponsorship of the Association for Library Collections and Technical Services's Commercial Technical Services Committee whose members in 1995 ". . . were aware of the lack of published case studies on technical services outsourcing in the 1990s. . . . This book was conceived to provide readers with greater insight on the managerial aspects of outsourcing, based on a variety of successful experiences in different kinds of library settings." The introduction and