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Editorial

Peggy Johnson

In April, the ALCTS Board asked me to step in as interim editor for *LRTS*, following the resignation of John Budd. I benefit from the work John did during his tenure in securing manuscripts and working with reviewers and authors to bring these works to publication. John began work to resume the respected literature surveys that look at publications and trends in each of the areas for which ALCTS is responsible. Traditionally, the survey articles (often called “Recent Works in . . .”) are aligned with ALCTS’s sections. The article in this issue, by Kyun-Sun Kim, looks at the literature of cataloging and classification. Jean Ann Croft’s survey of preservation literature appeared in volume 47, number 2. Authors are identified for a survey of recent collection development and management literature, and efforts are underway to gain commitments to review the literature of acquisitions and serials.

At the direction of the board, I have set several goals to accomplish during my interim appointment. I aim to return the journal to a timely publication pattern and expect the January 2004 issue to appear as scheduled. The next issue will contain the 2003 annual price index studies sponsored by the ALCTS Library Materials Price Index Committee (LMPIC). Previous editions of this study appeared in each April 15 issue of *Library Journal* (except for the 1985 edition, which appeared in the August issue) until 1993, when the study began appearing in the May issue of *American Libraries*. The number of book reviews will increase. Edward Swanson has accepted appointment as book review editor, coterminus with my appointment. Please contact him at swans152@umn.edu, if you are interested in reviewing books for *LRTS*. We will begin, with this issue, publishing selected papers that fall within a category we are calling “Notes from Operations.” These papers adhere to the same high standards for which *LRTS* is known, but are grounded in operational experience, challenges, and practice. *LRTS* will, of course, continue to publish empirical research. All submissions will be reviewed anonymously according to the highest criteria. Finally, I intend to increase the size of each issue. This, of course, depends on you. *LRTS* needs your submissions and, equally important, your help in encouraging others to write for *LRTS*, our professional journal.

In the tradition of my predecessors, I am committed to working with authors to develop papers for publication and to continue the fine history of *LRTS*, now in its forty-seventh year. I encourage you to contact me at m-john@umn.edu to discuss possible papers. You may also send your submission to me via e-mail or on paper (Peggy Johnson, University of Minnesota, 499 Wilson Library, 309 19th Ave. S., Minneapolis, MN 55455).

Electronic Databases for Readers' Advisory Services and Intellectual Access to Translated Fiction Not Originally Written in English

Juris Dilevko and Keren Dali

Electronic databases for readers' advisory services are increasingly prevalent in both public and academic libraries. Librarians rely on these databases to suggest new fiction titles to patrons, many of whom are interested in various types of foreign fiction translated into English. Using a case study approach, this paper examines the NoveList database from the perspective of intellectual access to novels originally written in Russian and subsequently translated into English. The number of subject headings assigned to these novels—as well as the number of accompanying book reviews in the NoveList record for each novel—is compared with the number of subject headings and accompanying book reviews present in the NoveList record for novels originally written in English. Translated Russian novels have substantially fewer subject headings and accompanying book reviews than do novels originally written in English. In addition, existing subject headings are often misleading, erroneous, or inefficient. Such shortcomings may be interpreted ideologically, since they have the effect of isolating and excluding translated foreign literature from the general realm of fiction works originally written in English. Impaired intellectual access to translated fiction in NoveList prevents a complete integration of translated fiction with English-language fiction—a circumstance that may lead librarians and patrons to overlook valuable titles. Careful reading of book reviews to extract contextually relevant keywords from which accurate subject headings can then be created is recommended as a simple way to improve the quantity and quality of subject headings and, more broadly, to strengthen intellectual access to translated fiction.

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In the past ten years, there has been a renewed interest in readers' advisory services in both public and academic libraries, and in library education for readers' advisory services. Recent books such as *The Readers' Advisory Guide to Genre Fiction* by Joyce Saricks (2001) and *The Readers' Advisor's Companion*, a collection of essays edited by Kenneth Shearer and Robert

Burgin (2001), are emblematic of this renaissance, as is the Genreflecting series under the general direction of Diana Tixier Herald (2000). The latter includes individual reference volumes designed to help librarians recommend titles in such genres as science fiction, horror, fantasy, Christian fiction, mystery and suspense, adventures and westerns, and historical fiction. As Ricki Nordemeyer (2001) pointed out, many public library systems in the United States and Canada have Web-based readers' advisory home pages. Many others subscribe to electronic databases such as NoveList and What Do I Read Next? to help staff members deal with readers' advisory questions. NoveList is a fee-for-service readers' advisory tool available from EBSCO, consisting of books lists, reviews, and other resources for locating fiction titles. What Do I Read Next? is a similar readers' advisory product available from Gale Thomson.

Fiction, after all, accounts for between 65% and 75% of the total circulation in public libraries (Wiegand 2001, 8). Universities also are beginning to realize the importance of providing readers' advisory databases. The library systems of the University of Louisville, the University of Rhode Island, and Murray State University are only three of the rapidly growing number of academic libraries that are making such electronic databases available to students and staff members. (The list of databases provided by the University of Rhode Island library system is available at www.uri.edu/library/reference/databases/ref.html [accessed February 17, 2003]; for the University of Louisville, see <http://library.louisville.edu/research/hot/path.html> [accessed February 17, 2003]; for Murray State University, see www.murraystate.edu/msml/databasesatoz.html [accessed February 17, 2003]). Finally, Dana Watson (2000) discusses how an increasing number of universities with graduate programs in Library and Information Science (LIS) are resurrecting or implementing courses in readers' advisory services. Indeed, Wayne Wiegand (2001) urges all LIS schools to develop such courses.

Why all this interest? People have always liked to read, and the rise of book clubs such as the one initiated by Oprah Winfrey and the development of large and comfortable bookstores, such as Barnes and Noble, Borders, and Chapters, were not inconsequential factors in the explosion of reading as a popular—and even fashionable—activity in the 1990s. In addition, scholars such as Janice Radway (1991), Jane Tompkins (1993), and Catherine Sheldrick Ross (1991, 1995, 1999) provided a solid intellectual foundation for the argument that so-called pleasure reading of such genres as romances, westerns, and mysteries is a significant activity in the lives of numerous individuals. It is an empowering activity that enables them to develop a better understanding of their respective work and personal worlds and, if necessary, provides them with the strength and encouragement to envision and bring about improvements

and changes in their life circumstances, to say nothing of a greater awareness of broad historical, cultural, and social events and forces. At the university and college level, the concept of the "browsing room," where students have access to contemporary and older fiction, either in their dormitory structures or in various designated campus reading locations, is making a comeback. As Virginia Vesper (1997) suggested in an overview of the history and benefits of readers' advisory services in academic libraries, the browsing room is connected with the idea that recreational reading has a significant role to play in students' educational and intellectual development, allowing them to make psychological and philosophical discoveries every bit as important as the ones they make in formal classroom settings.

Many fiction titles are borrowed by individuals who know exactly the type of reading material they want. Many others, however, are unsure of what to read next and turn for assistance and suggestions to librarians, who, in turn, rely on print and electronic tools of the kind mentioned above. Tastes in fiction are by no means monolithic, and so librarians are faced, on a daily basis, with individuals who are interested in a wide variety of themes, topics, authors, and genres. Complicating things even more is the fact that, as recent census data from the United States and Canada reveal, the number of foreign-born individuals as a percentage of the total population in these two countries is increasing significantly. According to the 2000 U.S. Census, 11.1% of the population was foreign-born (31,107,889 people) (United States Census Bureau 2002); this is an increase from 1990, when 7.9% of the population (19,767,316 people) was foreign-born (United States Census Bureau 1992). According to the 2001 Canadian Census, 18.4% of the population of Canada was born in foreign countries (Anderssen 2003). In large metropolitan areas, the percentage of foreign-born individuals as a percentage of total population is even higher: Toronto (43.7%); Miami (40.2%); Los Angeles (30.9%); and New York City (24.4%) (Galloway 2003). In the Borough of Brooklyn, New York City, the foreign-born population is 37.8% of the total population (United States Census Bureau 2002). Many of these people come from countries such as China, India, Russia, Pakistan, and Mexico, and their primary language of communication is not necessarily English. Moreover, as communities become more diverse, there may be a concomitant rise in interest, on the part of English-speaking individuals born in North America, in the societies and cultures of more recently arrived individuals. In effect, increasing awareness of the multicultural fabric may stimulate openness to learning more about these cultures. North American universities and colleges offer more and more courses dealing with world and multicultural literature from a variety of intriguing perspectives, and more and more students are from foreign countries or can claim a multicultural heritage. University and college students are therefore

important consumers of world and multicultural literature. As Alma Dawson and Connie Van Fleet (2001) make clear, such growing interest—a result of global interdependence—has caught the eye of publishers, who are now producing an increasing number of multicultural titles for a larger and larger audience, and making a profit doing so.

Both public and academic libraries are operating in a multicultural environment, and one way that growing multiculturalism likely will manifest itself in the library realm is through an increase in the number of multicultural fiction titles requested by library patrons. Multicultural fiction may take two forms: fiction originally written in a non-English language and then translated into English, or fiction written in English by individuals who are recent immigrants to the United States or Canada. Within this multicultural environment, it would be strange indeed if readers' advisory services were not affected. In the early 1990s, Susan Jane Freiband (1993) and Ismail Abdullahi (1993) recommended that particular attention be paid to readers' advisory services for multicultural communities. In the early 2000s, Dawson and Van Fleet reiterated this recommendation, pointing out that, although there are increasing numbers of "specialized readers' advisory tools that focus on multicultural literatures individually and collectively" (Dawson and Van Fleet 2001, 259), the "extent to which librarians appreciate and commit to diversity" is often cyclical (Dawson and Van Fleet 2001, 262). The phenomenon of cyclical attention to an issue is not necessarily conducive to maintaining, among librarians, an intellectual environment in which sustained familiarity with multicultural and translated fiction titles exists. In light of this cyclical attention, the permanent memory of electronic readers' advisory databases assumes a real importance.

Purpose of the Study

As mentioned previously, many public and academic libraries use electronic databases such as NoveList and What Do I Read Next? when providing readers' advisory services. Given the demographic and cultural trends identified above, we wanted to analyze and evaluate the extent to which these databases provide intellectual access to one type of multicultural fiction title—namely, works not originally written in English and subsequently translated into English. Are these databases giving good value when it comes to multicultural and translated fiction?

We chose NoveList to serve as the database for our case study. According to its Web page, NoveList has over 100,000 titles in its database. With "75,000 full text reviews, over 36,000 subject headings and a complete spectrum of searching options, [it] gives you both the flexibility and

power you need to address even your most discriminating readers' questions" (EBSCO Information Services 2002a). About 10,000 records are added annually, and updates are performed monthly. We chose novels originally written in Russian and subsequently translated into English to serve as a proxy indicator of multicultural fiction. The breakup of the Soviet Union and the formation of the Russian Federation raised the visibility of Russian fiction in North America insofar as it has moved away from what Valeria Stelmakh called "ideologically engaged fictional works that employed the socio-political symbols of the "friend-or-enemy" type" (Stelmakh 1995, 12) to various types of traditional mass cultural genres such as science fiction, thrillers, mysteries, historical fiction, and romances (Lovell 2000, 134–41), thus drawing growing interest from translators and readers. According to the *Index Translationum*, there were 854 translations of Russian books into English under the subject heading "Literature" for the period 1970 to 1984, while between 1985 and 2002 there were 1,276 such translations (United Nations Educational, Scientific and Cultural Organization 2003). (*Index Translationum* is based on Universal Decimal Classification (UDC) numbers. Literature is defined as being UDC field 8, which includes Language, Linguistics, and Literature.)

The development of populous Russian-speaking communities in such metropolitan areas as New York, Los Angeles, and Toronto contributed to the sense that first-, second-, and third-generation Russians are a significant part of the multicultural fabric of North America. In Brooklyn, the third-largest reported ancestral affiliation was Russian in the 2000 census (United States Census Bureau 2002). In Canada, the 2001 census reported 337,960 people of Russian ethnic origin (Statistics Canada 2002). Numerous universities have a wealth of courses where both classic and contemporary Russian fiction are read in English translation. As Aaron Trehub noted, there has been "a resurgence of Russian studies at American universities," especially in the field of Russian language and literature, as measured by the number of dissertations submitted (Trehub 2000, 96–97). David Chroust (2001) observed that, as of March 2000, there were nearly 1.6 million Slavic records in the OCLC database, an ongoing testimony to the vitality of Slavic publishers. While the choice of translated fiction originally written in one language, in this case Russian, will not provide results that can be generalized to other groups of multicultural fiction contained in NoveList, the results nevertheless can illuminate important issues about tendencies within this database.

Access was defined as intellectual access to significant elements of a book (i.e., genre, plot, theme) as represented, first, by subject headings and, second, by the book reviews that accompany many NoveList records. NoveList draws most of its subject headings from the Hennepin County

Library system. Its book reviews come mainly from only four journals (*Booklist*, *Library Journal*, *Publishers Weekly*, and *School Library Journal*) (EBSCO Information Services 2002d) and one reference tool (*Magill Book Reviews*). Subject headings have typically been considered the most important method of intellectual access. According to information on the NoveList Web page, "the major elements of a book . . . are described . . . by the use of subject headings, [which] are used to identify the significant and unique parts of a book. NoveList . . . uses a controlled vocabulary as the basis for its subject headings so that the same word is used to describe the same concept or element. These two factors combine to make subject headings a very powerful method for searching and learning about new books. With over 36,000 subject headings used by NoveList, this section of the title record can be quite robust (note the varied and rich descriptions of the subject headings from *Storm Track* and *Outlander*)" (EBSCO Information Services 2002d). Moreover, NoveList states that many of its search strategies "use subject headings as their basis" (EBSCO Information Services 2002d). Although NoveList also offers full-text searching of accompanying book reviews and descriptions, only precise, valid, and consistent subject headings connect an item to similar books, thus placing a particular title in a contextual relationship with other fictional works. Instructional information provided by NoveList warns that, "because reviews do not use controlled vocabulary," this fact "can complicate searching [because] you may need to use several phrases, combinations of words or synonyms for the words you seek" (EBSCO Information Services 2002c). Subject headings are a cornerstone of intellectual access to the contents of a book, and we therefore focus on them in this study. However, despite the fact that the book reviews accompanying fiction titles in NoveList do not use controlled vocabulary, they are searchable and thus do provide access to the contents of a book, so we do not totally neglect book reviews in this study.

Research Questions

The following research questions were developed. Taken as a whole, these research questions (RQ) attempt to determine the level of intellectual access to one set of translated fiction titles in the readers' advisory database NoveList. They also provide one criterion of evaluation for academic and public libraries considering a subscription to NoveList. Our definition of fiction titles only included novels; short-story collections were not considered.

RQ-1: How many total subject headings does NoveList assign to novels originally published in Russian and subsequently translated into English?

RQ-2: How many topical subject headings does NoveList assign to novels originally published in Russian and subsequently translated into English?

RQ-3: Is there a difference between the total number of subject headings assigned to translated Russian novels and the total number of subject headings assigned to novels originally published in English?

RQ-4: Is there a difference between the total number of topical subject headings assigned to translated Russian novels and the total number of topical subject headings assigned to novels originally published in English?

RQ-5: Is there a difference between the number of book reviews accompanying translated Russian novels and the number of book reviews accompanying novels originally published in English?

In addition to these five quantitatively based research questions, we wanted to determine whether there were any common problems in the subject headings assigned to translated Russian novels in NoveList. Do the subject headings identify significant and unique parts of a particular book, thus facilitating linkages across similar and related books? Finally, if the quantity and quality of subject headings assigned to translated Russian novels in NoveList leave something to be desired, are there ways to improve the quantity and quality of these subject headings?

Method

To identify as completely as possible the set of relevant records of Russian language novels translated into English, we employed NoveList's Guided Boolean search function. The reading level was set as "Adult." Search parameters were set as follows: "Russia* AND Translations into English" in the "Subjects" field. A total of 221 records were retrieved in this search. Of these 221 titles, 18 were not originally written in Russian, 82 were short-story collections, and 2 were duplicates. The final set of relevant records thus contains 119 Russian novels translated into English. The search for this set of records was carried out in December 2002.

As our comparison set of novels originally published in English, we chose the titles appearing on six lists: 100 best novels selected by the Board of Modern Library (Random House 1998); American Library Association (ALA) Notable Books, 1990–2002; Booker Prize, 1969–2001; *Booklist* Editors Choice of Best Fiction, 1995–2001; National Book

Critics Circle Award, 1975–2001; and Oprah Book Club choices, September 1996–April 2002. These last five lists of award-winning titles are located within the NoveList database (EBSCO Information Services 2002b). Taken together, these six lists present a good cross-section of popular and notable novels originally published in English. After eliminating short-story collections, translated novels, and duplicates, the comparison set of novels originally published in English contained 392 records. Classic English novels were defined as those appearing on the Modern Library Best Novels List. This list contained 99 novels in total, after elimination of 1 translated work. The remaining 293 books were defined as Contemporary English novels. The search for this set of records was done in January 2003.

Results

To help in answering RQ-1 and RQ-2, translated Russian novels were classified into four categories: Classical (prerevolutionary, or pre-1917, authors); Soviet (authors who wrote in the Soviet period from 1917 to 1991); Émigré (authors who left the Soviet Union at some point in their literary career); and Contemporary (post-Soviet authors). These categories were based on the work of Stephen Lovell (2000), Klaus Mehnert (1983), and Valeria Stelmakh (1998, 2001). Thirty-eight novels are by émigré authors (31.9%); 32 by classic authors (26.9%); 28 by Soviet authors (23.5 %); and 21 by contemporary authors (17.6%). All subject headings for the 119 novels were grouped into four categories based on *Guidelines on Subject Access to Individual Works of Fiction, Drama, Etc.*, 2d ed., published by the American Library Association (2000). Each subject heading was identified as one of the following: form/genre, character, setting, or topical. (Subject headings assigned by NoveList that indicate whether a book is an award-winner were not counted.) A total of 544 subject headings was identified for the 119 translated Russian novels: 12 character subject headings (2.2%); 94 setting subject headings (17.3%); 168 form/genre subject headings (30.9%); and 270 topical subject headings (49.6%). The total number of subject headings assigned to each novel ranged from 1 to 19, with an average of 4.6 subject headings per record. Table 1 provides a breakdown of translated Russian novels according to the number of total subject headings these novels were assigned in NoveList. Because topical subject headings often contain information that is expected to reflect the content of an individual book and because almost half (49.6%) of subject headings assigned to translated Russian novels in NoveList were topical subject headings, we focused further attention on topical subject headings. Table 2 provides a breakdown of translated Russian novels according to the number of topical subject headings that these novels were assigned in NoveList.

As shown in table 1, 16% of translated Russian novels are assigned only 1 subject heading, while 53.8% have between 2 and 5 subject headings and 30.2% have more than 5 subject headings. Novels in the Contemporary category have more than 5 subject headings at a much greater rate (61.9%) than titles in the three other categories (Classical, 25%; Soviet, 25%; and Émigré, 21.1%). The overall situation changes significantly when topical subject headings alone are considered. As shown in table 2, 47.9% of translated Russian novels have none or only 1 topical subject heading. Fifty-one novels (42.9%) have between 2 and 5 topical subject headings, while only 11 novels (9.2%) have more than 5 topical subject headings. Moreover, novels categorized as Contemporary have 2 or more subject headings at a greater rate (66.7%) than do titles categorized as Classical (40.7%), Soviet (57.2%), or Émigré (50%).

While NoveList does not devote much attention and energy to assigning topical subject headings to translated Russian novels, it has a tendency to assign a greater number of subject headings, including topical subject headings, to contemporary novels. These trends are confirmed when the 119 translated Russian novels are categorized according to date of publication. As table 3 indicates, more novels (47.4%) published prior to 1970 have only 1 subject heading than do novels published after 1970. Only 21.4% of novels published between 1970 and 1984 and 5.6% of those published after 1985 have 1 subject heading. A large percentage (43.1%) of novels published between 1985 and 2002 has more than 5 subject headings. In comparison, only 10.5% and 10.7% of novels published prior to 1970 and between 1970 and 1984, respectively, have more than 5 subject headings. As shown in table 4, very few novels, from an overall perspective, have more than 5 topical subject headings, but, of these, almost all (10 out of 11) were published between 1985 and 2002. Similarly, of the 51 translated Russian novels that have between 2 and 5 topical subject headings, 35 (48.6%) were published between 1985 and 2002.

With regard to RQ-3 and RQ-4, the number of total subject headings and topical subject headings assigned to translated Russian novels by NoveList was compared with the number of total and topical subject headings assigned to novels originally written in English. As shown in table 5, the percentage of all translated Russian novels that has only 1 subject heading (16%) is more than five times the percentage of all English novels that have only 1 subject heading (2.6%). Similarly, while 49.7% of all English novels have 6 or more subject headings, only 30.2% of all translated Russian novels have 6 or more subject headings. To paint a starker picture, while 109 English novels (27.8%) have 8 or more subject headings, only 14 translated Russian novels (11.7%) have 8 or more subject headings. In general, the same types of trends are evident when the number of total subject headings for classic English novels is compared with the number of total

subject headings for translated Russian novels published before 1970, and when the number of total subject headings for contemporary English novels is compared with the number of total subject headings for translated Russian novels published after 1970.

When considering topical subject headings, the discrepancy between translated Russian and English novels is also apparent. As shown in table 6, the percentage of translated Russian novels that have none or only 1 topical subject heading (47.1%) is more than three times the percentage of English novels that have none or only 1 topical subject heading (13.8%). Similarly, while 27.8% of English novels have 6 or more topical subject headings, only 9.2% of translated Russian novels have 6 or more topical subject headings. Finally, while 46 English novels (11.7%) have 8 or more topical subject headings, only 4 translated Russian novels (3.3%) have 8 or more topical subject headings. Again, the same types of general trends are evident when the number of topical subject headings for classic English novels is compared with the number of topical subject headings for translated Russian novels published before 1970, and when the number of topical subject headings for contemporary English novels is compared with the number of topical subject headings for translated Russian novels published after 1970.

With regard to RQ-5, the number of translated Russian novels that have no accompanying reviews in NoveList is substantially greater (58.8%) than the number of novels originally written in English having no accompanying reviews (20.4%). See table 7. That is, 312 of the novels originally written in English (79.6%) had at least 1 review, while only 49 of the translated Russian novels (41.2%) had at least 1 review. Indeed, while 49.7% of English language novels have 3 or more accompanying reviews, only 5.9% of translated Russian novels have 3 or more reviews. The same types of general trends are evident when the number of reviews for classic English novels is compared with the number of reviews for translated Russian novels published before 1970, and when the number of reviews for contemporary English novels is compared with the number of reviews for translated Russian novels published after 1970.

Why is this noteworthy? If there are, overall, fewer available book reviews for translated Russian novels than for novels originally written in English and fewer available book reviews per each translated Russian novel than per each novel originally written in English, then a patron browsing for new fiction titles in NoveList using the full-text search function has a greater chance of finding those fictional titles, or those groups of fictional titles, that have more accompanying book reviews than books, or groups of books, that do not have accompanying book reviews.

Yet a wide range of reviews is available for translated Russian novels. In fact, the 119 novels generated 762 reviews from library, scholarly, and popular/consumer sources that

Table 1. Categories of Translated Russian Fiction Titles by the Total Number of Subject Headings

Category	1 Subject Heading (%)	2-5 Subject Headings (%)	More than 5 Headings (%)
Classical (32)	9 (28.1)	15 (46.9)	8 (25)
Soviet (28)	2 (7.1)	19 (67.9)	7 (25)
Émigré (38)	7 (18.4)	23 (60.5)	8 (21.1)
Contemporary (21)	1 (4.8)	7 (33.3)	13 (61.9)
Total (119)	19 (16)	64 (53.8)	36 (30.2)

Table 2. Categories of Translated Russian Fiction Titles by the Number of Topical Subject Headings

Category	None or 1 Subject Heading (%)	2-5 Subject Headings (%)	More than 5 Subject Headings (%)
Classical (32)	19 (59.4)	10 (31.3)	3 (9.4)
Soviet (28)	12 (42.9)	15 (53.6)	1 (3.6)
Émigré (38)	19 (50)	17 (44.7)	2 (5.3)
Contemporary (21)	7 (33.3)	9 (42.9)	5 (23.8)
Total (119)	57 (47.9)	51 (42.9)	11 (9.2)

Table 3. Publication Year of Translated Russian Fiction Titles by the Total Number of Subject Headings

Year of Publication	1 Subject Heading (%)	2-5 Subject Headings (%)	More than 5 Headings (%)
Prior to 1970 (19)	9 (47.4)	8 (42.1)	2 (10.5)
1970-1984 (28)	6 (21.4)	19 (67.9)	3 (10.7)
1985-2002 (72)	4 (5.6)	37 (51.4)	31 (43.1)
Total (119)	19 (16)	64 (53.8)	36 (30.2)

Table 4. Publication Year of Translated Russian Fiction Titles by the Number of Topical Subject Headings

Year of Publication	None or 1 Subject Heading (%)	2-5 Subject Headings (%)	More than 5 Subject Headings (%)
Prior to 1970 (19)	13 (68.4)	6 (31.6)	0 (0)
1970-1984 (28)	17 (60.7)	10 (35.7)	1 (3.6)
1985-2002 (72)	27 (37.5)	35 (48.6)	10 (13.9)
Total (119)	57 (47.9)	51 (42.9)	11 (9.2)

were indexed in the *ProQuest* database. Some examples of these sources are *World Literature Today*; *Slavic Review*; *Slavic and East European Journal*; *The Russian Review*; and *The Slavonic and East European Review*. Of these 762 reviews, 140 (18.4%) were located in library journals such as *Booklist*, *Library Journal*, *Publishers Weekly*, *Choice*, and *School Library Journal*. More importantly, as shown in table 8, 91 translated Russian novels (76.5%) generated at least 1 review, with 31 novels (26.1%) having between 5 and 10 reviews, and 25 novels (21%) having more than 10 reviews. Sixty-seven of these novels (56.3%) were reviewed in at least

Table 5. Number of Total Subject Headings for English and Translated Russian-Language Titles

	1 Subject Heading (%)	2-5 Subject Headings (%)	6-7 Subject Headings (%)	8-10 Subject Headings (%)	More than 10 Subject Headings (%)
Novels originally published in English (392)	10 (2.6)	187 (47.7)	86 (21.9)	71 (18.1)	38 (9.7)
Classic novels originally published in English (99)	4 (4)	60 (60.6)	21 (21.2)	10 (10.1)	4 (4)
Contemporary novels originally published in English (293)	6 (2)	127 (43.3)	65 (22.2)	61 (20.8)	34 (11.6)
Russian novels translated into English (119)	19 (16)	64 (53.8)	22 (18.5)	8 (6.7)	6 (5)
Translated Russian fiction published before 1970 (19)	9 (47.4)	8 (42.1)	2 (10.5)	0 (0)	0 (0)
Translated Russian fiction published after 1970 (100)	10 (10)	56 (56)	20 (20)	8 (8)	6 (6)

Table 6. Number of Topical Subject Headings for English and Translated Russian-Language Titles

	None or 1 Subject Heading (%)	2-5 Subject Headings (%)	6-7 Subject Headings (%)	8-10 Subject Headings (%)	More than 10 Subject Headings (%)
All novels originally published in English (392)	54 (13.8)	229 (58.4)	63 (16.1)	33 (8.4)	13 (3.3)
Classic novels originally published in English (99)	25 (25.3)	57 (57.6)	13 (13.1)	3 (3)	1 (1)
Contemporary novels originally published in English (293)	29 (9.9)	172 (58.7)	50 (17.1)	30 (10.2)	12 (4.1)
Russian novels translated into English (119)	56 (47.1)	52 (43.7)	7 (5.9)	1 (0.8)	3 (2.5)
Translated Russian fiction published before 1970 (19)	13 (68.4)	6 (31.6)	0 (0)	0 (0)	0 (0)
Translated Russian fiction published after 1970 (100)	43 (43)	46 (46)	7 (7)	1 (1)	3 (3)

Table 7. Number of Reviews in NoveList for Translated Russian Novels and Novels Originally Published in English

Type of fiction	No reviews (%)	One review reviews (%)	Two reviews (%)	Three reviews (%)	Four reviews (%)	Five reviews (%)
All fiction originally published in English (392)	80 (20.4)	64 (16.3)	53 (13.5)	164 (41.8)	28 (7.1)	3 (0.8)
Classic English fiction (99)	62 (62.6)	29 (29.3)	8 (8.1)	0 (0)	0 (0)	0 (0)
Contemporary English fiction (293)	18 (6.1)	35 (11.9)	45 (15.3)	164 (56)	28 (9.6)	3 (1)
All translated Russian fiction (119)	70 (58.8)	28 (23.5)	14 (11.8)	7 (5.9)	0 (0)	0 (0)
Translated Russian fiction published before 1970 (19)	15 (78.9)	3 (15.8)	1 (5.3)	0 (0)	0 (0)	0 (0)
Translated Russian fiction published after 1970 (100)	55 (55)	25 (25)	13 (13)	7 (7)	0 (0)	0 (0)

Table 8. Availability of Reviews for Translated Russian Novels in Reviewing Sources Indexed by ProQuest

Type of fiction	No reviews (%)	1-4 reviews (%)	5-10 reviews (%)	More than 10 reviews (%)
All translated Russian fiction (119)	28 (23.5)	35 (29.4)	31 (26.1)	25 (21)
Translated Russian fiction published before 1970 (19)	6 (31.6)	6 (31.6)	3 (15.8)	4 (21.1)
Translated Russian fiction published 1970-1984 (28)	18 (64.3)	4 (14.3)	1 (3.6)	5 (17.9)
Translated Russian fiction published 1985-2002 (72)	4 (5.6)	25 (34.7)	27 (37.5)	16 (22.2)

one library journal. The fact that 91 translated Russian novels (76.5%) generated at least 1 review in an indexed journal publication is encouraging.

On the other hand, as mentioned above, only 49 translated Russian novels (41.2%) have at least 1 book review associated with their record in NoveList. Despite the ready availability of book reviews, NoveList often fails to incorporate them into its records of translated Russian novels, possi-

bly because NoveList draws the vast majority of its reviews from only four journals: *Booklist*, *Library Journal*, *Publishers Weekly*, and *School Library Journal* (EBSCO Information Services, 2002d). Librarians and patrons using NoveList thus have a greater chance of intellectually accessing novels originally written in English than they do intellectually accessing translated Russian novels, not only because of wide discrepancies in the quantity of subject headings, but also because of

wide discrepancies in the number of book reviews that accompany these two types of novels. For the producers of NoveList, reliance on only four journals for reviews may be a wise financial decision insofar as use of reviews from additional sources may entail seemingly burdensome expenditures for reprint permissions. At the same time, however, such a decision also has the effect of substantially reducing intellectual access to translated fiction.

Discussion

On the whole, translated Russian novels are assigned fewer total and fewer topical subject headings than novels originally written in English. In light of the demographic and cultural trends identified above, this numerical discrepancy in subject headings—especially topical subject headings—should be cause for some concern, since it points to the inability of the developers of NoveList to adequately provide intellectual access to an important and rapidly expanding component of multicultural literature: translated foreign novels. According to Natasha Wimmer, despite the fact that only about 6% of all books translated worldwide are translations from foreign languages into English, many editors at publishing houses in the United States believe that “there’s been an upturn in the past seven or eight years” and that “the bestseller lists and publishing programs of the major houses” will become as international as the ones in Europe (Wimmer 2001, 71–72). Moreover, many university presses and small independent presses have a substantial and ever-increasing commitment to translated fiction (Wimmer 2001, 73).

If the lack of subject headings assigned to translated Russian novels in NoveList is any indication, foreign literature translated into English is likely to remain intellectually isolated and excluded from the general realm of fiction works originally written in English. In other words, an individual searching for a new fiction book to read using the NoveList database likely will not be informed by the database that there are Russian novels that meet her or his reading interests. For example, five novels by Fyodor Dostoevsky (*The Adolescent*, *The Friend of the Family*, *The Idiot*, *Netochka Nezvanova*, and *A Raw Youth*), *The Master and Margarita* by Mikhail Bulgakov, and seven novels by Vladimir Nabokov (*Ada*, *Bend Sinister*, *The Eye*, *Invitation to a Beheading*, *Laughter in the Dark*, *Mary*, and *Glory*) are assigned only one form/genre subject heading each. The lack of topical subject headings means that NoveList fails to relate these Russian novels to other fictional works with the same topics, themes, and ideas. In order to intellectually integrate foreign language literature coming from a specific country into the entire collection of fiction indexed in NoveList and to maintain integrity and intellectual interconnections within the subcollection of foreign literature itself, improved subject access is required.

Beyond the circumstance of insufficient topical subject headings, there are four additional problem areas: complete lack of subject headings; redundant or inefficient subject headings; inconsistent subject headings; and wrong, misleading, or ambiguous subject headings. As mentioned above in the Method section, searching in the NoveList “Subjects” field ultimately generated 119 translated Russian novels that were used as the basis of this study. However, when a subsequent search was conducted in *all* available fields, an additional 29 translated Russian novels were retrieved. Of these 29 titles, 9 did not have any subject headings, 18 others did not have a heading subdivision for “Translations into English,” and 2 titles had other inconsistencies. Five more records for translated Russian novels were found completely by accident. In all 5 of these cases, the word *Russia** was not present anywhere in the record. No doubt there are many more “missing” records, but the examples discussed here highlight the problem of the lack of subject headings. In practical terms, this means that many authors and works of potential interest are hidden from users of NoveList. For instance, among the translated Russian authors who would not be identified through a search of only the “Subjects” field are Daniil Granin, Konstantin Fedin, and Aleksandr Goncharov.

With regard to redundant and inefficient subject headings, the *Guidelines on Subject Access to Individual Works of Fiction, Drama, etc.* recommends that indexers and catalogers “never assign both broader and narrower terms to the same work” (American Library Association 2000, 4). Both broader and narrower subject headings applied to the same work with no special justification for doing so are deemed redundant or inefficient. Moreover, two or three synonymous terms, which express the same topic or notion, do not add to the book description, and do not improve access to its content, also are considered inefficient, especially when they are assigned instead of other subject headings that could be more reflective of the intellectual content of a book and therefore more useful to potential patrons. For example, the two subject headings assigned Julia Voznesenskaya’s *The Women’s Decameron*, “Russian émigré fiction – 20th century – Translations into English” and “Russian fiction – 20th century – Translations into English,” could be replaced by the single subject heading “Russian émigré literature in the twentieth century – Translations into English.” Similarly, the three subject headings assigned Fyodor Dostoevsky’s *The House of the Dead*, “Prisons – Siberia,” “Prisoners – Siberia,” and “Political prisoners – Siberia,” could be replaced by the single subject heading “Political prisoners – Siberia.”

Inconsistent subject headings, either among works by the same author or among works with related themes and plots, are also a significant problem in NoveList. The most obvious inconsistencies are observed in form/genre subject headings. For instance, works by such émigré authors as Yuz Aleshkovsky, Nina Berberova, Vladimir Nabokov, Aleksandr

Table 9. Suggested Subject Headings for Dostoevsky's *The Idiot* Using Contextually Relevant Words and Phrases Extracted from Various Reviewing Sources

Type of Subject Heading	Words and Phrases from <i>Magill Book Reviews</i>	Words and Phrases from <i>Reference Guide to Russian Literature</i>	Suggested Subject Headings
Form or Genre	Russian		Russian fiction – 19th century – Translations into English Psychological fiction, Russian – 19th century – Translations into English Historical fiction, Russian – 19th century – Translations into English Saint Petersburg (Russia) – Social life and customs – 19th century
Setting	Russia St. Petersburg	St. Petersburg	
Topical	epilepsy humanity nobleman love and contempt friends kept woman innocence suffering returning good for evil scandals	epileptic ideal of human perfectibility innocent and saintly princely family woman of questionable reputation triangle crisis [in society] chaos and disorder apocalyptic atmosphere human alienation from nature society . . . on the brink of collapse	Social problems – Saint Petersburg (Russia) – 19th century Nobility – Russia – 19th century Scandals – Russia – 19th century Triangles (Interpersonal relations) – Russia Courtesans – Russia – 19th century Male friendship – Russia Epileptics – Russia Mentally ill Suffering Innocence (Psychology) Idealism (Personal trait) Good and evil Platonic love Humanity

Solzhenitsyn, Edward Topol, and Vladimir Voinovich are not assigned a heading for “Russian émigré fiction – 20th century – Translations into English,” whereas the works of Vasily Aksenov and Sergei Dovlatov are identified as being by Russian émigré writers. Moreover, subject headings are not always consistent among works by the same authors. Only one (out of four) of Aksenov’s books and one (out of two) of Dovlatov’s books are provided with subject headings for émigré fiction. Other examples of inconsistency are not hard to find. Whereas books by Aleshkovsky, Dovlatov, and Viktor Pelevin (*Homo Zapiens* and *Omon Ra*) are assigned subject headings that read “Satirical fiction, Russian” with subsequent subdivisions, Pelevin’s *The Life of Insects*, Alexander Zinoviev’s *Homo Sovieticus*, and Voinovich’s *The Anti-Soviet Soviet Union* are identified as Russian satire. Whereas Solzhenitsyn’s *Cancer Ward*, Lydia Zinovieva-Annibal’s *The Tragic Menagerie*, and Abram Tertz’s *Goodnight!* are given subject headings that read “Autobiographical novel,” Ivan Turgenev’s *Spring Torrents* and Yevgeny Yevtushenko’s *Don’t Die before You’re Dead* are assigned subject headings that read “Russian autobiographical novels – Translations into English.” In addition, the same main headings (e.g., “Russian fiction” and “Satirical fiction, Russian”) may or may not have chronological subdivisions and a subdivision of “Translations into English.”

Finally, subject headings assigned by NoveList occasionally grant potential readers an entirely erroneous impression of a book’s content. Take, for instance, Pelevin’s *The Life of*

Insects, which has “Insects – Crimea,” “Mosquitoes – Crimea,” “Resorts – Crimea,” and “Americans in Crimea” as four of its subject headings. Insofar as the novel is an allegory, these subject headings bear no resemblance to the philosophical and cultural themes and topics of the book. Relying on the subject headings assigned by NoveList, an unwary North American reader may conclude that Pelevin’s book is suitable for tourists traveling to famous Crimean resorts—a book from which the reader can expect to learn a number of useful tips employed by native Russians in Crimea to protect themselves from obnoxious and harmful insects. Alternatively, the reader could anticipate finding a number of amusing stories involving insects that pester Americans on holiday in Crimea.

Similarly, Yuri Buida’s *The Zero Train* is not, fundamentally, about trains, railroad stations, and mentally ill men tracked by secret service agents, as four out of its five topical subject headings suggest. Rather, the train is a metaphor for “a life without purpose” in a totalitarian state (Phelan and McDowell 2001, 17) or “a symbol of history, careening unstopably according to the laws of Marxism” (Massie 2001, 15), and the railway line itself is “the Party Line, to be obeyed, never questioned” (Massie 2001, 15). In essence, the work is a parable about the Stalinist era in the Soviet Union, with its forced labor camps, pervasive fear (Massie 2001, 15), hypocritical, “faceless” authorities, “oppressions,” and “daily humiliations and deprivations” where “human existence depends on the maintenance of the repetitive and

Table 10. Suggested Subject Headings for Dovlatov's *The Suitcase* Using Contextually Relevant Words and Phrases Extracted from Various Reviewing Sources

Type of Subject Heading	Words and Phrases from <i>Magill Book Reviews and The Atlantic</i>	Words and Phrases from <i>Publishers Weekly and Library Journal</i>	Words and Phrases from <i>Review of Contemporary Fiction and Reference Guide to Russian Literature</i>	Suggested Subject Headings
Form or Genre	Soviet Union	ironic humor	Russian literature	Satirical fiction, Russian – 20th century – Translations into English
	New York	seriousness	humorous	Russian émigré literature in the 20th century – Translations into English
	autobiographical	regard . . . with . . . a jaundiced eye	social and political commentary	Autobiographical fiction, Russian – 20th century – Translations into English
	genealogical story	Soviet Union	autobiographically	Russian – American literature – United States – 20th century
	seriocomic nonsequiturs satirical witty	comic and absurd nonconformists	“memoir novels” émigré absurdist [account]	Irony Understatement
Setting	Soviet Union	Soviet Union	USSR	Soviet Union – Social life and customs
	Queens, New York	Russia		Soviet Union – Social conditions Queens (New York, N.Y.) United States – Emigration and immigration Nineteen sixties Nineteen seventies Daily life – Soviet Union
Topical	fractured life	woeful failing of Soviet socialism	emigrating from the USSR	Frustration
	émigré	emigrating	disorganization and confusion [society]	Drinking of alcoholic beverages – Soviet Union
	frustrations	longing for his mother country	ordinary Soviet citizen	Dissenters – Soviet Union Nostalgia
	nobody is ever sober nostalgia Soviet life	emigrated dedicated drinkers	drinking miserable . . . living conditions miserable [Soviet people]	Russian Americans – New York (N.Y.)
	antihero		despaired . . . in pain	Immigrants – Russian – United States Antiheroes

aimless” and where “feeling and thought are displaced by worship of the mechanical and industrial” (Phelan and McDowell 2001, 17). Or, as Massie (2001) suggested, it is a parable about one’s suppressed personality, emptiness, and inability to enjoy freedom when it is finally granted.

Recommendations

Given the evident shortcomings in NoveList subject headings, is there a practical way to rectify the situation? Improved subject access to fiction has long been a desire of librarians and scholars (e.g., Copeland 1995; Sapp 1986). Clare Beghtol (1989, 1990) explained that one reason that subject access for fictional works has lagged behind subject access to scientific

works is that “classification systems have not been generally adopted for content elements of primary works of fiction,” and those that have been developed suffer because they adhere to the principle of “classification-by-creator” instead of “classification-by-subject” (Beghtol 1989, 134). Beghtol (1994) and Judith Ranta (1991) have suggested that literary criticism can help indexers assign subject headings at both a denotative and connotative level, thus alleviating the type of subjectivity found by Jarmo Saarti (2002) in a study of the consistency of subject indexing of novels by librarians and members of the public. Christine DeZelar-Tiedman argued that “publisher-supplied copy from dust jackets and the backs of books usually provide[s] sufficient information to apply subject headings to individual works of fiction, drama, etc.” (DeZelar-Tiedman 1996, 207–8). *Guidelines on Subject*

Table 11. Suggested Subject Headings for Baranskaya's *A Week Like Any Other* Using Contextually Relevant Words and Phrases Extracted from Various Reviewing Sources

Type of Subject Heading	Words and Phrases from <i>Publishers Weekly</i>	Words and Phrases from <i>Library Journal</i>	Words and Phrases from <i>Reference Guide to Russian Literature</i>	Suggested Subject Headings
Form or genre	Soviet Union	funny Soviet Union USSR	Soviet form of a diary a female viewpoint contrast humor ironic understatement critical realism honest and unvarnished picture	Russian fiction – 20th century – Translations into English Diary fiction, Russian Women's fiction, Russian – 20th century Critical realism Irony
Setting	Soviet Union	USSR, Soviet Union		Soviet Union – Social life and customs
Topical	women's tensions women's . . . roles at home and on the job married mother committed scientist daily schedule juggling of chores and deadlines guilty women's experience misunderstandings between the sexes conflicts	open-ended narrative of conflicts a woman scientist female colleagues juggling careers, family and responsibilities, and personal needs frictions and rewards daily life in the Soviet Union	stressful and difficult average educated Soviet working mother 26-year-old scientist at work and at home a typical week juggle her various tasks guilty pressure to complete her project on time many domestic chores, burden of child-care emotional support from . . . women friends stress and exhaustion trapped, overwhelmed competing pressures of work, home, marriage, and motherhood women . . . hindered . . . by the State poor standard of . . . shops, transport, housing, and child-care barely survive	Work and family – Soviet Union Urban women – Soviet Union Stress (Psychology) Women scientists Women – Soviet Union – Social conditions Responsibility Domestic relations – Soviet Union Problem families – Soviet Union Marital conflict Sexual division of labor – Soviet Union Shame Role conflict – Soviet Union Misunderstanding Women and communism – Soviet Union Female friendship – Soviet Union Daily life – Soviet Union

Access to Individual Works of Fiction, Drama, etc. notes that both dust-jacket information and book reviews are “a good source of information for determining what a given work [of fiction] is about” on a factual and thematic level (American Library Association 2000, 47). Indeed, Susan Hayes has demonstrated that “[c]riticism, whether popular, i.e., book or play reviews, or literary, i.e., scholarly articles and monographs, [is] widely available, so the feasibility of using criticism in the subject analysis of fiction [is] not contra-indicated by any dearth of critical material” (Hayes 2001, 91). She remarked, further, that popular criticism is especially useful insofar as the language of popular criticism can more readily

be translated into the terminology of Library of Congress Subject Headings (LCSH).

As seen in table 8, 76.5% of the 119 translated Russian novels under study here were reviewed at least once. Clearly, reviews are available and they could form the raw material for the creation of valuable subject headings, which could enhance intellectual access to translated Russian novels, or any fictional work, in NoveList. As a sample of the kind of information that can be derived from book reviews, we selected four translated Russian novels where the subject headings assigned by NoveList were either minimal or misleading. The selected novels were (with NoveList subject

Table 12. Suggested Subject Headings for Pelevin's *The Life of Insects* Using Contextually Relevant Words and Phrases Extracted from Various Reviewing Sources

Type of Subject Heading	Words and Phrases from <i>Booklist</i> , <i>Library Journal</i> , <i>World Literature Today</i> , and <i>Review of Contemporary Fiction</i>	Words and Phrases from the <i>Washington Post</i> , <i>Boston Globe</i> , <i>Los Angeles Times</i> , <i>New York Times</i> , and <i>The Village Voice</i>	Suggested Subject Headings
Form or genre	satirist travestied	absurdist extremes surreal	Russian fiction – 20th century – Translations into English Satirical fiction, Russian – 20th century – Translations into English Surrealist fiction Dystopias Fables Parodies, Russian Absurdist fiction
Setting	excellent parody symbolically tinged imagery metaphorically absurdist anthropomorphic parody humorous yet melancholy irony grotesque distortions contemporary Russia ailing Black Sea resort dark and decrepit resort hotel	sardonic comedy allegorical satire series of fables absurdity satire ancient tradition of animal allegory humor Russian Black Sea beach resort Crimea Post-Soviet post-perestroika Russia crumbling resort hotel Crimean shore	Russia (Federation) – Post-communism Black Sea Coast – Economic conditions Black Sea Coast – Social conditions
Topical	confused lives metaphors Russia's present-day citizenry joint-venture business American meaning of life transforming life in Russia today constantly in danger of being stepped on people lost searching for . . . "something else"	surreal cyberpunk taxonomy transforming new Russian capitalists American partners industrious ordinary citizens to annoy the bourgeoisie Crimean resort town material goals chaos decay and desolation impending doom accident-prone state American entrepreneur joint venture philosophical and religious yearning fragility of the human soul haplessness and terror spiritual anguish	Resorts – Crimea (Ukraine) Frustration Meaning (Psychology) Transformations (Magic) Human behavior – Humor Russians – Crimea Americans – Crimea Businessmen – United States Businessmen – Russia Joint ventures – Russia Joint ventures – United States Insects – symbolic aspects Punk culture – Russia (Federation) Daily life Materialism Fate and fatalism Social problems – Russia (Federation) Urban population – Russia (Federation)

headings in parentheses): Fyodor Dostoevsky's *The Idiot* ("Russian fiction – 19th century – Translations into English"); Sergei Dovlatov's *The Suitcase* ("Satirical fiction, Russian – 20th century – Translations into English"); Natalya Baranskaya's *A Week Like Any Other* ("Russian fiction – 20th century – Translations into English"); and Viktor Pelevin's *The Life of Insects* ("Russian satire – 20th century – Translations into English," "Resorts – Crimea," "Americans in Crimea," "Insects – Crimea," "Mosquitoes – Crimea," "Russians in Crimea," and "Crimea"). We then used a variety of popular book review sources to extract key words indicating both denotative and connotative elements, and then, adapting

these words and ideas to comply with LCSH rules (Library of Congress 2002; Library of Congress Cataloging Policy and Support Office 2002; Library of Congress Cataloging Policy and Support Office 1996), *Olderr's Fiction Subject Headings: A Supplement and Guide to the LC Thesaurus* (1991), and the *Guidelines on Subject Access to Individual Works of Fiction, Drama, etc.* (American Library Association 2000), created form/genre, setting, and topical subject headings. The results are presented in tables 9–12. The appendix at the end of this article presents the sources for book reviews.

As these four tables indicate, a well-rounded picture of the intellectual parameters of each novel emerges from the

assigned subject headings. From a theoretical perspective, then, it is possible to read a range of book reviews, extract key words and phrases from those reviews, and translate them into a rich portrait of the “aboutness” of a given fictional work (Hayes 2001, 93). In addition, book reviews sometimes provide information about how a particular title is related to other writers and other fictional works, e.g., whether Book A is stylistically or thematically similar to Book B. For instance, in the case of book reviews for Pelevin’s *The Life of Insects*, reviewers invoke the names of such authors as Nikolai Gogol, Franz Kafka, Karel Capek, Ivan Turgenev, Edgar Allan Poe, and Anton Chekhov, pointing out how Pelevin follows in the traditions established by those writers. Reviewers point out that various episodes of Pelevin’s *The Life of Insects* bear resemblance to Gustave Flaubert’s *Madame Bovary*, George Orwell’s *Animal Farm*, William Blake’s *The Fly*, Mikhail Bulgakov’s *The Master and Margarita*, and the character Estragon in Samuel Beckett’s *Waiting for Godot*, not to mention scenes from some of his own earlier novels such as *The Yellow Arrow*, *Omon Ra*, and *The Blue Lantern*. Such references to other writers and other fictional works provide an opportunity for indexers to investigate the subject headings that have been assigned to the mentioned works and consider applying them as well to *The Life of Insects*, thereby creating intellectual linkages between Pelevin and other European and American writers.

To be sure, this is not a task that can be accomplished in a few minutes. Problems associated with time constraints, a shortage of personnel, and commitment must be overcome. In addition, for fiction translated from languages originally written in non-Romanized scripts (e.g., Cyrillic), searching for reviews, on databases such as *ProQuest*, from which to draw information about translated novels is often complicated by variant forms of author names (transliterated versus Anglicized forms). Yet, as Gunnar Knutson reported about a study conducted at an academic library in Illinois, the circulation frequency of social science essay collections with additional subject headings was greater (although not statistically significantly so) than the circulation frequency of titles without such enhanced subject headings: “by three different measures of local circulation, the subject-enhanced records accounted for about half of all use even though they represented only a third of the books” (Knutson 1991, 77). In addition, (Mary Dabney Wilson et al. 2000), studying whether an increase in the number of subject headings assigned to fiction titles increases the circulation of those titles at an academic library in Texas, found intriguing (although not statistically significant) evidence that a small set of books with 7 assigned subject headings had, on average, 4.69 circulations per item in the period 1994 to 1998, while titles with fewer subject headings had between 2 and 3 circulations per item in the same period. Accordingly, there is some evidence that an increase in the number of subject headings plays a role in

increasing the circulation statistics for both fiction and non-fiction titles. The extra time needed to create additional subject headings may therefore lead many more readers to discover books with additional subject headings; circulation of these titles may therefore rise.

Conclusion

As Sanford Berman has observed with regard to multicultural materials, an insufficient number of subject access points makes a work “invisible” to potential users, in effect creating “bibliocide by cataloging” (Berman 1992, 132–33). Databases such as NoveList are key components of readers’ advisory services, since librarians frequently use them to recommend new titles to patrons. Although NoveList is a powerful tool that contains much valuable information and robust searching capabilities, the deficiencies identified in this article suggest that NoveList has the effect of making translated novels less visible—from the perspective of intellectual access—than novels originally written in English because translated novels have fewer subject headings and fewer accompanying reviews than novels originally written in English. Less intellectual visibility, in many cases, is tantamount to Berman’s notion of invisibility. The intellectual invisibility of translated novels in the NoveList database is particularly troubling when the United States and Canada are becoming increasingly diverse and multicultural. This invisibility isolates and excludes translated literature from the general realm of fiction works originally written in English such that an individual searching for a new book to read and using the NoveList database to do so would likely not become aware of translated fiction titles. Inadequate intellectual access to translated fiction in NoveList prevents a complete integration of translated fiction with English-language fiction. NoveList contributes to this isolation by having a very small number of subject headings for translated Russian novels (in comparison with the number of subject headings for novels originally written in English) and by including only a very small number of book reviews in each record despite the ready availability of additional book reviews for these titles in other sources. On the one hand, NoveList states that its subject headings are a significant means of accessing new fiction titles, and that many of its search strategies are based on subject headings. On the other hand, it fails to provide a sufficient quantity of meaningful subject headings for translated Russian novels. Additional research on other sets of translated fiction (e.g., Chinese into English, Swedish into English, Italian into English) also should be carried out using the same general methodological approach discussed in this article.

As discussed above, book reviews are an excellent and readily accessible source for developing subject headings. Although the process of creating additional subject headings

in this way (or any other way) for translated fiction titles may be looked upon as time-consuming and labor-intensive by some, failure to undertake such a process can be construed as an ideological choice that, inadvertently or not, suggests that fiction originally not written in English is somehow less noteworthy than fiction that is originally written in English. The developers of electronic databases such as NoveList that purport to offer unparalleled access to fiction titles and that help librarians offer readers' advisory services should be aware that a lack of subject headings for certain classes of fiction (in this case, translated Russian novels) hinders intellectual access to such fiction. In effect, it ghettoizes such fiction by not providing links to other more mainstream titles. But, as Leonard Wertheimer observed, "the multilingual part of the library must be an oasis, not a ghetto" (Wertheimer 1991, 381–82). What is true for the collection of books in a tangibly real public library location should also be true for the ephemeral realm of digital libraries and databases. For a database such as NoveList whose aim is to encourage exploration and discovery of new unread titles, a situation that perpetuates ghettoization of fiction is, to say the least, ironic.

Librarians rely on electronic tools such as NoveList when offering readers' advisory services. But this reliance can often turn into overreliance and also can lead librarians to dismiss some of the philosophical consequences of shortcomings in readers' advisory databases such as the ones identified in this article. Even though readers' advisory services have always prided themselves on giving the final choice of reading matter to individual patrons based on their expressed (and different) needs, it has long been recognized that, from a historical perspective, readers' advisory work was part of the flourishing adult education movement in the 1920s and 1930s (Lagemann 1989), where individuals were given "systematic" reading plans so that they could improve themselves and their position in life through self-education (Flexner and Edge 1934, 3–6, 37, 51). This self-education was to come through purposefully working one's way through a list of selected books carefully prepared by a librarian who hoped that, collectively, the books would expand the reader's intellectual and cultural horizons (Wiegand 1999, 4–6). On a more theoretical plane, readers were not only to be improved through books, but they were to become conventional, orderly, and placed into "a new mode of regulation capable of ensuring labor discipline and forging a market for consumer products . . ." (Luyt 2001, 443). As Michael Harris suggested, "if the common man could be induced to read the 'best' books, he would be more inclined to be conservative, patriotic, devout, and respectful of property" (Harris 1973, 2511). The public library in the early twentieth century can therefore be seen, following Dee Garrison (1979), as part of "an urban reform movement of moral uplift, initiated by elements of the middle and upper classes and intended to pro-

mote social stability through the weakening of class conflict" (Garrison 1979, 223).

The heritage of readers' advisory services is therefore fraught with complexities. Ideologically, one could argue that, at the same time as they recommend books, readers' advisory services unfairly exclude books from the consideration of patrons relying on such services because they do not create a level playing field (i.e., the same number of subject headings, the same number of accompanying book reviews) for all fiction titles. The reader does not have a fair and equal chance of selecting any given book. Some books are privileged because of a greater number of subject headings or accompanying reviews; others are not. In the end, whether such privileging (or de-privileging) is deliberate or not, or whether it occurs because of librarian bias or arrogance, inadequate subject headings, or gaps in electronic indexing, does not matter. The de-privileging, simply put, has occurred. The reader does not have the possibility of choosing a certain book or books because that choice has been withheld from him or her by a readers' advisory service, in this case NoveList. As the data presented here suggests, intellectual access to translated Russian novels is problematic in NoveList. Readers making use of NoveList are not given as much opportunity to be presented with translated fiction works as they are to be presented with fiction originally written in English. NoveList privileges intellectual access to some books (i.e., fiction originally written in English) while inhibiting intellectual access to others (i.e., translated fiction). Ideologically speaking, NoveList, in its own way, perpetuates the type of elitism discussed by Harris (1973) and Garrison (1979).

In light of this, librarians should make a practice of reading fiction titles and reviews as widely and extensively as possible in order to fill the numerous intellectual gaps in electronic readers' advisory tools. For multicultural fiction titles, two invaluable sources of information are *World Literature Today: The Journal* and *World Literature Today: The Magazine*, both of which are edited and produced at the University of Oklahoma. For translated Russian fiction specifically, a tool such as the *Reference Guide to Russian Literature* (1998) can provide reviews for a large number of books by a variety of classical and contemporary authors. Reliance on electronic tools such as NoveList is a convenient and easy approach to readers' advisory service, but this reliance also can obscure important philosophical issues such as equity in intellectual access with regard to translated fiction. Such reliance also can help to create a climate of intellectual complacency among readers' advisory librarians who may feel that, given the obvious extent and power of NoveList, developing in-depth and first-hand expertise about a wide range of fiction outside their own immediate area of reading interest would be superfluous.

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Appendix Source of Reviews

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Recent Work in Cataloging and Classification, 2000–2002

Kyung-Sun Kim

This article provides a review of cataloging and classification publications that appeared in the last two years. The review considers the papers in two categories. Cataloging Theories and Practices covers descriptive cataloging, authority control, classification, subject cataloging, cataloging nonbook materials, electronic resources and metadata, and international cooperation. The second section covers other issues related to cataloging, including management, and education and training. Throughout the review, the author identifies trends and important developments in the area of cataloging and classification.

Cataloging literature published from late 2000 through early 2002 reflects ongoing, if not increasing, interest in the cataloging of electronic resources. Numerous meetings and newly formed interest groups on this topic have been convened while cataloging rules and standards have undergone significant revisions (McKiernan 2002a; 2002b). Another recognizable characteristic of this body of literature is its international scope. In a number of papers, issues on bibliographic control and international cooperation have been discussed to facilitate the exchange and retrieval of bibliographic information at the international level.

This article will briefly describe cataloging and classification publishing highlights of the last two years through a review of the literature. This review is limited to print materials and a few Web resources. The reviewed papers are organized and presented in two parts. Part one focuses on cataloging theories and practices, and consists of the following categories: (1) descriptive cataloging, (2) authority control, (3) classification, (4) subject cataloging, (5) cataloging nonbook materials, (6) electronic resources and metadata, and (7) international cooperation. Part two covers other cataloging-related issues, such as management and education and training.

Cataloging Theory and Practice

Descriptive Cataloging

For the last two years, a significant part of the rules and standards used for descriptive cataloging have been revised, mainly due to ever-changing technology generating changes at a rapid pace. In this section, recent revisions made in International Standard Bibliographic Description (ISBD), Anglo-American Cataloging Rules (AACR), and MACHine Readable Cataloging (MARC) are summarized. Impacts of Fundamental Requirements for Bibliographic Records

(FRBR), which the International Federation of Library Associations (IFLA) introduced as early as 1997, are also discussed, followed by some problems in descriptive cataloging.

Rules and Standards

AACR has been continually modified to incorporate revisions necessitated by a changing technological environment since the 1967 publication of the first edition. Manning (2000) provides a brief history of AACR and summarizes recent developments in the cataloging rules, including those resulting from the advent of the Internet. Redefining “seriality” and restructuring bibliographic data based on an entity-relationship model are examples of the recent developments.

In late 2002, the 2002 revision of AACR2 (AACR2r 2002), incorporating all the amendments in 1999 and 2001 and also including additional revisions finalized in 2002, was published in loose-leaf format for updating. Three chapters of the AACR2r (2002) have undergone significant changes: chapters 3, 9, and 12. Chapter 3 for Cartographic Materials has changed to include rules for cartographic materials in electronic form and other updated rules. Chapter 9, whose title was changed from “Computer Files” to “Electronic Resources,” now contains rules aligned with the International Standard Bibliographic Description for Electronic Resources (ISBD(ER)). The provision of a distinction between direct access and remote access to electronic resources is an example of such alignment. Chapter 12, formerly “Serials” but now titled “Continuing Resources,” has been revised to accommodate “seriality” in the rules. The rules have been expanded to include successively issued resources, ongoing integrating resources (e.g., updating loose-leaves, updating Web sites), and some categories of finite resources (e.g., reprints of serials, finite integrating resources). In addition, AACR2r (2002) includes other updated rules and a new glossary.

ISBD, an international standard for the form and content of bibliographic description, also has experienced a significant adjustment to incorporate recent changes in the bibliographic world. ISBD(ER), revised from ISBD(CF) for Computer Files, was published in 1997. This change resulted in the revision of chapter 9 of AACR and was incorporated in AACR2r (2002). ISBD(CR) for Serials and Other Continuing Resources, revised from ISBD(S) for Serials, was issued in 2002 and incorporated in AACR2r (2002). Although changes are not as drastic as in ISBD(CR) and ISBD(ER), ISBD(M) for Monographic Materials also was revised in 2002. Hiron, Darling, and Robertson (2001) and Hawkins (2001) describe amendments and progress in AACR2 and ISBD(S) made until 2001. They report the status of the harmonization of

AACR, ISSN, and ISBD(S) and discuss what has been proposed to revise AACR2.

MARC, standards for the representation and communication of bibliographic and related information in machine-readable form, has undergone some important changes. MARC21, the first harmonized version of USMARC and CANMARC, was published in 1999. Discussing differences and similarities among USMARC, CANMARC, and UKMARC, McCallum (2000) describes the process of USMARC and CANMARC harmonization and their increasing compatibility with UKMARC. Comparing MARC with Extensible Markup Language (XML), Johnson (2001) remarks that despite the great potential of XML, MARC is still an important and broadly accepted encoding system. Fiander (2001) recognizes the usefulness of transliterating the MARC fields and subfields directly into an XML Document Type Definition (DTD), preserving the structure of MARC exactly. However, he also argues that this kind of effort would fail to take advantage of XML's facilities despite some advantages of the direct translation (e.g., easy conversion between MARC and Standard Generalized Markup Language (SGML)). He urges that before converting from MARC to XML, fundamental changes should be considered, such as redoing AACR2r based on IFLA's FRBR. Problems of MARC, including its rigidity and internal irregularities, will need to be solved before migrating away from MARC to a newer data format (Fiander 2001).

Models and Theories

FRBR was first introduced by IFLA in 1997 and published in the following year. This model is used for grouping entities dealt with in library catalogs and for delineating the functions performed by the bibliographic record using the entity-relationship analysis technique. According to FRBR, a bibliographic record is defined as the aggregate of data that is associated with entities that are key objects of interest to users. Three groups of entities exist that are useful to users. The first group contains four entities: work, expression, manifestation, and item. The second group includes entities responsible for the intellectual or artistic contents, the production, or ownership of the entities in the first group. Finally, the third group comprises entities representing concepts, objects, events, and places. The functions of the bibliographic records are defined based on the tasks that users perform while searching library catalogs. Those functions include finding, identifying, selecting, and obtaining. FRBR requires identifying the attributes associated with each entity and the relationships between entities important to users, describing logical relationships among the various entities, and defining the relationships associated with the four primary entities (work, expression, manifestation, item)

and then mapping the attributes and the four user tasks (finding, identifying, selecting, and obtaining). Depending on their importance to users, the attributes and relationships are rated, which is used for identifying the essential components of a bibliographic record.

Madison (2000) and Le Boeuf (2001) provide good descriptions of FRBR and discuss how FRBR can be implemented in practice in order to provide access to bibliographic records in a more orderly and logical fashion. Although it is yet to be implemented, FRBR has been receiving a great deal of attention from many countries, including the United States. Hickey, O'Neill, and Toves (2002) explain what the Online Computer Library Center (OCLC) is doing in order to implement IFLA's FRBR. In their paper, they describe OCLC's efforts in grouping the existing bibliographic records based on the FRBR model, by using an algorithm.

Problems

With the globalization of bibliographic databases, an increasing number of foreign language books are becoming available in libraries. Since having catalogers with multiple language expertise is seldom possible, many libraries rely on cooperative cataloging when cataloging foreign language books. From OCLC's catalog, for example, libraries can retrieve bibliographic records for the foreign books and use them with some modifications in their local libraries. Kelsey (2001; 2002) and Shedenhelm and Burk (2001) examine vendors' records for Italian, Spanish, and other European language monographs and report that many of the vendor records are of poor quality (e.g., errors, missing information, lack of authority control). Both papers found that many records for foreign language books available in OCLC's database are created by vendors. As the quality of the vendors' records is usually poor, this results in numerous duplicates and many other problems. The authors call for more OCLC intervention and increased international cooperation to improve the usefulness of vendor records to catalogers.

Another problem associated with cataloging foreign language books is Romanization. When cataloging foreign books in non-Roman scripts, catalogers must transliterate bibliographic data, such as titles or names of authors in the Roman (Latin) scripts, using a Romanization system. Wang (2000) indicates that the form of a person's name in records can vary significantly depending on the Romanization system used, and that this causes serious problems. Arsenault (2001) compares different Romanization systems for Chinese language (e.g., Wade-Giles, Pinyin) and suggests a system that can facilitate the retrieval of Chinese language materials better than others.

Regardless of the language used, books containing errors made by publishers create a challenge. Both

Bowman (2001) and Beall (2001) address the issue related to cataloging books with publishers' errors. Beall (2001) points out that the lack of guidelines in using error indicators has led to inconsistent cataloging practices and also impedes efficient retrieval of items.

Authority Control

Authority control is one of the most complex and tedious tasks in cataloging. While the internationalization of bibliographic databases has made the process more challenging, new technologies have offered new solutions to, or alternative ways of, authority control. This section first reviews studies on authority control problems found in names in non-Roman alphabets, and then those on international authority control efforts. Finally, those offering new solutions to authority control are reviewed and discussed.

With regard to the authority control of names in non-Roman scripts, Wang (2000) discusses problems with Chinese names. She points out that the form of a person's name in authority records can vary depending on the Romanization system used and the language and dialect used by the person. Variant names for the same person could cause a serious problem in authority control and also in bibliographic retrieval. Wang (2000) presents sample cases with similar problems and suggests that catalogers should include appropriate notes in the record to clarify situations. Addressing problems that Romanization can cause, Weinberg and Aliprand (2002) suggest that as the uniqueness of a heading in a source script is lost through Romanization, the uniqueness must be restored via the use of a qualification.

With globalization, an increasing amount of collaboration also has been achieved at the international level. Tillet (2000) reports a variety of international authority control efforts, including IFLA's Guidelines for Authority and Reference Entries (GARE), Minimum Level Authority Records (MLAR) Working Group's recommendation on a minimal set of essential data elements to be included in any national authority record, Project AUTHOR (a shared set of national authority files of five European countries), and so on. Heijligers (2001) describes the efforts of the Working Group on Form and Structure of Corporate Headings (FSCH) in establishing a worldwide uniform heading for corporate bodies. Recognizing and reconfirming the extreme difficulty in this, he suggests an alternative solution to the problem. Instead of establishing one authoritative form of name for every corporate body, providing an online overview of all relevant name forms pertaining to a particular body, by making use of the combination of modern computer technologies and the Internet, might be more efficient. This kind of system will help catalogers in differ-

ent countries select one as an authorized form, based on their users' needs.

In order to make the authority control process easier, especially for corporate body names, Ellero (2002) suggests that the Web can be used as a reference source for such names since many companies have their own Web sites and usually keep the sites current. She calls for more flexible and practical authority control, which will also help users find information more easily.

To facilitate information retrieval by users, Ayres (2001) argues that cross-references should be made completely, not selectively. Since most cross-referencing is done only partially, users often fail to retrieve all the related items on online catalogs. Ayres (2001) underscores the importance of comprehensive cross-reference in information retrieval. Another way of helping users search, Horn (2002) suggests, would be to make authority files available to users through the Online Public Access Catalog (OPAC). Her observation is that most users do not understand differences between keyword searches and subject searches on OPACs. She believes that making authority files accessible will help users differentiate keyword and subject searches and improve their searches on OPACs.

Classification

The recent literature on library classification falls into two categories: problems of existing classification systems, including cultural bias, and the wide application of the systems. This section starts with problems found in classification systems and then describes where and how classification systems are applied.

As some American classification systems are introduced to and used in an increasing number of foreign countries, more people have become aware of the problems that the classification systems have. One of the fundamental problems of the systems is cultural bias. Dewey Decimal Classification (DDC) and Library of Congress Classification (LCC) are the library classification systems most commonly used worldwide, including Latin America (Martinez-Arellano and Yanez Garrido 2000). They were developed in the United States in the late nineteenth century, originally for organizing collections for users in the United States. Naturally, the classification systems are heavily influenced by Western culture, and their emphasis is on the United States and some European countries. For example, in DDC, Christianity is privileged in the religion class (Rafferty 2001). In the main class for religion (200–299), divisions from 230 through 289 are dedicated to Christianity while other religions are compacted in 290 to 299. In LCC, the American emphasis is evident in geographic arrangements. Algier (2001) has noticed such bias

in LCC and suggests that the Library of Congress should put more effort into providing accurate and up-to-date classification numbers and geographic headings for Caribbean and other countries in the world.

Suggestions that Hope Olson (2001) and Begthol (2002) made for fixing the cultural bias problem in classification are deep-rooted. According to Olson (2001), most classification systems reflect the society's cultural orientation. Problems with classifications begin here—what a classification system defines as the same is culturally grounded, and classification, as we practice it, creates a hierarchy of sameness. The DDC, for example, puts a priority on a certain kind of sameness, with the result that materials with other kinds of sameness are scattered among many classes, even when the latter kinds of likeness may be more important and should be so classified. Because of DDC's priority on the language, works of Canadian literature in different languages are classed under 810 (English literature), 840 (French literature), etc., instead of being under one class (Canadian literature). To fix this kind of problem, Olson (2001) suggests making classification systems more flexible by allowing different ways of applying the system, using an unconventional notation system, varying the citation order, and so on. In an attempt to make DDC more hospitable to other cultures without Christian dominance, Oh and Yeo (2001) suggest alternative ways of classifying materials in religion using DDC. Several options are explored to accommodate different distributions of religions in Asian countries.

Begthol (2002) proposes the theoretical concept of cultural hospitality with user-choice mechanisms as a theoretical foundation for establishing methods of developing culture-neutral systems and theories. The concept of cultural hospitality with user-choice options appears to make it theoretically possible for people to think and act globally and, simultaneously, to act locally and individually.

Despite its cultural bias, DDC seems to be one of the popular classification systems used for organizing Web resources. Vizine-Goetz (2001b) introduces some projects that use DDC to organize and provide subject access to their databases. Mitchell (2001) also confirms the widespread application of the DDC throughout the world. Saeed and Chaudhry (2001) review several Web sites where resources are organized based on DDC and other classification systems and discuss the potential of DDC for an effective organization of Internet resources. DDC also is used along with other systems in order to make the organization of information easier. Saeed and Chaudhry (2002) describe a project in which DDC, terms from the DDC schedule, and terms from the Institute of Electrical and Electronics Engineers (IEEE) Web thesaurus are integrated to build a tool for a categorization that facilitates browsing of information resources in an electronic environment. Similarly, Godby and Vizine-Goetz (2000) introduce some current

research including a mapping of the Engineering Index (EI) thesaurus, Library of Congress Subject Headings (LCSH), and DDC to test automatic classification.

For the last two years, some efforts have been made to render DDC easier to use. In 2000, WebDewey in CORC (OCLC's Cooperative Online Resource Catalog, now part of OCLC Connexion) was introduced. In early 2002, WebDewey, and People, Place and Things were released along with Abridged DDC and Sears List of Subject Headings (Lawson 2001). People, Place and Things is designed to help users find the right places to browse for information organized by DDC. It provides a list of more than 50,000 LCSHs paired with corresponding DDC numbers. Crawford (2001) offers more details on how the list was compiled using records from OCLC's World Cat.

Compared to DDC, LCC seems to have received less attention from catalogers. In her paper on the classification of publications from an educational institution, Shelton (2000) addresses one of the LCC's problems. In the class L in LCC, for example, the Library of Congress's table assigns only one number to smaller institutions, but several numbers to bigger ones. As only one number can be used for a smaller institution, libraries that have many publications from the one-number institutions face difficulties in assigning more meaningful and unique call numbers. Shelton (2000) illustrates how her library deals with the problem to improve the retrieval of such institution's publications.

Finally, for those who use and study library classification systems, understanding basic concepts and terms used in classification is important and helpful. Satija (2000) provides good definitions of some key terminology used in classification and clarifies the differences in terms that often are used in a confusing way.

Subject Cataloging

The field has seen several interesting developments in providing subject access to bibliographic items via controlled vocabulary. Form subdivision has been recognized as an independent subdivision and is coded differently from general subdivisions in practice, which will enable users to search items by form. Faceted subject headings have been introduced to make subject searches easier. Projects mapping subject headings in different systems, even in different languages, have been launched to improve information retrieval. This section reviews literature on these issues and some problems related to subject cataloging.

Form Subdivision

For the last few decades, general and form subdivisions have been coded in the same way (using \$x) in MARC,

despite arguments and complaints against such practice. In 1995, however, the USMARC Advisory Group approved a proposal defining subfield \$v for form subdivision. In 1999, the LC began to identify form subdivisions with the new code. All of these have influenced old bibliographic records as well as new ones. For new items, the form subdivisions will be coded with \$v, but fixing millions of older item records, which lack explicit form subdivision coding, is a daunting task. Retrospective conversion for form subdivisions would require authority control processing specifications developed and tested. O'Neill and his colleagues (2001) describe a project for which an algorithm is developed to automatically identify form subdivisions coded as general subdivisions. The algorithm has proven to be a big success. With a low error rate (less than 0.1%), the algorithm will help accurately convert general subdivisions (\$x) to form subdivisions (\$v) in old records.

Faceted Subject Headings

Subject cataloging using controlled vocabulary is an effective way of providing subject access, but is also known to be a difficult system to use. A more efficient and easier way of providing subject access is called for, especially in the networked environment to which naive users with diverse backgrounds are drawn. In response to such needs, OCLC has developed Faceted Application of Subject Terminology (FAST). FAST is a revolutionary schema based on LCSH and developed to make subject access easier for individuals with minimal training and experience. Unlike LCSH, it uses a postcoordinated faceted vocabulary, which is especially effective in an online environment. Chan and others (Chan et al. 2001) provide a good description of FAST and its plans.

Subject Headings in Multiple Languages and Systems

Another exciting trend in subject cataloging is the development of subject heading lists integrating headings in different languages or in different systems. Clavel-Merrin (2000) describes research on multilingual subject heading systems. A pilot study was conducted to establish equivalents among RAMEAU (a French subject heading system), SWD/RSWK (a German subject heading system), and LCSH (an English subject heading system) in selected subject areas. Based on the findings, the Multilingual Access to Subjects (MACS) prototype has been developed, providing mechanisms for the establishment of links between subject headings in different languages. It will allow users to browse and enter search terms in their own language and retrieve relevant resources regardless of indexing languages used for the resources. Landry (2001) offers a detailed description of the MACS prototype interface.

There have been somewhat related but different efforts in vocabulary mapping between different subject heading systems in the same language. Roe (2001) describes efforts made in mapping between LCSH and Sears subject headings. This kind of project will help improve subject access to the collections of library consortia using different subject heading systems.

Problems

In addition to new developments, subject cataloging still has to deal with persistent problems. Inconsistency in subject cataloging (due to either differences in subject analyses or misinterpretation of cataloging rules), cultural bias in subject heading systems, and challenges in providing subject access to nonbook materials and fiction are some examples.

Shoham and Kedar (2001) report findings of their study on the inter-indexer consistency in subject cataloging. They make suggestions for facilitating the subject-cataloging process and improving the consistency in subject cataloging. Olson and Schlegl (2001) discuss problems of the systems used for providing subject access, such as classification and subject heading systems. They argue that topics and structures in subject heading systems do not accurately reflect reality, but are biased. Wilk and others (2001) support Olson and Schlegl's claim by showing that LCSH is a politically biased and Christian-oriented system. Wilk and his colleagues attest that LCSH is not specific enough for a large and varied Judaica and Israeli collection.

Nonbook materials have unique characteristics and cataloging them is always a challenge. Subject cataloging of such materials is not an exception. Ostrove (2001) reports problems in using LCSH for providing subject access to music materials. In music, distinguishing between form/genre and topic is often difficult. She suggests that LCSH should be changed to make subject cataloging of music materials easier. Yee (2001) compares LCSH and Moving Image Genre-Form Guide (MIGFG), and concludes that LCSH may be more useful than MIGFG even for providing genre/form access to moving and broadcast materials, although some improvement should be made in LCSH.

Fiction also may require special treatment when it comes to subject cataloging. Hayes (2001) examines a number of literary critiques/reviews to find out whether literary criticism can be a useful source for subject cataloging and what aspects of literature (e.g., denotative, connotative) would be feasible as subject access. Based on findings, she suggests some guidelines in providing subject access to imaginative works. Frierson-Adams (2002) provides specific guidelines for juvenile monographs including fiction.

Cataloging Nonbook Materials

Cataloging nonbook materials requires special knowledge and skills because such materials have unique characteristics due to their formats and contents. In 2000–2001, *Cataloging and Classification Quarterly* devoted its two issues (vol. 31, nos. 2-3/4) to the cataloging of nonbook materials. In this section, literature on cataloging music and other sound recordings, videorecordings, three-dimensional artifacts, and kits is reviewed. Following the literature review, issues related to current practices and history of cataloging nonbook materials are discussed.

Music and Nonmusic Sound Recordings

Simpkins (2001) provides detailed guidelines on cataloging popular music recordings. His article describes the entire cataloging process for popular music, including descriptive and subject cataloging but not classification. McBride (2000) addresses a rather specific problem in the MARC coding of music recordings. He examines 04x fields of the MARC format for music and discusses problems in the conception and design of the fields. He makes suggestions for improving access to music materials and concludes that links between appropriate fields would help improve retrieval of music items. Prochazka (2002), after analyzing current bibliographic records of music manuscripts and other related materials, has found that descriptive cataloging and MARC coding are not done in a consistent manner. He calls for more consistent and clear guidelines. Freeborn (2001) offers brief guidelines on cataloging non-music sound recordings.

Videorecordings, Three-Dimensional Artifacts, and Kits

Weitz (2001) provides some guidelines on cataloging videorecordings, with an emphasis on the areas in which catalogers may often encounter problems. Ho (2001) reports survey results on how faculty and graduate students search for videorecordings. Providing details of the findings, she suggests that more access points should be provided for videorecordings. Nancy Olson provides guidelines on cataloging 3-D materials (Olson 2001c) and also on cataloging kits (Olson 2001b).

Cataloging Practice in Different Types of Libraries

Chung (2001) and Piepenburg (2001) describe how audiovisual (AV) materials are cataloged in public and school libraries respectively. Piepenburg (2001) also offers some tips that can help school librarians in descriptive cataloging and MARC coding of AV materials. Boehr and Horan (2001) describe the

National Library of Medicine's (NLM) current cataloging practice of nonprint materials.

Letarte (2001) surveyed school library media specialists to find out how school library media centers organize Internet resources. She has found that most of the school library media centers provide selected Web resources through bookmark files they created for students to use. Cataloging electronic resources, however, is not done in a consistent manner, does not follow standard rules, and seldom uses MARC fields that would be useful to school library collections.

History of Cataloging Nonbook Materials

Weih's (2001) provides a quite comprehensive history of cataloging nonbook materials. Evolution of terminology (e.g., nonbook, nonprint) and changes in rules, standards, and practices (e.g., AACR, ISBD, metadata, General Material Designation (GMD), main entry, form subdivisions, and subject analysis) are portrayed with reference to important events in the context of cataloging nonbook materials.

Electronic Resources and Metadata

As technology advances rapidly, bibliographic items have been published in increasingly diverse forms. Disks in different formats, interactive multimedia, and Web pages are some of the examples. Campbell (2001) points out that some unique genres (document types) are only applicable to digital resources like the Web, but not to traditional print resources (and vice versa). For instance, boundaries in document types or editions are blurred and more difficult to establish in electronic resources than in print. Campbell (2001) urges that clear, standard guidelines are needed for helping users as well as catalogers.

In order to catch up on these new developments, cataloging rules have undergone more frequent and drastic changes than ever (Sandberg-Fox 2001a). Nancy Olson (2001a) summarizes what has been going on in the cataloging field to accommodate electronic resources in new formats. After the publication of ISBD for Electronic Resources in 1997, the Committee on Cataloging: Description and Access (CC:DA) appointed a task force to examine areas 3 and 5 of chapter 9, and to make recommendations at the 2002 ALA Conference about the location of information on remote access files. In her article, Olson (2001a) describes the rules new to chapter 9 of AACR2 and discusses both the new rules and the unchanged rules that are applicable to the cataloging of remote access electronic resources. For more details on the changes made in chapter 9, AACR2r (2002) itself is the best source to consult.

In 2000, the Library of Congress hosted a conference on bibliographic control for the new millennium. During the conference, several issues related to cataloging electronic resources were discussed. Sandberg-Fox (2001b) summarizes what was presented in the conference. Her report briefly describes presentations on current library standards for bibliographic control, such as faceted LCSH, Z39.50 interoperability, and DDC for organizing Web resources; she also describes presentations on future directions. Sandberg-Fox (2001b) also recapitulates studies comparing the effectiveness of different metadata sets and proposals on the cataloging of online serials. A year later, another international conference on electronic resources was held in Italy, and Plassard (2002) summarizes different issues discussed in the conference.

Many new ideas, standards, and projects have been launched in an attempt to make the organization of electronic resources easier and more efficient. Although some exciting ideas and projects are in progress, some concerns about the future directions in cataloging of electronic resources remain. Gorman (2001) is one of the individuals concerned about a rather fundamental issue: is it worth cataloging Internet resources? He argues that librarians should select only those worthy of cataloging and catalog fully the selected resources. He also asserts that cataloging electronic resources should be done following standard rules in order to facilitate an efficient information retrieval. Describing different approaches to authority control, Vellucci (2000) underscores the importance of authority control in applying metadata schemes, which somewhat concurs with Gorman's view. These positions are significantly different from those who are trying to make the metadata easier and simpler to use without any reinforced application of standard rules, but these differing positions deserve a serious consideration.

Dublin Core and Other Metadata Schemes

Although there are many different metadata schemes available for different kinds of collections, they are not widely used. Nowick (2002) investigates how metatags are used by Web authors. After examining a number of Web pages, she has found that several tags including "keywords" and "description" often were left unused. Drott's study (2002) has generated the same findings. Nowick (2002) speculates that this is due to lack of education and suggests that the use of metatags should be promoted and encouraged more aggressively.

Greenberg (2001) examines some of the currently available metadata schemas that can be used for organizing image information and finds that all of these consist of elements in different functional categories, such as object discovery, use, authentication, and administration, although

the number and proportion of elements in these categories vary depending on the schema. She suggests further exploration of the role of functional metadata classes in designing schemas and understanding users' needs, since networked communication introduces a new information environment.

Among different metadata schemes, Dublin Core (DC) seems to be the one most widely accepted and used. DC is a metadata element set (with fifteen elements) developed for describing Internet resources. It was initiated by OCLC in 1996. In 2000, DC got formal recognition by the Center for European Normalization (CEN), the European standardization body. In 2001, DC was ratified under the auspices of the National Information Standards Organization (NISO) as American National Standards Institute (ANSI) standard Z39.85. More details on the recent development in DC are well described in Dekkers's and Weibel's article (2002).

Polydoratou and Nicholas (2001) conducted a survey of information professionals and confirm that DC is the most widely used metadata in general, while MARC is popular in the research sector. Guincharde (2002) reports the results of her e-mail survey on who uses DC and why and how it is used. Her article provides a snapshot of current implementation and usage of DC: what elements are frequently used, what other metadata elements and qualifiers are used, what encoding formats are used, what kind of challenges are encountered, etc. Allen (2001) reports some problems in using DC for organizing digital images of maps. He raises fundamental questions, such as whether digital images should be treated as surrogates of the original, and how ephemerality of Internet resources should be handled. He also points out problems related to DC in CORC, including problems in map searching, in creating records with special letters, etc.

Dublin Core Applications

DC is applied to organizing electronic information even in the government sector. The Minnesota state government uses DC to provide effective tools for citizens to discover the environmental and natural resource information they need and to integrate access to diverse information resource types across multiple domains (Quam 2001). With an overview of metadata usage in various Government Information Locator Service (GILS) initiatives, Mullen (2001) reports the Texas State Library's application of DC in its Texas Record and Information Locator (TRAIL) service. Howarth (2001) introduces more cases in Canada, where DC is used along with GILS, including cases of Environment Canada's Green Lane (www.ec.gc.ca) and Canadian Health Network (www.canadian-health-network.ca). DC is also used for organizing educational mate-

rials/resources (Richmond and Kartus 2001). Science Net, an educational project for K-12, for example, uses DC along with DDC to organize its resources.

Crosswalk

As many different metadata schemes are used in different information systems, it seems imperative to make crosswalks among those databases possible so that users can find information across different databases without worrying about differences in the databases. To respond to such demand, a great deal of effort is going into making different metadata systems compatible. Chandrakar (2002) discusses the importance of crosswalks to DC and explains what has been done in India in order to make a crosswalk between the Common Information Format (CCF) and the Information and Library Network (INFLIBNET) metadata to DC. Chang (2001) describes efforts in mapping AACR2/MARC data fields to the Text Encoding Initiative (TEI) header's corresponding tags, started as early as 1994. TEI is a metadata scheme developed for humanities scholars. Moen (2001) introduces other ways of making it possible for different systems to communicate with each other. ANSI/NISO Z39.50 information retrieval protocol is one approach to cross locator searching; Open Archives Initiative (OAI) is another way of making crosswalks possible.

CORC

CORC is a project designed to encourage and enhance the description of Web resources. It started as a research project at OCLC in 1998. Its goal was to create a centralized database of Web resources through large-scale cooperation among libraries. The prototype service became available in 1999, and LC became an official participant in the same year. In 2000, CORC became a full OCLC service.

In 2001, *Journal of Internet Cataloging* published a special issue on CORC (*JIC*, vol. 4, no. 1/2). Several articles in the issue provide good background information on CORC. Edmunds's and Brisson's article (2001), for example, explains how CORC works and what the strengths and weaknesses are. They discuss problems with the automatic generation of DDC numbers and possible subject keywords based on a textual analysis of the site. They also make suggestions to improve CORC. Godby and Reighart (2001) focus on the WordSmith project, one of the features of CORC, and describe how WordSmith works to automatically supplement subject access terms for the Web documents in the CORC database. Childress (2001) also explains how CORC harvests metadata imbedded in the resource itself and how subject keywords and DDC numbers are generated based on the text analysis. Vizine-Goetz (2001a) describes how the DDC database has been

enriched through vocabulary mapping between DDC and LCSH and how this has improved the ability of CORC users to employ classification in metadata records and pathfinders. Although not in the special issue, Senecal (2000) summarizes what CORC can do, describing different features of CORC.

Even though participation in the CORC project was voluntary, the number of participants grew continually. In 1999, LC decided to become one of the CORC participants, because of the cost-effectiveness and timeliness that CORC can offer (Hayes and Larson 2001). Most of the contributing participants of CORC are academic libraries (Connell and Prabha 2002). However, an increasing number of libraries in specific fields also adopt CORC to provide access to their specialized Web collection. Medical libraries use CORC to organize Web resources (Medeiros, McDonald, and Wrynn 2001), and art libraries use it to organize digital images (Hanlon and Copeland 2001). Hayes and Larson (2001) describe different LC projects that are using CORC (e.g., BeOnline, Web Preservation Project, and URL maintenance).

While CORC remains a convenient tool for organizing Web resources, it has some problems. Most participants are dissatisfied with automatic harvesting that extracts keywords from a digital document and uses an algorithm to assign subject headings and classification numbers. It is especially inadequate for art images because images tend to be accompanied by little or no description and even that is often abstract in nature (Hanlon and Copeland 2001). CORC also has problems in creating records with diacritics and special letters and in searching maps (Allen 2001). Jones (2001) points out problems that can occur when cataloging serials using CORC, because it apparently was developed for monographic resources. Many CORC users also complain about slow response time (Edmunds and Brisson 2001).

All these problems are confirmed in other surveys. Hsieh-Yee and Smith (2001a; 2001b) surveyed libraries that participated in the founders' phase of the CORC project. They wanted to know why these early participants chose to join CORC, how they used the system, and how they viewed their experiences with the project. The survey revealed that most of the libraries used CORC to apply traditional cataloging methods and standards to Internet resources rather than to experiment with description options for other resources, such as using DC. The libraries considered their CORC experience positive, but they also had several concerns. Their concerns were related to slow response time, client/server interface, and automatically generated subject terms and numbers.

Recently, CORC was absorbed into the Connexion service launched in 2002. Connexion is the new face of OCLC cataloging, providing one-stop access to integrated cataloging tools and to WorldCat. The initial release uses a

browser interface for many functions found in OCLC's various cataloging services. Functions of the OCLC CORC service, CatExpress service, and other options, such as Dewey services, are all included in Connexion (OCLC 2002). For more information on Connexion, OCLC's Web site provides most of the related documents (www.oclc.org/connexion).

International Cooperation

The Program for Cooperative Cataloging (PCC), initiated in 1995, is an international cooperation effort aimed at expanding access to library collections by providing useful, timely, and cost-effective cataloging that meets mutually accepted standards of libraries around the world (Taylor 2000). It now consists of four components: Name Authority Cooperative (NACO), Subject Authority Cooperative (SACO), Bibliographic Cooperative (BIBCO), and Cooperative Online Serial (CONSER). Having grown out of cooperative activities involving LC and other U.S. libraries, PCC has been dominated by U.S. participants. Recently, however, increasing participation from non-U.S. countries has been observed in PCC, SACO, and NACO (Franks and Cristan 2000; Franks 2001). Byrum (2000) provides a good overview of international standardization efforts in cataloging, including PCC and IFLA activities. Parent (2000) describes IFLA's Section on Cataloging and its contributions to bibliographic control at the international level. Recent revisions in ISBD and FRBR are some examples. While encouraged by the increasing level of international cooperation, Parent (2000) points out some difficulties in such cooperative efforts, including the communication problem. She conjectures that the predominance of Anglo-American committee chairs in most programs, including the Bibliographic Control Division of IFLA, may be explained by the common usage of English in international meetings.

Other Issues

Cataloging Management

Cataloging is one of the service areas that entails a high cost. Outsourcing is a solution that can reduce the cost, especially for libraries with limited resources. Lam (2001) reports an outsourcing experience using Innovative Interface's INNOPAC and Library Tech Inc. (LTI) for authority control.

In an effort to evaluate cataloging efficiency and effectiveness, McCain and Shorten (2002) surveyed academic libraries and developed measures based on multiple factors such as reported productivity, number of staff, task

distribution, and quality measures. They suggest benchmark productivity levels for best practices, which could be used by libraries to assess their cataloging effectiveness and efficiency.

General management issues in different libraries are addressed and discussed in two *Cataloging & Classification Quarterly* issues published in 2000 (vol. 30, nos. 1, 2/3). The two special issues contain papers describing how cataloging and other related operations are managed in national libraries, special and academic libraries, and libraries around the world.

Cataloging Education and Training

With continual changes in cataloging principles and practices, cataloging education and training have become a challenge to educators as well as information professionals. What do we need to teach in school? How can we incorporate newly developed rules and standards in library and information science (LIS) curriculum more promptly? What about the training of catalogers? What should we do to help catalogers update their knowledge and skills so that they can remain competent?

Letarte and her colleagues (2002) conducted a survey to find out what knowledge and skills are considered valuable for entry-level academic librarians. Their survey of heads of reference and cataloging in academic libraries reveals that basic cataloging knowledge and skills are still very important for new librarians. More than half of the respondents believe that knowledge of LCSH, LCC, MARC, and AACR is essential, while they also recognize the usefulness of knowing HTML, DC, and other metadata schemes.

As part of an effort to incorporate newly developed standards in the LIS curriculum, Hsieh-Yee (2000) and Glaviano (2000) describe courses that they offered to introduce students to metadata used for organizing Internet resources and discuss their experience in teaching such courses. Howarth (2000) addresses the barriers that catalogers face in updating their knowledge and skills, and applauds the Serials Cataloging Cooperative Training Program's (SCCTP) role in training catalogers. SCCTP is a cooperative program that also provides standardized training materials and trained trainers in periodicals cataloging. Howarth (2000) and Hawkins (2001) recognize SCCTP as a good model for continuous professional development.

Summary

Current trends reflected in the literature published during the last two years can be summarized into two points. First, advances in technologies have forced continual changes in

theories, standards, rules, and systems of cataloging and classification. AACR2r and ISBD have undergone significant changes to cope with the new forms of bibliographic items such as Web resources. Faceted subject headings have been introduced to facilitate information retrieval, especially in the online environment. As different metadata schemes developed in the 1980s and 1990s have been stabilized and adopted in numerous projects, metadata interoperability has become an important issue. All these changes seem to have stemmed from continuing technological development. Second, globalization has promoted bibliographic control, system development, and application at the international level, and it has also contributed to the increasing awareness of problems in existing systems. Issues related to Romanization have been raised more frequently as an increasing number of bibliographic items from foreign countries are being made available to users. Systems that can handle multiple languages have received more attention, and some of them are, in fact, under development. Harmonization between different MARC systems in different countries has been actively sought and partially realized. The FRBR model has been developed to identify essential elements of bibliographic records, based on the user's information needs and the collection characteristics. Cultural biases in existing systems have been more openly discussed, and different approaches to developing culture-neutral systems are being formulated. All these developments can be attributed to the increasing level of internationalization. Technology and globalization likely will remain as influential forces of change in the future as well.

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Monographs Acquisitions Time and Cost Studies

The Next Generation

David C. Fowler and Janet Arcand

This article is based on time and cost studies conducted at Iowa State University between 1994/95 and 2000/01. It represents a continuation of previous analyses in which monographs acquisitions functions were evaluated and examined with a view toward using the results as a management tool. Continued decreases in time and cost factors were anticipated as the library migrated to more advanced technologies, but time reductions were mitigated by new initiatives that were added to the work processes. As a result of various factors, costs associated with the acquisition of monographs generally increased, but the value of the services provided by the Monographs Acquisitions Department was enhanced considerably.

Research in the field of time and cost studies is a very relevant tool for administrators and is useful for defining existing trends and predicting future directions for which the organization needs to prepare. This type of research can be especially valuable for libraries in the current environment where those who control the purse strings have an expectation that libraries will be able to prove the value and efficiency of the services they provide. Previous papers based on time and cost study data gathered at Iowa State University have proved of interest to the general library community in providing insight into operational structure and planning. This article is based on more current data, gathered at a time when the library was undergoing a series of changes in processes and organization designed to provide improved service to patrons. This represents a next generation of analysis, based upon statistics that covered the period when library acquisitions operations entered the next phase of technological advancement.

Organizations of all types, all around the world and throughout history, have frequently attempted to measure their effectiveness in relation to their particular stated mission. One of the ways that these organizations accomplish this is to examine variables generated by the actions or outputs of their operations. Two of the most important variables that can be measured by any organization are *time*, the amount of chronological units expended by employees in accomplishing their tasks in service of the organization's goals, and *cost*, the amount of financial units expended in the same way.

The goal of this endeavor is to increase the organization's effectiveness by examining and measuring what expendable resources (such as time, money, and other items) are being utilized and how they are being utilized. By doing this, managers and administrators are able to better comprehend how their organization

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functions, how it is meeting its stated (and unstated) goals, and how that performance could be improved.

To this end, between 1987 and 2001, the Iowa State University Library helped to create and implement an exhaustive time and cost study that examined these factors within the library's Technical Services Department. This article continues previous examinations of this study published in 1992 and 1996 and will cover the time period from when these papers ended their coverage (1994) until the study's completion in 2001.

This article largely follows the pattern established by two previously published papers that were based on the Iowa State University (ISU) time and cost study data. The study was begun in April 1987 and was suspended at ISU after 2001.

The Purpose of Cost Studies

This cost study was instituted in 1987 and, at the time, its primary goal was to examine how the increased use of automation in the library was affecting the services that it provided and products that it produced, all of which, in turn, affected the end users of the institution. When cost studies are produced, they are frequently motivated by various institutional factors. Principal among these are the institution's increased expectations of fiscal accountability and declining budgets, which force an examination of how to use institutional resources more efficiently and effectively and where to make cutbacks, if necessary.

Bedford (1989) has noted three main reasons for conducting time and cost surveys: (1) to provide a management tool for controlling the costs of technical processing functions; (2) to manage technical processing functions with a progressive and dynamic approach; and (3) to compare cost information across academic research libraries in order to gain insights into factors that have direct effects on cost levels.

Cost studies are also very useful for managers, as well as potentially invaluable political tools for administrators. Kantor (1989) asserts that this cost information can be used to justify the costs (whether they are increasing or decreasing) of library operations to the "people who pay the bills," as well as being a motivational tool for staff and managers.

Two additional, recent papers examine time and cost studies through different prisms and use different methods for sampling and analyzing, diverging from those used at Iowa State University. Poll (2001) addressed activity-based costing that was tested at the Münster University and Regional Library in Germany from April 1997 to July 1999. One goal was to create a "transparency of costs," in other words, to make the disposition of expenditures easily visible, to better serve library political needs, and to justify costs for the funding institution. In this survey, the staff

filled out log sheets for two weeks. The results of these log books, which reflect the time a staff member spent on each activity, were extrapolated out to one year, rather than taking sample weeks throughout the year.

Lawrence, Connaway, and Brigham (2001) took a broader approach, looking at library costs as they are spread out over the total life cycle of an item within a library collection. They were concerned with developing metrics for measuring and comparing these costs and for calculating those performance and cost metrics. The study also was able to quantify the relationship between an item's purchase cost and subsequent maintenance costs using a combination of work measurements and estimation methods.

Time and Cost Studies at Iowa State University

Because of the wealth of raw data available from years of statistical reporting, numerous papers have been published that were based on time and cost analysis of various functions of library technical service operations at Iowa State University. These papers focused on aspects of cataloging, exploring how costs were affected by automation and the evolving national database of bibliographic records, and identifying work processes of high cost as fruitful areas to analyze with the goal of continuing cost reduction (Morris 1992; Morris and Osmus 1992; Morris and Wool 1999; and Morris et al. 2000). Two of the studies focused on early data concerning the high costs of acquiring monographs. Rebarcak and Morris (1996) described their analysis of the then most recent complete year of data, 1994/95, and analyzed the productive and nonproductive elements of the monographs acquisitions work processes. Morris, Rebarcak, and Rowley (1996) analyzed several years of then recent data, from 1990/91 to 1994/95, to obtain a clearer view of the relevant time and cost centers over the passage of time. They drew conclusions that initial automation efforts had only had a limited impact on acquisition costs, due to limitations in the scope of the changes that were implemented. The analysis in this article picks up where the previous data left off in terms of overall chronology.

Key Findings of the Previous Monographs Acquisitions Analysis

The results of the raw data analysis from the time and cost studies have been published in previous papers and need not be repeated in detail here. To summarize briefly, these papers found that conversion from a manual system to an online system made the work processes, in general, more efficient, thus resulting in greater productivity and accuracy in departmental operations. The time reduction enabled cutting staff positions, which translated into cost

efficiencies, although cost reduction was offset by other factors, such as the reclassification of the remaining staff. In addition, one particular task, receiving materials, grew more complex and time-consuming because greater client expectations required incorporating new elements. However, the most crucial finding of the study was that acquisitions operations were largely just mechanized versions of earlier processes. They did not take advantage of technology to transform the process and to gain greater efficiency and value, as the Cataloging Department had done when reaping the benefits of cooperative cataloging made available by bibliographic utilities, such as OCLC. In the following five years, partly as a result of the cost study analysis that had gone on before, new initiatives and projects in the ISU Library did result in changes to some work processes. The changes mandated by these processes resulted in increased efficiencies, which continued to be refined in terms of time made available for more complex work processes and the delivery of enhanced products and services.

Methods

Methods largely follow patterns established in the previously cited Iowa State University papers.

Definitions

For the purposes of this study, and in the two previous papers, cost centers were created to allow analysis of time spent on tasks within the Technical Services Division. Eight centers were established; these were subdivided initially into 130 and eventually 139 tasks, which were then tracked for this study. The centers are divided into two major groups: product and overhead centers.

Product centers produce a product or service and include the time devoted to the following activities.

1. Acquisitions: All of the ordering, receiving, and claiming functions in the department, as well as the maintenance of associated files, but not the selection of materials, which is handled by selectors in the Public Services and Collections Division.
2. Cataloging: Copy and original cataloging, searching for copy, authority work, recataloging, and internal file maintenance associated with all new title cataloging.
3. Volume preparation: All functions associated with marking materials, inserting Tattle Tape, and in-house binding.
4. Catalog maintenance: All activities involved in maintaining online databases (public access catalog and

serials catalog), card catalogs, and shelf lists; making holdings and location changes; and entering any cataloging completed off-line into OCLC.

5. Conversion: A long-term retrospective bibliographic conversion project as well as other smaller conversion projects, such as authority and serials Kardex records.

Overhead centers do not produce products or services; they support such activities. In time and cost analysis, the cost of the following centers must be apportioned back to the above product centers in order to arrive at the full cost of providing a product or service.

1. Support services: All administrative time, attendance at meetings, nondivisional library and university work, professional service and research, secretarial support, and any other work time not associated with any one center.
2. Leave: Vacation, sick leave, and holidays that occurred during a given sample week.
3. Automation: Time spent in software development and support, OCLC activities, some NOTIS/Horizon support, and the acquisition, utilization, and customization of hardware setup.

Each center contains common tasks such as training, procedure and policy documentation, consulting and referring, solving problems, sorting/shelving/distributing/receiving, and revising. Task definitions were based on logical differentiations between work activities, identifying activities that were anticipated to change with increased automation, and the uniformity of task definitions across cost centers to facilitate analysis on a wider basis. The centers and tasks originally were developed at Iowa State University in the late 1980s. In 1998, a multi-institution study of technical services was initiated with ISU; Vanderbilt University; Cornell University; University of California–Santa Barbara; and the University of Missouri–Kansas City. During this three-year study, the centers and tasks were enhanced and validated through successful use by all libraries.

Data Collection

All technical services staff tracked their work hours during one-week sample periods that occurred initially six times a year, but that were later (in year three) decreased to four times a year. Collection periods were selected systematically. Time was recorded in quarter-hour increments and rounded to the nearest quarter-hour. Individual times were added together to determine the departmental totals for time spent on each task for a given sample week.

Salaries and Costs

In each sample week, the annual salary data, including benefits, were gathered for each employee, and an hourly salary was calculated. For hourly employees, primarily students, their actual hourly wage was used. Time recorded in each task was multiplied by a given staff member's hourly salary in order to calculate the costs associated with each staff member's task. The cost for each task was the sum of all individual task costs.

Recording of Data

Each employee was assigned a position number that indicated his or her location in the library organization. Members who held two or more positions in different areas were assigned multiple numbers. These numbers were used to sort data by organizational level. The data was collected anonymously. Reports issued from the study did not identify individual staff.

The Focus of the Analysis

The longevity of the ISU cost center studies has presented a unique opportunity to study consistently gathered data on Technical Services Division costs during a period of great technological and philosophical changes in library operations, both in librarianship as a whole, and with this library in particular. This article focuses on the time and cost data associated with staffing for the Monographs Acquisitions Department within the Technical Services Division at ISU. The authors intend to review and update the findings presented in two previous papers—Morris, Rebarcak, and Rowley (1996) and Rebarcak and Morris (1996)—that analyzed data gathered from the same time and cost study from 1987/88 through 1994/95. These previous analyses recorded and illustrated changes that occurred during the transition period from a purely manual acquisition process into the nearly complete implementation of an automated, integrated library system (ILS).

During the subsequent five years, the pace of change has continued to quicken. The following analysis will demonstrate the impact of migration from a relatively primitive mainframe system to a more flexible client-server system, the impact of selecting or changing a major vendor, and the impact of taking advantage of outsourced products and services, such as PromptCat records, and subsequently integrating them into the Monographs Acquisitions Department's workflow. Much of the impetus for these major changes came as a result of decisions based on the previously mentioned and still continuing time and cost analysis, which aimed to drive down costs whenever possible or, alternatively, add value to the end product in cases

where cost reduction was not the most important goal. The cost center analysis has thus been utilized as a practical tool. The initial papers on monograph acquisitions processes described a dramatic reduction in time and cost associated with some ordering tasks as the Monographs Acquisitions Department went through a considerable shake-up during the mechanization of its processes. The data analyzed in this article describe the work environment that resulted after that initial time reduction took place and as new programs, which sought to continue improving the efficiency of monograph acquisitions processes, were implemented. These changes sometimes resulted in enhanced products rather than reduction of labor.

Structural Changes at ISU from 1994/95 to 2000/01

Major structural changes were implemented at ISU between 1994/95 and 2000/01. Efficiencies resulted from automation and completing the transition from a manual monographs acquisitions function to an online ILS. The decision-making process that instituted these changes was based partially on the findings of previous cost study analyses. As a result, the faculty position supervising monographic acquisitions was eliminated, and the functions were merged with the Serials Acquisitions Department to form a larger, unified Acquisitions Department. To avoid confusion, in the following text, the department and its succeeding incarnation as a section will be referred to as the Monographs Acquisitions Department.

The duties of the Monographs Acquisitions Department consist of vendor selection, ordering, receiving, claiming, and record maintenance. Pre-order searching and payment for material fall outside the responsibility of the department.

In 1994/95, the Monographs Acquisitions Department was comprised of a faculty department head and 7.5 full-time equivalent (FTE) merit staff employees. As a result of having eliminated several staff positions through attrition, by 2000/01, the Monographs Acquisitions Department was headed by a professional and scientific (P & S) class member and staffed by 4.5 FTE merit staff members. The need for student assistants lessened even more dramatically. In 1993/94, the Monographs Acquisitions Department hired 1.15 FTE of student assistance, and in 2000/01, the department only required .17 FTE.

Production Statistics

Consistent with practice reported in a previous paper, receipt statistics were used as a general productivity marker, which enabled costs to be assigned to the various activities performed (see figure 1). Based on the receipt statistics, productivity generally increased during the period of analysis except from 1997/98 to 1998/99, the years

leading up to and encompassing the library's migration to a new ILS, after which productivity recovered.

The analysis of monograph acquisitions activities is focused on the years 1994/95 through 2000/01. In some figures, statistical data from 1993/94 is included as a base level to understand how the first analyzed year (1994/95) underwent change.

Major Events and Projects in Monographs Acquisitions

At the start of this period, the ISU Library had decided to stop using multiple approval vendors and to choose one single, major approval vendor. The intent was to increase ordering and processing efficiency, to take advantage of vendor-produced management reports, and to assist in negotiating more advantageous discounts. YBP Library Services won the bid to become ISU's major monograph vendor in 1994/95. The consolidation of various types of orders took some time, and the department staff was required to learn new patterns of communication with the new vendor.

As previously mentioned, in January 1996, the former Monographs Acquisitions Department was merged with Serials Acquisitions to form a unified Acquisitions Department. This resulted in major changes in staffing considerations, since the former department lost a faculty member, whose job had been to supervise monograph acquisitions. However, the decision had been made that this would be an appropriate staff deletion. Since the monograph ordering and receipt processes had been streamlined, they required less direct intervention and supervision by a professional librarian. This new hierarchical structure was instituted smoothly with no measurable negative impact on productivity.

In October 1996, ISU's Parks Library, in cooperation with both OCLC and YBP Library Services, implemented the receipt of PromptCat records for items handled on the YBP Library Services book approval plan. This was only a small step in furthering the library's use of outsourced monograph processing, but it was all that was feasible at the time, given local preferences for flexible selection and physical processing. Due to the library's wish to retain the right to reject approval material that did not fit the library's collection development requirements, physical processing of these volumes was not desirable. A cataloging profile was created that defined the exceptions for which the library did not choose to receive OCLC records along with the approval material (volumes from numbered series, volumes from sets that were subsequent to volume 1, and Z classification titles). The staff person who handled approval receipts was required to learn certain cataloging criteria in order to determine whether or not the PromptCat cataloging record required any further work from the library's

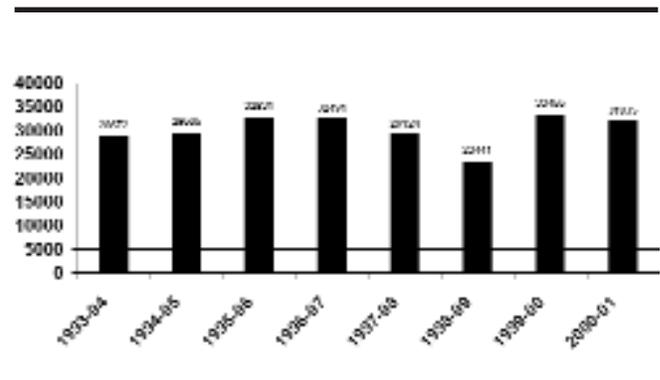


Figure 1. Monographic Production Units

in-house catalogers, or if the record could be accepted "as is." The fields for the ISBN number, title and subtitle, imprint, series, call number, and encoding level had to be considered for accuracy and completeness. These added processing elements made the receiving process more time-consuming, which consequently required reclassification of the staff member involved. The benefit of this was that monographs were now processed more quickly, since they now could normally bypass the in-house cataloging process.

The Cataloging Department realized additional benefits as well. One result was that the library was able to shift responsibility for cataloging down in the organization, since copy catalogers now had the time to work on the less-than-full level of copy cataloging that formerly had been done by faculty catalogers, thus freeing the time of faculty catalogers to work on more original cataloging. All levels of catalogers had sufficient time to handle the emerging need for cataloging of electronic resources.

The most dramatic event that affected the monograph acquisitions staff during these years was the decision to migrate to a client-server-based ILS system called Horizon, done, in part, as a measure to anticipate the then-feared "Y2K" computer problem, rather than simply patching the NOTIS system to handle the issue. Preparation and training for the migration, as well as postimplementation cleanup and enhancement of records, required major efforts and concentration from the staff. The nearly three-month hiatus from December 1998 through February 1999, when technical service operations could not be performed, required a frustrating adjustment on the part of the highly motivated staff. In addition, another issue was that acquisitions information would now be scattered among numerous screens of data, as opposed to residing centrally on a single screen; local requirements have since resulted in many new fields being added to Horizon via local software development. Thus, procedures for ordering and receiving are correspondingly more complicated than they were in the old NOTIS environment.

Specific Tasks Showing Growth or Reduction

Training and Revision

Both time and costs in this category gradually were reduced to minimal levels, though they recorded a temporary upswing in 1996/97 and 1997/98, after which they resumed their previous sharp downward trend until they leveled off (see figures 2 and 3). Percentages in figures 2, 3, and the following figures are based on 100% equaling the total of all technical services staff time spent in monographs acquisitions tasks.

During these years, the department was eliminating positions through attrition, as digitized online processes made operating procedures more efficient. In addition, staff members were being reclassified in recognition of the greater range of responsibilities they had to assume and the increased complexity of an ILS. Therefore, most staff stayed in the department, and few new staff members were hired, thus reducing the need for basic employee training. The task of training showed a temporary increase in 1996/97 and 1997/98. This was due to the loss of an experienced staff member, whose position was not refilled, and resulted in the department's other staff members being trained to handle the former position's responsibilities.

This category also included revision as well as training. While systems training was a factor in completing the conversion of manual processes to NOTIS (1993/94), when approval receipts had begun to be processed online, and during the second generation conversion from NOTIS to Horizon (1998/99), time still dropped in this category due to the need for less revision. Digitized NOTIS records were less prone to error, and revision speed was increased in the NOTIS environment because of the greater accuracy of records. This reduction in revision was accelerated later when Horizon was introduced, since there was no longer an opportunity for formal revision after the initial work had been accomplished. Revision had to become self-revision within the work process. In addition, as the staff became well trained in their more complex duties, the need to catch errors greatly diminished.

Differences in the rate of decrease and increase between time and cost in this category tended to indicate the level of staffing involved in the training process. In 1995/96, costs fell more sharply than did time. This resulted from the loss of the faculty supervisor position when the Monographs Acquisitions Department was restructured into a section within the larger Acquisitions Department and when training duties were consequently undertaken by less expensive staff. Costs also rose at a higher percentage during 1996/97 and 1997/98, due to the loss of an experienced staff member, whose higher-salaried supervisor then was required to perform all of that person's training and revision duties. However, in 2000/01, while costs were only

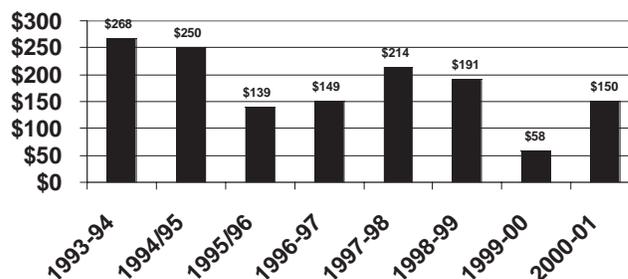


Figure 2. Training/Revision—Costs

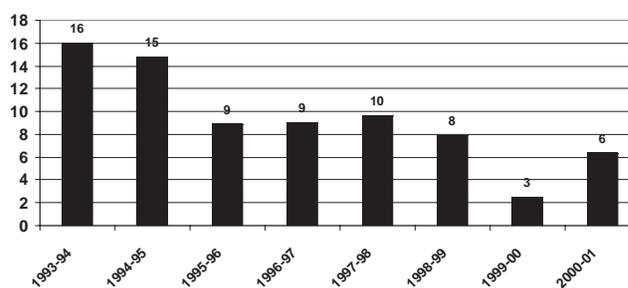


Figure 3. Training/Revision—Hours

slightly increased over the previous year, the time spent in this cost center rose at a more pronounced rate, reflecting the fact that training of new student assistants had been delegated to lower-level staff than the departmental supervisor.

Consulting and Problem Solving

A distinct downward trend in time and cost in this category continued until 1997/98, when statistics rose (see figures 4 and 5). During the period from 1993/94 to 1996/97, many important changes were accomplished without reducing momentum toward the goal of trimming time spent in this activity. The final steps of online conversion, switching to a new major vendor, implementation of a new department structure, and introduction of PromptCat processing were all accomplished in a cost-effective fashion by staff who had been trained and reclassified to handle added complexities. The restructuring of the department after the faculty-level department head left was also a factor, since the remaining staff had been trained in advance to handle more complex decisions with greater autonomy and less consultation.

The time increase during 1997/98 was primarily due to consultation discussions on how to remove the task of the physical processing of volumes from the workflows of the department. The increase also was partly due to the loss of

a key ordering assistant, whose position was not filled. The work of this position had to be integrated into the activities of the remaining staff, who had to take on new ordering tasks. The time increase starting in 1998/99 initially was due almost entirely to the migration from the NOTIS system to Horizon, which called for the complete reworking and advance testing of existing procedures, and then the subsequent debugging period after the system went into production. The time spent in solving problems may have been exacerbated by a temporary loss of access to closed orders. A key system migration decision had been to migrate only the library's open orders to Horizon. The closed orders were extracted for later use, and the creation of a searchable Access file of this data was not a high priority. For many months, the acquisitions staff had to solve any problems associated with closed orders without reference to this information. This may have added to the amount of time and consultation needed to make any decisions; it also led to problems being set aside until the missing data was made available. The needs of the more complex ILS system, which experienced more frequent upgrades than had the former turnkey system, had an impact in increasing time spent in this cost center. In addition, orders increased in complexity, due to selector interest in new sources for material located on various Web sites. Order complexity has continued to keep this cost center's time and costs high.

Searching

While most of the statistical data associated with the cost centers analyzed in this article pertain to the work of the Monographs Acquisitions Department's staff, a complete analysis of monographic acquisitions functions within the Technical Services Division would not be complete without discussing the cost center of searching (see figures 6 and 7). This activity was performed almost entirely by members of the Monographs Copy Cataloging Department's Pre-Order Searching Unit and not by members of the Monographs Acquisitions Department.

Analysis of 1994/95 and 1995/96 indicates that time and costs increased each year compared to the previous year, though firm orders, based on receipt history (figure 12) continued to rise. Although orders searched do not always equate to the number of orders processed, since requests may be weeded out by the searching activity, this cost center demonstrates the division's increased productivity. Searching was streamlined through the conversion of manual monograph ordering to the ILS system as well as general improvements at OCLC due to technology improvements and increased completeness of the bibliographic database during this time period.

However, in 1996/97, both time and costs for searching rose for one year only, although firm orders started a down-

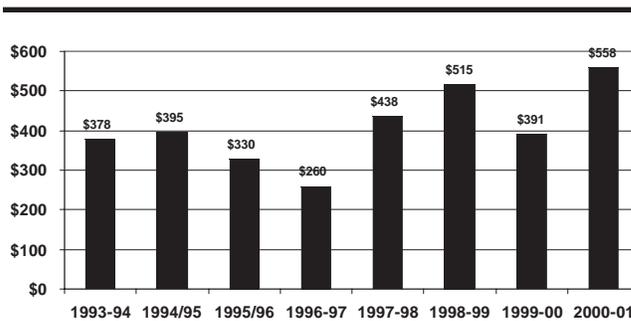


Figure 4. Consulting/Problems—Cost

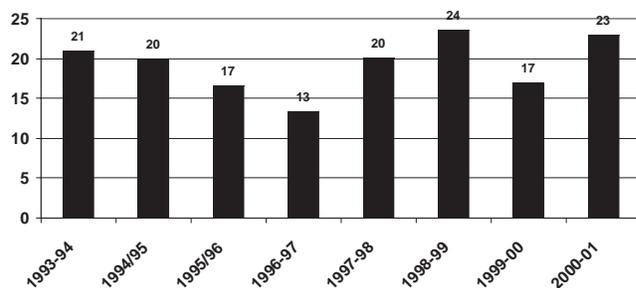


Figure 5. Consulting/Problems—Hours

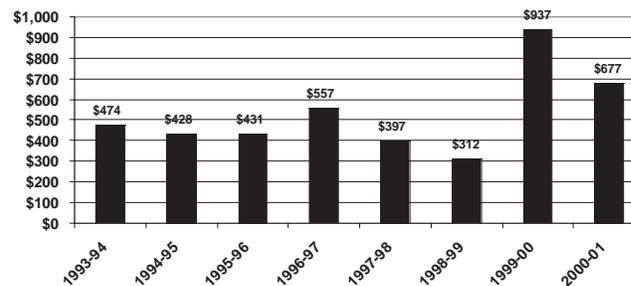


Figure 6. Searching—Costs

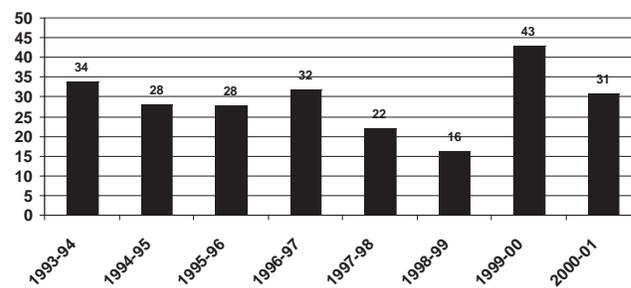


Figure 7. Searching—Hours

ward trend that lasted for three years. This was an unusual year for searching analysis to describe, since the library was making changes in its acquisition of copublished British and American imprints. Whereas the library formerly had maintained an approval plan to supply British imprints, during that year the plan was discontinued, resulting in a large backlog of requests to be searched to determine if the library had acquired or ordered the books' American imprints already. In many instances, this had occurred, so this transition year saw a higher than normal number of searches that did not result in orders.

In 1997/98 and 1998/99, the time and cost declined again, reflecting the decrease in firm orders. In the latter year, this decrease was exacerbated by the Horizon migration, which forced a stop in ordering activity for a three-month period and which mandated that ordering become a lower-level priority than receiving once the system was operational.

In 1999/2000, the huge increase in time, cost, and order numbers reflects the fact that receipts were now under control, so orders were returned to their normal high priority status. A large backlog of orders now could be processed. By 2000/01, these statistical numbers all showed a reduction over the previous year, reflecting what was a normal level of activity, since the backlog no longer existed and orders were keeping pace with collection development expectations.

Ordering

This task, in particular, is heavily dependent on selector activity and, in some years, the authorization of orders was a lower priority than others for some of these particular selectors. Their division (Public Services and Collection Development) was restructured in 1997, when broad subject area responsibilities were split up into narrower subject categories and distributed among a larger number of selectors, many of whom were new to selection responsibilities. However, selection was only one component of the faculty job descriptions in the public service areas, and it sometimes was forced to become a lower priority due to large, ongoing collection development projects and other public service responsibilities, such as reference and instructional duties. A final factor was that some budget years were less robust than others, with a related decline in the numbers of orders submitted.

Those administering monographs acquisitions functions must take this variability of high and low ordering patterns into account when making decisions on how to accomplish ordering goals when the amount of the department's staffing remains stable. This requires the department to be responsive to these variable factors when prioritizing staff work.

Ordering activity among the selectors is more naturally tied to the academic year cycle, while Monographs

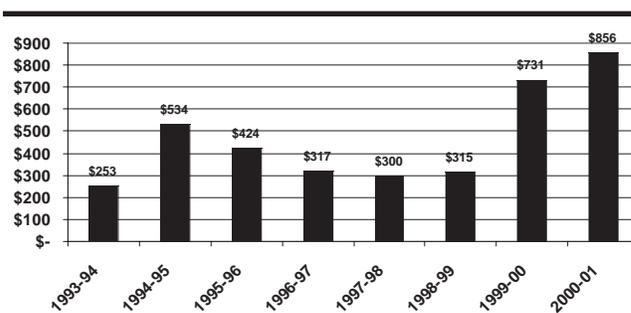


Figure 8. Ordering—Costs

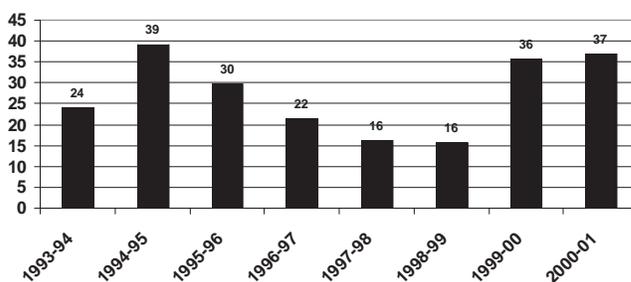


Figure 9. Ordering—Hours

Acquisitions Department preferences in this area are more naturally tied to the fiscal year cycle. Complicating matters further, the publishing industry follows its own calendar. Maintaining an even flow of order requests (and their resulting receipts) can be difficult due to these conflicting cycles.

Time and costs associated with ordering evidence a large increase from 1993/94 to 1994/95 due to the department's transition to a new major monograph vendor, YBP Library Services (see figures 8 and 9). Costs increased during this period even more than time did, which reflected the need for the department's highest-level staff to devote sufficient time to implementing this transition and also to assist in overcoming inevitable start-up problems. In addition, the rise in receipt statistics for firm orders during both 1994/95 and 1995/96 reflects the placement of increased numbers of firm orders. The streamlining effect of the library's reliance on one vendor approval plan, as opposed to a number of smaller ones, meant that the library was able to identify and fill gaps in its collection. The library also was able to rely on the consistency provided by the single plan in placing orders based on form selection. From 1994/95 until 1998/99, time spent in ordering dropped consistently. The number of orders placed during these years had remained stable up until 1997/98. The time reduction was primarily due to a greater facility with

digitized systems by the now technically experienced staff, the increased efficiency of dealing with one major vendor as opposed to several, and the increased acquisition of approval plan materials. In 1997/98, orders dropped as a direct result of the reorganization of selection responsibilities among the subject selectors.

Costs also decreased sharply at first, but then at a much flatter rate during 1997/98 and 1998/99 as a result of a merit staff position that had become vacant and was not filled because the amount of orders being placed at that time did not warrant it. This staffing loss meant that the professional and scientific (P & S) staff member who headed monographs acquisitions needed to devote more time to assigning orders to vendors and processing nonroutine orders—tasks that were formerly undertaken by the less expensive merit staff member.

In 1998/99, the library migrated from NOTIS to Horizon. Technical services experienced a three-month period from December to February during which neither system was available. Time continued to be recorded in ordering activities during this period, since the staff was organizing and managing backlogs of order requests and approval receipts, though few orders were placed aside from rush orders, which were placed via manually typed purchase orders.

The system migration from NOTIS to Horizon was the most disruptive event affecting the Monographs Acquisitions Department at that time; in the following year, time and costs more than doubled. The large increase reflected the need for the staff to catch up with the order request backlog during 1999/2000, since they had not been able to devote significant time to ordering after Horizon had become available in the previous year because of the priority given to processing receipts. The differential in the time spent and in productivity (orders placed also increased, but not at quite the same rate as the time spent in the task) is due to more complex ordering procedures required by Horizon's multiple relationship screens (purchase order, item record, copy record) as contrasted with the simple NOTIS order/pay/receipt record.

In 2000/01, time and costs continued to increase, but at a much lesser rate, despite the fact that the number of orders dropped slightly. This is another indicator of the increased complexity of orders for materials the selectors located on specialized Web sites and which needed to be handled in a nonroutine fashion in the Monographs Acquisitions Department.

Receiving

Receiving was the cost center that experienced growth in both time and costs, due to several factors (see figures 10 and 11). The previous cost center analysis papers mentioned

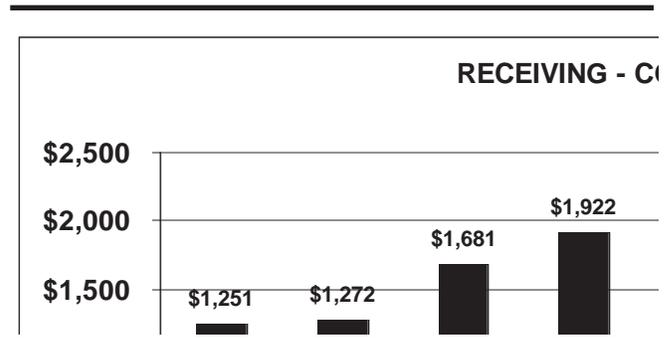


Figure 10. Receiving—Costs

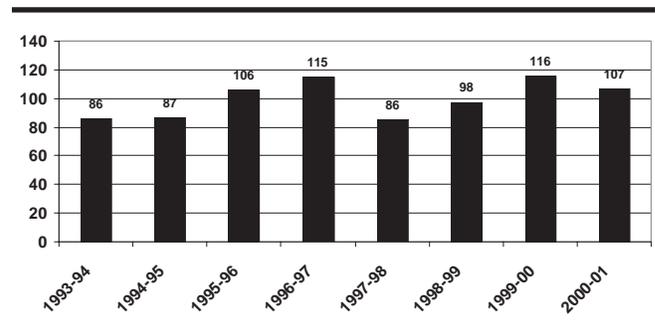


Figure 11. Receiving—Hours

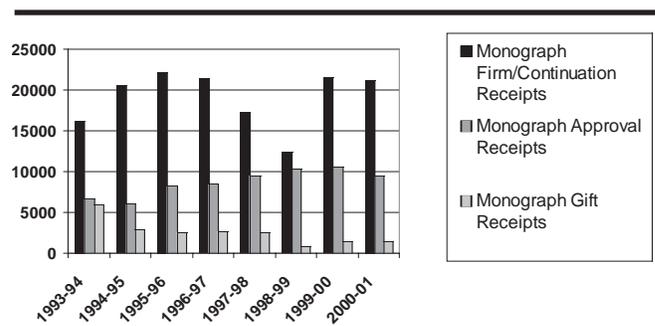


Figure 12. Receipts Defined by Acquisition Type

this finding (Rebarcak and Morris (1996, 71) and Morris, Rebarcak, and Rowley (1996, 305). In the later years covered by this analysis, the trend continued, as is seen in the more detailed receipt statistics, where major technological and ordering initiatives caused the regular pattern of several years of time and cost increases, followed by years of reduction (see figure 12).

During 1994/95, the library switched from using several monographs vendors to using one major monographs vendor. This change was accomplished with no negative impact on time or productivity. Time decreased while overall receipt statistics increased during this year; these

findings confirmed the expectation that concentrating orders with one vendor would streamline work procedures. Although time lessened, the costs in this center did rise slightly in this year due to the need for the department's supervisory staff, who normally have little involvement with receiving, to participate in receipt activities because of the transition.

However, the following two years resulted in consistent increases in time and cost in this task area. In 1995/96, this can be accounted for partly by the increased number of receipts processed, particularly in the areas of firm orders and approvals. The increased approval receipts may have increased the amount of time spent in the receipt cost center, but they also resulted in a time reduction for ordering. In 1996/97, time still increased, although the overall amount of receipts had lessened. The most telling factor in this instance was the introduction of PromptCat records for the approval materials. The amount of approval items received in this year actually increased slightly, and the amount of time spent in processing these materials also was affected significantly by the new requirement to evaluate the PromptCat records as part of the workflow in acquisitions. However, the increased cost and time that were experienced by the acquisitions staff and the cost of the PromptCat service itself were balanced by the value-added results of the program. Since these materials bypassed cataloging, they were available to the public more quickly, and catalogers now had time for new services (cataloging electronic resources) and increasing the volume of original cataloging, which resulted in improving patron access in general.

In 1997/98, time and cost in this task area decreased considerably, which reflected an overall decrease in materials received. Approval receipts, by contrast, continued to increase, partially due to continued efforts at refining the approval plan and also as a result of a project to convert standing order series into approval series. The increase in approval receipts did not have a negative impact on the downward trend in time and costs, since the departmental staff had developed expertise in handling PromptCat materials, improving the productivity in this area.

The library migrated to the Horizon system in 1998/99. This transition period put receipts on hold for nearly three months while technical services was in limbo between the two systems. The number of receipts fell to its lowest recent level during this period, but time within this category rose since considerable time and effort were devoted to processing receipts even in the interim period in order to organize the shipments for ready reference and prioritize them for future processing. If it had not been for this staff effort, which was only temporarily necessary due to the long gap between production systems, the amount of time devoted to this task would have decreased at the same rate

as the production units did. The ever-increasing number of approval receipts made up an even higher percentage during this year when ordering was impossible for the interim waiting period, but vendor approval shipments continued to occur on a weekly basis.

In 1999/2000, the Monographs Acquisitions Department rebounded from its backlog of receipts created by the system migration. Productivity (as measured by receipt statistics) increased even more than time and cost from the previous year since valuable staff time was not taken up by the need to organize materials now that shipments were being kept current. The introduction in February 2000 of bar coding at receipt was expected to detract from the efficiency of the receipt process, but had no discernable negative impact on productivity. In 2000/01, time and costs in this cost center dropped in accordance with the similar drop in receipt statistics.

Record Maintenance

Productivity within this particular task is difficult to evaluate, as statistics are not necessarily maintained for the various processing efforts that together are referred to as "record maintenance." For example, statistics are kept for claims and cancellations, but not for updating status notes, adding notification requests for patrons, or handling book returns. Statistics also were not maintained for the extensive cleanup projects that became necessary during the conversion of existing orders to the new system. These projects were essential aspects of preparing for and implementing new ILS system, as well as shifting the standing orders to a new vendor.

In 1994/95, time and cost in this task category showed a considerable decrease from the previous year, as staff became more efficient in the online NOTIS environment (see figures 13 and 14). In the area of claiming, in particular, the digitized processes enabled staff to be much more timely in noting missing materials and making claims for them, consequently eliminating the time that staff had formerly devoted to searching for claimable items in the manual order file. In addition, automated claim letters were generated with greater speed and more accuracy when they did not require manual typing.

During the next two years, the amount of time expended in this task area decreased slightly and plateaued. However, time and cost increased dramatically in 1997/98. This was because of a temporary loss of overall efficiency when the aforementioned key merit staff position became vacant and was not filled. As a result, record maintenance activities had to be reassigned among the remaining staff members. In addition, there was a massive effort to prepare the NOTIS vendor address file for conversion to Horizon, required since NOTIS had allowed vendor addresses to be

created without creating vendor codes, and this was not possible in Horizon.

During the implementation year of 1998/99, there was a drop in time levels recorded for this activity, which primarily reflected the inability of staff to update records while between systems for nearly three months. The time level was still fairly high compared to most of the previous years because of pre-implementation projects to prepare for the migration and post-implementation projects to clean up records that had migrated to the new system incorrectly. One crucial project had prepared NOTIS fund codes so that the information in them could be converted into two separate fields—budget codes and subject codes. This innovation eliminated the need to constantly update fund records, a task that had plagued both collection development and acquisitions staffs associated with the ordering and payment functions.

In 1999/2000, time had decreased by half, to a level below previous years. Costs dropped even more significantly, since the implementation year had required more effort on the part of the higher-salaried section head to initiate, oversee, or accomplish various Horizon-related projects. However, time and costs increased again in 2000/01, as the department was able to resume a more normal level of activities in record maintenance. Claiming had taken a backseat while activities such as receiving and ordering were given higher priority in order to diminish the backlogs that had built up during the system migration. During this year, routine and systematic claiming was resumed, and a considerable backlog needed to be cleared in this activity as well. In addition, one of the library's back-issue suppliers went out of business, requiring a number of cancellations.

Other Acquisitions Cost Centers (Payments; Monitoring and Analysis; Other)

The cost centers of payments and monitoring/analysis were little used by monographs acquisitions staff when filling out their weekly timesheets. Although these cost center categories were available for use by all technical services staff, most of the responsibility for work in these areas fell outside of monographs acquisitions and in the payments unit. No analysis was performed on the statistical data in these cost centers since the amount of time spent in them by monographs acquisitions staff was too low to be statistically meaningful. No analysis was performed on the data in the cost center of "other" either, although the staff did attribute significant amounts of time to this cost center. In this case, institutional memory about the nature of the activities included in this cost center over the years has proved to be uncertain, rendering analysis impossible.

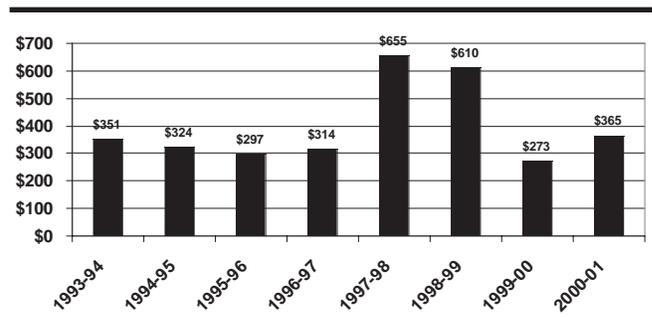


Figure 13. Record Maintenance—Cost

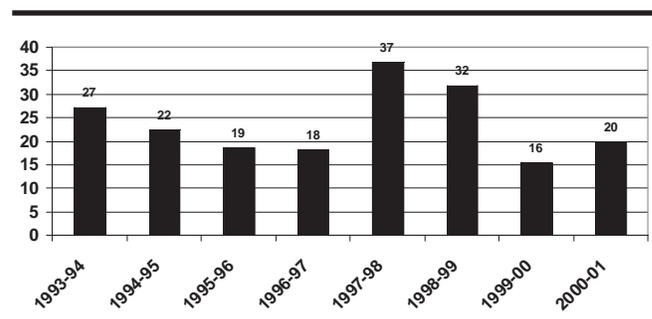


Figure 14. Record Maintenance—Hours

Comparative Trends Noted in the Current Analysis

A comparison of two particular years of analyzed data—1993/94, the year prior to the changes described in the present analysis, and 2000/01, where the present analysis concludes—is useful. The comparison offers a snapshot of how the Monographs Acquisitions Department was affected by its transition from a recently mechanized environment to an environment poised to take advantage of the greater flexibility of a new generation of library automation, and by the introduction of ordering initiatives designed to improve productivity.

The two pie charts in figures 15 and 16 visually represent the percentage of time spent by monographs acquisitions staff in acquisitions activities alone (excluding time spent in support service cost centers for activities such as vacation, sick leave, meetings, and administration). Monitoring and analysis, as well as payments, are tasks that are rarely performed in monographs acquisitions, and they are statistically insignificant. Consulting and problem solving also take up nearly the same percentage of time in 2000/01 as they did in 1993/1994; however, the proportion of time spent in training and revision, searching, record maintenance, and in "other" has been reduced. Receipt activities were always the most time-consuming process in monograph acquisitions, but now they consume an even larger percentage. Ordering also has increased its percentage.

Figures 15 and 16 display acquisitions activities as a whole, without the context of comparing the actual hours and salary costs associated with these activities. Despite the department's loss of a full-time staff position, as well as of a faculty supervisor whose costs were largely absorbed by tasks associated with administrative overhead, the amount of time associated with productivity remained stable, reflecting the decline of nonacquisitions-related activities for the staff, who were able to focus more of their work time toward acquisitions. Whenever opportunities for paring down time and costs arose, opportunities also arose for utilizing the newly available time. New responsibilities were assigned to the staff in the form of new initiatives (such as PromptCat) or expanded use of new technologies to produce more complex or flexible reports or to speed up the processing of orders. Although staff productivity in terms of time remained constant overall and costs certainly rose, the productivity and implied value of the service also increased. In table 1, the representation of chronological units associated with the cost centers' time divided by the production units is in terms of one-hundredth of an hour, not in minutes.

Using monographic receipt statistics for the same two years (1993/94 and 2000/01) as the represented production units, and dividing these units into the salary costs for the acquisitions cost centers, offers a more objective comparison. All of the costs in table 2 reflect real salaries, including benefits paid, and are not adjusted for cost-of-living increases. If they were so adjusted, they would indicate less cost inflation. The overhead costs mentioned in the table reflect the costs the monographs acquisitions staff members spent in nonacquisitions activities (meetings, administration, automation, professional work, etc.) and on leave. These costs are proportionally added to the cost of the acquisition tasks. The costs for departmental overhead similarly reflect the cost of these nonacquisition activities of the department level administration, proportionally divided among the activities of the entire department, not just monographs acquisitions. The dollar amount of technical services overhead reflects the costs associated with the assistant director for technical services as well as the technical services support staff, proportionally divided among the activities of the entire division.

Changes Implemented in Monograph Acquisitions Processes

In general, the Monographs Acquisitions Department experienced increased efficiency and was able to streamline its work processes during the analyzed years by taking advantage of technological opportunities and by working closely with vendors. However, some of the new initiatives that were pursued required increased staff effort and, as

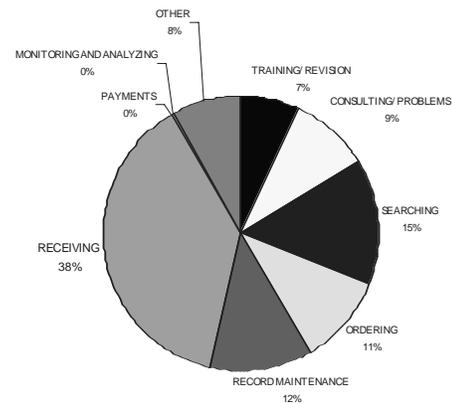


Figure 15. Monograph Acquisitions—Time Percentage 1993-94

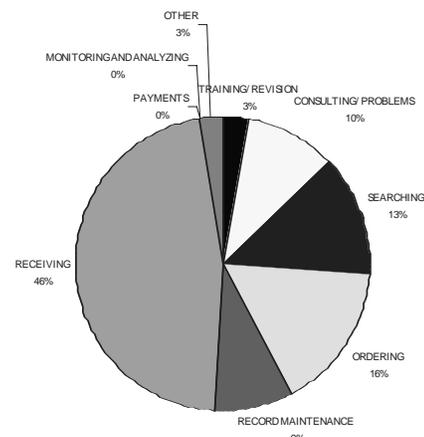


Figure 16. Monograph Acquisitions—Time Percentage 2000-01

such, added to the complexity of the acquisitions work processes. In these instances, the administrative staff felt the library was adding value to the products produced within the cost centers, while simultaneously increasing the amount of time for the processes.

PromptCat

PromptCat (and increased approval plan use generally) represented a form of outsourcing in which the Iowa State University Library chose to participate. However, the library did not take advantage of all of the kinds of outsourcing offered by the vendor. No physical processing of materials was outsourced, since the library's collection development staff still valued its ability to return unwanted approval items. The Monograph Acquisitions Department did a scratch review of the 1999/2000 approval plan returns and found that the library had received and returned

Table 1. Weekly Average Production Units/Receipts Average Time Per Task (Hours Divided by Production Units)

Task	1993/94	2000/01
Training/Revision	0.03	0.01
Consulting/Problem-Solving	0.04	0.04
Searching	0.06	0.05
Ordering	0.04	0.06
Record Maintenance	0.05	0.03
Receiving	0.16	0.17
Payments	0.00	0.00
Monitoring/Analysis	0.00	0.00
Other	0.03	0.01

Table 2. Average Cost Per Task (Salary Cost Divided by Production Units)

	1993/94	2000/01
Weekly Average Production Units/Receipts	\$309.34	\$414.21
Training/Revision	0.48	0.24
Consulting/Problem-Solving	0.68	0.91
Searching	0.81	1.10
Ordering \$0.45	1.39	
Record Maintenance	0.63	0.59
Receiving	2.26	3.49
Payments	0.01	0.00
Monitoring/Analysis	0.00	0.00
Total Cost Per Unit	\$5.76	\$7.95
Added Cost For Unit Overhead	3.06	1.80
Total Cost Per Unit with Dept. Overhead	0.00	0.98
Added Cost for TS Overhead	0.87	0.58
Total Cost Per Unit with All Overhead	\$9.69	\$11.31

approximately \$16,000 worth of material deemed as unsuitable to ISU collection needs. The library's internal physical processing of material still was valued for its flexibility and its responsiveness to selector requests. The implementation of PromptCat processing meant that monographs acquisitions staff time temporarily increased in the receipt cost centers, until the added steps were fully absorbed by the staff member performing them and the amount of receipt time reverted to its normal level of efficiency. However, this temporary time increase and the continued dollar cost from PromptCat for the vendor and utility processing and products were offset by significant and continuing cost reduction to the library in that the catalogers no longer had to process most of this material. The catalogers now had the time to pursue new initiatives, such as the newly emerged need for cataloging of electronic materials. The materials that were cataloged using the PromptCat process were received fully cataloged and thus were more quickly made available to the public without the delay caused by going through the in-house cataloging processes. The experience of acquiring outsourced services and going through the ini-

tial shakedown period also has benefited the library in its preparation for considering future outsourcing opportunities.

Approval Plan and Consolidation into One Major Vendor

The approval process was already in place, but it was expanded during this period, first, by consolidating plans and using one major vendor, and, second, by altering standing orders so that they also were received on approval. Selectors assumed they might wish occasionally to reject items that had previously come automatically in a series. Even after the initial start-up period when the criteria needed constant refinement, whenever a time-reduction discussion focused on eliminating the approval review process, there was some concern from selectors. They felt that they would lose the opportunity to reject unwanted items (for which their subject area would bear the cost), the ability to reassign wanted items to more appropriate subject areas, and the ability to keep current with publishing developments within their subject discipline.

Bar Coding

Bar coding was absorbed very easily into the receipt activities of the Monographs Acquisitions Department. No discernable increase in time or loss of productivity was associated with the incorporation of this minor task. It resulted in less need for paper forms to accompany material being processed and enabled staff in cataloging and processing to quickly call up records by "wandering" in the bar codes rather than keying in search queries. It was a task that would have needed to be done later in the process anyway. It was a value-added element to integrate this step into acquisitions activities at the earliest possible opportunity in the workflow.

Reports

One outcome of the system migration from NOTIS to Horizon was the ability to take advantage of the more flexible report possibilities in Horizon. Getting to the point of providing effective collection development reports required a tremendous effort on the part of both the information technology and acquisitions staffs. Numerous clean-up projects within monographs acquisitions were defined and accomplished. These eliminated problematic system conversion glitches and also added to the amount of time staff members spent in the cost center of record maintenance. Furthermore, the information technology staff subsequently devised new linkage capabilities that enabled a more flexible manipulation of the data for the creation of

management reports. These required further clean-up projects by the monographs acquisitions staff and also added to the complexity of all ongoing ordering and receipt procedures because of the need to consistently maintain crucial fields for flexible future reporting. The results of these efforts benefited the library's selectors, who finally were able to receive effective reports on expenditures and commitments for monographs orders in their subject areas at the end of 1999/2000. But this also meant that monographs acquisitions staff were required to spend more time on each of their tasks in order to accomplish the more complex procedures.

Fund Structure

An outcome of the migration to the Horizon system, which undoubtedly benefited the staff, was the elimination of the need for fund transfers. This was the result of the decision to decouple fund codes from subject codes, and this decision influenced the way in which NOTIS information was converted to Horizon during the migration. In the NOTIS environment, the budget allocation for purchased monographs was divided among hundreds of fund codes, which were mandated by the need to define expenditures along subject lines and also by type of order. Even at the beginning of the fiscal year, there was the potentiality for a fund with a low allocation to become overcommitted, or even overexpended, if orders had been placed but not received and invoiced in the previous fiscal year. Once an overcommitment limit was reached, all future ordering activity associated with that fund code would be halted by the NOTIS system until a selector made a decision to transfer money from another fund into the fund that was running short. If the overexpenditure limit was reached, then receipt activity was similarly halted, since payments generally were required at the point of receipt.

These work stoppages became daily occurrences toward the end of the fiscal year and were very disruptive for order and receipt processing, as well as frustrating for the selectors who found their time taken up by the need to analyze their fund areas and to authorize fund transfers at this relatively minor level. While planning for the Horizon system was still in its early stages, a philosophical decision was made to define the budget allocation to match the university's basic allocation, which was all that was necessary in order to adhere to university auditing standards and balance library accounts. The subject code element was recognized as purely internal to library needs and could be managed by defining it as a separate field that could be manipulated for flexible management reports. Thus, ordering and processing receipts could now take place within the overall acquisition budget and without any artificial limits. Selectors were given a reasonable substitute for monitoring their subject areas, one that improved on the past by its on-demand availability

because the new reports could be run at any time, whereas the NOTIS reports were produced on a monthly basis. This change in fund definition, which was instituted at the time of the system migration, benefited staff from the monographs acquisitions, payments, and collections areas.

Revision

Another change prompted by the system migration was the diminished need for revision. Revision became less and less viable, since the proper place for it was in the midst of complex automated steps, where it was inconvenient to stop in order to have the reviser review the processed material. In addition, automation makes typographical errors less likely, as does importing OCLC copy cataloging prior to ordering or receiving the cataloging records as part of the PromptCat process. The complexity of the changed acquisitions processes called for the reclassification of staff positions, which resulted in staff staying longer since they had less economic incentive to search for higher-grade jobs and also because they experienced more job satisfaction with a greater level of responsibility and authority. The retention of experienced staff was a factor in the decision that revision, as such, was no longer necessary and that self-revision would become the new expectation. The section also realized greater time efficiency by having material processed through fewer hands due to the greater autonomy of the staff.

Reclassification of Staff

Reclassification of staff at ISU did not have an immediate impact on costs, which came as a surprise, since such a result had been assumed, based on one of the previous papers (Morris, Rebarcak, and Rowley 1996, 307). This phenomenon was attributed to the structure of the merit staff pay steps at Iowa State University. The reclassified staff tended to have been long-time library employees, who had already reached the top of their classification's pay scale; they were called "red-circled" since they had reached the highest step and were unable to continue to rise. Reclassification resulted in the staff being assigned to a higher level of pay, just above that of their previous salary; however, this step was generally a lower step than they had occupied in the lower classification level. Although the staff did not experience a large financial benefit from the process immediately, they did reap a long-term benefit in entering a classification that restored to them a degree of mobility from the step at which they were red-circled. The reclassifications did have a major impact on the cost analysis of monographs acquisitions activities over the long run. The costs associated with the production unit analysis (see table 2) showed a significant rise, although the times associated with the same analysis were generally stable. The deferred costs associated with the

reclassifications, as well as general cost-of-living inflation, were clearly responsible for this phenomenon.

Task Redefinition

The cost center of record maintenance experienced the greatest amount of change in terms of the staff tasks that were assigned to it. During the earliest days of this study, much staff time within this cost center was spent in the filing and pulling of records required by a manual system. Due to automation, the need for these particular tasks lessened over time, while new record maintenance activities grew in importance. After the new task breakdown was implemented in June 1996, claims and cancellations (formerly their own categories) fell into this cost center. This task redefinition is one example of how automation changed the work environment.

Future Areas for Improvement and Enhancement

At the present time, improvements to the monographs acquisitions process remain unrealized in many areas. Statistics are still taken from manual counts, and the library therefore not only does not take advantage of some of the ILS capabilities, but burdens staff unnecessarily as well. A thorough review of the Horizon system's statistic-gathering ability and internal statistic-keeping needs is required. In addition, potentially fruitful areas to explore are the use of online order request forms and electronic data interchange of orders. Both of these initiatives would eliminate rekeying of information and duplication of effort. The latter initiative also would reduce mailing costs and improve the order fulfillment rate by speeding the entry of data into the vendor database. Neither measure has proven easy to accomplish, due to the need for involvement by numerous entities, both within the library and with vendors. Another area that the library still needs to address adequately is the expectation of users that the library can easily acquire material that they see listed on book dealer Web sites such as Amazon. In this case, the university is still in transition from a paper-based environment involving purchase orders and checks to one that allows flexible use of university credit cards.

Conclusion

A system migration and implementation of new vendor services provided monographs acquisitions with the opportunity to make long-advocated changes in acquisition processes that would reduce staff effort in monographs acquisitions and other areas of library staffing, and would provide an improved product for the library staff and for users. While these changes were successful, as borne out by

the cost and time analysis, they were limited to technical services work processes alone. Further evaluation of the future of monographs acquisitions workflows will need to take a more radical and broad-based approach to realize continued time and cost reductions, since the process of acquiring monographs for a large research library involves other library units before the acquisitions staff begins its work.

The transition from the selection decision to the outgoing order requires multiple reviews of the same information from the unique perspective of each of the various units involved; the selection will be searched to determine if the library already owns the item or if its bibliographic information needs to be searched for. Future efforts to reduce the quantity of staff tasks or improve the final product will need to analyze the work processes of all of the players in this process in order to determine if re-engineering or adding further innovations to the work processes or the work structure would have any benefits to offer.

Disadvantages may outweigh the advantages in making future changes and, if the analysis leads to this conclusion, then the workflows of the existing order flow have to be validated or justified. Serious analysis and research into the entire structure is clearly necessary and will require staff to be objective in the analysis of issues and willing to leave their present "comfort zones." Suspending the technical services cost and time study was unfortunate, since the analyzed information on staff time and activities has greatly benefited the library in making major changes in the past and in assessing the impacts of those changes. Nonetheless, the time and cost studies have provided the Iowa State University Library with valuable information and tools to evaluate and improve its workflow processes.

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Notes on Operations

Falling In and Out of Love

The Impact of Moving to a Remote Location on Cataloging Workflow

Jean Dickinson, Charity K. Martin, and Margaret Mering

As academic libraries undergo renovation and building projects, various technical service operations are frequently moved out of the main building and housed in an off-site location. The aim of this research was to discover, by means of a questionnaire, what the impact of such a move is on the workflow of professional catalogers. The researchers concluded that a positive experience on the part of the catalogers depends upon detailed planning, thoughtful administrative support, and an element of luck. However, some problems are unavoidable in moving catalogers away from the main collection.

In the fall of 1999, renovation began on the fifty-eight-year-old south wing of the University of Nebraska-Lincoln's (UNL) Love Library. Love Library is the main library and, along with its nine branches, makes up the UNL Libraries. Since the building remained open to the public during the project, the library's administration decided that, of all library departments, the technical services staff and operations (Cataloging, Acquisitions, and Binding Departments) could most easily be moved off-site and with the least disruption. Also, because Love Library was to be renovated floor by floor, a staging area was needed for ongoing relocations of various departments and materials. Therefore the technical services units, including all cataloging operations, moved from UNL's main library to a warehouse on the edge of campus, renovated for temporary use by the libraries.

This temporary move necessitated a reevaluation of the professional catalogers' day-to-day work practices. An integrated workflow was already established for the catalogers to create records and deal with items for the university's branch libraries, but no system was in place for catalogers dis-

tant from the main collection and its reference tools. The authors, all professional catalogers at UNL, determined that the move provided an excellent research opportunity and decided to examine the phenomenon of being located away from their institution's main collection. At UNL, the Cataloging Department is responsible for monograph and serials cataloging in all formats, authority control, and maintenance. It is staffed by five professional catalogers, three managerial professionals, and 25.5 office service staff and is coordinated by a department chair, also a professional cataloger. Making allowances for the many different configurations of academic library cataloging departments, the UNL Cataloging Department was felt to be fairly representative. Thus, the authors believed the conclusions drawn from their research might be applied profitably to others' situations.

The main purposes for researching the impact of distance between collections and their catalogers were: (1) to determine what effects moving original cataloging operations away from the main library had on workflow, and (2) to identify possible trends across

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libraries. The results of this survey could be useful in determining what changes and problems catalogers moving off-site could expect to experience.

Research Development

Original catalogers were chosen for the study due to the nature of their positions, which require them to utilize the overall library collection in the course of their cataloging. Also, original catalogers often have responsibilities beyond the department, such as involvement in faculty governance and reference duties. Copy catalogers' responsibilities seldom require that they consult reference works beyond their immediate work areas.

Literature searches on the topic of college or university library cataloging operations at remote locations resulted in only a few general articles. Given the lack of research in this area, the authors decided to develop a questionnaire aimed at other catalogers who had recently been involved in a move to a remote site. Developing the questionnaire provided another opportunity to modify and bring the research into focus.

Population Parameters

The first step in developing the questionnaire was to determine the characteristics of the population to be studied. The authors agreed that the study would consist of catalogers who held masters' degrees in library science and held professional level positions at university libraries with at least one branch library. The population would include catalogers who cataloged in all formats and had varying levels of job responsibilities, including catalogers with administrative duties. More than one cataloger from the same institution would be permitted to respond. Catalogers planning to move off-site, but who had not yet done so, would be

excluded from the study. Participants would be catalogers who were currently working away from, or who had worked away from, their library's main collection within the last five years (1997–2001). Given the increasing amount of information available via the Internet, this last qualification would take into consideration the affect of electronic resources on catalogers' workflow. These qualifications were intended to produce the most current, applicable data possible for future decision making by catalogers and administrators researching the logistics of cataloging at a distance. Given the narrow population parameters of libraries that had moved cataloging operations within the last five years and consisting of at least one branch, the authors expected and received a small number of responses.

In retrospect, the parameters may have been too limiting. The resulting sample of fifteen catalogers was small and not statistically significant. A sample consisting of both professional and paraprofessional catalogers might have resulted in a more significant volume of data.

Questionnaire Background

After making a long list of possible questions to ask, we pared down the questionnaire and divided it into four main sections. The first dealt with personal information about the respondents, including information about their job duties, their number of years of experience, and where they were employed. The second section focused on communication and interaction with colleagues and materials at the main and/or branch libraries. The third section dealt specifically with how the catalogers' workflow was affected by the move. The last section asked for specific details of the off-site move. "Off-site" was defined as not being located in the main collection, being apart from other library opera-

tions, and being remote from branch libraries. Telecommuting was not included in this definition.

Once the required university approval for the questionnaire was received, the authors sent a description of the project via e-mail, a consent form, and the questionnaire to the five professional catalogers and the department head at UNL as a pretest. This questionnaire is presented in appendix 1. The authors were included in the sample. After these local questionnaires had been reviewed, a revised questionnaire was designed based upon the pretest. The revised questionnaire is presented in appendix 2.

The questionnaire to be administered to non-UNL respondents differed only in the order of the questions. The questions were reordered to a more natural progression, based on comments from the pretest. The sequence of questions for the pretest was: personal history and job duties, communication and interaction, changes in workflow, and details of the move. The sequence of questions for the second questionnaire, for non-UNL catalogers, was: details of the move, communication and interaction, changes in workflow, and personal history and job duties.

The description of the project and an invitation to participate were posted to the online library discussion lists Autocat, Serialst, MLA-L (Music Library Association), and Libadmin. Some catalogers who worked in departments known to have moved off-site were contacted directly by the authors and encouraged to participate. Other respondents were self-selected by answering the call issued on the various library discussion lists. It should be noted that these self-selected respondents might have had some unreported bias in their response to the survey. Respondents were able to connect directly to the questionnaire by means of a hot link in the e-mail message and were given

one month to send in their answers. Questionnaire responses were sent to the e-mail account of one of the researchers.

Results and Analysis

Of the twenty-four responses to the e-mail, fifteen met the population parameters established by the authors. These fifteen respondents were from six different institutions, including UNL. Since few university libraries moved their technical services operations off-site within the five-year time frame, these six institutions appear to be representative of the population and provide preliminary data for use in analysis. Three of the libraries were Association of Research Libraries (ARL) members.

Details of the Move

All of the catalogers were from institutions that moved their cataloging operations off-site between 1998 and 2001. For thirteen respondents, the move from the main library was to be a temporary situation. One institution's catalogers had already returned to the renovated location in the main library. Two of the respondents reported that their move would be permanent. The authors were aware that the responses of catalogers could be influenced by whether the move was temporary or permanent. A permanent move potentially has a more lasting impact on catalogers and their workflow.

The physical environment of the new locations varied, from good—quieter, having more parking (a perennial issue on campuses), and visually pleasant—to bad—isolated, unhealthy (one respondent said the temporary building was a sick one), and depressing. However, in general, respondents were either satisfied with or neutral about their new locations.

Personal History and Job Duties

The respondents' job responsibilities varied, as did the number of years working in libraries and for their current institution. Table 1 presents respondents' responsibilities. They cataloged monographs and serials in all formats, including cartographic materials, music scores, sound and video recordings, kits, games, and archival record groups. Some cataloged in languages other than English, such as Spanish, Portuguese, and native languages of Latin America.

Participants also had other cataloging-related duties. Three managed cataloging departments, one supervised a serials cataloging unit, and another supervised student workers. Five respondents mentioned that they had training and policy development responsibilities. Three occasionally teach graduate level cataloging classes. Other cataloging responsibilities included coordinating cooperative cataloging programs and serving as a liaison to an architecture slide-cataloging project.

Some of the survey respondents performed a wide range of noncataloging activities. Two of the participants also had collection development responsibilities. A librarian from a small library was also responsible for serials acquisitions and check-in. Three respondents worked at the reference desk. One oversaw a map collection, and another encoded manuscripts for her institution's electronic text center.

Respondents had worked at their current institutions from 1.25 to 37 years, with an average of 11.5 years. Eight of the fifteen respondents had worked at their libraries for 10 or fewer years. Only one had worked at her institution for more than 20 years. The total number of years that respondents had worked in libraries ranged from 6.5 to 43 years, with an average of average of 21.5 years. These totals included professional experience as well as time spent as student and para-

Table 1. Major Responsibilities*

By Duty	No. of Responses
Cataloging	9
Supervising	1
Cataloging and Supervising	5
By Format**	
Monographs	8
Serials	3
Both	3
N/A	1
Other Duties	
Training	3
Reference/Public Services	5
Policy Making	1
Committees	2
Tenure	1
Teaching	2

* (15 respondents)
 ** Other formats listed under monographs or serials were electronic resources, maps, music, videos, and sound recordings.

professional workers. Seven of the fifteen participants had worked in libraries for more than 20 years. Two had 43 years of library experience.

Communication and Interaction

The respondents overwhelmingly reported that there was less contact with staff in the main library after the move, especially personal contact. Overall, survey respondents maintained contact with other staff at the main library via phone, e-mail, or fax, a little less than once a day. The catalogers made an effort to visit the main library in person two to four times a month.

Travel time, for both catalogers and materials, was the issue mentioned most often as a hindrance when people began to discuss their workflow. Having to travel to the main or branch library for problem solving or checking materials was considered to be an unwanted interruption and time-consuming. Time spent waiting for materials to arrive was felt to be too great for some catalogers whose courier services were slow.

Public transportation between the off-site location and the main library existed, but was not ideal. Most of the respondents agreed that transportation between their current location and the main and branch libraries was regular, but even so, waiting for a shuttle was not always convenient.

Instead of using public transportation, catalogers often would drive between locations. When asked about parking, only one respondent indicated that there was not adequate parking at the off-site facility. Many respondents said that the parking at the off-site location was good, but that the problem was finding parking close to the main library, typical of many campus situations.

Another transportation alternative was walking. For two institutions, the distance did not make walking a viable alternative. If a cataloger chose to walk, the time it took to complete the walk did not make it worthwhile. However, for four institutions, walking often was seen as the best option for getting from place to place.

The survey respondents were asked to rank their reasons for traveling to the main library. The options listed were meetings, cataloging (such as gathering information for creating a record), research (for tenure work or for a committee), administrative duties, and other. Overall, catalogers ranked meetings as the number one reason for travel to the main library, followed by cataloging, other (noncataloging reasons), administration, and research. When asked if they waited until they had multiple reasons to go to the main library, the majority of catalogers answered yes.

Workflow

When respondents were asked specifically about the advantages and disadvantages of the new work site, none of the advantages listed had to do with cataloging or workflow. Table 2 pres-

ents the advantages and disadvantages. Most of the advantages had to do with being away from the bustle of the main campus and the traffic of the main library. One person even mentioned "being away from the administrative types" as the greatest advantage. In contrast, most catalogers noted that being away from the main library's reference collection was a disadvantage to their cataloging. Since consulting reference books or gathering information for cataloging records was more difficult, some cataloging problems that would normally have been researched were ignored or skipped over, resulting in a briefer cataloging record. Serials catalogers felt this lack most often. Many of the respondents who worked with serials reported making more educated guesses, especially in terms of title changes and relationships between publications.

The effect of the move on productivity and on the quality of cataloging was revealing. In all cases, the survey respondents stated that the move negatively affected at least one factor, either productivity or quality. The catalogers still cataloged in the same way, but the increased distance tended to affect how many pieces could be cataloged and how well they could be cataloged. If the cataloger attempted to maintain high quality, productivity suffered. If high productivity was maintained, quality suffered. Only one respondent indicated that both quality and quantity fell. Most respondents cited the added time spent consulting reference sources at the main library as the reason for this decrease in the quantity and quality of their cataloging. Some respondents talked about their frustration in trying to communicate to a noncataloger by long distance exactly the type of information they needed to create a record. Many respondents chose instead to invest the time in traveling to the main library rather than using a nonexpert to get the (possibly incomplete or incorrect) infor-

Table 2. Perceived Advantages and Disadvantages of a Remote Site

Disadvantages of Remote Site	No. of Responses
Distance from reference/stacks	7
Distance from colleagues	6
Courier problems	3
Serial titles change issues	3
Travel to main library	2
Advantages of Remote Site	
No advantage mentioned	8
More relaxed atmosphere/better environment	4
Better parking	1
Away from administration	1

mation. Thus, the catalogers did not change their workflow so much as they added time to their existing workflow patterns.

The catalogers who answered the questionnaire were very frank and generous with their thoughts. Thus there were visible trends that could be discerned in both the advantages and disadvantages they felt. Most catalogers (10 of 15) tended to be more positive, citing improved parking, avoidance of construction noise and dust, and the absence of distractions as advantages. A few (5) catalogers described problems with the loss of the university culture, isolation, and longer drive time between home and work.

The benefits and the disadvantages of being distant from one's collection can be broken into five categories. The two disadvantages were work delays/productivity issues and the inability of the Web to completely replace the need for the main library's reference collection. The three benefits were good parking, a more relaxed atmosphere, and fewer interruptions. Only six responded to the "other comments" section at the end of the questionnaire. Comments varied, but the respondents generally expanded upon their answers in other parts of the survey. Overall, there were more positive statements than negative about catalogers' distance from the main library.

In terms of work relationships, most of the respondents felt that the collegial and social situation had suffered. All but two respondents reported less contact with people in the main library; one said it was the same; one said it did not apply to the situation. The greatest disadvantage catalogers felt was that they missed interacting with other librarians and staff. As strictly related to workflow, however, there were fewer interruptions with which to deal.

UNL's Experience

The experiences of the professional catalogers at UNL fell into the same range of themes as those found in the answers from librarians at other institutions. The UNL Libraries administration began preparing for the move a year in advance by planning how it would be conducted, how individual workstations would be set up, and by consulting technical services staff on their ideas and concerns. This planning resulted in a relatively smooth physical transition from one location to the other.

In order to ensure that materials would flow efficiently between Love Library and the temporary site, the courier services used between Love Library and the various branches were evaluated. They were determined to be inadequate for the amount of materials that technical service operations (Cataloging, Acquisitions, and Binding Departments) handle on a regular basis. Therefore, an extra van was commissioned for moving materials, and a half-time library assistant position was created to handle the increase in materials traffic. Another decision that had a positive impact on technical service operations was moving the mailroom along with technical services. This ensured that the mail went directly to the Acquisitions Department, which receives the greatest amount of material.

The libraries' administration studied staff transportation issues and determined that the availability of the campus shuttle and city buses would be adequate. However, the buses were not always regular or frequent enough for some staff. These staff members often chose to walk from the temporary location to the main library. Since the walk took ten to fifteen minutes, this was considered a satisfactory alternative. Another option some staff chose was to schedule their workday in order to find parking close to Love Library.

Before the move, the original catalogers gave careful consideration to the reference sources they utilized most often in order to ensure that these resources would be available at the temporary work site. The Cataloging Department took its own reference collection with it. Even so, the catalogers, especially those responsible for serials, found that they needed to travel to the main library on a regular basis to check reference sources and serial issues.

When finally settled in, the staff discovered that the temporary facilities were comfortable and pleasant. The staff who remained at Love Library had to deal with the inconveniences caused by the work, noise, and smells created by the renovation. The ease of parking at the new location, the quiet environment, the reduced number of interruptions to the workday, and the removal from the busy center of campus all resulted in good morale among UNL technical services staff. Several expressed a desire to remain permanently at the temporary site.

Recommendations

Since the planning and organization of a large-scale move have been proven by the evidence to be successful, given a rational and effective design, the ultimate continuing effi-

ciency of cataloging operations may be predicted. Many perceived factors influence the outcome of relocation and distance from the main collections, and most of them can be taken into account and integrated into a viable workflow. The following recommendations, gleaned from the respondents, can aid in a smooth transition for catalogers and other technical services staff. Even though some problems cannot be avoided, these suggestions will help minimize difficulties.

A reliable and carefully planned courier or delivery system is an essential component for off-site locations. The lack of this vital element was listed several times as a complaint from respondents. The consensus was that these respondents' poorly planned courier services were an inconvenience in the planning and coordination of work. One respondent mentioned that serials maintenance was going to the wrong location (off-site) because staff forgot to change their old work habits. Planning and organizing, including staff education, could have prevented this problem.

Careful consideration should be given to staff transportation issues. Even though the issue of time spent en route to the main library was a big concern, there does not seem to be a solution. Any distance means additional time to be spent traveling, so people chose the alternative that worked best for them, although it was not always ideal. All forms of transportation—walking, using one's own car, campus shuttle, or city bus—were considered to be an acceptable part of the situation.

In preparing for a move, catalogers should consider what resources they regularly use to complete their work. Many tools used by catalogers are kept in their departments and can be moved to a remote location. Other resources may be part of a main library's reference collection or a stack

- meetings, or cataloging-related work) before going to the main/branch libraries?
9. What are the benefits/disadvantages of your department/section not being as near the collection(s) you work with the most?
 10. How has the distance impacted the productivity and/or quality of your cataloging?
 11. When did you move to your present location?
 12. Was the move temporary or permanent?
 13. Is transportation/parking between your current location and the main/branch libraries regular and convenient?
 14. What is the distance between your current location and the primary collection(s) you work with?
 15. Have you moved back to the main library, or is your department/section still at a remote location?
 16. If the move is temporary, has this affected any of your cataloging decisions?
 17. Did all of Technical Services move, or just selected sections?
 18. How did your cataloging workflow change due to the move?
 19. Are there other factors that influenced your cataloging workflow besides the move (i.e., reorganization, outsourcing, etc.)?
 20. Has the move been more positive or negative than you thought it would be? Why?
- Other comments:

Appendix 2

Questionnaire Administered to Catalogers at Other Institutions

1. When did your cataloging operations move off-site?
2. Was the move temporary or permanent?
3. Is transportation/parking between your current location and the main/branch libraries regular and convenient?
4. What is the distance between your current location and the primary collection(s) you work with?
5. Have you moved back to the main library, or is your department/section still at a remote location?
6. If the move is temporary, has this affected any of your cataloging decisions? If so, how?
7. Did all of Technical Services move, or just selected sections?
8. On average, how often do you visit the main/branch libraries for your cataloging-related work?
 - More than once a day
 - Once a day
 - 2–4 times a week
 - Once a week
 - 2–4 times a month
 - Once a month or less
9. On average, how often do you communicate with personnel in the main and/or branch library via telephone, e-mail, or fax?
 - More than once a day
 - Once a day
 - 2–4 times a week
 - Once a week
 - 2–4 times a month
 - Once a month or less
10. Do you have more or less contact with personnel in the main/branch library (libraries) since the move?
 - More contact
 - Less contact
 - Same amount of contact
11. Why do you visit the main/branch libraries? (Please number from 1 to 5, with 1 being the most frequent and 5 being the least frequent, in order of frequency.)
 - _____ Meetings
 - _____ Research
 - _____ Cataloging-related work
 - _____ Administrative
 - _____ Other _____
12. Do you wait until there are multiple reasons (such as research, meetings, or cataloging-related work) before going to the main/branch libraries?
13. What are the benefits/disadvantages of your department/section not being as near the collection(s) you work with the most?
14. How has the distance impacted the productivity and/or quality of your cataloging?
15. How did your cataloging workflow change due to the move?
16. Are there other factors that influenced your cataloging workflow besides the move (i.e., reorganization, outsourcing, etc.)?
17. Has the move been more positive or negative than you thought it would be? Why?
18. How many years have you worked at your current institution?
19. What is the name of your institution?
20. How many years have you worked in libraries? (Please include student and paraprofessional experience.)
21. What are your major responsibilities?
22. What formats do you catalog?
23. What are your other assigned duties?
24. Other comments.

Book Reviews

Edward Swanson, Interim Editor

Electronic Collection Development: A Practical Guide. By Stuart D. Lee. New York: Neal-Schuman, 2002. 147p. \$55 (ISBN 1-55570-440-9) LC 2002-280352.

Learning and understanding the nature of electronic resources can be both a daunting and a time-consuming task for a collection developer who is primarily familiar with print materials. Choosing among electronic resources to select the most appropriate item for a collection can seem almost impossible. Targeting users that are new to electronic collection development, Stuart D. Lee, head of the Learning Technologies Group at Oxford University Computing Services, lays a firm foundation for the selection of electronic resources.

Discussing issues from licensing and authentication to cataloging electronic resources, the author outlines the basic attributes of datasets. Used as a generic term to identify electronic resources, a dataset is defined as "any electronic product that delivers a collection of data, be it text, numerical, graphical, or time-based, as a commercially available title" (4). The book outlines the various types of datasets that a collection developer might encounter, including some discussion of the basic attributes of the datasets.

Lee also offers some insight into the selection criteria that should be taken into consideration when purchasing an electronic resource. He states, "The single most important message of this book is that electronic resources should be considered alongside printed resources (as indeed in

some cases, such as e-journals, they must be) and that libraries should formulate an overall 'coherent' collection development policy covering all material" (7). Throughout the book it is emphasized that collection development policies should not vary between print and electronic resources, nor should electronic resources be purchased from a different budget than print resources. Rather, a comprehensive collection development policy should be developed to encompass both types of materials.

Divided into five chapters, the first three chapters of the book provide background information on electronic resources and electronic collection development. The descriptions of the various types of datasets are thorough and constitute the first half of the book. The remaining two chapters make up the meat of the book, the actual guidelines for selection and the options for delivery of the dataset to the user. The fourth chapter, "What to Buy? Assessing and Acquiring the Dataset," covers a broad range of topics from budgeting to assessment and evaluation, including an extensive list of evaluation questions. The most useful section is the overview of license agreements. Several different types of license agreements are defined, and the advantages and disadvantages of each are listed.

The book makes use of both a glossary and detailed examples to assist the reader in understanding some of the technical terms and confusing concepts. The brief glossary is not comprehensive; instead it defines

a few select and problematic terms used throughout the book. The author incorporates examples illustrating difficult concepts into the written text, including references to online resources. Whenever such resources are available online, Lee provides the name of the resource, why it is useful, and the URL to access it. For example, in the discussion of license agreements, Lee refers to several institutions that have created their own model licenses, such as Yale University and the National Electronic Site License Initiative. He also provides the URL to the Yale University Library's "Standard license agreement" (www.library.yale.edu/~license/standlicagree.html) (53).

The use of British terminology and products in the examples proved a major stumbling block for this American reader. Prices for products and services are always listed in pounds, and only occasionally is the corresponding dollar value given. This made it difficult to get some perspective on whether a price was astronomically high or ridiculously low. In addition, British terminology, like the phrase "one-off payment," is not explained sufficiently (a one-off payment is a one-time fee that purchases a resource outright, as opposed to a recurring license fee that is paid every time a resource is up for renewal). However, the derivation of the phrase "one-off" is never explained. While it was possible to get the general gist of the author's statements and points, it is difficult to identify with some of the examples that are provided.

At a time when the number of online resources is increasing on a daily basis, this type of resource is essential for understanding the options that are available to collection developers. However, this resource should not be considered comprehensive. Throughout the book, Lee refers to and cites useful resources and includes a select bibliography of references. Readers looking for additional information on specific aspects of electronic collection development should consult these references. However, users who are familiar with electronic resources and are looking for more advanced reading will find themselves disappointed by the book.

Electronic Collection Development: A Practical Guide fills a gap in the existing literature on collection development. While a number of Web sites have been dedicated to the selection of electronic resources and many articles have been written on the subject, there are few monographic pieces available detailing the process for creating a collection of electronic resources. The publication of the book is timely, providing collection developers a thorough examination of datasets and their attributes.—Christine L. Ferguson (cferguson@library.msstate.edu), Mississippi State University Libraries

Music Classification Systems. By Mark McKnight. Lanham, Md.: Scarecrow, 2002. 162p. \$34.95 cloth (ISBN 0-8108-4262-9); \$24.95 paper (ISBN 0-8108-4263-7) LC 2001-57702.

Mark McKnight's *Music Classification Systems* provides practical guidelines for music classification and also clarifies and explains the classification systems most commonly used for music in the United States, the Dewey Decimal Classification (DDC), the Library of Congress Classification (LCC), and the Alpha-Numeric System for Classification of Recordings (ANSCR). McKnight is

associate head of the music library at the University of North Texas.

Chapter 1, "An Introduction to Music Classification," includes a brief history and background on music classification and a section on systems of classification. The chapter details the special challenges of music materials in libraries, including the wide variety of materials, the organization of these materials, and the complexity of these materials.

Chapter 2 discusses the Dewey Decimal Classification (DDC). This chapter begins with a brief history of DDC and continues with the arrangement within DDC. One of the main reasons users are unhappy with DDC is the lack of separation of items that are music (sound recordings or scores) from books about music. The chapter adequately discusses how earlier and current versions of DDC handle this problem. It contains explanations of the arrangement within DDC, explanations of the notes and instructions, and how hierarchies, facets, and number building are applied. Beginning with edition 20, the *Manual on the Use of the Dewey Decimal Classification* is included as part of the classification. Chapter 2 also explains the use of this manual and includes an explanation of how DDC20 and DDC21 differ from previous editions.

The Library of Congress Classification (LCC) is the focus of chapter 3. As with the chapter on DDC, this chapter begins with the history and background of LCC. The section on the development of the music schedule discusses the various editions of the class M schedule. Mention is made of the machine-readable version of the class M schedule available in Classification Plus (now available through Classification Web) and how this version is able to be kept current more efficiently. Unfortunately, there is no mention of the class M schedules published by Gale Research that incorporate the additions and changes to the previous

Library of Congress print edition. The Gale editions are updated on a regular basis (almost annually) and are helpful to catalogers who do not have access to the online version of the schedules. The organization of the class M schedule is by format. Unlike DDC, LCC is divided by notated music (subclass M), books about music (subclass ML), and those items used for music education and instruction, including notated music and books (subclass MT). These three subclasses are discussed at length. Various class numbers from each subclass are examined in detail, such as M20-M39.6 for solo instruments—piano, and MT360-MT368 for wind instruments—oboe.

The third and final classification in McKnight's book is the Alpha-Numeric System for Classification of Sound Recordings. After giving the history and background of ANSCR, McKnight provides an outline of the ANSCR system. An ANSCR call number consists of four elements, or "terms," each of which is notated on a separate line. After an explanation of each term, McKnight provides examples of call numbers.

How could any book on classification be complete without a chapter on shelf arrangement in the classification of music materials? Chapter 5 discusses shelf arrangement within DDC and LCC. The introductory paragraph to section G 800 in the *Subject Cataloging Manual: Shelving* is included in McKnight's book. This paragraph describes the history of shelving at the Library of Congress.

McKnight's book introduces the new music cataloger to the three most commonly used music classification systems. The book is also helpful to those who do not catalog music materials on a regular basis, or for those who are considering a change in their library's current classification scheme. Music reference librarians may also find this book useful if they have always wanted to learn more about

classification schemes. The terminology and tone of the book are easy to understand and straight-forward. The examples and outlines from the various classification systems are very informative. Of particular interest are the flow charts that McKnight includes throughout the book. The section on DDC includes a flow chart from the DDC manual, and McKnight creates flow charts in the LCC chapter for classifying jazz ensembles and choral music. It would be interesting to see if other music catalogers have created flow charts for other class numbers in LCC. Although the main focus of this book is music classification systems, it would have been nice to see mention of the fact that classification numbers can be found on some subject authority records and in the *Library of Congress Subject Headings*. Even though the number of examples is sufficient, an appendix at the end of the book with further examples from each classification system would have been a bonus.

The introduction to the book, as well as the history and background of each classification system, are particularly helpful. Notes at the end of each chapter and the selected bibliography at the end of the book are valuable resources for finding additional cataloging tools. The book does include an index.

While this book is for the beginning and less experienced music cataloger, even the more seasoned music cataloger should find it of interest. Since many of us catalog in only one classification scheme throughout our careers, the opportunity to learn more about differing classification schemes is not to be missed. This book is a welcome addition to any music cataloger's reference shelf.—Margaret Kaus (mkaus@utk.edu), George F. DeVine Music Library, University of Tennessee, Knoxville.

***The Ultimate Digital Library:
Where the New Information***

Players Meet. By Andrew K. Pace. Chicago: ALA, 2003. 168p. \$35 (ISBN 0-8389-0844-6) LC2002-15527.

It's a tall order to convince traditionally minded librarians that the corporate world has the right idea, but Andrew K. Pace has undertaken the task with conviction. Pace is head of systems at the North Carolina State Universities, and a background with both systems vendors and academic libraries lends the authority of experience to his voice, though the vendor in him often wins out to make his ideas relatively commercial compared to current library practice. As a result, the book may stir up some animosity in librarians of a traditional turn of mind, but Pace's intention is to wake up our sleepy profession to the possibilities available to those who embrace change and technology with the ultimate goal of serving users.

Embracing change and technology, though, requires radical change in ideology. For instance, Pace dismisses librarians' insistence that "information wants to be free" as petty jealousy over the success of competitors like Amazon.com. In defense of this stance, Pace comes to the conclusion that "It is not that information wants to be free; librarians want information to be valuable, and this is where libraries come in, by adding the value of subject expertise, collection, and organization" (135). But as one reads through pages of praise for personalized Web portals, one begins to conclude that added value consists primarily of attractively streamlined presentation of information over the Internet. The book advocates the adoption of any dot-com strategies that will boost the library's Internet presence, barring only those that violate the principles of privacy and anonymity.

Though Pace adheres to librarians' moral concerns, he's not afraid to take shots at traditional tools of the trade, particularly where technical

services are concerned. Dismissing the MARC format as cumbersome at best, he advocates a catalog fashioned after Amazon's—cover images, reviews, and popularity ratings included. This streamlining approach seems to contradict his notion that libraries should be prepared to provide information quickly, cheaply, *and* thoroughly. If he concedes that "cataloging is the closest thing to science in library science," (47) and yet dispenses with thorough methods of description, would he dismiss the notion of library science as well?

Perhaps the library science degree program for Pace's librarian of the future would be better termed "Library and Information Business." Schools would tailor their programs to feed into the job market for vendors, and those vendors would offer scholarships to students in exchange for work. Future librarians would learn Internet marketing strategies to sell users information for which they pay only the trouble of visiting the library's site (we hope). With greater understanding of the Internet and the vendors that provide library Web presence, LIS students would be equipped to provide appealing access to information-rich collections. Pace is absolutely correct in saying that libraries have a corner on the market as far as information is concerned, yet they lose users to fee-based Internet services because of the lack of sophistication in digital library services. If libraries would adopt features from the commercial information market, their added value of absolute adherence to privacy and even anonymity would give libraries the edge in the "information economy."

Though Pace rests his arguments on the existence of an information economy, he seems to lack an appreciation for the ambiguity of that designation. Claiming that information is now a commodity, he grants that libraries have always had the most information, but then proceeds to

attack libraries for unappealing presentation of their wares. But if information were truly a commodity, then wouldn't an information-rich MARC record be more valuable than the surface-level description in the Amazon catalog? One might conclude that information is not the commodity in demand here; instead, entertainment is the product for which people are willing to pay, whether it comes in the form of a colorful Internet portal or an animated personal information servant. On the other hand, if Pace is correct about the information economy, then it is reasonable to conclude that libraries stand to gain from its existence, because libraries have always held more information than Internet information brokers. The key is to make digital services sophisticated enough to be commensurate with the strength of the collection. In other words, libraries should try to beat corporate competitors at their own game rather than provide an alternative to the game. Pace paints a bright picture of the library's future business model, but what would be the consequences of adopting business practices in one of the few information institutions that has not succumbed to the lure of capital?

Pace has chosen to take a largely ideological approach to the digital library, and as a result, the book will be helpful to those who are in the beginning stages of planning for a digital library—these ideas are certainly thought-provoking, and often deliberately controversial. The book would be an excellent discussion tool for the classroom as well; even if instructors may not buy into some of the populist ideas, it should rouse enough heated opinions to create a good debate. As far as implementation goes, the book seems well suited to large libraries with the ample resources to try some of his suggestions.

There is a distinct current of conflict running through this book; sometimes the author expresses sympathy

with traditional library views, in other places he berates libraries for a staunch snobbery that prevents them from adopting commercial practices. All this makes for a reactionary tone that creates occasional inconsistencies in the author's message. That said, the book will stand out among its peers on the same subject because of its refreshing wit, its forbearance with regard to weighty technical information, and its relative freedom from theoretical speculation.—*John Leslie (jleslie@olemiss.edu), University of Mississippi, Oxford.*

Digital Preservation and Metadata: History, Theory, Practice. By Susan S. Lazinger; annotations by Helen R. Tibbo. Englewood, Colo.: Libraries Unlimited, 2001. 359p. \$55 softcover (ISBN: 1-56308-777-4) LC 2001-50390.

We have grown accustomed to "fixity" or the permanence of text in the print world. Now we must adjust to the "malleability" or changeability of electronic information. Susan Lazinger's book discusses why we need to preserve the intellectual integrity of electronic documents.

Lazinger, a professor at the School of Library, Archive, and Information Studies, Hebrew University of Jerusalem, discusses digital preservation as an issue of concern among libraries, companies, organizations, and individuals in contemporary society. She presents methods of safeguarding resources and dealing with obsolescence to responsibilities, methods of preservation, cost, and metadata formats. She provides useful information about national and international institutions that have established frameworks for digital libraries and archives.

The book is divided into two parts, I—Issues and Models, II—Formats, and Standards. Each chapter is divided into numbered sections, which facilitate locating information. An extensive bibliography is provided

at the end of each chapter with the exception of chapter 9, which is a descriptive list of associations, organizations, and programs that support cultural heritage initiatives. The complete bibliography and the index follow chapter 9. Lazinger emphasizes the immediate need for organizing and preserving the wealth of information on the Web before it inadvertently disappears.

Chapter 1 is devoted to the reasons digital preservation is such a vital issue. The uncontrolled accumulation of data soon will lead us to useless data because searching is difficult, discouraging, and a process of diminishing returns. Electronic texts can easily be edited, improved, manipulated, and revised. However, they have lost their assurance of "preservability." The medium of the data is at risk and the even larger problem of intellectual preservation increases more and more. Lack of metadata and systems documentation, and electronic data in forms that cannot be preserved, are problems. The software or hardware has become obsolete or the digital resources have been designed to prevent any copying. Also, a lack of mechanisms allowing institutions willing to be caretakers of our electronic resources to do so is another serious consequence. All of these jeopardize our digital heritage.

In chapter 2, Lazinger stresses the initial step of identifying material worthy of preservation, whether print or electronic. Digital resources require decisions not only about which items to keep but also about which elements of the resources should be preserved, that is, not only what should be preserved but also how much of each item should be preserved. Features such as links to other documents and interactivity will be lost unless decisions are made to keep them. Intended change or well-meant change may be confused with the unauthorized tampering with data. Digitized material is material convert-

ed to electronic format from documents or other media, while natively digital or born-digital format is material originally created in digital form that can be used as originally intended only if it remains in digital form. Chapter 3 highlights the stakeholders in the preservation process. These include individuals, institutions, and organizations. The unifying factor among stakeholders is their interest in adding to or making use of the value of digital information objects.

Chapter 4 deals with technological obsolescence as the result of the evolution of technology. Another issue is media deterioration. The options fall into three categories—refreshing, migrating, and emulation. Refreshing is copying digital files from one storage medium to another of the same type to prevent media obsolescence. Migration is the periodic transfer of digital materials from one hardware or software configuration to another or from one generation of computer technology to another. It is necessary every time the operating environment is altered and varies with the type of digital data being migrated, although technologies for migration are still in the process of development. There are a number of different strategies for converting digital information, including transferring it from less stable to more stable formats or from a multiplicity of formats to a small number of common formats, developing backward-compatibility paths, and developing process centers for migration and reformatting. Migration is the currently preferred strategy for preserving electronic data. Emulation supposedly is extensible, because no one can predict what changes will occur. It does not require labor-intensive examination or translation of individual documents. Lazinger also touches upon electronic archiving, which includes the authenticity of the digital object (that it is unaltered from the original and is what it purports to be) and copyright (levels of permitted access to the digital object).

Chapter 5 addresses digital archiving, both converting information into digital form and maintaining born-digital information. Estimating the cost of these processes is timely and complex. Chapter 6 moves on to metadata, which refers to any data that aid in the identification, description, and location of networked electronic resources. A primary function of metadata is resource discovery. Metadata increases the odds that a user will be able to retrieve appropriate information and assess its usefulness and availability. It deals with controlling electronic resources as opposed to resource discovery. This is vital in preservation. Metadata in libraries has come to mean a complete record, including encoding, that describes and replaces a larger document or collection in a bibliographic tool. Metadata generally does not refer to records found in paper tools. Lazinger identifies the three-category taxonomy of metadata: descriptive, structural, and administrative. She also describes the five-category taxonomy of metadata: administrative, descriptive, preservation, technical, and use metadata. All of these concepts must be clearly understood before advancing on to the next issue in Lazinger's book.

Chapter 7 discusses standards for structural interoperability, such as framework and wrapper technologies. The purposes of such frameworks and how they can be used with wrapper technologies is touched upon in this chapter. The first half of chapter 8 focuses on cultural heritage digitization projects. Such projects are designed to provide broad access to significant, historical, paper-based materials through the Web. The second half of this chapter looks at data archives that house social science data, especially survey and census data, and more recently, geospatial data. Such centers are another electronic data preservation effort, although they generally house the data that originally were created in machine-readable format and no digi-

tization is necessary to make these materials available to audiences in a networked environment. The beginning of this chapter addresses organizations that are providing a framework for the development of digital libraries. The remainder of the chapter examines organizational, commercial, government, and academic social science data archives. Web addresses are given for them.

In chapter 9, the author briefly explains the reality of the future in international digital cultural heritage centers and electronic data archives. Many nations have initiated digitization projects and programs through their national libraries and archives. Other cultural repositories, including research libraries and museums, are developing their own scanning projects. Although many of these organizations operate primarily within national boundaries, their research and support for digitization best-practice studies extend worldwide.

Lazinger uses technical language throughout the book, and although she gives definitions and explanations of these terms, the user must comprehend each meaning clearly in order to understand the problems concerning digitized information. Each chapter ends with a summary and an explanation of recent developments. The chapter on how to preserve electronic publications will interest many librarians, archivists, administrators, and other related professionals. Preserving electronic publications involves knowing models for syntactic and semantic interoperability and metalanguages and metadata forms.

This text is a useful guide for those involved in the preservation of digital information. It is indispensable in understanding today's methods and practices, intellectual discourse, and preservation guidelines.—*Bernadette Lopez-Fitzsimmons* (bernadette.lopez@manhattan.edu), *Manhattan College, Riverdale, New York.*