Bibliography as an Interdisciplinary Information Service

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ABSTRACT

ALTHOUGH PUBLISHED SUBJECT BIBLIOGRAPHIES would seem to have lost their value due to the availability of electronic catalogs and indexes, they still play an important role in winnowing the vast amount of information derived from these resources. This article supports this claim through an examination of an information search of a study of the subjects of play and leisure. The complementary notions of bibliography drawn by Marcia Bates (1976) and Patrick Wilson (1992) show the continuing importance of well-conceived and carefully executed bibliographies for interdisciplinary areas.

INTRODUCTION

The wide availability of electronic access to published materials might suggest a decreasing importance of published bibliographies. Among the access tools in electronic form are catalogs (of print and nonprint materials); indexes and abstracts of periodic literature; and tables of contents of journals and books. Researchers using a personal computer and modem can search catalogs worldwide at their convenience. Moreover, keyword searching of catalogs and indexes can be done easily, thus freeing searchers from lengthy training and practice needed for highly structured organizational tools such as subject headings or thesauri. One argument against compiling subject bibliographies is that the researcher or the nonscholarly searcher can find extensive materials by using keyword searches in national or local catalogs and in subject indexes. Many catalogs are available through the Internet, and academic and public li-

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braries are providing patron access to these through personal computers. Such ubiquitous availability means that even a lack of subject expertise is not a deterrent to finding at least some information on most topics. In any case, the bibliographic activity which leads to the selection and publication of lists and descriptions of articles or books on a topic takes time which would be better spent on other activities.

This argument is not self-evident, however, for it assumes that bibliographic activity serves only as a "gathering" activity, not a winnowing one. Further, it assumes that all topics for bibliography are congruent with the classification and organization of existing catalogs and indexes; it does not consider areas that are perhaps ripe for bibliography just because these are outside common intellectual organizational schemes. Interdisciplinary topics, for example, are areas in which straightforward searches of catalogs and indexes are of limited help because the work has indistinct boundaries.

The importance of bibliographies for interdisciplinary work can be seen by examining an interdisciplinary field of study. Play is illustrative of a field in which the activity of compiling bibliographies becomes problematic when dealing with electronic bibliographic tools commonly used today. The examination of these problems is preceded by a discussion of two notions of bibliography and a description of "play" and "leisure," two related concepts.

Bibliography

A bibliography is a "list or sequence of descriptions of graphic materials on a given subject or area" (Bates, 1976, p. 9). In her 1976 article, Marcia Bates makes a strong case for the value of systematic or enumerative bibliography by providing a foundation for it in terms of both the practical utility of such bibliographies and the skills of "information seeking, selection, and organization" (p. 7) required by those compiling such bibliographies. Bibliographies are secondary sources of information, functioning as pointers to other materials (information recorded by human agency). Each item on the bibliographic list carries selected bits of information about an indicated work, such as author, title, publisher, and date; it may also carry a summary of the work, highlighting those particular aspects relevant to the subject area of the bibliography.

The value of a bibliography lies in its gathering and preliminary screening of information on a subject. It combines and organizes the information about materials from diverse resources, and it evaluates the materials. A good bibliography provides enough information about a set of materials to determine whether or not it is worth reading them. A bibliography performs this function because it is more than a listing of items. Rather, a bibliography connects items in some way, and the principle of that relationship is defined by the subject area under

consideration. Bates argues that a bibliography contributes value to the information by creating "an integrated structure for physical and intellectual access to recorded materials" (p. 12). She refers to Shera and Egan's (1965) notion of the macrocosmic view of bibliography. A macrocosmic view holds that bibliographies are systems of communication, one related to the other, and serving a common purpose of building an intellectual structure of the area, whereas a microcosmic view of bibliography assumes that each bibliography stands alone, unrelated to other bibliographies.

In contrast to Bates, Patrick Wilson (1992) makes a case for what he calls "pragmatic" bibliography as distinguished from "wholesale" bibliography. He characterizes the activity that leads to, or constitutes, the process of pragmatic bibliography as that of the academic researcher who identifies, selects, and describes materials for a specific purpose or project. "The inquiry might be an attempt to find out something new or might simply be an attempt to find out what, if anything, is already known on the subject" (p. 240). Because a specific limited purpose guides the activity, its key components are search and selection.

Although Wilson suggests that many professionals and graduate students practice pragmatic bibliography, his description of the process is based on the practice of the mature scholar. That is, it is indicative of the researcher who belongs to, and works within, a discipline and is thus familiar with the methods of, and the problems studied by, the discipline or specialty (e.g., see Wiberley & Jones, 1989). The scholar also knows the work of others in the field insofar as it will affect his or her own work. The scholar maintains the level of familiarity needed by communication with other scholars, by scanning tables of contents, checking footnotes, and reading articles and reviews. "This is a constant monitoring activity, a sort of directed browsing. *And it is against this background of continual monitoring that any piece of pragmatic bibliography is undertaken*" (Wilson, 1992, p. 242). That is, the researcher who develops a bibliography for a particular scholarly work is drawing on, identifying, and selecting materials which are likely to be known, which are cited in footnotes of published works that are already known, or which are suggested by colleagues. In this context, the scholar's bibliography serves to assure oneself that others have not already done the scholar's work. It serves to acknowledge the context in which the scholar is working and to acknowledge or rebut the work that others have done on the issue being addressed.

The nonresearcher, too, constructs pragmatic bibliographies. Such a person is not pursuing professional research but, like the researcher, needs to use published literature for a specific purpose. Wilson suggests three kinds of inquiry which vary by degree of critical approach. In making the first kind of inquiry, the person wants simply to know what is written about a particular topic—i.e., what are the basic approaches to

the central questions? In a second kind of inquiry, the person wants to know not only the main areas of discussion about the topic but also wants to gain a critical perspective on the topic. In a third kind of inquiry, which Wilson calls investigative, the person searches for answers to a particular question. In this third case, the person is less interested in learning about the shape of a topic, of intellectual fields, or of specializations but is more interested in anything that contributes to answering the question regardless of its origin. In each of these cases, the person gathering literature is engaged in the bibliographic process—i.e., searching for and selecting materials. It may or may not result in a product such as a report or an article. Each of these inquirers may use bibliographies as well. What Wilson calls wholesale bibliography—i.e., topically organized lists, catalogs, indexes, and abstracts—can provide the range of materials from which these people draw their materials. Such wholesale bibliographies are of use to those doing the first two kinds of inquiry but less so to those concerned with the third. In particular, evaluative, topically organized, and annotated subject bibliographies may be limited in their relevance to a person searching out a particular question. As Wilson notes, that person needs materials that are functionally, rather than topically, relevant.

Materials having a functional relationship are those which contribute information or insight. They may be intellectual tools, theories, evidence, or examples, "or may simply stimulate ...thinking by offering ideas, questions, hypotheses to explore" (Wilson, 1992, p. 241). These materials may or may not be about the subject in question, since topical relevance is not the primary concern.

Interdisciplinary Work

Interdisciplinary work is a good example of an inquiry which may use functionally related materials. Such an inquiry can take many forms (Klein, 1990). For example, Hartmann and Messer-Davidow (1991) focus on the variables of agency, perspective, values, and selection to analyze the influence of sex-gender categories on such disciplines as biology, social studies, and literary studies. Dogan and Pahre (1990) give multiple examples of research areas in the social sciences which have arisen in the "margins" of disciplinary specializations. These new "hybrids" may emerge from the adoption and recasting of concepts from another specialization, from borrowing methods, or from exchanging theories. Characteristically, interdisciplinary, integrative, or hybrid work is complex rather than complicated (Newell & Klein, 1996). Simple and complicated systems are both hierarchical in nature and operate based on a single system of rules. In contrast, complex systems are nonhierarchical, nonlinear, and based on multiple, even contradictory, systems of rules. "To understand them at the larger integrated level, reductionist thinking must be replaced by nonlinear thinking, pattern recognition, and analogy"

(p. 6). Such complexity explains the difficulty in searching for relevant materials.

Finding relevant literature—i.e., developing bibliographies—for complex work which crosses disciplinary boundaries is often a search for functionally related materials. It may start by stumbling across an approach or perspective outside one's home discipline that generated the question but which seems to throw light on the inquiry at hand. From there, it involves searching for more information in the other specialty. Colleagues in the other disciplines are helpful in suggesting key resources, and a researcher may need to learn enough of other specialties to be fluent in the language of concepts, theories, or methods and be able to recognize important and relevant patterns or analogies. Typically, a simple bibliographic search to identify literature from other disciplines related to an inquiry is of limited use, since topically related bibliographic access tools are not organized for easy access to functional relations.

Play and Leisure

The following discussion illustrates the problems and issues in bibliographic searching for an interdisciplinary question. The problems encountered suggest that published bibliographies are valuable for interdisciplinary or hybrid areas. The case that will be discussed is a comparison of two bibliographies of the subject "play," one produced unsystematically, the other in a more structured way using current bibliographic tools. The case does not list the materials found in each bibliography; instead, it examines the activity in developing each one. The subject of the bibliographies is play and leisure. This section will briefly examine the definitions of *play* and *leisure* in order to indicate key concepts related to each. These concepts will then be used in the search for relevant materials.

Play is a concept which applies to ordinary experience and which is also used in theoretical contexts. It is complex, that is, it is understood by examples and elements, but these do not equal play. To search for or develop bibliographies of play by reducing the concept to one or another element will yield a high percentage of irrelevant materials. On the other hand, to rely only on the generic terms *play* or *leisure* yields irrelevant materials and misses a good deal of important material.

In order to briefly examine the dimensions of play and leisure, the emphasis will be on a limited selection of works in the study of the history of civilization, child study, outdoor life, recreation, labor, and religious ethics. In his classic *Homo Ludens: A Study of the Play Element in Culture*, Johan Huizinga (1952) defines *play* as activity which exists for itself—i.e., not for profit nor some other end and not serious. It stands outside ordinary life, is limited in time and space, and proceeds according to its own rules. The player is often intensely absorbed in the activity. Further, Huizinga allies play with the mysterious: "It promotes the formation of

social groupings which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means" (p. 13). In this work, Huizinga shows the significance of play by clarifying its role in such aspects of culture as law, philosophy, poetry, and even war. He does not attempt to explain play in physiological or psychological terms (pp. 1-2).

Some twenty-five years later, Caillois (1961) acknowledges Huizinga's original work, but disagrees with his characterizations, noting that the definition carries inherent contradiction and that play takes many more forms in society than Huizinga recognized. Caillois characterizes the activity of play by the following formal qualities:

1. *Free*: in which playing is not obligatory; if it were it would at once lose its attractive and joyous quality as diversion;
2. *Separate*: circumscribed within limits of space and time, defined and fixed in advance;
3. *Uncertain*: the course of which cannot be determined, nor the result attained beforehand, and some latitude for innovations being left to the player's initiative;
4. *Unproductive*: creating neither goods, nor wealth, nor new elements of any kind and, except for the exchange of property among the players, ending in a situation identical to that prevailing at the beginning of the game;
5. *Governed by Rules*: under conventions that suspend ordinary laws, and for the moment establish new legislation, which alone counts;
6. *Make-Believe*: accompanied by a special awareness of a second reality or of a free unreality, as against real life (pp. 9-10).

Caillois further develops a system for classifying games based on a dominant element in the game—i.e., competition, chance, simulation, or vertigo, which he called "agôn," "alea," "mimicry," and "ilinx." Within each of these broad categories, individual games and play can be located on a continuum between turbulence or improvisation ("paidia") and its inverse, discipline or structure ("ludus") (pp. 11-14). Thus a competitive game ("agôn") of baseball may be as loose as a pickup game, the rules depending on the number of people, the equipment, and the area available for play, to a highly structured game of teams of players who have survived tryouts, who follow an organized schedule, whose rules carry sanctions for nonconformity, etc.

Huizinga's and Caillois's formal definitions and categorizations may be seen as conceptual frameworks for the study of play, but they do not determine the full scope of activities related to play nor the conditions under which humans and animals play. At best they provide clues for understanding certain activities which are ambiguous; they provide guides to the meaning of such activity; they indicate patterns of activity.

Stephen L. J. Smith's (1990) conceptual dictionary of recreation and leisure "maps" the terrain of university departments organized to study

the area (p. viii). Although a dictionary may be constructed to provide a clear definition of terms in order to distinguish one concept from another or to map usage of terms, this conceptual dictionary in fact works in the opposite way—it covers the whole field showing the relation of concepts to one another. Smith includes four kinds of concepts: (1) elemental (the basis of the field), (2) theoretical (models and interpretations of processes), (3) research or methodological (conceptual tools for analysis of phenomena), and (4) professional (ideas from the service dimension of the field). Smith's brief definition echoes elements of Huizinga's and Caillois's—i.e., he considers play as "a pleasurable, intrinsically motivated, voluntary, and repetitive or patterned activity that is separate in time from other activities and is governed by either implicit or explicit rules" (p. 238). He notes that play is an ambiguous concept which is used in a widely varied way. Drawing on the work of David Miller (1973), Smith provides a historical analysis indicating the philosophical and religious approaches to play and the shift to social science theories in the study of play.

Within these representative approaches, the concept of play can be used to understand dimensions of human culture; conversely, disciplines which study phenomena can be used to understand the manifestations of play. Bernard Mergen makes explicit the interdisciplinary character of the study of play in his two research guides, *Play and Playthings* (Mergen, 1982) and *Recreational Vehicles and Travel* (Mergen, 1985). In the former, Mergen posits the primary connection between the notion of play and children and notes that the study of children's play overlaps with the study of "communication, imagination, social organization, political process, economic systems and ecology" (p. 3) as well as history, anthropology, psychology, and design/planning (play environments). The study of play is not confined to children's development and activity, however, as indicated by Mergen's work on recreational vehicles and travel in which he studies travel voluntarily taken for its own sake—i.e., for pleasure (pp. 4-5). He notes that while play is an ambiguous concept, it is useful for understanding the meaning of certain behaviors (p. 17) such as travel, as seen in the narratives of Twain, Slocum, Earhart, and Nickerson. On the other hand, although there are play aspects of travel, not all works about travel concern themselves with its play dimension—e.g., those directed to instruction, promoting products, or documenting accomplishment.

The concept of leisure also varies in scope. Josef Pieper (1952) understood it in terms of its Greek roots—as a place where we educate—and links it to the notion of contemplation. In this context, leisure takes on a higher value than work. "We work in order to have leisure" (p. 26). Sebastian de Grazia's (1962) *Of Time, Work, and Leisure* recognizes the common equation of leisure and free time but holds to the distinction in the context of a political philosophy. More recently, Juliet B. Schor (1992),

an economist, distinguishes two approaches to leisure (p. 13). A subjective approach equates work with that which is unpleasant and obligatory; leisure, on the other hand, is a discretionary, enjoyable activity. Schor's preferred "objective" approach is to describe leisure as what remains after taking into account both paid labor and household activity.

This review of the elements of play and leisure not only briefly describes the concepts but also illustrates the complexity of any study of these areas.

Two Bibliographies

This case study compares the process of developing two bibliographies about play and leisure; they were compiled at two different times for two different purposes. The original bibliography was compiled between 1975 and 1982, and its comparison bibliography was gathered from 1990 to 1991 but covered approximately the same dates as the original—i.e., 1973-1982. The case study indicates differences in results between informal and structured approaches to a bibliographic project and suggests that the roots of the differences lie in the context of information-seeking behavior and in the complexity of interdisciplinary work.[1]

There are two threads to this case: one follows an eight-year process of developing a set of materials to support teaching and scholarly activities, proceeding without the explicit help of librarians. Here the case addresses specific focused projects which determined what materials were chosen and the systems which helped or hindered identifying the materials. The other thread is the broad interdisciplinary theme which forms the subject of the bibliography—in very general terms, play and leisure—and the issues arising out of its interdisciplinarity.

Original Bibliography

The impetus for gathering the original bibliography was the development of an interdisciplinary television course made in the late 1970s called *Play & Leisure.* The course was to teach the philosophical concepts of play and leisure, to demonstrate how concepts can function as tools of analysis, and to show the cultural values of play and leisure. Three faculty members (including this author) served as producers and host instructors who provided the framework and continuity for the half-hour programs, while individual shows or segments were conceptualized and taught by guest instructors in collaboration with the hosts—assuming an interdisciplinary approach meant that instructors and guests could draw from a variety of disciplines for choice of topics, approaches, and materials.

The host instructors developed print materials to support the course (a two-volume anthology of literature and non-fiction served as a textbook, and a "playbook" provided guidance to the key concepts of the programs through exercises, guides to study, and suggested readings).

We further supplemented the course with a dynamic (that is, evolving) bibliography of scholarly and popular materials.

The original play and leisure bibliography, which fit the characteristics of what Wilson calls pragmatic bibliography, began with two core works, Huizinga's *Homo Ludens* and Pieper's *Leisure: The Basis of Culture.* Another useful source was David Sleet's (1971) thesis *Interdisciplinary Research Index on Play: A Guide to the Literature,* a list of resources organized by disciplinary field. The bibliography developed as the instructors and colleagues recommended readings to one another, followed bibliographic trails, stumbled across books and articles, and even *made* unlikely materials relevant to the topic. The scope of the bibliography included works from all fields about, or alluding to, the role of play and leisure in culture. The bibliographic items comprised a variety of materials, including unpublished manuscripts; published articles, books, and book chapters; popular press materials; newspaper articles; and video materials. They encompassed a wide range of genres: fiction; social and political commentary; expository essays; and studies based in one or another of the social sciences and humanities. Some works were not necessarily about play or leisure but were themselves playful or exemplary of one or another concept which helped to describe or define play and leisure; still others were seemingly unrelated, but were made relevant by a participant.

In a second phase of compiling the bibliography, this author continued to develop it into a set of materials for individual and more focused, primarily academic, use—i.e., presentations at scholarly meetings, potential publications, and other projects. The search for items also became much more focused and related to specific topics of interest, for instance, play and creativity, and used tools such as the Institute of Scientific Information's (ISI) *Current Contents.*

Structured Bibliography

Would a systematic approach to building a bibliography be more productive than an unstructured approach? One role of academic libraries is to provide collections which support the curriculum and research of faculty, students, and staff, and to facilitate physical access to materials they do not hold. A continuing question is whether libraries or any other information systems do an adequate job of helping scholars identify materials that they need for their work (Searing, 1992; Hubbard, 1992). Some librarians suggest that faculty miss great opportunities to improve their own work (either in quality or efficiency) when they do not take advantage of the systems that libraries provide. When asked, however, many scholars reply that they find needed information very well without using libraries' systems except sporadically, or they say that the systems are inadequate for what they really need (Perrow, 1989). The use and utility of these systems can vary among disciplines, research focus, and length in career (Wiberley & Jones, 1989, 1994).

Many studies have been done regarding faculty use of the library and faculty information-seeking behavior. Stephen K. Stoan's (1991) review article identifies three areas of research. He notes that studies done by librarians concentrate on faculty use of library systems of access, while research done by nonlibrarians have focused on communication systems among faculty researchers. According to Stoan, both sets of studies agree that faculty infrequently use formal information systems such as indexes and abstracts. In addition, studies of systems themselves have shown that they are inadequate for the "perspectival dimension" (Stoan's term) necessary for a scholar's contributions to the development of knowledge.

This author's own study differs from those Stoan has reviewed in that it is concerned with an interdisciplinary topic, it starts with a completed bibliography which can function as a kind of control, and it uses a quantitative approach simply as an indicator. The question posed in this study was whether it was possible to duplicate the original bibliography through a subject search using electronic systems. Would the results of the systematic search offer some works that might have been of significant help during the original course development and teaching, but which were missed through the informal approach? It was hypothesized that, in fact, I would find many of the original citations in a structured search, but there would also be novel citations derived from each of the methods.

The structured search of electronic databases began with a preliminary search using truncated forms of the terms "play" and "leisure," both as controlled vocabulary (descriptors or subject headings) and as free-text terms—i.e., as words any place in a record: title, subject term, abstract, or summary. This preliminary search of twenty-eight databases with only the truncated words "play*" or "leisur*"[2] any place in the record yielded almost 254,000 citations. Limiting the search to materials published between 1972 and 1982 yielded over 94,300 citations (duplicates were not identified). The twenty-eight databases included scholarly indexing and abstracting services covering disciplines such as education, literature, psychology, history, philosophy, the arts, architecture, business, as well as more popular magazines and newspapers. The results from *Philosopher's Index*, *ERIC*, and *Psychological Abstracts* alone yielded over 44,000 citations; limiting the search to publications dated between 1975 and 1982 reduced that number to 16,800.

A searcher faced with an impossibly large number of items to consider may relinquish the project (Wiberley & Daugherty, 1988; Wiberley et al., 1995) or instead may strategically limit the number of items. In this case, I limited the number of databases, used controlled vocabulary, limited the results to English, and added other terms. Of the twenty-eight original databases, five were most likely to yield the kinds of materials that had originally surfaced; *Philosopher's Index*, *Sociological Abstracts*, *ERIC*, *Psychological Abstracts*, and *Literature and Language Behavior Abstracts* (LLBA) were searched for writings published during 1973 through 1982. Furthermore, appropriate controlled vocabulary or subject terms were

used, and the search was limited to publications in English when a preliminary search yielded still too many citations. Terms were also added relating to theory or research in order to whittle the results to an even more manageable size.

The search strategy included several implicit decisions made without examining the assumptions. For instance, the strategies of limiting when the search yielded too few or too many cites relied on a subjective notion of what counted as "too many" or "too few." A searcher can expand or limit the search conceptually by refining the subject question or by using system protocols such as limiting by language or date. For example, a search can be limited to major descriptors in the *ERIC* database. To what extent is a search determined by the limitations of convenience or cost? An individual researcher answers these questions based on background knowledge of the field and of information systems. In this case, the working assumption was that the citations from the subject search would be exact (in terms of the subject) and would be most economical in terms of both time and money.

What was lost in this methodology were more inventive approaches to the database. For example, in the original bibliography, there are articles, books, and book chapters from the philosophy of science. Specifically, I had been able to relate to the subject "play" the concept of discovery in science and scientific method. Linking play with discovery was developed through activities such as browsing materials, watching television, and speaking with colleagues. Yet, at that time, had the subject of discovery been searched in philosophy of science in *Philosopher's Index*, I might have found references to works that appeared in the original bibliography along with many other citations, but I might not have recognized these as being important. This example shows that one fruitful approach is to ask within what context would the chosen terms have a good chance of yielding relevant materials. Knowing the shape and methods of a field, knowing buzzwords and current approaches, and making educated guesses about how a subject might show up contribute to answering an inquiry.

With the imposed limitations, the subject search of online bibliographic databases yielded just over 600 citations. My original bibliography was composed of 229 items, many of them from books, unpublished papers, and popular materials. After eliminating the questionable materials (materials unlikely to be indexed), it was reasonable to expect only about half of this list (approximately 115) to appear in the indexes searched. In fact, only twelve citations from the original bibliography were identified by an online subject search: five were found in *Philosopher's Index*, five in *Sociological Abstracts*, one in *ERIC*, and one in LLBA. Interestingly, for an interdisciplinary topic, none of the original citations appeared in two different databases, although one work appeared twice in

Sociological Abstracts in what appears to be two forms—once as an association presentation and the other as a published article.

Since the results were much smaller than expected, these were tested by using an online version of *ERIC* as a subset; between 90 and 95 known items were chosen from the original bibliography (many of which were only tangentially related to the educational field) to be searched by title or author. In this search, twenty-seven items were found in *ERIC*. In other words, twenty-six items were missed in *ERIC* using the controlled vocabulary. There are several factors that account for the difference.

In the first search, in order to reduce the number of citations to a manageable number, the search terms "theories," "research," "metaphors," or "models" were added to identify conceptual approaches. Although this strategy eliminated references to highly specialized literature, it also effectively omitted any record which did not index the record with those terms. Second, several of the citations arose from the later development of the bibliography and are not indexed with the term "play" or "leisure" but are indexed under more specific terms such as "toys," "creativity," "creativity-research," "creative thinking," or seemingly unrelated subject headings. Third, since each database has some unique characteristics, a searcher or researcher must be ready to refine the strategy during the course of the search. Therefore, each search is somewhat different from the others.

The online searches generated many citations which were not in the original bibliography; these were not analyzed because their relevance would have had to be determined in retrospect—a suspect kind of judgment to make almost ten years after the fact. Although many of these seemed worth pursuing for work in the areas of play and leisure, many held no lure.

IMPLICATIONS

Stoan's review of the research would suggest that the results of this study are in fact not unexpected, although the reasons for such results would vary among the disciplines in the sciences, the social sciences, and the humanities. Thus Stoan (1991) concludes that "one can therefore make a strong case that the information-seeking behavior of scholars is both logical and successful given the nature of the intellectual work they are doing and the limitations of the current access to literature" (p. 238).

Further, much of the literature that Stoan notes were studies of researchers in the sciences and social sciences particularly, as well as the humanities. These were people who were advancing knowledge in their fields. In attempting to duplicate the original play and leisure bibliography, it was assumed (in an uncritical way) that there was a fairly close connection among reading the literature, developing bibliographies, and citing other works in one's own publications. The logic is that if one

advances knowledge, one is working within a certain conversation (to use one metaphor of the process), has been following the conversation, has contributed insights (research) to it, and has thus moved the conversation along.

This, however, flies in the face of anecdotal evidence (this author's and others), which does not indicate a generic process at work—i.e., scholars often read or skim widely; develop good, bad, or indifferent ideas; go looking for literature to support their positions; get pointers from people who have already evaluated enough literature to get them started efficiently; and then follow leads. Individuals' bibliographies, collections of books, article reprints, and so on are often a hodgepodge of materials. This process of compiling materials is "pragmatic bibliography." There are two reasons for this seeming haphazardness; one lies in the context of the subject, the other in working habits.

Context

In the original case, the interdisciplinary introductory course based on the philosophical concepts *play* and *leisure* was not about advancing the field of the topic but was to teach a way of thinking, present alternative values for consideration, and use a pedagogy based on integrating everyday experience with academic approaches. The implication was that the theme stayed in the forefront while the disciplines informed, but did not take over, the course. The approach to the search for reading materials was not what a particular discipline says about play and leisure, but what can be learned about and through play and leisure wherever it is. The focus was the phenomena and not research of a discipline. Thus, the context of any inquiry determines the kinds of works identified in a bibliographic search. That context can range from teaching, to mainstream disciplinary research, to cross-disciplinary work, to highly innovative and difficult-to-categorize work.

Working Habits

The other reason for the hodgepodge of materials in the original bibliography lies in what we know about the way scholars work. For instance, the materials might support the themes of the course or might present an opposing view; they might provide an example, analogy, metaphor, or model; they might generate thinking in a new direction. An unstructured compiling of a bibliography is a little like quilters gathering materials; they buy materials that appeal to them whether or not they have a project in mind or need them at present; some day that material will find its way into a quilt. In the same way, some day a particular intellectual piece may be of use in constructing knowledge.

This should not be taken as a reductionist statement. The quilter often has to look for a specific material because of the requirements for a quilt. So too with bibliographies. Many times researchers have very spe-

cific literature needs: historical documents, particular analysis, discussion of method, and so on. A well-conceived directory of archival collections, an efficient index to literature, or a book catalog can be invaluable.

Thus the original play and leisure bibliography was both less and more than the background reading that gave birth to a particular project or to paper presentations. It was the remnants of several years of thinking, browsing, organizing, and writing about play and leisure. The development of this bibliography helped further my thinking process particularly in areas where there was a need to make new connections or develop new categories. In part, the process of unearthing relevant works (literature or scholarship or exemplars) was part of the teaching and scholarship process and not simply a heuristic.

Conclusion

The evidence seems to indicate that systematic or macrocosmic bibliographies are of limited use for mature disciplinary scholars whose primary concern is remaining current with information directly related to their research. Individual scholars or others involved in projects tend to create pragmatic bibliography by tracing relevant citations, following selected references from trusted colleagues, or by browsing or monitoring the literature. However, the growing numbers of electronically accessible bibliographic tools have not substituted for skillfully compiled bibliographies, since electronic indexes are not constructed to identify functionally relevant materials or to identify patterns, analogies, etc.

Interdisciplinary work is a particular example of the inadequacy of using only electronic catalogs and indexes to track relevant materials, in part either because of the inability to cull the materials retrieved in an efficient and effective way or because of the inability of systems to identify relationships such as patterns or analogies. This would indicate that there is a place for published bibliographies.

Published bibliographies focusing on an interdisciplinary or marginal area would be helpful to scholars who are working as part of teams and thus need to become familiar with the concepts, questions, and methods of disciplines or specializations of their colleagues' disciplines. The individual scholar who identifies a potentially useful theory or framework outside his or her specialization could also benefit from such a bibliography. Bates's (1976) requirements (drawing on Patrick Wilson's [1968] work) for good systematic bibliography are even more important when applied to such bibliographies. These include domain and scope, selection principles, bibliographic units, information fields, and organization.

In a bibliography covering an area of study which crosses disciplinary boundaries, the user will derive more benefit in proportion to the explicit information given by the compiler. Few assumptions should be made about knowledge of disciplinary concepts, methods, problems,

theories, and resources. Thus, the compiler should carefully describe the works examined from which the items in the bibliography were drawn ("domain") and give reasons for examining those works. Examples might be works of a rare books collection identified through a finding aid or through a periodical index, for specified years, with the listing of terms. Bates suggests that unproductive avenues of search are worth describing if only to prevent the bibliography's user from repeating a futile search.

Defining the scope (range of coverage) of an interdisciplinary bibliography will not be an easy task for, by its nature, the area will be somewhat open ended. If the materials are drawn from discipline-specific areas, the disciplinary focus should be articulated. If the interdisciplinary topic is formally structured—i.e., with academic departments, professional associations, journals (for instance, covering American or women's studies)—the scope may be somewhat easier to define.

Once items are determined to fall within the scope, the compiler of a good bibliography decides whether or not to include them in the bibliography if the bibliography is to be selective. It is important that a compiler of a good interdisciplinary bibliography spell out the criteria by which the compiler makes that judgment. For instance, one principle of selection might be works on a topic by the most highly cited authors in *Citation Indexes.* In this case, the compiler would make clear how these authors were identified.

An interdisciplinary bibliography might cover print and nonprint (including electronic) resources, and the relative importance of one format over another—i.e., documentary films, articles, book chapters, books, technical reports, and so on—could vary by discipline. A compiler should account for the presence of each kind of publication, placing it within the context of the subject and of its discipline or specialty. The organization of these "bibliographic units" (Bates, 1976, p. 14) can add immense value to an interdisciplinary bibliography. For instance, organizing by discipline puts the focus on the origins of methods, problems, theories, and so on. Organizing by subspecialties of the interdisciplinary area focuses on the areas or problems addressed. Another approach might be to organize the entries in order to show the confluence or integration of knowledge.

It is important to determine the kind of information to include in each bibliographic entry and to provide it consistently and accurately. If a particular bit of information is unavailable, that should be noted. Finally, annotating each entry with an eye to other entries in the bibliography will serve to approach Shera and Egan's (1965) notion that macrocosmic bibliographies provide an integrated structure for intellectual access to recorded knowledge.

NOTES

[1] This case is autobiographical, and it is not intended as a scientific study of bibliographic searching. I was one of the compilers of the original bibliography at a time before studying librarianship; I performed a number of the searches in the later bibliography after receiving the MLS. As such, the case has limited value in its generalizability. The

comparison is also suspect in that the process discussion of the original bibliography relies on memory. Nevertheless, the case has the value of highlighting a process that a naïve searcher has gone through in gathering materials for an interdisciplinary project. The added benefit is the reflective perspective born of later-acquired knowledge and skill about the organization and retrieval of information in a structured manner.

[2] The asterisk functions as a generic truncation symbol.

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