

Interdisciplinarity and Information: Issues of Access

by
Joan B. Fiscella

THE PAPERS INCLUDED HERE address one facet of work in integrative studies, the relationship of information and interdisciplinarity, and in particular, the structures of information for integrative scholarship. Many of the papers arose out of presentations at the 1990 meeting of the Association for Integrative Studies, "Knowledge, Value, and Belief: Interdisciplinary Perspectives," and highlight the conditions that affect the organization and labeling of information. The authors present a range of thought, from explanatory to critical, from navigating existing structures to building new ones, from the perspectives of information provider to those of interdisciplinary scholar.

Scholarly communication is taking place in a fluid context due to a number of factors, including cross-disciplinary development of work in many fields (Klein, 1990) and the explosion of publishing. Although the traditional patterns of communication and outlets continue among members of what Diana Crane (1972) has called the "invisible college," alternative avenues are opening up through electronic networks. Although the wealth of publications and the diversity of communication channels provide opportunities for those interested in teaching and research across disciplines, they also present some of their own problems, not the least of which is learning computer systems. Additionally, the questions of language and context which often hinder interdisciplinary access may be exacerbated by the ease of online systems. For instance, large electronic databases may offer too much information to sort through—and much of that irrelevant.

In spite of these problems, greater numbers of scholars and students are taking advantage of alternate communication channels; thus, the boundaries of invisible colleges or communication groups have the potential for opening up, providing the opportunity for numerous alliances and for easier access to a greater variety of information resources. Using the Internet network, one can send electronic mail to another individual, send files of text or data to other researchers, participate in interest groups such as the recently opened discussion group, INTERDIS¹, and subscribe to and receive refereed electronic journals. For example, an historian who reads messages in an electronic discussion group concerned with communications theory may discover a direction for a problem she is working on. She may then decide to send a message to the theorist to get some advice on directions for her own reading. Perhaps she will browse the online catalogs of other university libraries at some distance from herself to find works related to her interest.

One current running through both the familiar and the developing patterns of scholarly communication is the question of how the scholar and teacher of integrative work identifies the literature of research questions, theories, methods, or data across disciplines needed to develop knowledge and to teach students. Academic libraries develop collections and provide services, both within their own institutions and in cooperation with other libraries, to help answer that question. Yet scholars and students working across disciplines have realized the limitations of these structures, as have the library personnel working with them.

Written by librarians who hold positions in academic libraries, the opening papers of this issue discuss familiar classification systems. They show that the systems which allow collecting, organizing and gaining access to the great numbers of print and nonprint materials which scholars need are conditioned by historical, political and economic contexts. Three other papers are written by scholars who have been involved in projects which cross disciplinary boundaries and which have required specialized organisational and access systems, which they themselves have helped develop. Katherine Hayles' paper developed out of the keynote address for the 1991 conference of the Association of Integrative Studies and provides an interpretative look at some implications of "the information age." Her work intersects with the others in the area of information theory and information technology.

In her paper, Susan Searing illustrates problems in library organization for the interdisciplinary field of women's studies, a field with a foundation in social values, which draws on methods and research from several disciplines, and which redraws the lines of what counts as new knowledge. Using examples drawn from the functional categories of most academic libraries, she gives an overview of knowledge systems within the context of libraries and suggests approaches to effective use of these systems.

Scholars and students identify literature relevant to their studies in a number of ways. Among these are the tracing of bibliographies of important works and their authors, browsing through bookstacks and through issues of journals, from personal referrals, and the use of catalogs and indexes. Students or researchers new to a field are apt to depend more heavily on access tools such as indexes for subject searches. Taylor Hubbard's analysis of three indexing/classification systems as applied to psychology shows, if not the folly, then at least the limitations of such systems as single answers to effective access to literature. Yet understanding the systems helps researchers develop deliberative strategies for their use.

If these systems are so limited, are there not alternative ways of organizing and identifying literature? Both Searing and Hubbard mention emerging technological advances which allow faster and more flexible approaches to indexing and classification systems. (See Salton, 1991, and Salton and Buckley, 1991, for a summary of new directions.) In fact, these systems are improving access; however, the wholesale reconstruction of current and historical library systems and materials is limited due to economic considerations, if nothing else.

A different approach to access is called "provenance." Used in relation to collections of archival materials, for instance, records of organizations or personal papers, the principle of provenance establishes access through identifying the origin and function of the archived materials. Using catalog records, the researcher infers what sets of materials are likely to hold the information needed. In his paper illustrating the principle of provenance, Rutherford Witthus suggests that this approach may be used analogically by the student or researcher who wishes to move into unfamiliar disciplinary literature. Additionally, Witthus suggests that the language of the provenance approach could provide a model for categorizing integrative work with functional terms.

If, in this collection. Searing, Hubbard, and Witthus represent the voices of those who collect, organize and help others get to published knowledge, then Charles Beck, Richard Carp, and David Sebberson are examples of those who are teaching and developing research, those that is, who wish to use available knowledge or create new interdisciplinary knowledge. Beck and Carp are involved in projects requiring specialized classification schemes; Sebberson's project illustrates the problems of developing such a scheme for a wide range of potential (and as yet unknown) uses.

Beck's focus is on technical writing which draws on research from areas as diverse as human factors engineering, organizational development, and rhetoric. An applied field, its particular theoretical basis continues to be developed, and Beck's model is a step forward in systematically integrating relevant research.

Carp writes out of his personal involvement with the development of the Image Bank for Teaching World Religion, illustrating the complexity of classification language in interdisciplinary areas. The collection of slides was compiled to help incorporate visual dimensions of religious life and activity into the teaching of comparative religions. Selecting photographs of rituals, artifacts, and architectural details demanded attention to the collectors' (and compilers') own assumptions, individual religions' value systems, the potential uses of the slides, and finally the language describing or categorizing the photographed events and objects.

If Socrates were to meet IBM, the results might look something like Sebberson's interpretation of designing the World Bank's electronic databank of environmental publications in the early 1980s. Although, as Sebberson notes, there have been advances in developing search and retrieval systems for textual databases in the last ten years, their effectiveness relies on similarities found between texts and queries. In fact, these developments may not necessarily improve the situation for integrative work in which the *dissimilar* may be more fruitful than the similar.

Taken together these papers address issues of how integrative work is supported or hindered by current information collection, organization, and access systems and how it contributes to understanding today's culture. Using interdisciplinary fields or projects, problems are posed and models are suggested. Even in futuristic scenarios of virtual reality, which Hayles analyzes, it is likely that many of these issues will continue to present themselves. However, the conversation does not end with these papers. Among the directions for research are developments in automated indexing and retrieval systems, in construction of open-ended and cross-disciplinary thesauri which aid in identifying important literature in multiple fields, and perhaps most importantly, in collaboration among electronic systems designers, information providers, and scholars in interdisciplinary areas.

Biographical Note: Joan B. Fiscella is Assistant Professor and Bibliographer for Professional Studies at University of Illinois at Chicago Library. Prior to becoming a librarian, she taught interdisciplinary humanities in Wayne State University's University Studies/Weekend College Program. She holds an A.M.L.S. in librarianship and a PhD in philosophy.

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Endnote

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