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Instructions for authors appear on p. 219 of this issue and on the *LRTS* Web page at www.ala.org/alcts/lrts. Copies of books for review should be addressed to Edward Swanson, Book Review Editor, *Library Resources and Technical Services*, 1065 Portland Ave., Saint Paul, MN 55104; e-mail: swans152@umn.edu.

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Editorial

Peggy Johnson

With this issue, *LRTS* begins publishing the annual periodicals pricing reports, previously published in *Library Journal* and, for ten years, in *American Libraries*. ALCTS has posted the reports for 1999 through 2002, which first appeared in *American Libraries*, on the ALCTS Web site, www.ala.org/alcts. These can be located in the section “Resources,” within “Publications.” Brenda Dingley is the author of this report and analysis of periodicals pricing in 2002. To help set the context for this report, *LRTS* presents three articles (by Pamela Bluh, James G. Neal, and J. Randolph Call), first presented at the Annual Conference in 2002, that consider the topic of predicting library materials pricing.

I am very excited about this issue, which offers articles addressing all the areas that fall within the realm of ALCTS: preservation, collections, acquisitions, serials, and cataloging. Kate Murray explores the dissemination of preservation information in the Republic of South Africa. This article, in addition to exploring the situation in South Africa, provides an opportunity to consider how preservationists share expertise, regardless of location. Brenda Dingley’s piece is relevant to collection development and management, as well as serials work. Certainly, no selector can make decisions about budgets, expenditures, and serials cancellations without drawing on pricing information. The articles by Bluh, Neal, and Call directly link pricing prediction to managing budgets for collections. The second article on serials, by Xiaoyin Zhang, gives an insider perspective on an initiative that has combined the management of print-based journals with that of electronic journals. William H. Walters explores the challenges that face libraries acquiring and managing video media. He places these within the context of the library in which he works, yet the problems faced are universal. Two articles address cataloging and demonstrate the wonderful variety of this specialty. Beth M. Russell looks at twenty years of special collections cataloging and the evolving expectations of this area. While some may be surprised that the cataloging of electronic resources has been with us long enough to have a history, Amy K. Weiss makes this clear as she explores the changes that cataloging rules and guidelines have undergone as we have sought to provide bibliographic access to e-resources. I find the variety of materials with which we work wonderfully documented in this issue. From special collections to video to print to electronic resources—we do it all!

Edward Swanson, Interim Book Review Editor, continues to look for potential reviewers. Contact him at swans152@umn.edu if you’d like to be numbered among the *LRTS* book reviewers. I would be delighted to hear from you. Let me know your view on *LRTS* and how we can better meet your professional needs and interests. Send me a note at m-john@umn.edu.

The Dissemination of Preservation Information in the Republic of South Africa

Kate Murray

The Republic of South Africa has a modest but established preservation community within its sizable library and archive sectors. Because limited professional education and training opportunities are available within the country, many information professionals heavily rely on other means outside the traditional classroom environment to get information about preservation developments and activities. This article explores the distribution methods and associated challenges surrounding the dissemination of preservation information in South Africa.

The Republic of South Africa as a Developing Country

The Republic of South Africa is a country of great extremes. It generally is considered the most industrialized country in sub-Saharan Africa, if not all of Africa, with an established infrastructure, abundant natural resources, and a stable government. At the same time, however, it is a country with significant work still to be done to improve its economy and the lives of its citizens. The global community categorizes South Africa as a developing country, but this term also is used to describe much poorer and politically unstable regions, such as South Africa's neighbor Zimbabwe. It is important to understand the intricacies of the term developing country or developing nation and how it applies specifically to South Africa. Dosa and Katzer define the term as "an economically developing entity . . . used with the understanding that the rich diversity of these countries cannot be subjected to generalizations" (1991, 86).

Because of its political and cultural history, the world has long taken an interest in South African affairs. Many developed countries have invested a good deal of time, money, and effort toward exchanging knowledge and forging working relationships with South African professionals. This is not the case with all developing countries, even in those with more pressing needs for organizational assistance, education, training, and funds. The reality of the South African situation is unique among developing nations, and it is difficult to make general statements about other developing nations based on the South African model. Although preservation is not well established within the library and archives professional communities or training programs, there is a dedicated core group actively promoting the preservation agenda within the country. South Africa, unlike most other developing nations, has a skeletal network to disseminate this information in and around the country. In short, because South Africa is relatively well connected to the global community, it cannot be

considered representative of how things work in other developing nations.

Disseminating Preservation Information through Professional Organizations

Professional organizations, both international and local, play a pivotal role in the dissemination of preservation information to professional information workers within South Africa's library and archive communities. Some are proactive in taking a dynamic lead; others are less so, by design or default. This article will discuss the activities of some of the major relevant organizations. Interorganizational cooperation is both necessary and common in large-scale preservation projects and, as a result, organizational participation often overlaps. It is not the purpose of this article to give an exhaustive recounting of each organization's history, but rather to give a general overview of the organization's relative success or failure in disseminating preservation information in South Africa.

International Professional Organizations

IFLA: International Federation of Library Associations and Institutions

The International Federation of Library Associations and Institutions (IFLA), a large, multinational lobbying body, has a noteworthy influence on the dissemination of preservation information in South Africa by publishing the quarterly *IFLA Journal* and, more intermittently, the *International Preservation News (IPN)*, both of which report on global preservation activities. IFLA also maintains the increasingly valuable IFLANET Web site (www.ifla.org) and organizes training workshops and conferences. However, members of IFLA primarily are associations and institutions, not individuals, so the onus is on the organizational members to distribute these resources to their individual members.

Two IFLA components have vested interests in South African preservation: the Preservation and Conservation (PAC) Core Program and the Africa Regional Section. Launched in 1986, the primary goal of PAC is "to raise awareness: to make information and heritage professionals, governments, and the public conscious of the fundamental position occupied by preservation in the management of an institution" (IFLA 2001). PAC's *Principles for the Care and Handling of Library Material*, edited by Adcock, is a well-respected contribution to the preservation field and readily available thanks to its recent posting on IFLANET (Adcock 1998). The Africa Regional Section also has a strong interest in preservation, listing "the promotion of conservation and preservation of library and archival material in Africa" as one

of its goals in the 2002–2003 Plan of Action (IFLA 2002a). The 1993 *Report of the IFLA Mission to South Africa* identified the relative isolation of South African library and information science professionals from specifically their neighboring African colleagues (IFLA 1993). Partially to encourage more intracontinental discourse, the Africa Regional Section has sponsored the Bart Nwafor Staff Development Program since 1997 to further networking within Africa in several areas, one of which is preservation training.

One of the benchmark moments in the modern history of preservation in continental Africa was the 1993 Pan-African Conference on the Preservation of Library and Archive Materials held in Nairobi, Kenya. This cornerstone event was organized by PAC, another IFLA Core Program by the name of the Advancement of Librarianship Program (ALP), the Africa Regional Section, and the International Council on Archives (ICA), with funding from a number of sources including United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the World Bank (Bergdahl 1993, 464). The resulting conference resolutions had a wide range, from acknowledging the "general lack of awareness of preservation and conservation of library and archival materials . . . [and advocating that these] disciplines undertake awareness-raising activities at the institutional and national levels," to advocating the "establishment in each country of a committee to develop a national preservation policy," to addressing the lack of standards for Africa, and to improving preservation education and training (Bergdahl 1993, 464). Many of these resolutions have not been implemented adequately, but the conference did have one successful continuing result—the eventual creation of the Joint IFLA/ICA Committee for Preservation in Africa (JICPA).

UNESCO: United Nations Educational, Scientific, and Cultural Organization

Founded in 1945, UNESCO has a long, but uneven, history in preservation education and distributing preservation information. On the positive side, UNESCO has "demonstrated a commitment to developing a libraries-and-archives work force because of shortages of such personnel in many parts of the world" (Cloonan 1994, 31). Cloonan goes on to say that UNESCO has funded numerous "fellowships, scholarships, travel grants, international courses and seminars, teacher exchanges, and the establishment of new library schools" in the developing areas of the world (1994, 31). Nonetheless, both Cloonan (1994) and Lancaster (1991) discuss the problems with these UNESCO-sponsored educational activities, including the lack of course follow-up and the inconsistent background knowledge of participants. Naturally, these issues are not restricted to UNESCO initiatives alone.

Speaking specifically of hands-on conservation training workshops organized by JICPA, Varlamoff and Kremp question the benefit of short workshops saying that “as there is no real follow up, it is difficult to check whether all the trainees become trainers when they go back to their country, and whether because of strenuous economical situations, they can put into practice what they have been taught” (2000, 223).

One of the major contributions of UNESCO to the dissemination of preservation information is the Memory of the World program, founded in 1992 in conjunction with IFLA to “protect and promote the world’s documentary heritage” (UNESCO General Information Program 1994, 350). The Memory of the World Register “lists documentary heritage which has been identified by the International Advisory Committee in its meetings . . . and endorsed by the Director-General of UNESCO as corresponding to the selection criteria for world significance” (UNESCO 2001). The program is based firmly in preservation in that it is “designed to embody a new approach to protecting endangered documentary heritage, democratizing access to it and ensuring its wider dissemination” (UNESCO General Information Program 1994, 351).

UNESCO’s second major contribution is in the field of publications. The UNESCO Records and Archives Management Program (RAMP) studies cover a wide range of topics including disaster planning, mold treatment in tropical climates, general preservation and conservation for libraries and archives, and environmental pollution and its effects on library materials, as well as guidelines for training preservation specialists (Buchanan 1988; Wood Lee 1988; Clements 1987; Pascoe 1988; Kathpalia 1984). Some of the RAMP studies are available online via the UNESCO Archives Portal (www.unesco.org/webworld/portal_archives/ramp_studies_list.html) with plans in place to add more titles in the future. Online availability will help make the RAMP studies more accessible because as Cloonan mentions, UNESCO “has not always been attentive to responding to written requests [for hard copies] and sometimes the wrong [publications] are mailed out” (1994, 32).

ICA: International Council on Archives

Through its affiliation and cooperation with UNESCO, IFLA, and JICPA, the International Council on Archives (ICA) strives to fulfill its mission of “facilitating the training of new archivists and conservators and the continuing education of working archivists and conservators” and “developing relations between archivists of all countries and between all institutions which are concerned with the administration or preservation of records and archives or the professional training of archivists” (ICA 2002). Like IFLA, ICA has a number of regional sections or branches

with ESARBICA (Eastern and Southern Africa Regional Branch of the International Council on Archives) being the relevant section for South African professionals. ESARBICA’s constitution was adopted in Nairobi, Kenya, in 1969. The organization publishes the *ESARBICA Journal* and *ESARBICA Newsletter*. In addition, ICA runs the Committee on Preservation in Tropical Climates (ICA/CPTC), a field of study important for sometimes steamy South Africa.

Another preservation education-related project in which ICA is involved is the International Committee of the Blue Shield (ICBS or *Blue Shield*). Formed in 1996 by the ICA, ICOM (International Council of Museums), the International Council for Monuments and Sites (ICOMOS), and IFLA, the purpose of ICBS is “to collect and disseminate information and to coordinate action in emergency situations. Its mission is to protect and safeguard cultural heritage” (ICA 2002). It describes itself as “the cultural equivalent of the Red Cross” (IFLA 2001). ICA and IFLA publish ICBS project updates in their publications and on their respective Web sites.

JICPA: Joint IFLA/ICA Committee for Preservation in Africa

The 1996 creation of the Joint IFLA/ICA Committee for Preservation in Africa (JICPA) is a direct result of the resolutions stemming from the 1993 Pan-African Conference in Nairobi. The goal of JICPA is “to help raise awareness among African professionals of the purpose and importance of preservation. Its aim is also to make professionals aware of all the problems of preservation and to prepare them to deal with these problems” (JICPA 2001). Currently, JICPA is under the organizational umbrellas of both IFLA and ICA, but may become a project of the IFLA Africa Regional Section alone (IFLA 2002b, 3)

In South Africa, JICPA has recently integrated with SAPCON (South African Preservation and Paper Conservation Group). JICPA is still active throughout Africa, but not as a separate entity within South Africa. There are current, influential South African-based members within JICPA, but the JICPA group no longer organizes or sponsors initiatives for the South African preservation community. SAPCON has taken over this role.

Although no longer a discrete unit within South Africa, JICPA has made several important contributions to African preservation awareness, including completing the *Survey of Preservation Resources in Africa 1999* (Coates 2001). Training is an important aspect of JICPA’s constitution, and it has organized and conducted several preservation workshops including the Safeguarding African Documentary Heritage workshop in Cape Town, South Africa, in early 2001. This workshop was cosponsored by UNESCO’s

Memory of the World program and the National Library of South Africa (NLSA) in cooperation with IFLA PAC.

Conclusions about the Role of International Professional Organizations

Clearly, some international organizations are making a proactive effort to distribute preservation information to their members and succeeding to varying degrees. The efforts of international professional organizations cannot be counted as sufficient, however. African professionals, including Mazikana (1995, 27) and Coates (2001, 7), stress that international initiatives must emphasize capacity building and self-reliance to be successful in the long term. In addition, local grassroots-sponsored programs must balance international efforts in order to have an effective lasting impact in the region. South African professional organizations must pick up where the international organizations leave off.

South African Professional Organizations

SAPCON: South African Preservation and Paper Conservation Group

SAPCON, the South African Preservation and Paper Conservation Group, is the local professional organization that deals specifically with the preservation and conservation of cultural heritage collections in South Africa. This includes institutional library and archive collections, as well as museums and historical societies.

SAPCON's focus has changed recently. Previously known as the South African Paper Conservation Group (under the same acronym SAPCON), the new name emphasizes the many aspects of preservation aside from hands-on paper conservation. Simultaneous with the name change, SAPCON recently amalgamated with the South African JICPA members to reduce the overlap between the two similarly focused groups. The recent name change also reflects a desire to attract a wider membership base with more diverse areas of specialties and interests. While SAPCON continues to focus on paper-based materials, the scope of responsibility has broadened to include "works of art, artifacts, library and archival materials and photographs on, or composed of, paper and related materials" (SAPCON 2001). The inclusion of the word "preservation" in the group's name implies that the group will consider these materials in new formats, such as exploring digitization projects. The major aim of the revamped SAPCON is "to advance the education of the public in the conservation of all cultural heritage artifacts, paper and related materials for the purpose of maintaining our South African heritage" (SAPCON 2001).

As the main preservation touch point in South Africa, SAPCON is an important influence on preservation educa-

tion in the region. As a group, it stresses professional networking, investigation, and materials research as well as outreach projects (SAPCON 2001). Established in 1985, the group is organized into geographic chapters or regional groups under a national executive committee. Each regional group decides its own events, with the scheduled presentations often organized or led by the members of that section. Occasionally, SAPCON chapters organize events in conjunction with other chapters or other organizations. For example, SAPCON West organized the May 2001 De-Mystifying Digital Imaging: Building a South African Bitmap workshop in Cape Town, which was partially funded by the Council on Library and Information Resources (CLIR) and immediately followed NEDCC's (Northeast Document Conservation Center) To Film or To Scan four-day workshop (which was also organized by SAPCON West members). To promote local expertise, the SAPCON/CLIR digital imaging workshop instructors were working South African professionals to balance the visiting Americans of NEDCC.

As a whole, SAPCON is an active, progressive organization, and the possibilities for SAPCON in furthering preservation education throughout the country are endless. Nevertheless, the group struggles at times with achieving its potential in part because SAPCON has a difficult time effectively getting information to its members. No regular mailings or newsletters keep members in touch with the group and each other. These same communication problems hinder the recruitment of new members, especially from the paraprofessional and student ranks. How can interested parties join if they do not know whom to contact, the benefits of membership, or the types of projects in which the organization is involved? More directly, how can they become members if they do not know the organization even exists? Efforts are underway to improve intra-organizational communication, including developing a national Web site and, very recently, the establishment of the SAPCON electronic mailing list. This may not alleviate the communication problem for all existing and potential members since Internet access is limited for some information professionals, but it is a positive step. As SAPCON moves away from the often self-employed, hands-on, close knit conservation community toward the larger institution-based preservation community, the group's infrastructure slowly is evolving to meet the demands of the new direction.

SASA: South African Society of Archivists

The South African Society of Archivists (SASA) was founded in 1960 and defines the "moral duty to preserve information about the past and present for the future" as the first responsibility of an archivist (SASA 2001). Like SAPCON, SASA

has regional chapters or branches, but its communication network is more established than SAPCON's with a Web site, a journal (*S. A. Archives Journal*), and a newsletter (*SASA Newsletter*).

SASA's mission, however, does not focus on the training of individuals, but rather the professional development and conduct of the South African archives field as a whole. SASA, nevertheless, has made contributions to disseminating preservation information, specifically in the area of establishing professional standards for the archives profession. One example is the Standards Generating Body for Archives and Record Management (SGB-ARM) of the South African Qualifications Authority (SAQA), which lists preservation as a primary function of an archivist (SAQA SGB-ARM 2001). Aside from this, the organization has made other efforts to promote and further preservation in South Africa. A case in point is the partially SASA-sponsored Preserving Library and Archival Materials in Africa: Opportunities and Challenges conference held in Durban, South Africa, in December 2002.

LIASA: Library and Information Association of South Africa

The Library and Information Association of South Africa (LIASA) was launched in 1997, taking over from the South African Institute for Librarianship and Information Science (SAILIS) and the African Library Association of South Africa (ALASA) (LIASA 2002). LIASA is the main professional organization for South African library and information workers. Organized into regional or provincial branches, members have access to a national Web site and receive regular national and regional news via mail and e-mail. In addition, LIASA recently has assumed publication responsibility for the *South African Journal of Libraries and Information Science* (SAJLIS), previously known as the *South African Journal of Library and Information Science* (same acronym, SAJLIS).

LIASA's mission focuses on advocacy and is policy-oriented as opposed to providing training for its members. There is no organized preservation group or committee in this organization, although members are free to form a new interest group at any time. Coates notes that LIASA's predecessor, SAILIS, "started a division for conservation librarians, but it was so bogged down with rules and regulations, it met virtually no support and collapsed at once" (1995, 39). The fact that no such group currently exists in LIASA may be a reflection of the general apathy toward preservation within the library and archive sector in South Africa. LIASA does hold occasional disaster preparedness workshops, but currently preservation is not a key focus for this organization.

SAMA: South African Museums Association

While not an organization that focuses strictly on the activities of libraries or archives, the South African Museums Association (SAMA) nonetheless has an impact on disseminating preservation information within these sectors through its various training opportunities and workshops. Founded in 1979, SAMA's mission focuses on the "the management of the country's diverse natural and cultural heritage" in the field of museology which, aside from museums proper, can include "other educational and kindred institutions" such as "archives, herbaria, conservation institutes, and collections and exhibitions permanently maintained by libraries, universities, colleges, and schools" (SAMA 2001). While SAMA does not specifically list preservation as one of its main objectives, it does focus closely on the issue of professional ethics and conduct, which can include preservation ethics for all types of heritage institutions.

Conclusions about the Role of South African Professional Organizations

Every South African professional organization does not have an obligation to focus only on preservation; different organizations have different *raison d'être*. Yet every professional organization does have the responsibility to ensure its members are kept well informed and up to date in their respective fields. Perhaps organizations like LIASA and SASA limit their role in preservation awareness intentionally, while SAMA chooses to take a more proactive approach, although there is no data to support or deny this claim. SAPCON is the obvious local choice for disseminating preservation information throughout the various cultural heritage sectors, but, at this point, SAPCON is struggling to find its footing in its new expanded environment. Its renewed efforts to improve communication with its members also will improve communication with other professional organizations. In the meantime, the other organizations have a responsibility to their members to continue, or in some cases to begin, the preservation education discussion, individually or collectively.

Other Methods of Information Dissemination

Preservation information is distributed to and within the South African information professional community in other ways aside from through professional organizations. Some are more accessible than others. Imported professional journals and newsletters like *Restaurator* and *The Abbey Newsletter* are relevant, but very expensive in constantly fluctuating foreign currency. Few institutions or individuals in South Africa can afford to subscribe consistently. Others,

like IFLA PAC's *IPN*, are more widely received, but more sporadically published. The journals and newsletters of local professional organizations and institutions are much easier to obtain, but at the time of this writing no local journal or column is dedicated to preservation issues.

Electronic mailing lists are another option that has proved successful in many library and archive specialties. Aside from the appeal of being free of charge and suffering virtually no publishing delays, electronic mailing lists need not be geographically restricted. One of the most successful examples in the field is the Conservation Distribution List or Cons DistList (<http://palimpsest.stanford.edu>), moderated by Walter Henry at Stanford University, which has subscribers from more than twenty countries across a variety of disciplines. Another is the Encoded Archival Description (EAD) Electronic List (www.loc.gov/ead/eadlist.html) run from the University of Virginia, which discusses metadata encryption for (mostly) archival digital imaging projects. Yet another is the Association for Library Collections and Technical Service's Preservation Administrators Discussion Group (PADG) list; information about this discussion list is available through the ALCTS Web site (www.ala.org/alcts). But, as a 2002 survey of South African preservation professionals reports, very few South African professionals subscribe to these lists, despite widespread Internet access of varying degrees (Murray 2002, 78). Personal communication, however, reveals that many are unaware of some of the more recognizable options like Cons DistList or at least unaware of how to subscribe. The establishment of SAPCON's new electronic discussion list is encouraging, but time will tell how successful the list will be.

Problems with the Dissemination of Preservation Information outside of the United States

The dissemination of preservation information across diverse geographic regions and population groups presents problems regardless of the distribution method.

Limited Networking Opportunities

Other, less formal means, aside from the traditional classroom setting, journals, and professional organizations, distribute preservation information. The most current information often is passed along informally among peers, through what is known as the *invisible college* or "the elite group of people who work in a particular field and who communicate with each other in an informal way" (Smith 1992, 247). In short, the invisible college is a well-connected group of people who know who is doing what, where, when, why, and who is paying for it. The invisible

college is an informal network of like-minded colleagues, who communicate with each other in person at seminars and conferences, on the phone, via fax and e-mail. Cloonan notes that the invisible college connects via specifically oral channels (1994, 62). This definition may be too narrow in today's online environment in which the computer keyboard is the telecommunication method of choice. Aside from this person-to-person communication, Smith notes that gray literature, defined as material ordinarily not available in library collections, like "conference pre-prints, reports of completed studies, reports, and recommendations of committees and photocopies of speeches given at conferences," is an integral aspect of the invisible college (1992, 241). The important point is that information is passed along informal communication channels. Smith asserts that the informal channels of the invisible college are more effective than professional literature (1992, 241).

But how does one participate in the invisible college? One does this by networking or "what the Americans call schmoozing" as one library fund-raising expert recently described it at a Cape Town grant-writing seminar. Networking or schmoozing can be very difficult, indeed, when one does not have a personal professional network or access to an established one.

North to South Networking

Because the invisible college is most entrenched in the United States, the same aspects that make it a successful information exchange tool also act as barriers for would-be recruits, especially international ones.

Because the invisible college in the United States preservation community is so saturated with news of itself, there is little motivation and less time for developing international links. . . . The invisible college in the international preservation community is considerably much less developed and consequently much less effective. This is not because the international preservation system is flawed, but rather because it is new. In many areas, the essential critical mass of preservation colleagues hasn't yet developed within national borders, let alone a geographic region (Smith 1992, 247).

In other words, the frenetic pace of the preservation profession in the United States leaves the professional community little motivation to become involved with "outsiders" who may be geographically, culturally, or institutionally different or distant. Therefore international colleagues may encounter difficulty networking with their northern hemisphere counterparts on an equal footing.

One example of north to south (developed nation to developing nation) networking in the preservation context is the role of international organizations, which are almost always based in the more industrialized countries and export their products and expertise to the less developed countries. North to south networking is only partially effective because of the inherent hierarchy in this relationship. The more successful projects have a balanced approach of both north to south and south to south exchange, such as the SAPCON/CLIR workshop piggybacking on the NEDCC workshop discussed earlier.

South to South Networking

While South African professionals may have difficulty developing reciprocal relationships with their American or European counterparts, this does not mean that a local scaled-down version of the invisible college is not in place within South Africa and even with its neighbors. This is known as south to south, or developing nation to developing nation, networking.

South Africa is a country of have and have nots, just like the United States, although the balance of inequity is more pronounced in South Africa. Large well-funded research institutions traditionally have funds to send staff for training and conferences at which they can build their professional networks. Those who work at these types of institutions have greater access to the Internet and more support from the higher levels of institutional administration to utilize these resources successfully. Those who work in smaller institutions, especially public or rural libraries, with limited resources often do not have the same opportunities as their counterparts in larger institutions. In their paper on training volunteer librarians for work in South African rural libraries, Hart et al. (2001) discuss the challenges and limitations of working with the have-not libraries. They highlight the lack of available resources and the need to reconsider traditional preservation options, saying "it was difficult to embrace options normally frowned upon by conservators, such as pressure-sensitive tapes and techniques that we [northern hemisphere preservation professionals] think of as 'quick fixes'" (Hart et al. 2001, 11). What may be difficult for someone coming from the United States to consider might not be difficult at all for a South African peer to accept as the norm. A set of South African preservation professionals developing guidelines for foreign volunteers might have anticipated supply issues, the lack of disaster plans, as well as the need to develop handouts and training materials in languages other than English. These cultural differences reiterate the need for local peer-to-peer and south-to-south interaction.

A survey conducted in early 2002 showed that most preservation professionals claim to have a professional net-

work of colleagues within South Africa, although the scope and framework of this network is not clear since limited occasions for information exchange exist outside conferences and workshops (Murray 2002). One promising new addition is the recently established SAPCON electronic mailing list that specifically focuses on preservation and conservation issues. Others include the DISA (Digital Imaging Project of South Africa) electronic mailing list for digitization projects and occasional announcements on wider scope electronic mailing lists like LIASA's LIASOnline.

Lack of Standard Vocabulary

Another ongoing challenge for international preservation communication is the lack of a globally standard professional vocabulary. Regional and language differences make communicating effectively across international borders difficult. Smith discusses some of the rather amusing confusion that can result from a nonstandard vocabulary in such a cosmopolitan field.

Variables (personality, education, social background, and national origin) play an even larger role in the international community where we also have to communicate across the barrier of language differences. For example, in English, the conservator is a person who performs physical, hands-on treatment of damaged library materials; whereas in French, the conservator is a person who oversees the development and care of a collection, or in American English, the curator. To the British, this person is the keeper. To Americans, a keeper is usually a person who looks after animals, as in "zoo keeper" (Smith 1992, 240).

This is but one humorous example of a very serious issue, the lack of an internationally standard vocabulary.

The differences are not just semantic. The problem points to the fact that, to some extent, the field has not clearly defined its benchmark terms and made them widely understood. Smith asks "what do we mean when we say 'archival,' 'permanent,' or 'acid-free?'" (1992, 240). These words are not interchangeable, but they often are misused incorrectly as synonyms. This misuse frequently leads to confusion. For example, one local South African library binder described his binder's board as "archival but not acid-free." How can something be archival if it contains the very substance known to hasten deterioration, acidic lignin? The confusion would be cleared up if a standard definition and clear understanding of the concept of archival existed.

Significant inroads into standardization have been made in recent years. Some of the notable examples include IFLA's *Principles for the Care and Handling of*

Library Material (Adcock 1998), and Roberts and Etherington's *Bookbinding and the Conservation of Books: A Dictionary of Descriptive Terminology* (1982), both of which are available in paper format and electronic format online.

Language Issues

Most attempts at standardization, such as dictionaries and glossaries, are only available in the English language. Translation of professional preservation literature into other languages is a slow-moving process; and even when material is translated, it is usually only into Spanish, French, or occasionally Russian.

South Africa has eleven official languages. Aside from the very occasional home-produced item in Afrikaans, no preservation literature is available in the nine other languages. Most current South African preservation professionals are fluent (or nearly fluent) in English, although it is often a second language to Afrikaans, and they have access to the professional literature. Many information professionals outside the preservation field, however, speak English as a third, fourth, or later language and their fluency may not be as great. The current situation may be tolerable—but only just—from the South African perspective, although this language imbalance may inhibit new recruits into the field from outside the English- and Afrikaans-speaking populations.

Other countries, especially other developing countries where English fluency is not as prevalent as it is in South Africa, suffer serious gaps in knowledge due to this inequity of translation. A few professional organizations like IFLA and UNESCO are sensitive to this problem and make an effort to translate documents and make them as readily available as the English versions. The American Institute for Conservation of Historic and Artistic Works (AIC) has linked with the Association for the Conservation of the Cultural Patrimony of the Americas (APOYO) group to translate conservation documents into Spanish. There is still a long way to go. It is doubtful any professional preservation literature will ever be translated into Xhosa or Venda or Sotho or the like, unless it is a South African or perhaps Southern African Development Community (SADC) initiative.

Future Directions

Because preservation is not rooted firmly in South African library and archive sectors, information about preservation developments and activities can be hard to locate, and many information professionals are frustrated by the lack of a consistent information flow. Professional organizations, both national and international, take the lead in disseminating

information, but not all are as involved or successful as they could be. Other concerns, including language issues, fluctuating currency rates, and limited professional networking opportunities, restrict South African professionals' exposure to a wider range of preservation information.

The future of preservation in South Africa lies not necessarily with more outside international assistance but within all levels of the local library and archive sector. The South African preservation community needs to continue to develop local expertise and find ways to more successfully disseminate its activities to the wider information worker population. The SAPCON Web site currently in development would be a good place to advertise ongoing and planned projects and to promote local skills. Another option is to establish a preservation column in a regularly published local journal like *SAJLIS* or *S.A. Archives Journal* or even develop an occasional preservation newsletter for a specifically South African or SADC audience. In addition, current and future education and training efforts of the institutional preservation community must be met with the managerial support that would allow these knowledgeable professionals the time and resources to further develop networking skills at home and abroad. Continued international backing is vital in areas such as research and digitization, but the emphasis should shift to self-reliance and internal capacity building as more and more South African professionals develop preservation expertise. Moreover, general information workers need to insist on more information about preservation in both their professional training programs and places of work. As the demand for increased and sustained preservation information grows within the library and archive community, South African working professionals and educators must develop workable solutions to meet the changing needs of the profession and its constituents.

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Looking for Someone Special

Special Collections Cataloging, 1980–2000 and Beyond

Beth M. Russell

The provision of access to materials in special collections intersects the fields of cataloging and special collections librarianship, sharing characteristics and challenges with both. In order to reveal the changing expectations regarding special collections cataloging professionals, the author examined job notices for positions advertised in C&RL News from 1980 to 2000. Three related hypotheses were tested in this study: fixed-term appointments would become more common; published requirements for consideration would be more rigorous; and positions would offer less relative compensation than in the past. These hypotheses were demonstrated to be untrue. In a larger context, the results of this study can be extrapolated to suggest means of improving education and training for professionals in special collections cataloging, highlighting the skills and abilities future employing institutions will be seeking.

The provision of access to materials in special collections intersects the fields of cataloging and special collections librarianship, sharing characteristics and challenges with both. Job notices for special collections cataloging positions serve as evidence of the expectations placed on these professionals, as well as providing clues about education, training, recruitment, and retention of special collections cataloging librarians. If the practice and profession of special collections cataloging has changed significantly over the past twenty years, advertisements for its positions should highlight these changes.

The shifting landscape of academic library positions is well documented. A recent survey of advertised positions in Association of Research Libraries (ARL) institutions (Simmons-Welburn 2000) showed a greater emphasis on technology, including requirements for knowledge of operating systems and markup languages. The report suggests changes wrought by organizational structures and technology have driven the changing roles of librarians and other professionals in ARL libraries.

These changes have been felt in special collections organizations as well, which many in the field see as having evolved over the past several decades from serving primarily as “treasure rooms” into providing vigorous stewardship and promotion of a wide array of research collections across disciplines and formats (Oram 2000, 44). For example, at the Ohio State University, special collections include Japanese graphic novels (*manga*), avant garde writings, and theatrical realia, in addition to traditional rare books and archives in many languages and subject areas. Knowledge of several descriptive standards, controlled vocabularies for genres and forms, and an understanding of physical objects within the collections are required to catalog these types of materials adequately. At the

same time, a stronger emphasis on eliminating backlogs in special collections will continue to challenge special collections catalogers; new approaches to promoting access and use are being proposed and attempted (Byrd 2001, 167).

Cataloging as a discipline also has undergone enormous changes in the past few decades, leading to provocative discussions about the role of cataloging in future libraries. Professional catalogers are taking on training and management, leaving basic, and even less basic, cataloging to paraprofessionals and, in some cases, student employees. Technological changes, as well, have created new duties and differing work flows for catalogers, as well as creating opportunities for the wider application of outsourcing to cataloging work. Finally, organizational restructuring is often the cause of changes as well (El-Sherbini and Klim 1997).

Not surprisingly, anecdotal evidence suggested that these changes were manifesting themselves in special collections cataloging positions, with libraries requiring more from special collections catalogers and offering less. Informal discussions with colleagues clustered around three themes: administrators' difficulty in filling positions with qualified applicants, problems of training and continuing education, and the perception among catalogers of a proliferation of short-term appointments with relatively low pay and relatively high requirements. These themes are connected to issues of recruitment, training, and retention. The theme of the 2002 RBMS Preconference, "New Occasions, New Duties: Changing Roles and Expectations in Special Collections," provided the venue to present preliminary results of an historical content analysis of job notices for professional special collections cataloging positions.

Three related hypotheses were examined in this study: (1) over the past twenty years, fixed-term appointments would become more common; (2) published requirements for consideration would be more stringent; and (3) positions would offer less relative compensation. By examining job ads for evidence of systematic changes in the field of special collections cataloging, its changing role in the larger related fields would be highlighted. Suggestions for preparing the next generation of special collections cataloging professionals could be extrapolated from the results, highlighting the expectations and needs of libraries for the future.

Literature Review

Content analysis of job notices has a long and rich history in the library literature and one that need not be surveyed here. For such studies, job advertisements provide clues to the reality of library employment based on the assumption that "the ad will indicate the ideal job as defined by the employer and that the library will include in it the knowledge, skills, and abilities the library believes to be important

at that particular point in time" (Lynch and Smith 2001, 410). The idea of using this approach in order to discern changes in the field of special collections cataloging was prompted by publications that took a similar approach. In particular, master's papers by Janet A. Hill (1992) and Mihoko Hosoi (2000) shaped the methodology of this study. Hill's work, although more general in nature, did survey the literature of content analysis historically, as well as sampling ads from 1990 in an attempt to capture a snapshot of the situation. Hosoi's analysis was much more compatible to the hypotheses of this study. Focusing on cataloging, Hosoi provides a snapshot of 1999 job ads as well as asking some of the same questions about her sample. Hong Xu's informative and ambitious survey of the impact of automation on library jobs as outlined in job notices (1996) was also interesting and helpful, although broader in focus.

David W. Reser and Anita P. Schuneman undertook a similarly ambitious survey of all academic library position notices in 1988. They found, among other conclusions, evidence that mainstream cataloging positions are more likely to require foreign language skills and previous work experience, and carry lower salaries than similar positions in public services (Reser and Schuneman 1992). Their methodology was used by Penny M. Beile and Megan M. Adams (2000) to update the results for ads published in 1996. Beile and Adams found overall declines in the number of academic library positions and cataloging positions as well. They found that administrative duties appeared to be more common in technical services, but did not find that these positions were more likely to require previous experience. They also observed slightly higher mean salaries for technical services positions.

Michael Towsey's study of cataloging employment in the United States and the United Kingdom in the mid-1990s combined content analysis of job notices with questionnaires focusing on mainstream cataloging work (Towsey 1997). Among other findings, he concludes that there is no "evidence to indicate a collapse of demand for cataloguing skills by libraries and related organizations" (Towsey 1997, 61). Roxanne Sellberg argues, in a discussion of cataloging management, that "in spite of shared cataloguing efforts and automated systems, cataloguing is still a labor intensive and skill intensive process" (Sellberg 1998, 121). Suggesting the unusual position of special collections cataloging, she further emphasizes that this is especially true "in research libraries that collect numerous relatively rare materials" (Sellberg 1998, 121).

The failure of previous studies to identify special collections cataloging as a field with requirements and qualifications separate from other library fields might stem in part from the fact that previous studies did not always construct categories for analysis in the same way. For example, Hosoi simply includes "rare materials/special collections cataloging" as one of her subcategories. In their survey of the

evolving and expanding roles of catalogers in academic libraries, Buttler and Garcha (1998) found evidence that more academic cataloging professionals might be taking on responsibilities for cataloging rare and special materials, but analyzing these changing responsibilities was not part of their purpose. Lynch and Smith, in their recent overview of academic library work (2001), used separate categories for technical services and special materials positions, suggesting that overlapping positions in special collections cataloging might be impossible to isolate and might appear disproportionately absent from their findings. This lack of focus on special collections cataloging as a specialty sharing characteristics with both cataloging and traditional rare book librarianship confirmed that such an analysis would be valuable.

As with any subfield, special collections cataloging differs in scope and function from its larger parent disciplines. In organizations large enough to support specialization, cataloging and provision of access to special collections materials is often the function of different people than those cataloging a library's general collections. In addition to a long-standing focus on rare books, with corresponding requirements for knowledge of printing and book production processes, cataloging special collections also may require the use of specialized vocabularies and terminology to describe works of art, artifacts, music, or other types of materials. For libraries, archives, or other institutions focused solely on primary research material, special collections cataloging can be used to describe the function of all technical services operations. In some cases, librarians responsible for special collections cataloging, whether they are given titles such as rare book cataloger, technical service archivist, or special collections cataloger, often have more in common, in terms of expectations, qualifications, and duties, with each other than with cataloging colleagues in the same institution.

Methods

The number of positions advertised nationally as special collections catalogers is a fraction of that for general academic library catalogers, and these positions are concentrated, not surprisingly, in larger research libraries. For this reason, the sample for this study was chosen from a single source, *College and Research Library News* (*C&RL News*), rather than by sampling within given sources. In order to test for electronic distribution of job notices, the archives of the special collections electronic mailing list Exlibris for the years 2000 and 2001 were examined, but were excluded from the study since there were only a small number of positions advertised there that were not also published in *C&RL News*. Colleagues' suggestions that the *Chronicle of*

Higher Education be consulted proved interesting, but the volume and scope of advertisements in this publication meant a twenty-year study was impracticable. A six-month sample from the *Chronicle of Higher Education* in 1981 yielded no ads that had not also appeared in *C&RL News*. While individual positions may have been advertised only in the *Chronicle*, and individual institutions may advertise exclusively in this source, deducing overall trends in the field from the final sample should be possible. The chronological extent of the survey demanded a starting point that would provide an accurate view of changes in the field. By 1980, a certain familiarity with the now bedrock tools of the cataloging field, the bibliographic databases, could be assumed.

Selected job notices had titles such as rare book cataloger, special collections cataloger, or cataloger in a dedicated special collections library, or positions that appeared to be predominantly responsible for intellectual access to special collections material, regardless of title. While some ads obviously fell within the scope of the study, some notices, particularly those with little information, proved difficult to analyze. A technical services emphasis within a special collections context became the primary criteria for inclusion, regardless of terminology used. (Acquisitions duties, the other half of traditional library technical services, rarely were mentioned in special collections advertisements, perhaps because of organizational structures that separated these functions.) Supervisory positions with exclusive or primary duties in supervising special collections cataloging were included in the sample, as they demonstrated a possible career path, but administrative positions for special collections departments or technical services operations in general were excluded. Multiple postings of the same position within a short period of time were noted, but were only coded once.

In most cases, the information being analyzed was accepted as printed, with explicit information being required before coding. If a job notice did not state that the position would have supervisory duties or serve occasionally at a reference desk, it was not coded as such. Particularly with required experience, the advertised minimums were considered as written. At the same time, the variety of phrases and wording found in the advertisements necessitated some summarization. For example, many different phrases were used to describe the category coded cataloging knowledge: Library of Congress Subject Headings and Classification, MARC, even familiarity with one or both of the major bibliographic databases.

As the overarching purpose of this longitudinal study was to look for a pattern of change over time, the extent of statistical analysis was limited to univariate analysis. Other types of analysis could be conducted on this sample, but, for the most part, comparing yearly averages and finding little

variation was sufficient to disprove the hypotheses. From the point of view of the potential job seeker, each requirement listed in an ad would be evaluated individually in order to determine whether she or he is qualified for a given position.

Results

All 138 ads that met the above criteria were included in the first large-scale analysis. Eighteen merit special discussion. In 1990, these positions were represented by a very brief notice as part of the Philadelphia Area Consortium of Special Collections Libraries' (PACSCL) "Initiative for the 90s." Hiring such a large number of catalogers certainly had an impact on the profession, but without more information about the jobs' duties and compensation, they could not be coded for other analysis beyond the general characteristics of the sample.

General Characteristics of Sample

The number of positions advertised varied greatly by year, with some obvious peaks in 1985 (13 positions) and 1989 (11 positions), in addition to the all-time high of 25 in 1990, bolstered by the 18 PACSCL positions mentioned above. Although only 4 positions were advertised in 2000, this is actually higher than some previous years during the period and does not seem to mark a declining trend.

More than 60% of the positions were in universities, either public (34%) or private (27%). Commercial positions refer to those booksellers and auction firms that advertised for positions as catalogers and accounted for 5% of the advertised positions over the period of the study. A final, other category included independent research libraries, historical societies, and public libraries, and accounted for 31% of the jobs, bolstered by the advertised PACSCL positions. Public universities did seem to advertise a higher percentage of special collections cataloging jobs compared to private universities in the 1980s, but other differences in the type of institution were essentially constant throughout the period.

Pennsylvania, California, and Massachusetts had a relatively high percentage of special collections cataloging positions, advertising 28, 17, and 12 positions, respectively, during the last twenty years. Among Midwestern states, Missouri and Illinois advertised the most positions, 5 each, and Texas and Louisiana took the lead in the South, with 6 and 5 positions respectively. Not surprisingly, five states in the United States did not advertise a single special collections cataloging position in two decades. This indicates that professionals with geographic restrictions might have real difficulty building a career in special collections cataloging.

Anecdotal evidence suggested that the term rare books cataloger might be giving way to the more inclusive and more modern sounding special collections cataloger. In fact, titles appeared to vary greatly over time, even within the same institution, but were tied more toward department or collection than to changes in the field. For example, even though the earliest appearance of the title special collections cataloger was in 1985, positions were advertised for rare books catalogers in the late 1990s. This suggests that in many institutions, rare book cataloging is seen as a separate enterprise than special collections cataloging, dictated by the collection and its requirements, rather than as a forerunner of a more inclusive nomenclature.

After this initial analysis, the number of positions exhibiting a given variable was recorded as a percentage of the year's total in order to yield more accurate comparison among years. This was necessary because the number of positions advertised varied greatly from year to year. For example, in some years, even if 80% of the positions displayed a given characteristic, the total number of positions could be quite small. Percentages were rounded to the nearest whole number.

The data collected in this study did not support the assumption that temporary, usually grant-funded, positions are becoming more common than permanent positions. In informal discussions, this assertion often is made, and temporary positions are usually blamed on a stingy administration or on a perceived lack of value assigned to the cataloging enterprise. Even published studies have asserted that "[l]ibraries are increasingly finding themselves in the position of having to hire temporary employees for a variety of reasons" (Falk and Boettcher 2001, 44). Years such as 1993 and 1997 had a relatively high percentage of temporary positions, but this was largely because the total number of positions posted in those years was very low. From 1995 onward, 32 positions were advertised, and only 11 of those were temporary. In percentage terms, positions in the late 1990s were more likely to be permanent rather than term. The average length of the term positions was two years, rather constant throughout the period.

Although not related to the initial hypothesis, the question of other, noncataloging duties creating additional expectations for professionals became an object of concern, particularly given the evidence of expanding duties (Buttlar and Garcha 1998, 316–17). In addition to requests for qualities such as communication, vision, and leadership, which are becoming more common in academic library job postings (Lynch and Smith 2001, 418), many ads used standard wording about participating in the mission of the library, planning and policy making, or other vague phrases. Research and publication, for example, were often noted where librarians are tenure track faculty.

Other ads state that creating exhibits or leading seminars is expected of all librarians. Shelf preparation of materials or supervision of stack maintenance were noted in a few ads. Finally, some mixed positions, combining cataloging of special collections materials with other duties such as preservation, were listed.

Since determining the amount of time these activities would take is problematic and would probably depend on the person hired, analysis focused instead on two specific types of duties: supervisory and public service. (See figure 1.) Supervision would entail training, hiring, and other duties that would take time away from line cataloging, as would reference desk hours or other public service duties. Although supervisory duties are common in these positions, either area of responsibility appears to change over time. The relationship between this trend and the trend of deprofessionalization in cataloging merits further attention.

Based on trends in libraries in general, an increase in the number of positions that mentioned responsibilities for computer use beyond cataloging, perhaps in digitization projects and metadata creation, was expected. In fact, this was very rare in ads, even in the late 1990s, appearing in only a few positions. This is a direction worth tracking in the future, as digitization projects in special collections become ever more common.

Job Requirements

Educational Requirements

Of the 120 ads analyzed, more than 87% (105) required the MLS/MLIS or equivalent (see figure 2). Equivalent was sometimes used very specifically to refer to a foreign degree equivalent to the MLS and, in some cases, to cover equivalent experience. The numbers in these categories were so small, though, that the MLS is still clearly the normative degree for professional cataloging positions across the last twenty years, regardless of minor institutional variations. This corroborates the findings of Reser and Schuneman (1992, 55), Beile and Adams (2000, 342), and of the ARL (2000, 11) for the field of academic libraries. The other category consists of 2 jobs that called for an MLS or an advanced degree, while one required at least a fifth-year degree in library science.

An often-heard refrain is that it has become more important to earn another advanced degree in addition to the MLS in order to be competitive for professional positions in academic libraries. This study found only three positions advertised in the last twenty years that explicitly *required* another advanced degree, although the preference or desirability of a second master's degree or Ph.D. is often expressed. None of the ads posted in 2000 made any

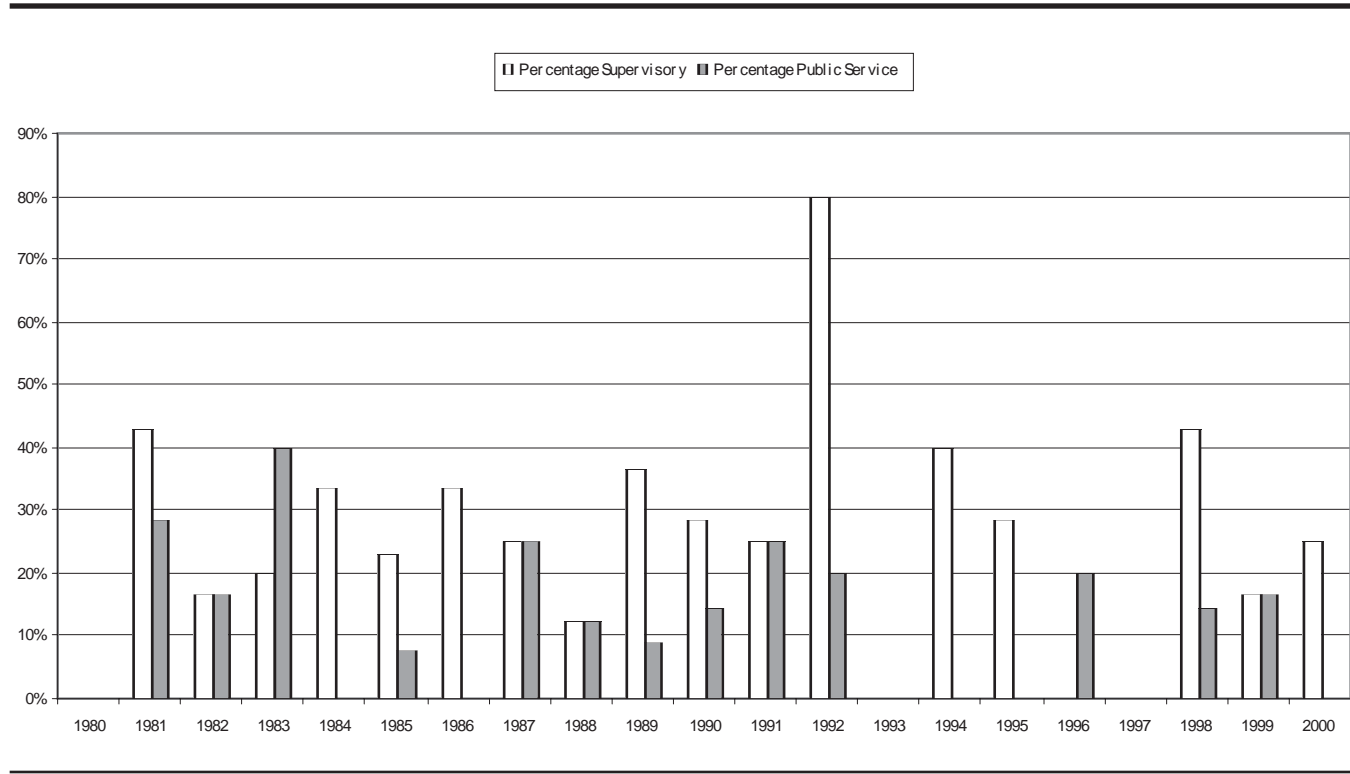


Figure 1. Supervisory and Public Services Duties

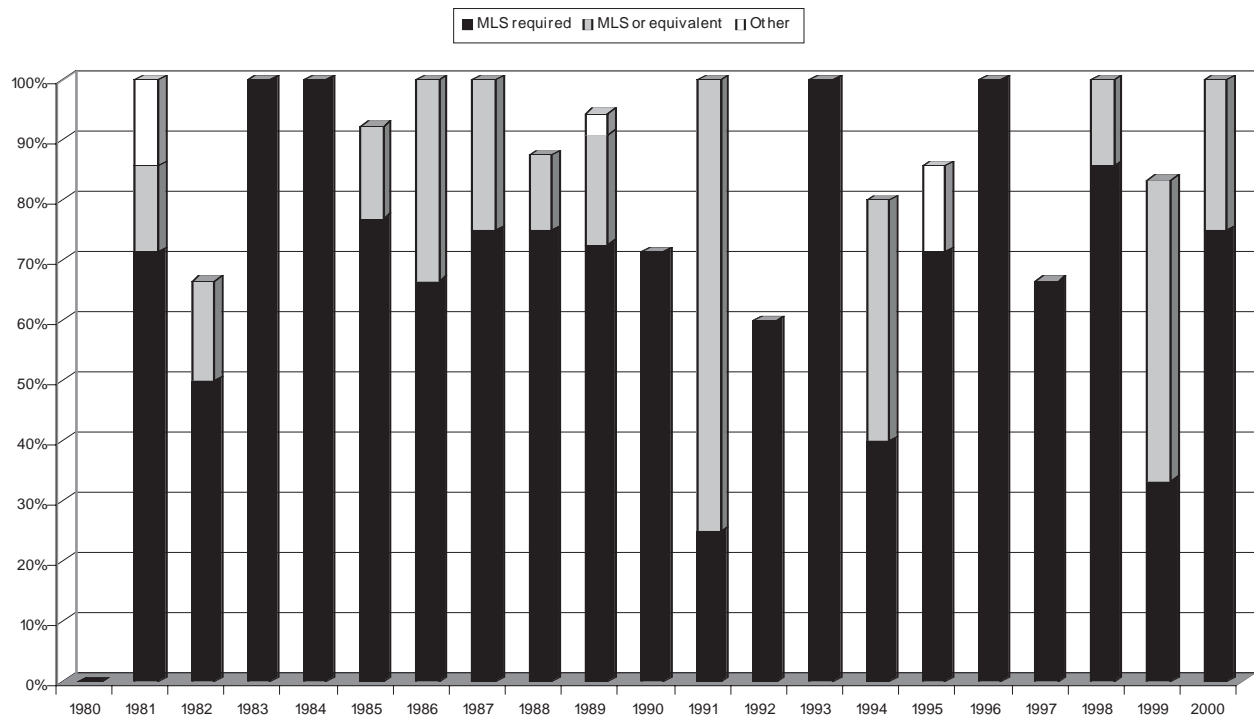


Figure 2. MLS Requirements

mention of an advanced degree, even at the supervisory level (see figure 3). Candidates with advanced degrees may have been more likely to be interviewed or offered the positions in question, but not having a subject degree would not necessarily keep an otherwise qualified candidate out of the pool.

Experience

A small number of ads had an explicit requirement for a certain number of years' experience (less than 40%). (See figure 4.) Phrasing such as experience, cataloging experience, and special collections cataloging experience were all coded alike, since the variations among these categories were small and since specialized types of knowledge, such as descriptive bibliography or Latin paleography, would be attainable not only through work experience, but also through internships, graduate study, or other activities. Most job ads that specified required experience gave a range of years, and the low end of this range was coded as the minimum required.

Eleven jobs were clearly advertised for experienced professionals, despite the lack of an explicit requirement of experience; some used phrases like "substantial experience as a rare books and manuscripts cataloger." For these

notices, a special category for implied experience was created, since new professionals would not be competitive for these positions.

It appears that the percentage of positions requiring at least one year of experience was higher in the last few years of the 1990s than at other times. Although these years also showed an increase in the percentage of positions requiring three years or more experience, it might be hasty to conclude that entry level positions are becoming rarer. This hypothesis deserves further study.

Skills and Abilities

The phrase "cataloging knowledge" was, of necessity, used to cover wording describing a wide range of skills such as Library of Congress Subject Headings, classification, and familiarity with the MARC format, to the ability to use OCLC and RLIN. Since the cataloging enterprise in most academic libraries consists of the use of bibliographic databases, national or international standards of description, and standardized vocabularies, acquiring knowledge and experience in one of these areas without also being familiar on some level with the others is essentially impossible. This requirement appeared to remain constant over time and was nearly as ubiquitous a requirement as the MLS, appearing

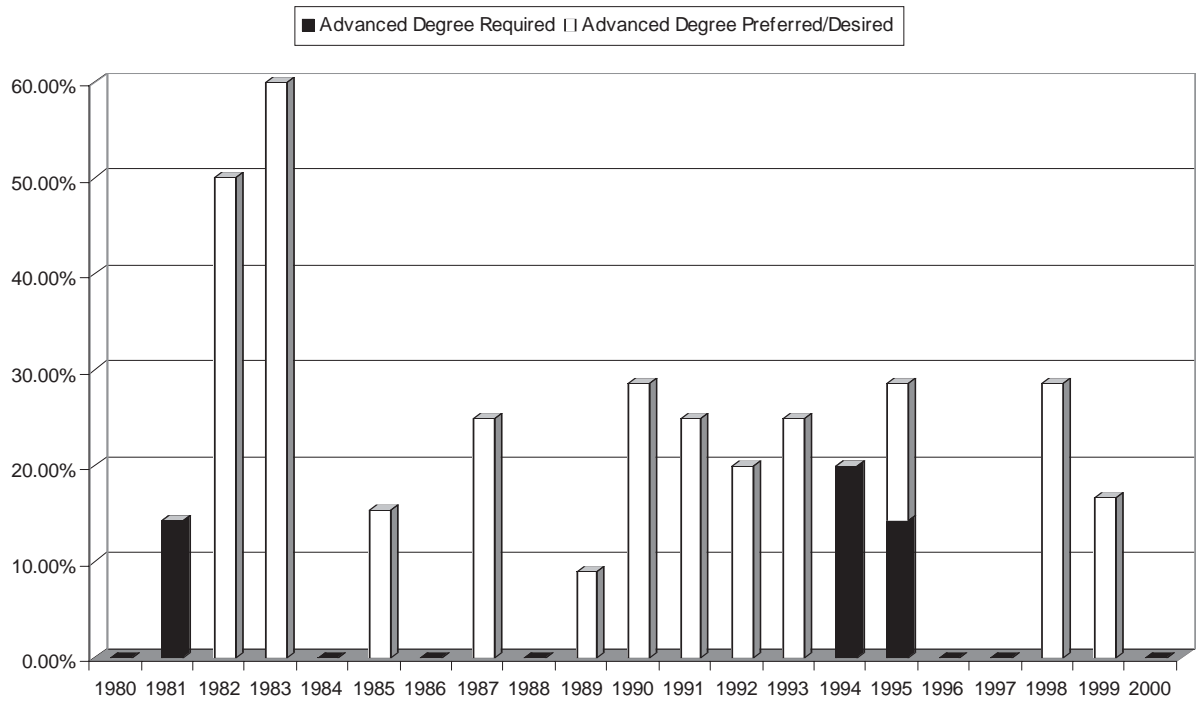


Figure 3. Other Advanced Degree

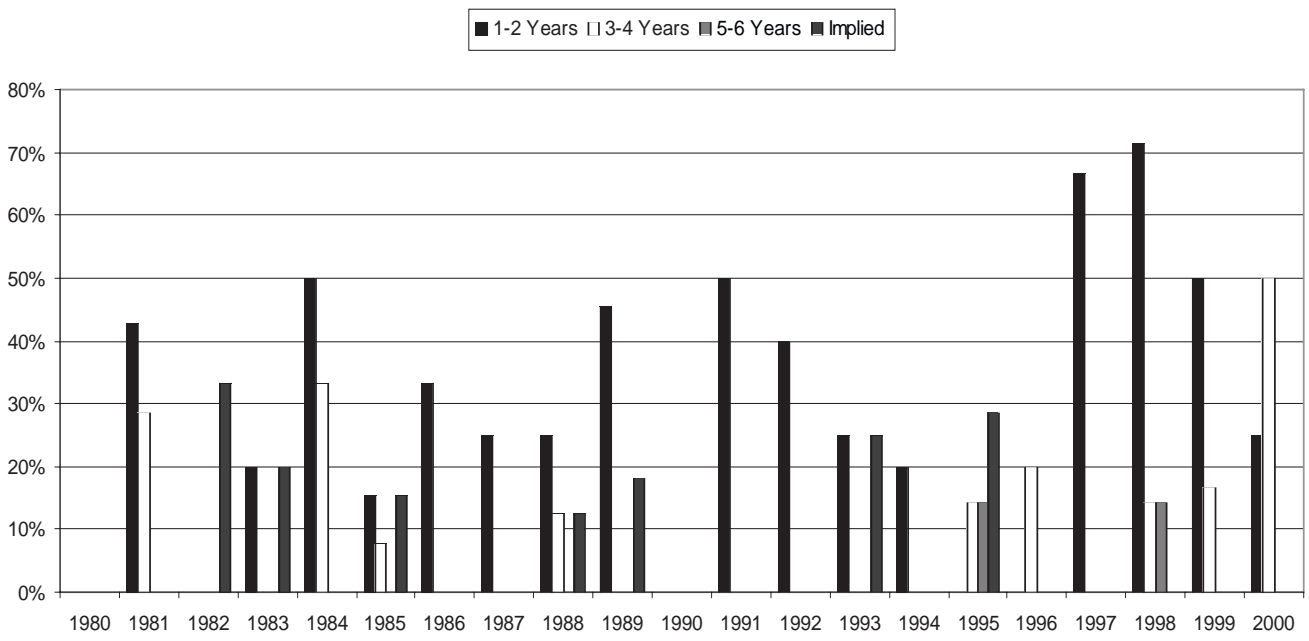


Figure 4. Years Experience Required

in more than 60% of ads. As with categories of experience, further discrimination among types of knowledge might change these results; but this is not likely since most notices allowed for some of the knowledge to be acquired through course work or work experience.

A major aspect of traditional rare book librarianship that might be perceived as an onerous qualification is the requirement for skill in, or familiarity with, many foreign languages. In fact, the demand in job notices for Latin skills has been identified as a “predictable consequence of the demand for rare book cataloging” (Towsey 1997, 70), implying that cataloging knowledge of Latin is widely perceived to be a prerequisite of the rare book cataloging process.

To track this, phrases such as “reading knowledge,” “familiarity with,” and “ability to work with materials in” a given language were coded. The requirement for fluency in a foreign language was very rare, present only in a few cases where specific subject collections required language expertise. Nonetheless, most ads asked for some ability in a foreign language, and this remains steady over the period (see figure 5). Ninety-seven ads (80%) mentioned some foreign language skills, with Latin (31%) just beating out German (26%) for the most commonly mentioned by name. French was mentioned in 17% of ads, Spanish in 12%, and “a Romance language” was specified in an additional 6% of those ads that mentioned foreign language ability as preferred or desired. The “other” category (8%) included one job requiring Chinese or Japanese, one requiring Hebrew and Yiddish, a position requiring a Scandinavian language, and two positions that require skills in a “language of newspapers in California,” which could be one of the other categories, such as Spanish, but might be something else. These unusual requirements were found in ads for positions in subject-focused collections. Requirements of preferences for typical rare book languages such as Latin and German continued to appear in ads throughout the sample and show no signs of becoming less common in positions in the future.

While a few years of high school French might constitute an acceptable level of knowledge in a Romance language, other skills are harder to acquire. With the demise of some library graduate programs and the restructuring of curricula at others, the difficulty in acquiring training in fields such as bibliography and the history of the book has led to spirited discussions in the field of special collections librarianship and the recognition of the need to supplement the graduate school process with continuing education in rare book librarianship. For this study, phrases such as “knowledge of descriptive bibliography,” “background in the history of the book,” or “knowledge of early printing” were considered together in this category.

Also analyzed were the explicit requirements for experience with or knowledge of archives or manuscripts and

other formats. Most positions requiring or preferring archives knowledge or experience were primarily responsible for archives or manuscript cataloging, with the exception of a few supervisory positions. The demand for a background in other formats (such as serials, music, or art) was almost exclusively explicit in format-specific cataloging positions (see figure 7).

Compensation

The most obvious facet of compensation is, of course, salary. Some ads in the sample did note other types of compensation prominently, including tuition programs, retirement plans, and even the lifestyle offered by a given location, but these types of amenities would be impossible to compare across positions.

The rising yearly average of salaries does not address the differences in geographic area and level of position, let alone account for the rising cost of living. In an attempt to do this, the minimum salary listed was compared to an index figure. This approach is not without problems, and earlier authors have rejected comparing posted salaries with actual reported salaries (Reser and Schuneman 1992, 55). Nonetheless, it offers a method of comparing expectations for salaries over time. Since excluding the skeletal notices for the PASCL positions leaves 57% of the total positions in ARL libraries and 70% in universities, in general, the *ARL Annual Salary Survey* was chosen as the best choice for comparative historical data. Twenty years (1980 to 2000) of the *ARL Annual Salary Survey* were consulted.

Matching the geographic region of each notice along with the minimum years’ experience required for the position to the corresponding average salaries for catalogers in the salary survey figures (University Libraries by Region) yielded an index that should account for absolute compensation across the field of cataloging, if not librarianship as a whole. The posted minimum salary for each notice was then divided by the salary index number to arrive at a salary percentage (minimum salary divided by salary index figure.) Each position’s percentage was averaged by year to arrive at the yearly average of minimum salaries compared to ARL university library cataloging positions’ average salaries, qualified by geographic region and years of experience.

Unfortunately, determining the hiring salary of these positions, particularly for those positions where the level of appointment depended on the experience and qualifications of the candidate, was not possible. Not all position descriptions listed a salary, so these were not included in the analysis, further limiting the sample. The goal was to determine if posted minimums were holding steady compared to the salaries of nonspecial collections catalogers; this appears to be the case, with special collections positions at between 83% and 102%,

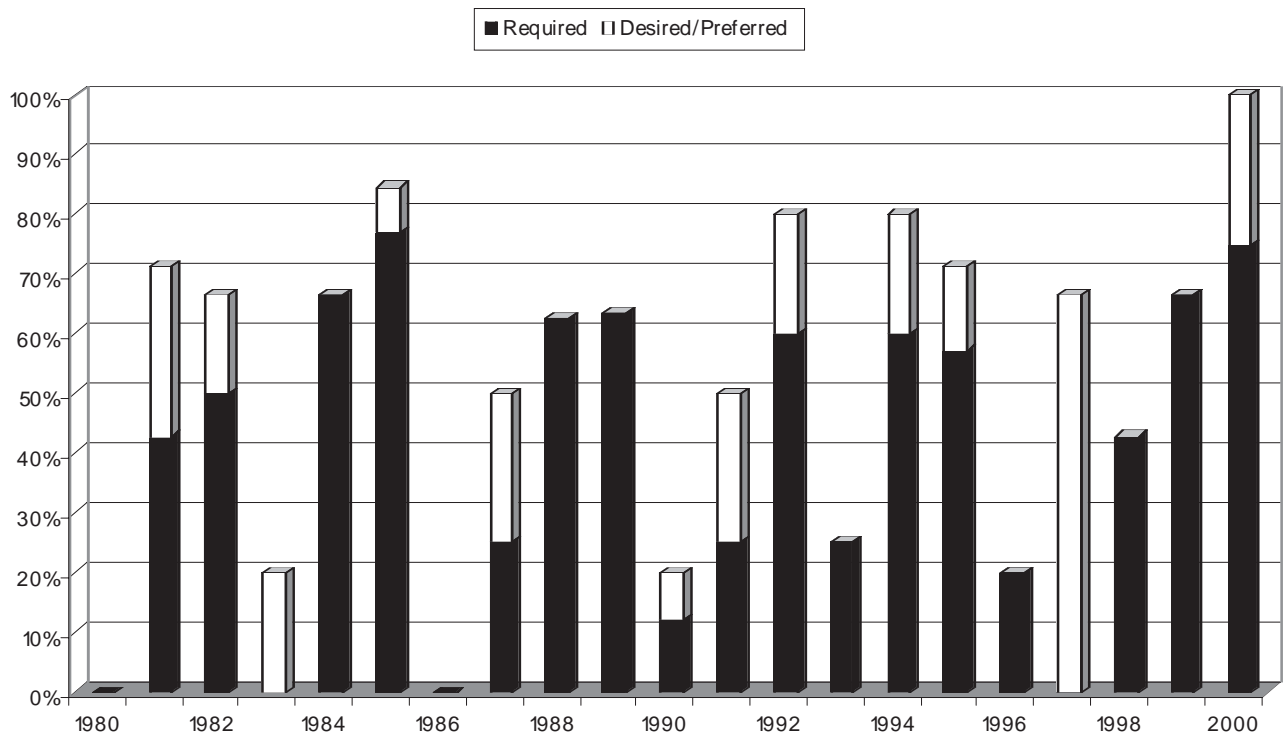


Figure 5. Foreign Language(s)

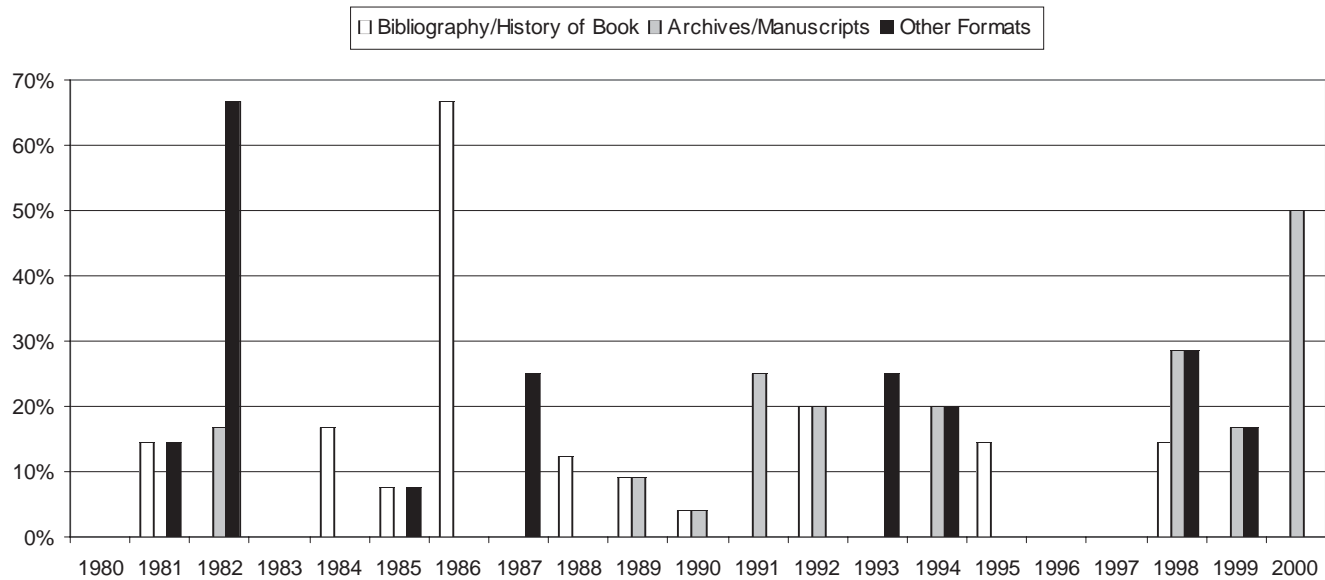


Figure 6. Other Skills or Experience

and averaging 93%, of corresponding academic library catalogers' salaries (see figure 7). The important question of whether all academic librarians are fairly compensated is outside the scope of this study.

A few observations about salary merit some discussion. With the exception of seven positions advertised in the mid-1980s, all the positions that advertised a minimum salary *more than* the corresponding ARL salary figure either advertised supervisory duties or stated that the position may supervise. A similar trend was found with positions that required or preferred a second advanced degree beyond the MLS. While there were well-compensated special collections cataloging professionals during the period who did not supervise or hold other advanced degrees, these attributes suggest a higher degree of compensation across the board.

Conclusions

Ellen Crosby, in her discussion of technical services in twenty-first century special collections, asks, “[w]hat kind of people will be needed in the twenty-first century technical services department of a special collections library” (2000, 175)? If the requirements for special collections cataloging positions over the past two decades are any indication, the foreseeable future will require people very much like those currently in the field.

According to advertised job notices, most requirements and benefits for special collections cataloging positions have been in a steady state during the past twenty years and were based more on the type of institution and collection than on changes over time. University positions, for example, tend to have expectations of service while booksellers tended to be understandably less stringent in the requirement for the MLS degree. Although the analysis is tenuous, compensation appears to be holding steady, at least compared with peers in academic library cataloging positions. Finally, no evidence of a move to more temporary positions was found.

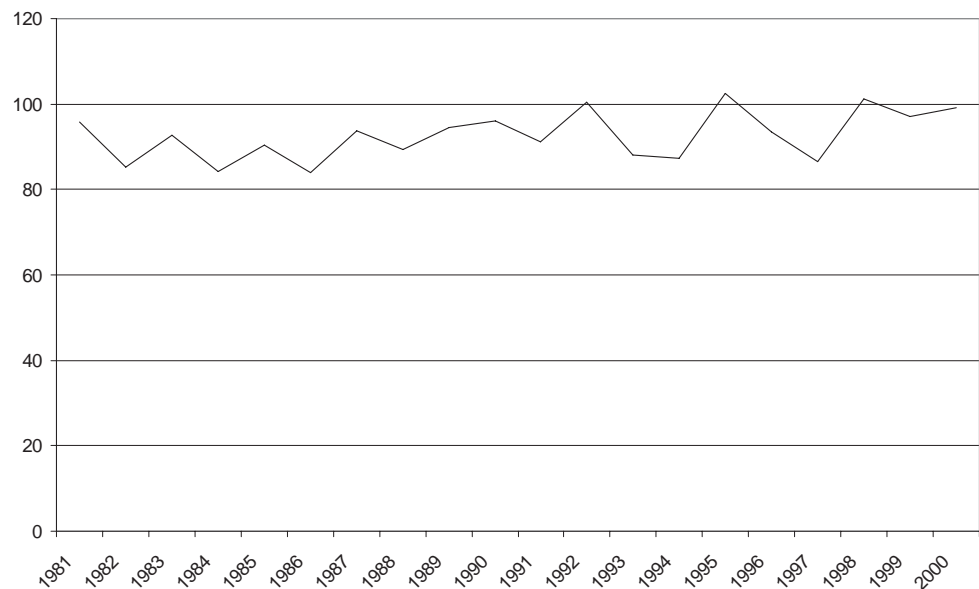


Figure 7. Salary as Percentage of Index

As comprehensive as this study became, questions still exist about the role of special collections catalogers in the field of librarianship over the past decades. Some of these can be answered by further analysis of this sample. Further discrimination in some areas between preferred, desired, and required qualifications and among types of language skills might illustrate more discrete trends, while more recent job notices might highlight cutting edge trends such as metadata creation for special collections digital libraries. Multivariate analysis might also yield interesting results.

Nonetheless, this study has illuminated several key facts about special collections librarianship. While high expectations of foreign-language expertise, traditional rare book skills such as bibliography, and expertise in cataloging may be unrealistic, special collections catalogers have faced such expectations in the past and appear to have met the challenge. These are predictable skills that can be anticipated by professionals seeking employment in these areas. While acquiring these skills might be more difficult, employers appear to be flexible in allowing practical, internships, and other types of learning as evidence of sufficient mastery. Technological changes will necessitate experience with new standards, software, and the like, but once again catalogers have proven up to the task. As recent history demonstrates, predicting which computer programs and practices will turn out to be essential is next to impossible.

The career advice given to the author almost ten years ago was to earn an MLS, to brush up on foreign languages, and to acquire experience in a rare book library by any means necessary. Although special collections catalogers have created a lot of metadata since then, this advice still seems worthy of consideration by someone attempting to build a career in special collections cataloging in the near future.

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Video Media Acquisitions in a College Library

William H. Walters

This article presents an introduction to the acquisition of video media (DVD and VHS) in academic libraries, with emphasis on the policies and procedures most appropriate for undergraduate colleges. The article discusses several issues—collection development, copyright, identification and evaluation of video titles, acquisitions procedures, budgets and expenditures, and vendor selection and performance—drawing on data and examples from the video media acquisitions program of St. Lawrence University. Although the goal of developing a permanent video collection is not always compatible with the day-to-day operation of an instructional audiovisual service, even small colleges can build collections of lasting value by developing and applying systematic guidelines for the selection and acquisition of video titles.

In July 2000, St. Lawrence University transferred responsibility for the acquisition, cataloging, and processing of audiovisual media from the information technology division to the university libraries. This article explores the acquisition of video media in academic libraries, drawing on the initial experience of the library at St. Lawrence University. It documents the library experiences in acquiring video media and provides an account of collection development, copyright, identification and evaluation of video titles, acquisitions procedures, budgets and expenditures, and vendor selection and performance, with additional information on the cataloging and circulation of video resources. (In this article, “video” refers to video recordings on DVD, VHS tape, and similar media.)

St. Lawrence University, located in Canton, New York, is an undergraduate liberal arts college of approximately 2,000 students. The library collection includes nearly a million books and government documents, 8,000 print and online periodicals, and 4,400 video titles. Three full-time staff, including one librarian, handle print, online, and video acquisitions. This report is not intended as a description of best practices. Instead, it documents the work of a small acquisitions department that gained responsibility for video acquisitions without a corresponding increase in staff or budget.

While both *Library Journal* and *American Libraries* have published several essays about video collections and services, both have maintained a relentlessly narrow focus on public and K–12 libraries. Likewise, several authors provide guidance that is valuable for public and school libraries but far less useful in the college/university setting (Hedges 1993; Mason-Robinson 1996; Scholtz 1989). In one of the few articles to examine video operations in an academic library, Hardy and Sessions (1985) describe the consolidation of media services at California State University–Chico (CSU–Chico), where videos had formerly been acquired by three separate agencies: the University Library, the Computer Center, and the Instructional Media Center. Hardy and Sessions do not focus on acquisitions, however, and the video media program of St. Lawrence University is not directly

William H. Walters (whwalters@stlawu.edu) is Collection Development Coordinator and Acquisitions Librarian at Owen D. Young Library, St. Lawrence University, Canton, New York.

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comparable to that of CSU–Chico. One important difference is the setting. St. Lawrence is a small liberal arts college and not a comprehensive university. A second difference can be seen in the position of video media within the broader operations of the library. While CSU–Chico has a separate audiovisual center with eight full-time staff members, St. Lawrence has no staff working solely on video acquisitions and services. The St. Lawrence video acquisitions program emphasizes the mainstreaming of video resources—the idea that the fundamental principles of collection development (the concepts and practices that first evolved in a print-centered environment) can be modified for use with a broad range of media types and formats.

Video Media in Academic Libraries

Survey evidence suggests that most academic libraries gained control of their institutions' video collections only recently. In 1977, for example, the audiovisual collections of most Association of Research Libraries (ARL) universities were managed by agencies other than the university libraries (Brancolini 2002). Six years later, only 3 of 12 major research libraries maintained video collections of more than 1,000 titles. Seven had more than 20 video titles but fewer than 1,000. The Stanford University libraries reported a single video title, and Harvard reported none (Whichard 1985). The situation had changed substantially by 1993, however, when 84% of ARL libraries included video recordings in their collections. Two years later, the proportion had risen to 93% (Brancolini and Provine 1993, 1997). Even in the mid-1990s, however, the acquisition of video media was an activity often shared with other departments on campus. In a 1993 ARL survey, 80% of responding libraries reported that their universities maintained at least one video collection outside the library—in media centers, information technology agencies, academic departments, and other offices. That same year, the typical ARL library had a permanent collection of only 1,800 VHS tapes, 143 beta cassettes, and 575 films (Brancolini and Provine 1993).

According to Scholtz (1995), the recent growth of academic video collections can be attributed largely to improvements in video technology. Just as VHS tape brought a level of convenience not attainable with 16mm film, DVD technology provides a higher level of archival permanence than either film or magnetic tape. The large-scale development of video services and collections is therefore linked to the attainment of satisfactory levels of convenience (VHS) and permanence (DVD). The use of video in colleges and universities also can be traced to a second factor: the rise of film studies as a recognized academic discipline. Self (1994) and Dykyj (2002) describe the ways in which theatrical films have been used in college

teaching, both in film studies programs and in departments such as English, sociology, and history.

At St. Lawrence University, the transition to a library-based video collection was accompanied by a realization that the processes and standards used in the acquisition, cataloging, and dissemination of print materials could be applied, with modification, to video resources. As Brancolini and Provine (1997) note, library-based video collections have several advantages. They are more widely available, better cataloged, more readily accessible, and more closely linked to instruction and research than those managed outside the library. The St. Lawrence experience suggests that library control of the acquisitions function brings even greater advantages. These are:

- the application of professional and scholarly standards that align the video collection more closely with the academic mission of the university;
- cost savings (through greater efficiency, volume discounts, better knowledge of alternate vendors, and the elimination of duplicate purchases);
- greater equity among academic departments through the systematic allocation of library funds; and
- the promotion of a long-term outlook focused on collection building rather than the provision of short-term services for particular faculty or courses.

Another advantage, in many instances, is the ability to handle a greater number of acquisitions over a sustained period of time. This is the case at St. Lawrence, where the number of video acquisitions increased significantly when the acquisitions function was transferred to the library. From 1992 to 1999, the library acquired an average of 251 videos per year, and from 2000 to 2002, 356 videos per year, a 42% increase (see table 1).

Collection Development

In 1985, few academic libraries had collection development policies for video media (Whichard 1985). The situation had improved only slightly by 1993, when 33% of the ARL member libraries with video collections had separate collection development policies for videotapes or audiovisual materials (Brancolini and Provine 1993). Pitman (1989, 1992) lists several reasons for the failure to develop written policies: the fact that most video collections were established only recently, the rapid pace of economic and technological change, the presence of nonsystematic price disparities that make it difficult to predict the budgetary impact of any particular policy, the small size of most video budgets and staffs, and the absence of reliable selection tools for documentary videos.

Table 1. St. Lawrence University Video Acquisitions by Year and Format

Year	VHS	Laserdisc	DVD
1984	43	0	0
1985	6	0	0
1986	276	0	0
1987	36	0	0
1988	143	0	0
1989	86	0	0
1990	435	0	0
1991	261	0	0
1992	344	0	0
1993	277	0	0
1994	375	45	0
1995	317	14	0
1996	190	8	0
1997	180	2	0
1998	123	0	0
1999	123	0	11
2000	368	0	36
2001	357	0	11
2002	282	0	15

Note: $n=4,364$ cataloged titles.

Despite these difficulties, several authors offer guidance for libraries seeking to establish collection policies for audiovisual media. Together, the outlines prepared by Bosch, et al. (1994), Scholtz (1989, 1991, 1995, 2002), and Brancolini (2002) list several common elements that ought to be included in a comprehensive collection development policy:

1. Introduction and goals: How does the video collection support the institutional mission?
2. Overview of the collection and the community served
3. Scope of the collection (subjects, genres, collecting intensity, geographical regions of interest, languages, physical formats, coding/transmission formats)
4. Selection tools (reviews and other information sources): How are potentially useful titles identified?
5. Evaluation criteria for video titles
6. Selection responsibilities and procedures
7. Copyright compliance and public performance rights
8. Handling of gift materials
9. Withdrawal and replacement
10. Preservation and storage
11. Policies and procedures for reconsideration of challenged materials
12. Collection evaluation techniques and procedures
13. Related collections and cooperative collection development strategies.

Brancolini and Provine (1993) present eleven ARL audiovisual policies that can supplement the elements presented here.

The video policy used at St. Lawrence University is still in draft form and has not yet been approved by constituents outside the library. It addresses seven of the elements mentioned above, but does not yet include items 2, 6, and 10 through 13. Although the process of designing the policy has helped focus attention on several important issues, the document itself has not been used very often. In particular, the faculty have been far more concerned with video budgets and ordering procedures than with collection development policy. Librarians have occasionally referred to the policy when answering specific questions from patrons, however; for example, "Can I add my tape of last night's news to the library collection?" (no), "May I order both DVD and VHS versions of a particular title?" (probably not), and "Can we get this foreign language film that's available only in PAL format?" (probably yes).

While much of the collection policy is specific to St. Lawrence, three general points can be made. First, the library is building a permanent collection. "A library collection, including its video component, is a permanent set of materials owned by the library and intended for long term use. . . . While video resources of short term utility may be disseminated through the Information Technology Division, these materials will not be added to the library collection" (St. Lawrence University Libraries 2003).

Second, collection building activities encompass a variety of subjects and genres. This point is made in the following statement:

A wide range of video resources may be suitable for acquisition: commercially released films; dramatizations of literary works; high quality art films; recordings of live theatrical productions; commentary, criticism, and analysis by subject experts in areas outside the expertise of the faculty; documentaries; foreign language practice and drill (if the video component is vital to the presentation); lectures of exceptional quality; news and current events programs; political speeches and debates; and presentations of technical or scientific lab procedures. The assumption underlying the acquisition of popular films and other dramatic works is that they are educationally valuable in several ways: as aids to our understanding of literature and drama, as examples of the performing arts, as guides to rhetorical styles and devices, and as indicators of historical and cultural conditions (St. Lawrence University Libraries 2003).

Third, the library does not seek disciplinary or ideological balance within each title added to the collection. Not all viewpoints can be represented in a typical sixty-minute program, and no assumption of objectivity or balance is implied.

At the same time, the library does make an explicit attempt to acquire materials that students are unlikely to encounter outside the academic environment.

One specific point is worth mentioning—the library's preference for DVDs instead of VHS tapes. While DVDs comprise only 2% of the items in the video collection, they are superior to videocassettes in several respects. These are: better sound and picture quality; the ability to move between sections easily (especially in a classroom setting, where the instructor may want to focus on a particular scene); the presence, in most cases, of English and foreign language subtitles; and the ability to show the image in both widescreen and standard television formats. More important, however, is the greater durability and permanence of DVDs. While the physical life of DVD media has not yet been determined, videotapes stored under normal operating conditions are likely to show noticeable signs of deterioration after only fifteen years (Clark 2002; Crawford 1999; Murphy 1997; Wilkie 1999). This is consistent with the library's replacement rate for VHS media. About one severely damaged tape is discovered each month. DVDs are also compatible with digital computer technology; this may allow preservation and use of digitally recorded programs after the physical disc medium becomes obsolete. This preference for DVDs is likely to have a major impact only on feature film purchases, however, since many documentaries are still available solely on VHS.

St. Lawrence's copyright guidelines for video media were developed only recently (see appendix A). They are based on a review of the literature, attendance at several workshops, and consultation with attorneys working in this area. They draw on the *ALA Copyright Primer* (Bruwelheide 1995) and recent developments in copyright law (ALA 2003; ARL 2003a). While Handman (2002a) provides an up-to-date summary of copyright issues for video media, he devotes insufficient attention to the educational exemptions that allow for the use of videos in face-to-face teaching in nonprofit educational institutions. In particular, Handman overstates the need for public performance rights, which are not required in many instructional settings.

Identification and Evaluation of Video Titles

Unfortunately, a central goal of print collection development—the selection of resources in anticipation of future need—has not been realized at St. Lawrence University. This can be attributed partly to the cost of videotapes and DVDs. Because the average price of a documentary video is more than \$130, poor selections can be costly. A more serious problem, however, is the absence of an established infrastructure for the identification and evaluation of video titles.

While the selection of print resources is facilitated by a wide range of sources, tools, and conventions that have developed over time, few reliable guides are available for nonprint media (Walters 1999). Moreover, the video guides that do exist tend to focus on the titles most appropriate for public and school libraries. Albitz (2002), for example, presents a comprehensive list of selection tools for video media. She covers print and online video catalogs, bibliographic utilities, distributors' lists and current awareness publications, online discussion lists, review sources, and major video awards. Nonetheless, her guide includes relatively little information about the documentary titles that are especially valuable to many college libraries. For other lists of selection tools, see Dykyj (2002), Mason-Robinson (1996), Pitman (1992), Scholtz (1989, 2002), and Self (1994).

At St. Lawrence, the guides by Goldman and Sanders (2002) and Handman (2002b, 2002c) have been especially helpful in the identification and evaluation of documentary videos. At the same time, the absence of objective selection tools for documentaries has led to a heavy reliance on publishers' catalogs and Web sites. The disadvantages of this situation are obvious. Commenting on a 1987 survey that revealed that vendors' catalogs were the primary video selection tools used in public libraries, Pitman noted, "This is, of course, an appalling finding. It would be like handing a book selection head a Publisher's Central Bureau catalog with instructions to build a balanced collection" (1989, 102). While distributors' announcements and catalogs are the main selection tools used at St. Lawrence, the librarians do rely on a wide range of information sources: Web sites, published reviews, discussion lists, trade journals, and colleagues at other libraries.

Because St. Lawrence has no full-time subject bibliographers, primary responsibility for video selection rests with the faculty. Specifically, departmental faculty select 77% of the videos acquired; 8% are selected by the collection development librarian, and 15% by other librarians and staff. These percentages are comparable to those reported by ARL libraries, in which faculty select 68% of all video titles (Brancolini and Provine 1993). St. Lawrence faculty are expected to be aware of what is available, to evaluate particular titles of interest, and to request that those titles be purchased by the library staff. In turn, the acquisitions staff have four primary selection responsibilities: to obtain and disseminate selection tools (chiefly catalogs and announcements); to recommend particular titles, both spontaneously and in response to patrons' requests; to ensure, through fund management, that the acquisition of high cost videos does not compromise the library's ability to purchase other materials; and to provide additional guidance and assistance as necessary. The second responsibility—recommendation of titles—has increased in significance over time and is now the primary means by which the acquisitions staff influence

video collection development. Library activities in this area are twofold:

- The library solicits and welcomes the faculty's assessments of particular titles. These assessments, along with other information, are used to identify the distributors most likely to offer high quality, cost-effective documentaries. Once identified, the relevant catalogs and Web sites are examined regularly for important new releases.
- Many of the video orders submitted by faculty are reviewed in an effort to identify less expensive or more appropriate titles. Admittedly, this practice began as an attempt to save money, not an attempt to improve the collection. However, the process of evaluating these orders (looking for reviews, related resources, and alternate vendors) has led to greater familiarity with the needs of particular departments and an improved ability to recommend good titles for purchase.

The evaluation of videotapes and DVDs is done mainly by the departmental faculty, although the acquisitions staff do monitor all video orders for potential problems related to format, cost, licensing, or copyright. Librarians also recommend titles already available within the collection, and these efforts have been well received. The evaluation criteria used by the faculty and acquisitions staff can be seen in Appendix B. These guidelines are consistent with those recommended in the literature (Blenz-Clucas 2002; Brancolini 2002; Scholtz 1989, 1991, 2002; Self 1994).

Acquisitions and Expenditures

In most cases, the acquisitions process begins when an order is received from a member of the university's faculty or staff. Over eighteen months (July 1, 2001 through December 31, 2002), 482 orders were placed by 82 individuals. While the majority of selectors placed 3 orders or fewer, 19 individuals placed more than 10 orders each. The acquisitions staff are happy to consider video requests from students, but only one or two requests from students were received during that eighteen-month period.

Excluding titles ordered by librarians and other staff, 42% of recent video orders were placed by faculty in the humanities; 28% were placed by faculty in the social sciences, 5% by faculty in the natural sciences, and 25% by faculty representing interdisciplinary programs. The individual departments placing the most video orders were sociology (55 orders), global studies (51 orders), gender studies (44 orders), music (31 orders), and English (30 orders). Several departments placed no orders at all, and the typical (median) department ordered just 9 videos.

As might be expected, newer faculty are more likely to use videos in their courses. Of the 182 tenured and tenure track faculty at St. Lawrence, 35% placed one or more video orders from July 2001 through December 2002. While 44% of assistant professors ordered one or more videos, only 32% of associate professors and 27% of professors did so. This suggests that assistant professors are more comfortable with video technology and more likely to regard video as a legitimate medium of instruction. Two local factors also may help account for this trend. They are:

- Special book/video funds are available for the use of first-year faculty.
- Newer faculty tend to be more familiar with the library's video acquisitions program, which began just as many of them were arriving at the university.

For many new faculty, the video acquisitions program is their first point of contact with the library. The process of building a video collection (exchanging information about courses, research interests, new titles, copyright, and so on) helps to maintain the relationships that are vital to library work in a small college setting.

As table 2 shows, the St. Lawrence video collection includes equal numbers of documentaries and feature films. The library's video expenditures are not evenly divided, however, since documentaries are far more expensive than other titles. While English-language theatrical releases can usually be obtained for less than \$15, most documentary videos cost \$130 or more. The primary cause of this price disparity is the small market for documentary films—specifically, the fact that start-up and production costs must be split between a relatively small number of potential purchasers (Scholtz 1995; Franco 2002). At least one author has predicted that the prices of special interest videos will decline over time as the market matures and distributors sell more copies directly to consumers (Scholtz 1991). This trend does seem to be occurring within particular niche markets (the History Channel, the Discovery Channel, etc.) but not as a general pattern.

At St. Lawrence University, library funding of video purchases was fully implemented in July 2000, with the establishment of a new, nondepartmental video account of \$15,000 for the 2000–01 fiscal year. The intent was to accommodate all reasonable video requests, charging them to the new account and letting the demand for video media establish the level of funding to be used in subsequent years. That year, video expenditures were much higher than expected—nearly \$27,000. In an effort to control costs in 2001–02, the separate video fund was eliminated and most videos were charged to the departmental book accounts. The departmental accounts received modest increases, and a separate fund was established to support book and video purchases

Table 2. Cost of Recently Acquired Videos by Genre

Genre	% in genre	Average price (\$)	Median price (\$)
Feature film or recorded performance—English language	33	24	15
Feature film or recorded performance—other language	14	57	35
Documentary—society and culture	46	135	125
Documentary—science	3	123	78
Instructional (focusing on a particular task, skill, or procedure)	4	124	134
All genres combined	100	87	36

Note: n=421 titles ordered and received from July 1, 2001 through December 31, 2002.

on behalf of first-year faculty and newly offered courses. (The first-year fund was not part of the library's video acquisitions program, but an independent development.) As might be expected, video expenditures declined in 2001–02, from \$27,000 to \$22,000. St. Lawrence followed the same budget strategy again in 2002–03, with somewhat higher expenditures (\$14,500) during the first six months of the year. Clearly, some departments have been willing to reduce their book expenditures in order to purchase more video titles. More than a third of recent video orders have been funded from a special “new faculty” fund, however. This budget line has no direct impact on the departmental book and video accounts.

In comparison with the major research universities, St. Lawrence spends a relatively large amount on videos. Over the past three years, video expenditures have accounted for 2.0 to 2.5% of the total acquisitions budget. In contrast, most large research libraries with video collections report audiovisual expenditures in the range of 0.8% (Brancolini and Provine 1993). While a 1% minimum guideline has been advocated for major research libraries (Brancolini 2002), this percentage is likely to be exceeded at many liberal arts colleges. Because videos are used primarily for instruction rather than research, one might reasonably expect that institutions with a teaching focus will spend relatively more money on video acquisitions.

Vendor Selection and Performance

Vendor selection is perhaps the most challenging component of video acquisitions. For feature films, the difficulty lies in finding a single vendor able to handle most orders without substantial intervention from the library staff. The ideal is a vendor able to process video orders in much the same way as book orders. For documentaries, the difficult task is identifying the distributor best able to supply each individual title.

Pitman (1992), Scholtz (1989, 1995), and Mason-Robinson (1996) provide helpful lists of video vendors.

At St. Lawrence, nearly all orders for English-language feature films are placed with Baker and Taylor or Amazon.com. Baker and Taylor is the first choice vendor, mainly for reasons of cost. They provide a 25% price discount on all video titles. For Baker and Taylor, the median time from order to receipt is twenty-one days, and 67% of all orders arrive within thirty days. At the same time, the library uses Amazon.com for feature films not listed in Baker and Taylor's online catalog. The performance data for Amazon.com are virtually identical to those for Baker and Taylor, although the median cost of an Amazon.com video is higher—\$20 rather than \$11. For Baker and Taylor orders, the library generates printed purchase orders through the library's INNOPAC system. Orders are placed online with Amazon.com, and the bibliographic and order records are created separately in INNOPAC. Both vendors require the establishment of institutional accounts before any orders are placed.

The St. Lawrence faculty provide vendor information for approximately half the documentaries they request. For other documentary videos, the process of verifying bibliographic information and identifying a distributor is likely to include some or all of the following components:

- Checking if the video is available through Baker and Taylor or Amazon.com
- Searching OCLC WorldCat for bibliographic information
- Searching the online catalogs of the specialized video distributors that seem most appropriate (PBS, Women Make Movies, etc.)
- Searching the printed catalogs of video vendors (these are received and kept in the acquisitions office)
- Using online search engines to find information that may lead to the identification of a vendor (production information, screening dates and locations, reviews, other libraries' holdings, etc.).

Table 3, constructed using the same methods conventionally employed in the evaluation of print vendors (Bracken and Calhoun 1984; Miller and Niemeier 1987; Vendor Study Group 1992), provides basic information about the performance of the video suppliers used most often at St. Lawrence University. These suppliers can be classified into three groups: feature film vendors (Baker and Taylor, Amazon.com), specialty distributors (those that supply only the items listed in their catalogs, usually on behalf of independent documentary producers), and general vendors (those that supply feature films, documentaries, and other videos from a broad range of sources). As the table shows, the top 15 vendors vary markedly in their fulfillment rates, response

Table 3. Vendor Statistics: Fulfillment Rates, Response Times, and Prices

	% orders placed with vendor	% rcvd. within 10 days	% rcvd. within 30 days	% cancelled (unfilled)	Average time order to receipt	Median time order to receipt	Average price (\$)	Median price (\$)
Feature film vendors								
Amazon.com	5	15	65	0	27	24	24	20
Baker & Taylor	22	3	67	18	24	21	17	11
General vendors								
Ambassador Media	1	0	14	71	59	59	121	121
Siena Library Company	16	0	56	18	33	23	52	35
Specialty distributors								
Annenberg/CPB	1	0	100	0	20	20	94	40
Chiapas Media Project	2	0	0	0	60	60	67	70
Ctr. for South Asia, U. WI	1	0	33	0	52	63	131	131
Facets Multi-Media	11	2	65	8	34	21	34	20
Filmakers Library	1	50	100	0	16	14	363	350
Films for Humanities & Sciences	5	0	84	8	25	21	197	139
First Run Icarus Films	1	0	100	0	24	24	258	225
Insight Media	8	3	85	3	24	24	157	139
Media Education Foundation	4	14	81	0	17	14	209	205
PBS Video	4	0	78	6	28	23	47	30
Women Make Movies	1	0	100	0	16	13	237	225
52 other distributors (combined)	15	18	75	5	27	17	121	100
All vendors combined	100	6	68	10	28	21	87	37

Note: n=482 orders placed from July 1, 2001 through December 31, 2002.

times, and prices. The price differentials can be attributed at least partly to the fact that some distributors will not sell videos without the accompanying public performance rights. These rights are not required in most educational contexts. Nonetheless, public performance rights are included in the cost of all videos distributed by Annenberg/CPB, Films for the Humanities and Sciences, First Run Icarus Films, and the Media Education Foundation.

St. Lawrence has made special attempts to find reliable suppliers in the general vendors category—vendors able to supply out-of-print videos as well as those for which a specialty distributor cannot be identified. Only Siena Library Company of York, Pennsylvania, has met the library's requirements in this regard. Siena handles a wide variety of the library's video orders, especially those that have been returned unfilled by other vendors. They are able to supply more than 80% of the orders the library places, with a median response time no higher than that of the specialty distributors. Siena's performance is clearly superior to that of Ambassador Media, the library's other supplier in this category. However, both Siena and Ambassador have been more effective than Professional Media Service Corporation (PMSC). PMSC claims to offer the largest selection of any video vendor, to supply "even the hardest to find titles" and "those that previously have only been available directly from the producer" (Professional Media Service Corporation

1999). The library's experience has not been consistent with these claims. The 20 orders sent to PMSC, most in August 2000, resulted in only one video, 141 days later. A second order was cancelled after 41 days because it would not have arrived in time for its intended use. The remaining 18 purchase orders were returned by PMSC, 4 with the notation "unable to supply," 4 marked "out of print," 4 marked "order direct," and 3 had the message "unknown vendor." The remaining 3 were labeled "unknown title," "vendor doesn't carry title," and "no vendor found." This performance may not be typical of PMSC, but it did dissuade the library from placing further orders with them.

A substantial number of video orders were placed with a second vendor after the first vendor could not fill the order. Consequently, the 482 orders shown in table 3 represent just 460 unique titles. The cancelled column shows the percentage of orders that could not be filled by each vendor. Only a few orders were cancelled for other reasons. Overall, 89% of the video titles ordered by the library were supplied by the first vendor with whom the order was placed. For those titles, the median time from order to receipt was 21 days, with 77% arriving within 30 days. Three percent of titles could not be supplied by the first attempt vendor, but were subsequently furnished by the second or third attempt vendors. Those titles took significantly longer to acquire, and only 15% arrived within 30 days of the initial order. Six percent of the video

Table 4. Circulation of Recently Acquired Videos by Genre

Genre	% in genre	% circulating at least once	% circulating 3 or more times	Average circulation
Feature film or recorded performance—English language	32	58	16	1.1
Feature film or recorded performance—other language	13	59	27	1.6
Documentary—society and culture	45	55	20	1.5
Documentary—science	3	83	23	1.7
Instructional (focusing on a particular task, skill, or procedure)	6	47	23	1.1
All genres combined	100	57	20	1.4

Note: n=517 circulating items processed from July 1, 2001 through December 31, 2002

titles ordered by the library were permanently cancelled after one or more unsuccessful attempts, and 2% were still on order (and expected to arrive) as of December 31, 2002.

Cataloging and Circulation

Nearly all the videos acquired by St. Lawrence University are cataloged in ODYSseus, the library's public access INNOPAC catalog. Videotapes and DVDs are therefore searchable within the main catalog by title, author, title plus author, words in title, subject heading, and call number. Moreover, a link on the ODYSseus home page leads to a separate video search interface that retrieves only video records. (In that interface, the author search is labeled "Director, Actor or Producer.") All video records include subject headings, although the call numbers assigned to videos are not classification numbers. Each call number consists of a format code (IMV, IMD, or IML), the year of acquisition, and an accession number within that year. The median time from receipt to cataloging is just 7 days. Forty-three percent of videos are cataloged within 5 days of receipt, and just 8% (chiefly foreign language titles) take longer than 30 days to catalog. The library's cataloging practices are consistent with those used in major research libraries. According to Brancolini and Provine, 93% of ARL libraries with video collections catalog their videos, either fully or partially. Only 42% use classification numbers as video call numbers, however (Brancolini and Provine 1993, 1997). For comprehensive discussions of video cataloging, see Scholtz (1995) and Wilkie (1999).

At St. Lawrence, the Information Technology Division—an agency separate from the library—is currently responsible for video storage and dissemination. All faculty, staff, and students may borrow videos, although the loan period varies: 7 days for St. Lawrence faculty, 5 days for staff, and 3 days for all other patrons (including faculty at nearby colleges). The circulation rate for newly acquired videos is high, with an average of 1.4 circulations for each item cataloged within an eighteen-month period (July 1, 2001 through December 31,

2002). Moreover, even those videos that have been in the collection for a number of years continue to circulate regularly. Approximately 23% of the videos in the collection were borrowed at least once during the 2001–02 fiscal year.

Somewhat surprisingly, English-language feature films are borrowed less often than documentaries (see table 4). This may reflect the instructional strategies used by the faculty. When a particular documentary is assigned to a class, all students are expected to watch it, either in class or outside class. When feature films are used, individual students or groups sometimes get to choose among several different titles. Although the video collection includes recent releases that have done well commercially, students seem reluctant to borrow videos for recreational use. This may be due to the physical location of the video collection, which is in closed stack storage within the information technology office.

Continuing Challenges for Academic Libraries in Video Media Acquisitions

Some of the video-related problems faced by St. Lawrence University are local in nature. The video collection is outgrowing its current location, and the on-site viewing facilities and equipment are less than optimal. These concerns will be addressed over the next few years as the university libraries assume responsibility for video circulation and storage.

Other difficulties faced at St. Lawrence are more universal in nature. Library staff need to make it clear to the university community that they are building a collection rather than simply providing a service. While many faculty and staff understand this distinction and its implications, others do not. For instance, one St. Lawrence administrator recently suggested that the library withdraw those videos that had not been borrowed within the past year or two, citing the 23% annual circulation rate as evidence that many titles could be safely removed. Likewise, the information technology staff were initially resistant to the large-scale acquisition of DVDs due to the university's heavy investment in VHS technology.

These difficulties show that the goal of building a permanent collection—acquiring the physical medium most likely to offer long-term stability—is not always consistent with the goal of meeting current needs.

Another problem—the absence of proactive collection development—is closely tied to the inadequacy of the video selection tools currently available. For one thing, few sources of reliable information can be found regarding the thousands of documentary videos released each year. Without this information, even selectors with a good knowledge of the college's faculty and curriculum will not feel confident selecting video titles in anticipation of future need. A comprehensive source of bibliographic and vendor information would be especially helpful. Several guides claim to provide this kind of information (Gale 2002; Information Today 2002), but none are complete enough to replace vendors' catalogs or OCLC WorldCat as a source of bibliographic data.

Finally, library patrons tend to have an incomplete awareness of copyright issues, and many feel that a personal standard of reasonableness should take precedence over the guidelines developed by the legal and library professions. As a result, faculty continue to send the library videotapes that have been created in violation of copyright, along with requests to tape televised programs for long-term storage and use. While these difficulties are minor, the absence of a universitywide copyright policy is a larger problem that the university and the library plan to address. In the meantime, the library has developed the guidelines presented in appendix A.

Conclusion

The goal at St. Lawrence University is to evaluate, select, and acquire video media using rational criteria and standards similar to those that have been developed for print resources. The library has faced several challenges in absorbing responsibility for the acquisition, cataloging, and processing of audiovisual media. Some problems, such as the need for sufficient space and better viewing facilities, can be addressed with adequate funds. Other university issues will take longer to resolve. These include educating administrators and faculty about the purpose and potential of an excellent library collection, improving the quality of selection tools for video media, and promoting a better understanding of copyright issues within the user community.

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Appendix A

Copyright Guidelines in Use at St. Lawrence University

1. Videotapes and DVDs may be freely loaned or rented to individuals (staff, students, and members of the general public) for private viewing. This applies regardless of the intended use, educational or otherwise.
2. Instructors and students in nonprofit educational institutions may show videotapes or DVDs in class as part of the required instructional activities. There is no limit on the length or amount of a program that may be shown in this context. Distance learning activities are not included under this provision, however (ARL 2003b).
3. It is not entirely clear whether the transmission of videos over an on-campus network is permitted under the fair use and educational exemption provisions of copyright law. If an institution feels that on-campus transmission is permitted, two requirements must be met: the viewing must be a required component of a regular academic course, and the program must be accessible only to those students enrolled in the course.
4. A damaged or deteriorating video may be copied for preservation purposes only if a replacement copy cannot be purchased at a fair price. Copyright law makes no provision for the creation of backup (archival) copies, however, or for transfers from one coding format to another (PAL to NTSC, etc.).
5. Most programs broadcast on television or cable may be taped during transmission and kept for no longer than 45 days. They must be erased or destroyed at the end of that period. Moreover, the tapes may be used for instructional purposes—in-class showings, etc.—only within the first 10 school days after taping.
6. Academic institutions may choose to purchase additional permissions and rights beyond those mentioned here—public performance rights and digital transmission rights, for example. These rights are not required for face-to-face classroom showings in nonprofit educational institutions, however. Note: In 1993, 15% of ARL libraries with video collections purchased only those videos for which they had acquired the public performance rights (Brancolini and Provine 1993).
7. Academic institutions may choose to accept limitations of their fair-use and educational rights. For example, they may agree to contractual restrictions on use in order to gain access to resources that would otherwise

be unavailable. Unilateral statements from publishers are not always enforceable, however. For instance, the presence of a “home use only” label does not necessar-

ily mean that the video cannot be used for classroom instruction. It means only that the distributor would like users to believe that’s the case.

Appendix B Evaluation Guidelines in Use at St. Lawrence University

We suggest that selectors consider the following criteria when evaluating video titles. Not all criteria will be relevant in all cases, however.

For All Video Resources

1. Relevance to a particular course or a particular faculty member
2. Relevance to the curriculum more generally
3. Multidisciplinary appeal
4. Availability of similar resources within the collection
5. Expected frequency of use
6. Expected number of users
7. Expected useful life (In particular, will it remain useful after changes in course offerings or content?)
8. Level of presentation (Is it appropriate for an undergraduate audience?)
9. Value in documenting social or historical conditions
10. Potential effectiveness in stimulating discussion or further study
11. Inclusion of social, political, or economic themes or viewpoints not presented elsewhere
12. Regional interest (Does it focus on the “North Country”?)
13. Availability, content, and authority of published reviews
14. Awards and honors received
15. Reputation of creator (playwright, director, composer, etc.)
16. Reputation of distributor (Have we been satisfied with videos previously purchased from this source?)
17. Technical quality of production
18. Appropriateness of video presentation (Do other media offer a more effective means of presenting the content?)
19. Appropriateness of format (Are the physical format and the coding/transmission format supported at St. Lawrence?)
20. Extent to which it supports, or is supported by, library materials in other media (print, online, etc.)
21. Absolute cost (Can we afford it?)
22. Relative cost (Is it worth the price?)
23. Availability of special funding to support the purchase
24. Need for (and availability of) public performance and digital transmission rights.

For Dramatic or Artistic Presentations

1. Aesthetic appeal
2. Authenticity (absence of post-release editing, availability in widescreen format, etc.)
3. Uniqueness (Is the work representative of a genre or style of which we can acquire just a few specimens? Is the performance different in meaningful ways from other performances of the same work?)

For Documentaries and Other Factual Presentations

1. Accuracy
2. Authoritativeness
3. Currency (timeliness)
4. Effectiveness of presentation
5. Objectivity (for materials where objectivity is desired or assumed).

Proliferating Guidelines

A History and Analysis of the Cataloging of Electronic Resources

Amy K. Weiss

Cataloging rules for computer-based materials were first introduced in the 1970s, and since then have undergone almost continuous modification and revision. This article focuses on analysis and comparison of the various codes and guidelines for practice issued for what are now called electronic resources. Creation of new cataloging rules has been spurred by introduction of new physical carriers, the preeminence of materials accessed remotely versus those with physical carriers, the need for guidance in cataloging specific instances of computer-based materials, and the evolution of the theoretical concerns underlying the cataloging codes. Based on this history of constant change, it is easy to predict many more changes in the cataloging standards for computer-based materials in the future. However, continuous changes in the cataloging rules may have produced as much confusion as clarity for working catalogers. Caution should be exercised in the creation of new rules and standards for cataloging electronic resources, as it is possible that older rules and standards may, in fact, be readily adapted to new types of electronic resources.

Libraries have collected computer-based materials since the late 1960s. Since then, the types and capabilities of computer hardware, computer media publication standards (or lack thereof), and the types of materials and information available in machine-readable format have continuously changed. Computer-based materials have come to libraries in a variety of physical carriers, or have become available remotely with no physical carrier at all. Since electronic data can be republished at almost no cost, multiple versions, many with only minor changes from the previous version, are the rule rather than the exception. Computer-based materials usually have short useful lives, and it may not be possible to tell if some new carrier type, content, or mode of access will be a substantial development, a transit point to some other form, or an evolutionary dead end. Because of the short history of electronic resources and their continuously morphing forms, there has not been a reliable body of cultural knowledge to draw on to create a definitive set of cataloging rules for these materials. This article focuses not on the process of the creation of new rules but on analysis and comparison of the various codes.

Creation of new cataloging rules has been spurred by introduction of new carrier units, the predominance of items with physical carriers versus items accessed remotely, the need for rules of application for specific instances, and evolution of the theoretical concerns underlying the cataloging codes.

Anglo-American Cataloguing Rules, 2d Edition (1978)

Work on the development of cataloging rules for computer-based materials began in 1970. At that time, the American Library Association Resources and Technical Services Division Cataloging and Classification Section Descriptive Cataloging Committee formed a subcommittee to study computer materials and to attempt to formulate cataloging rules for them. Within a few years, a number of interested groups were collaborating on attempts to codify bibliographic access for these materials (Dodd 1977, 49–50). In 1978, the *Anglo-American Cataloguing Rules*, 2d ed. (AACR2 1978) was published. It was the first international cataloging code to introduce rules for the cataloging of computer media (Dodd and Sandberg-Fox 1985, 1). (Examples are presented in the appendixes to this article. See appendix A.)

The general material designation for these materials was machine-readable data files (MRDF), and they were defined as follows:

A body of information coded by methods that require the use of a machine (typically a computer) for processing. Examples are files stored on magnetic tape, punched cards (with or without a magnetic tape strip), aperture cards, punched paper tapes, disk packs, mark sensed cards, and optical character recognition font documents. The term machine-readable data file embraces both the data stored in machine-readable form and the programs used to process that data (AACR2 1978 9.0A).

According to Sue Dodd, a pioneer in MRDF cataloging, “the biggest difference between the cataloging of books and the cataloging of MRDF is that the cataloger normally does not have an ‘object in hand’ to describe” (Dodd 1982, xvii). Additionally, there were no publication standards for MRDFs, and many could have been considered published only in a very general sense of the term. Nevertheless, the 1978 rules treated all MRDF as published. The cataloger was instructed to “Record the name of the publisher, distributor, etc., and of any agency responsible for the production or dissemination of a machine-readable data file (data archives, project groups)” (AACR2 1978, 9.4D1).

The disembodied nature of machine-readable data files affected the way that they were described. A machine-readable data file could easily change physical carriers (Dodd 1982, 70–71). The definition of MRDF is the last place in AACR2 1978 where carriers are discussed in any detail. A change in the physical form of the file was not considered to be a different item.

The order of preference for selecting the chief source of bibliographic information was also different for MRDFs. The chief source of information was referred to as an internal user label (AACR2 1978, 9.0B1). Preference for an internal source of information was in keeping with cataloging rules for other types of materials. AACR2 1978 acknowledges that an adequate internal source may not have existed, but does not acknowledge that the cataloger may not have been able to access the internal source. Accompanying documentation was the next best chief source of information. The container and carrier labels were the least preferable source of title, because of the presumption that the item that the cataloger had “in hand” may have been one of many physical manifestations of the item, and any labels on the piece might have been specific to that one item.

The mode of use note was used to record hardware and software requirements for viewing the MRDF. This information was treated more casually than it would be in succeeding cataloging codes. AACR2 1978 9.7B15 stated, “If the file cannot be used on all the facilities available to the user of the catalog or other list, specify its mode of use.” The presumption was that another library might have had a version of the same data file that required completely different equipment to view and utilize.

Predictably, the physical description area recorded only the extent of the intellectual content of the MRDF. The cataloger was to record the number of logical records or statements, along with the programming language used to create the program file. This information was an immutable part of a MRDF and would not vary with a change of physical carrier. The physical carrier was not mentioned anywhere in this part of the record.

Interestingly, this edict about physical carriers does not seem to have been followed in older MRDF records in the OCLC database. An informal search of records on OCLC reveals that statements like “computer tape reels” (without specific reference to the number of reels) are frequently used. This may be because catalogers are used to describing a physical item and also reflects the fact that, under almost all circumstances, the library has custodianship of a physical entity of some sort. Even if that physical entity is not the ultimate expression of a work, users still need to know precisely what the library has available in its collection.

Microcomputer Software

The first microcomputer, the Altair 8800, was manufactured in 1975 (T. Dodd 1995, 14). Microcomputer development was not a significant factor in the development of the cataloging code. With the advent of the IBM Personal

Computer in 1981 (T. Dodd, 38) and the introduction of the Macintosh computer in 1984 (T. Dodd, 15), the cataloging landscape was changed forever. While relatively few libraries (mostly large research institutions) might catalog machine-readable data files, any school library might have an Apple Macintosh and some of the educational games or software designed for Macintosh use. Published microcomputer software with a uniform physical carrier and system requirements became an important category of library material, and the AACR2 rules for MRDFs did not directly address how to treat it.

In 1984, the Committee on Cataloging: Description and Access of the Cataloging and Classification Section, Resources and Technical Services Division issued a set of guidelines for cataloging microcomputer software using AACR2 1978. In an article published in *Cataloging and Classification Quarterly*, Sheila S. Intner pointed out that the *Guidelines For Using AACR2 Chapter 9 for Cataloging Microcomputer Software* effectively represented a second set of cataloging rules (Intner 1985, 54). Since the British Library also issued a set of guidelines at this time (Weihs 1986, 25), there were potentially three sets of rules to choose from. The cataloger was forced to choose a set of rules before describing the item in hand. This is the first instance of what has happened repeatedly with computer-based materials—a set of rules is issued and immediately superseded because of new developments in technology. Another set of rules is issued to address the shortfall. Catalogers are required to utilize multiple and sometimes conflicting cataloging standards in order to describe computer-based materials.

The *Guidelines for Using AACR2 Chapter 9 for Cataloging Microcomputer Software* were created specifically for published software. See appendix B. They reflected the increasingly standard (but still variable) publication practices for computer software and the increased importance of the physical carrier. The chief source of information (ALA RTSD:CC:DA 9.0B) was still “information recorded internally on the program file itself,” but labels on the storage medium (i.e., the physical carrier) and on containers were preferred to information found in accompanying documentation (ALA RTSD:CC:DA 9.5). The cataloger was still instructed to begin the physical area of the record by enumerating files and number of records or statements contained in the file, but the carrier also was described.

Despite the increased importance of the carrier unit, the *Guidelines* did not accord the physical carrier consistent respect. A change of carrier was not considered a new edition. If “subordinate” files appeared on the same carrier unit with the dominant file, they were considered accompanying material and were recorded in the physical description in the same manner as guides or other physically separate materials (ALA RTSD:CC:DA 9.5D). Again, the primacy of the intellectual content was asserted over the

specific form of the material. In contrast, in the note area, “mode of access” was changed to “system requirements,” suggesting that the software was not going to be transferred from one carrier or operating system to another. The hardware and software requirements were to be given in a stated order and in as much detail as possible.

Anglo-American Cataloguing Rules, 2d Edition, 1988 Revision

The urgent need for revised cataloging rules caused the publication of a draft version of the *Anglo-American Cataloguing Rules* revised chapter 9 for computer files before the appearance of the complete *Anglo-American Cataloguing Rules*, 2d ed., 1988 rev. (AACR2R 1988). The hope seems to have been that the early release of this chapter would restore a single standard, which could be used for all electronic resources (Weihs 1987, 53).

The *Anglo-American Cataloguing Rules*, 2d ed., 1988 rev. (AACR2R 1988) reflects the increasing standardization of computer-based media. See appendix C. However, the rules took into consideration the likelihood that the physical carriers still would change faster than the cataloging code. Instead of the long list of carriers given in the 1978 code, chapter 9 in AACR2R 1988 gave the following definition for computer files: “The rules in this chapter cover the description of files that are encoded for manipulation by computer. These files comprise data and programs. Computer files may be stored on, or contained in, carriers available for direct access or by remote access” (AACR2R 1988, 9.0A1).

The general material designation (GMD) was changed to “computer file.” The selection of this general material designation represented a compromise between two factions—one preferring to retain “machine-readable data files” and one preferring “computer software” or something similar. “This [general material designation] is a true compromise; no group finds it entirely satisfactory, but all appear to be able to live with it” (Weihs 1987, 53).

The chief source of information was still an internal source, but reflecting the increasing standardization of the format of microcomputer software, the internal source was referred to as the “title screen” (AACR2R 1988, 9.0B). The source of the title was to be given in a note. This change was based on “informal studies,” which suggested that depending on whether an internal or external source was chosen as the chief source of information, very different catalog records could result (Weihs 1987, 54). This note aids catalogers who wished to verify that a utility catalog record matched their item in hand. Requiring this note also was the first official semi-acknowledgment of the open secret of computer file cataloging—namely, that it has been more

exceptional to catalog a computer file from internal sources than from the labels.

The major change in the edition area was somewhat camouflaged. It instructed the cataloger not to make a new edition for minor physical changes such as a change in the number of disk sectors (AACR2R 1988, 9.2D1). Different physical configurations, such as a change in diskette size or a change in the operating system required to operate the software, were not listed as minor changes and were to be considered separate items.

AACR2R 1988 acknowledged both published and unpublished computer files. Rule 9.4F1 stated, "Give the date of publication, distribution, etc., of a published computer file" and followed up with, "Give the date of creation of an unpublished computer file." (AACR2R 1988, 9.4F2). No guidelines were given for distinguishing a published from an unpublished file.

In the physical description area, the cataloger was to "record the number of physical units of the carrier" (AACR2R 1988, 9.2D1). These changes reflected the fact that most computer file materials at the time of the code's creation were assumed to be direct access materials for which the physical carrier was significant.

An unusual stipulation in the computer file rules was the inclusion of a "file characteristics" area, which attempted to characterize the form of the material within the description. No parallel area in the cataloging record existed for other material types. The file characteristics area indicated the type of file (allowed to be either computer data or computer programs) and the number of records, statements, or bytes. This information was to be given only if it was accessible and could be stated in clear terms. This area represented another compromise between the software and machine-readable data file camps (Weihs 1987, 54). In the MACHine-Readable Cataloging (MARC) format, the file characteristics were placed in field 256, which was a required field, even though AACR2R 1988 stated that this information was optional. In practice, this field was seldom used in catalog records. The frequency with which it was omitted from computer file records reflected its lack of flexibility and lack of relevance for microcomputer software.

Interactive Multimedia

The first multimedia PC was marketed in 1991 (T. Dodd, 15). Computers were able to mimic other types of materials (such as videos or sound recordings) or mix all kinds of text and graphics and sound together. Kits were being produced that required a microcomputer, yet had noncomputer peripherals that operated in tandem with the software. Microcomputer software featuring multimedia seemed to be evolving into a separate category of materials. This led to

the publication in 1994 of a new set of cataloging rules, the *Guidelines for Bibliographic Description of Interactive Multimedia*. See appendix D. Once again, within a few years of the issue of a unifying cataloging standard for computer-based media, a second standard for an intersecting set of resources was created. Once again, catalogers were forced to decide which standard to use.

The *Guidelines for Bibliographic Description of Interactive Multimedia* refined many of the cataloging rules from AACR2R and clarified some difficult areas of the description. The real obstacle in using the *Guidelines for Bibliographic Description of Interactive Multimedia* lay in determining what items met the definition of interactive multimedia:

media residing in one or more physical carriers (videodiscs, computer disks, computer optical discs, computer audio discs, etc.) or on computer networks. Interactive multimedia must exhibit both of the following characteristics: (1) user-controlled, nonlinear navigation using computer technology; and (2) the combination of two or more media (audio, text, graphics, images, animation, and video) that the user manipulates to control the order and/or nature of the presentation (ALCTS CC:DA 1994, B).

While it was obviously possible to determine the number of physical carriers of a work by a simple process of observation, it has not always been possible to determine from external sources whether a resource offers nonlinear navigation, or whether the user has control of the order of the program. Documentation and packaging of resources may be deliberately misleading. Ordinary text files or databases were often promoted as interactive to make them more attractive to consumers. Using AACR2R 1988, a cataloger could describe any computer resource, but the interactive multimedia guidelines required the cataloger to decide if the materials met the definition of interactive multimedia and whether the guidelines should have been used in preference to the AACR2R 1988 rules for computer files, or in preference to the rules for kits or videocassettes. To make an accurate decision on whether or not a given resource really met the definition of interactive multimedia, it was necessary to load the file and examine its contents. Because few catalogers had adequate computer equipment to load the computer-based materials that they were cataloging, a standard that depended so heavily on viewing the resources was unlikely to have been utilized in the way it was intended.

The rapidity of technological change doomed the interactive multimedia guidelines. In 1991, it may have appeared that interactive multimedia was going to remain a

clearly definable category, but computer technology made the multimedia kit largely obsolete. By the time the interactive guidelines were published, multimedia computers had become powerful enough that they did not require numerous peripheral devices. A single CD-ROM could handle text, graphics, sound, and videos. The computer carrier became the true, predominant format. At the same time, interactive multimedia elements became commonplace even in software packages and textual databases. Games were excluded from consideration as interactive multimedia material because it was believed that they contained “predetermined software paths” that excluded truly nonlinear navigation. However, many computer games had become so complex that their “predetermined software paths” were harder and harder to locate. It became almost impossible to determine if something was really interactive multimedia even if it was possible to load the software.

Within a short time of the release of the interactive multimedia standard, it was clear that this standard was at best a stopgap measure. At its worst, it created unnecessary confusion. The records bearing the interactive multimedia general material designation were all too frequently a pastiche of cataloging rules that reflected the difficulty of distinguishing interactive multimedia from other computer-based resources and the uncertainty catalogers experienced in attempting to utilize the *Guidelines for Bibliographic Description of Interactive Multimedia*. At the first meeting of the International Standard Bibliographic Description Review Group (CF) in April 1995, it was agreed that interactive multimedia would be incorporated into the International Standard Bibliographic Description for computer files (Byrum 1995, 24).

Content versus Carrier

Physical carriers were not treated uniformly in AACR2R 1988. While rule 0.24 stated that “description of a physical item should be based in the first instance on the chapter dealing with the class of materials to which that item belongs,” content rather than the class of materials categorized some categories of materials, such as maps. A map could be three-dimensional or two-dimensional, printed on the back of a deck of playing cards or on a shower curtain, and still be cataloged using the rules for cartographic materials. Classification theorists, uncomfortable with this contradiction within the code, sought a means of emphasizing the intellectual content of materials over the physical carrier, especially when dealing with interactive multimedia materials.

In the preface to the *Guidelines for Bibliographic Description of Interactive Multimedia*, there was a discussion of intellectual versus physical categories of information:

Interactive multimedia as defined in these guidelines represent an identifiable class of resources with shared attributes, independent of the physical carrier which delivers the information. . . . Describing entire works in this way has been termed an intellectual rather than a physical description. . . . Indeed, there are several chapters in AACR2R which also focus more on gathering together intellectual characteristics of an entire package of information rather than on specific physical manifestations: serials, analytics, manuscripts (particularly regarding collections), music, and cartographic materials (ALCTS CC:DA 1994, iv).

While in AACR2 1978, carriers had not been considered an important part of the machine-readable data file cataloging record, the dominance of the mode of access (through a computer) meant that there was little question of how those resources would be cataloged. The de-emphasis of the carrier in the *Guidelines for Bibliographic Description of Interactive Multimedia* was significant. The emphasis on intellectual content in the *Guidelines for Bibliographic Description of Interactive Multimedia* pointed away from considering all materials requiring a computer for viewing and use as the same category of materials. Since it was possible to make a subcategory of those materials that are considered interactive, it was also possible to categorize computer materials in a broader way that would mean computer access was not considered the most important aspect of the material.

MARC Format Integration

MARC was initially developed for cataloging books. A family of related but not interchangeable MARC records was created in order that serials and nonbook formats could be accommodated in machine-readable form (Crawford 1984, 13). Some materials—for example, serial videos—challenged the usefulness of this approach, since certain fields necessary to express the seriality of the videos could not be used in a visual materials MARC record, and conversely, there was nowhere to express certain aspects of the video in a serial record. The Association of Library Collections and Technical Services/Library and Information Technology Association/Reference and Adult Services Division Committee on Machine-Readable Bibliographic Formats (MARBI) deemed it necessary to attempt to make the various MARC formats, if not exactly interchangeable, at least more flexible (Highsmith 1993, 1–2).

“The process which is called ‘format integration’ consists of bringing together all the USMARC formations for different media into what is, in essence, a single format in

which data that are common to more than one medium are indicated by the same tags, codes, and indicators and in which unique tags, codes, and indicators are reserved for data that relate exclusively to one medium" (Gorman 1990, v).

MARC format integration spurred the promotion of cataloging rules that focused on the intellectual form rather than the physical carrier of a work. In spring of 1996, the second phase of MARC format integration was implemented. While format integration liberalized use of almost all variable fields across almost all types of MARC records, the fixed fields for the different record types remained relatively stable, which meant that there was still a family of MARC records used for different types of materials rather than a single integrated record.

Clarifications and changes were made to what types of material were to be cataloged on what type of MARC record. Computer file serials were to be cataloged on a computer file MARC record with a bibliographic level of "s" to indicate seriality (Olson 1996, 8). Previously, serial computer files could have been cataloged either on a serial or a computer file workform and both records would have been considered valid in OCLC. This change made the treatment of computer file serials consistent with other serially issued media publications, but it was a startling and unwelcome change for the serials cataloging community. Because most catalogers work in an online environment, the choice of MARC record type, rather than the selection of AACR2R 1988 chapter, was often the first intellectual step in categorizing materials. In some libraries, the MARC format type dictated which department would have responsibility for cataloging a work. Electronic journals and other continuing publications were already extremely important in the serials community, and the perceived loss of control over these materials created apprehension that the quality of the cataloging would suffer. In a paper presented in 1997, Jean Hirons and Crystal Graham stated:

This paper does not presume to say who should be cataloging certain types of publications, only how they should be cataloged. Nevertheless, we are aware that those who have never cataloged serials tend to approach such publications very differently from those who have. In the digital world many more publications will be ongoing and will require application of principles long associated with traditional serials. By grouping such publications under a common category we can facilitate the education and training of all catalogers (Hirons and Graham 1998, 183–84).

A partial remedy for this perceived problem came from MARBI. In June 1997, MARBI redefined MARC record type code "m" in the fixed fields. While previously any

material on a computer file carrier would have been cataloged as a MARC type "m" material or computer file format, type "m" was narrowed in its application and was to be used only for computer software, numeric data, computer-oriented multimedia, and online systems or services (Library of Congress, Network Development and MARC Standards Office). When the policy was implemented, computer file serials were required to be cataloged on the MARC serials format, since their serial content was considered more important than their computer file carrier. Eliminating the mode of access as the primary determinant of the MARC format has moved the format decision from the realm of relatively cut-and-dried descriptive decision making to the more amorphous world of subject/genre categorization. File content is not always clear from an external examination of the material. Even if the content is accessible, the existence of hybrid forms can complicate the choice of MARC format. The MARBI decisions represented a kind of end run around the AACR2R 1988 rule 0.24 by forcing an intellectual categorization of the work before the MARC format for an electronic resource could be selected.

The Network Development and MARC Standards Office at the Library of Congress issued further guidelines for type code "m" to offer more assistance to perplexed catalogers in applying the definition of type code "m." While the additional guidelines are helpful, they leave catalogers with some difficult decisions. One item's type code decision, for example, might depend on the importance of the search engine to a resource. Another's might be based on quantity of sound and graphics files (Library of Congress, Network Development and MARC Standards Office 1999). As a result, there is a good deal of variation in how these materials are treated, since the relative importance of a search engine may be a matter of perception as much as anything, and sound and graphic content may be difficult to determine for catalogers with limited access to the full content of the materials they catalog. Furthermore, since many integrated library systems replace the MARC type codes with their own custom set of material type codes or otherwise offer ways to specifically state the physical carrier of the cataloged item, determining which MARC type code to use for each electronic resource is often an intellectual exercise that does not offer any specific benefit to library users.

Online Resources and Metadata

While the Internet had been in existence from 1969 (T. Dodd, 14), it gained in power and scope with the introduction of the first graphical browser in 1993 (Freedman, 585). Also in 1993, MARBI created MARC field 856 to contain information on the location of files on the Internet. The exist-

tence of unique material in this new medium led to the questions: should the Internet be cataloged? And if so, how?

Because AACR2R 1988 was written when published physical material held primacy in electronic resources, there was a scramble once again to standardize the cataloging of this new type of remote access publication. However, no official standard was created solely for Internet cataloging. Cataloging practices were shared through the professional literature and venues such as the AUTOCAT electronic discussion list (Beacom 2002, 21). *Cataloging Internet Resources*, edited by Nancy B. Olson and issued by OCLC, was to serve as a guide to practice. Olson's manual points back to AACR2R 1988. The second edition of *Cataloging Internet Resources* also incorporates material from the ISBD (ER), to which the creators had access in draft form. *Cataloging Internet Resources* provides expanded terminology derived from the ISBD (ER) for the file characteristics area, using the word "computer" instead of "electronic" as in the ISBD (ER) (Olson 1997, 13–14). An examination of records for Internet resources in OCLC reveals that this expansion of terms that OCLC considered acceptable still did not bring the file characteristics area into common use.

The rapid expansion of the Internet and perceived competition between library catalogs and search engines led some to question the usefulness not only of the cataloging rules, but also of the complex and cumbersome MARC record as a means of providing access to Internet resources. Various metadata ("data about data") standards were touted as the best way to offer controlled access to Web pages. OCLC took a leadership role by developing the Dublin Core in 1995 (Chepesiuk 1999, 60). The Dublin Core has since undergone several revisions.

Dublin Core records are far simpler than MARC records (see appendix E). The elimination of fixed field coding is in itself a substantial simplification. Dublin Core records contain fifteen data elements. The data elements are: title, creator, subject, description, publisher, contributor, date, type, format, identifier, source, language, relation, coverage, and rights (Baker 2000). No set of rules has been formulated on how to fill these data elements and there is no equivalent to ISBD punctuation. Crosswalks have been created between MARC and the Dublin Core, and the current OCLC Connexion interface will display records in MARC format or in Dublin Core format as desired.

The Dublin Core has both been praised as "a metadata pidgin for digital tourists who must find their way" (Baker 2000), and disparaged as "an ill-formulated subset of the MARC record" (Gorman in Jones 2002, 181). Because imbedded metadata can be deliberately falsified in order to create false hits in search engines, it is not clear that standard metadata will be widely accepted by search engines as the best means of resource retrieval.

The existence of the Dublin Core and other metadata schemes does suggest one major point—no matter how fast cataloging rules and standards for electronic resources change, the changes may not be regarded as fast or flexible enough to keep pace with the future development of the Internet. Perceptions that Internet resources cannot be described by existing cataloging rules, that cataloging rules take too long to change, and that the Anglo-American Cataloguing Rules are "too difficult" have created the existence of standards that are essentially competitors to MARC. Furthermore, the questions of what intellectual content a useful record should contain and what degree of uniformity is desirable for that content are largely side-stepped by metadata standards. This suggests a challenge to the future of the Anglo-American Cataloguing Rules to bridge the gap between the interests of those outside the cataloging community and the high standards of current library cataloging.

ISBD (ER)

International Standard Bibliographic Description (ISBD) is a concept that was developed as a means of standardizing descriptive cataloging. The initial ISBD for Monographic Publications was issued in 1973 and was used as the basis for developing national cataloging standards by a number of countries (ISBD[CF] Review Group, vii).

In 1997, the International Standard Bibliographic Description, Electronic Resources (ISBD [ER]) was issued. It was a revision of a previously issued standard ISBD (CF) 1986, which was an offshoot of an earlier ISBD that included machine-readable data files in with other nonbook materials) (ISBD (CF) Review Group, vii). The ISBD (ER) offered a more radical view of computer-based material cataloging than AACR2 1988, since it acknowledged the diffuse nature of computer-based materials. The ISBD (ER) even-handedly addressed the existence of both remote and direct access resources, unlike previous standards which tended to favor one type of resource over the other.

In addition to the new general material designation "electronic resource," several major changes were presented. One is ISBD (ER) area 3, "type and extent of resource." This area paralleled that of the file characteristics area or MARC 256 field. The "type and extent of resource" area contained a long list of potential terms. Allowance was made for the use of any meaningful descriptor in this area as long as it was preceded by the term "electronic." The expansion of terminology choices was an attempt to make this area more useful than it had been when the terminology was limited to a few terms, such as it was in AACR2R 1988. The ISBD (ER) implied

that catalogers would be asked to make genre determinations within the description of a resource.

Although this standard was innovative in its acknowledgment of the existence of both remote and direct access electronic resources, the standard treated physical carrier as of less importance than AACR2R 1988 does. Allowance was made for combining all physical manifestations of the same intellectual content into a single bibliographic record, with either multiple physical description fields or a single field combining all carriers (ISBD [CF] Review Group, 3). This was the most radical suggestion in the ISBD (ER). While this notion had been proposed for media materials available in a variety of forms as far back as 1970 (Weihs 2001, 167), it had not previously been included in an internationally accepted standard.

The inclusion of all physical forms of the content on the same bibliographic record allowed the record to focus on the content of the work. The physical forms of the work become subordinate instances of the intellectual work, which clearly shows the influence of research done on bibliographic relationships by Barbara Tillett and others (including the International Federation of Library Associations and Institutions' (IFLA) Study Group on the Functional Requirements of the Bibliographic Record). In this case, works that have what Tillett refers to as "equivalence relationships," e.g., works where the authorship and intellectual content are identical (Tillett 1991, 394–95), were grouped together on a single record. Conceptually, this was a shift from AACR2R 1988 (with its emphasis on specific item description) to the notion that the physical carrier of the information was of only incidental interest to users, who first and foremost would want access to information in whatever form it was available. This continued the de-emphasis on physical carrier found in the *Guidelines for Bibliographic Description of Interactive Multimedia* and the limitations placed on MARC type code "m."

ISBD (ER) retained cataloging terminology when describing physical carrier units, but did specify that a conventional term for an optical disc type should be included parenthetically after the official term. Here the standard was edging toward an acknowledgment that the cataloging terminology has always been technically exact but perfectly obscure to users.

Anglo-American Cataloguing Rules, 2d Edition, 1998 Revision Amendments 2001

The amended chapter 9 (Electronic Resources) was published in 2001. Aside from minor changes made in 2002 when the revised chapter 12 (Continuing Resources) was released, it remains the standard for cataloging monographic computer-based resources. The amended chapter 9

incorporates elements from the ISBD (ER) and the previous Anglo-American Cataloguing Rules for computer files. The need to evolve while staying within the limits of possible practice, bound by integrated library systems accepting traditional MARC records and the expectations of patrons, shapes this version of the rules (see appendix, example 6).

In the 2001 amendments to AACR2R 1998, rule 0.24 was changed from a specific charge to use the rules for "the class of materials to which that item belongs" (AACR2R 1998, 0.24) to an emphasis on "bring[ing] out all aspects of the item being described, including its content, its carrier, its type of publication, its bibliographic relationships, and whether it is published or unpublished" (AACR2R Amendments 2001, 0.24). The Joint Steering Committee for Revision of the Anglo-American Cataloguing Rules (JSC) wanted to proceed with caution in completely undoing this rule, but is continuing to investigate the idea of manifestation-based cataloging (Schottlaender in Jones 2002, 17–18). There is an intent to allow for flexibility in the description of hybrid materials, such as electronic resources. Effectively, the cataloging code has been brought into harmony with the MARBI decision to limit the use of the type "m" record. However, it does not go so far as to discount the physical unit entirely in favor of intellectual aspects of the work.

The revised chapter for what are now called "electronic resources" is notable for its attempt to incorporate remote access, direct access, and interactive multimedia issued in more than one carrier under one code. While much of the electronic resource rules have been derived directly from the ISBD (ER), AACR2R 2001 has rejected the more radical theoretically based aspects of the ISBD (ER) in favor of a synthesis that retains the structure of traditional descriptive cataloging. It does not allow for multiple manifestations to be described on one cataloging record, as does the ISBD (ER). This approach may have been seen as opening the Pandora's box of placing all manifestations of a work on a single bibliographic record, regardless of format, which would fundamentally change the shape of the online catalog.

Increased flexibility resulting from the revised 0.24 is apparent in rule 9.0A1, which notes, "Electronic resources often include components with characteristics found in multiple classes of materials so there will frequently be a need to consult other chapters."

The primacy of internal sources as the chief source of information has been broken. The chief source of information in the new chapter is "the resource itself." While internal sources appear first in the list of acceptable sources, the list also contains "the physical carrier or its labels." A helpful footnote gives a definition of "label" that may reduce the errors of terminology sometimes found in cataloging records' descriptions of the information embossed or stamped on the disk.

Attempts to accommodate multipart multimedia materials can be seen in rules 9.2.B5 and 9.4F4. Rule 9.2B5 clarifies the treatment of variant edition statements on different pieces of a multipart item. Similarly, rule 9.4F4 simplifies the choice of publication date for multipart items with various dates on the separate pieces.

The “type and extent of resource” area does not use the expanded terminology posited by the ISBD (ER). The same three acceptable descriptors from AACR2R 1988 are updated by substituting “electronic” for “computer,” but otherwise remain the same. It appears that either the JSC was unable to reach agreement on an acceptable list of terms or, possibly, it is acknowledging that the field is not useful in most integrated library systems. This field is no longer included in Library of Congress records and may not survive another revision of the rules.

Rule 9.4B2 states, “Consider all remote access electronic resources to be published.” This means that remote access resources receive the same treatment in terms of publication that machine-readable data files were given in 1978. Despite the contention of some that Internet resources are a unique problem in cataloging, the rules articulated more than twenty years ago still remain valid for describing remote access resources.

In the physical description area, catalogers are now authorized to use conventional terminology. This eliminates library terminology that had technical exactitude, but little real world currency. This change may lead to some variation in terminology, but should be welcomed because it should create better access for catalog users.

Interestingly, no changes were made in the system requirements area. Despite all the changes in hardware and software that have occurred since the initial rules for cataloging microcomputer software, the same information that was considered relevant to users at that time is considered to be relevant now.

Continuing Resources

Web resources created challenges to the definition of a serial. AACR2R 1988 defines a serial as “A publication in any medium issued in successive parts bearing numeric or chronological designations and intended to continue indefinitely” (AACR2R 1988, 662). Web resources, however, are intended to continue indefinitely. Many merely absorb new content, usually not on any regular schedule. Materials that clearly meet all aspects of this definition of serial in the print environment would go on the Web and transform themselves from orderly progressions of numbered parts into amoebas, expanding and dividing without the regimentation of traditional serials. Despite the fact that these materials could not be cataloged as serials since they fail to meet all the necessary

criteria, they still require serials control (subscriptions, continuing payment, and other aspects of serials maintenance).

Hirons and Graham recommended the development of a “three dimensional approach to the cataloging rules” (Hirons and Graham 1998, 181) in order to bring these errant resources back into the serials fold. The direction, which was pursued from Hirons and Graham’s work, was the one referred to as “Model B” in which “we remove the requirement for successive issuance . . . in order to include indeterminately issued updating publications, such as continuing loose leafs and databases. In this model ‘serial’ is defined as ‘a publication that is intended to continue indefinitely’” (Hirons and Graham in Weihs 1998, 196).

Another advantage of such an approach is facilitation of a “single record approach” that limits the number of cataloging records that need to be created and maintained for a single title. Enabling electronic and paper versions of the same intellectual content to be represented by a single catalog record simplifies catalog searching. This approach also accommodates the frequent changes of online resources and does not split online and paper versions of the same information on the basis of the definition of a serial.

The implementation of Model B in the *Anglo-American Cataloguing Rules*, 2d ed., 2002 rev. creates the category of continuing resources, which encompass traditional serials, which have been given a slightly looser definition, and the newly defined integrating resources, which are “a bibliographic resource that is added to or changed by means of updates that do not remain discrete and are integrated into the whole” (AACR2R 2002, appendix D-4). Continuing resources may be traditional materials such as updating loose-leafs or Web-based materials. Cataloging of integrating resources revives an older standard of serials cataloging, that of latest entry cataloging. The most recent iteration of the resource is cataloged, while its former titles, publishers, physical attributes, and publication frequencies are relegated to notes. In this way, the history of an electronic resource can be maintained on a single record.

How well the integrating resource rules will work in the everyday cataloging world remains to be seen. Implementation of the first phase of integrating resource cataloging (acceptance of the rules and some MARC coding changes) took place on December 1, 2002. The second phase (consisting of other, more substantial MARC coding changes) will take place in June 2003 (*OCLC Technical Bulletin* 247, 3–4). Observation of current trends in the OCLC database suggests that a kind of class distinction may be made in integrating resources. Publicly available materials tend to have cursory Dublin Core records, which do not allow for the linking or historical development aspects of cataloging created with AACR2R 2002. Purchased resources are more likely to receive full-level cataloging

treatment, whether they are integrating resources or conventional serials.

Future Considerations

Based on the history of the cataloging of computer-based materials, one can easily predict that there will be more changes both in the resources themselves and in the cataloging rules that are applied to them. New and ingenious types of electronic resources will no doubt appear in the near future, and cataloging rules and standards must be sufficiently flexible to accommodate them. Cataloging rules for electronic resources should be written broadly in order to be applicable to the widest possible range of carriers and formats. Rules written for narrow instances have a short life.

The problems of cataloging electronic resources have led to the development of new framework standards that challenge the hegemony of the MARC format in library catalogs. Framework standards, like the cataloging rules, need to be flexible and scalable to be viable in the future electronic environment.

Finally, caution should be exercised over the introduction of new cataloging rules and standards. Continuous changes in the cataloging rules can create as much confusion as clarity for working catalogers. Careful consideration should be applied before deciding that some new electronic resource manifestation requires a whole new set of rules. An examination of the records created using the various cataloging rules reveals more similarities than differences. Observation of OCLC record errors and problems suggests that transition periods or periods in which more than one standard is in use are the times when there is the greatest confusion among catalogers and the greatest inconsistency of cataloging for electronic resources.

Constant shifts in terminology and style of cataloging records may inhibit record retrieval in online library systems and also may make it more difficult for users to understand the records that a search has retrieved. For example, a contemporary catalog will likely contain records with the general material designations "computer file," "interactive multimedia," and "electronic resources." Users must be able to identify all these as associated with computer-based materials. If the local system does not compensate for the limitations placed on MARC type code "m," retrieval of electronic resources will be dispersed throughout search results regardless of material type limits that the user may have placed. Users want to know whether a resource is computer-based or not. Such dispersion is a disservice to them.

Despite pressures to come up with "new" standards for new computer-based types of materials, changes should be implemented only after careful consideration. As has been demonstrated, sometimes old solutions can be applied with

success to new problems, which demonstrates the robustness of the Anglo-American Cataloguing Rules. Consistency of information presentation and depth of detail are hallmarks of quality catalog records produced following the Anglo-American Cataloguing Rules, and they should be maintained.

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Appendix A

Anglo-American Cataloguing Rules, 2d ed. 1978, Chapter 9

OCLC: XXXXXXXX Rec stat: c
 Entered: XXXXXXXX Replaced: XXXXXXXX Used: XXXXXXXX
 Type: m ELvl: L Srce: d Audn: Ctrl: Lang: und
 BLvl: m File: u Gpub: MRec: Ctry: miu
 Desc: a DtSt: s Dates: 1977,

245 00 Current population survey. |p Annual demographic file, 1968 |h machine-readable data
 file / |c principal investigator, United States Department of Commerce, Bureau of the Census.
 260 Ann Arbor, Mich. : |b Inter-university Consortium for Political and Social Research
 [distributor], |c [1977?]
 300 data file (200,226 logical records) + |e codebook
 490 0 Current population survey: annual demographic files (March)
 440 0 ICPSR study ; |v 7559
 522 United States.
 523 |b Data collected: 1968.
 565 200,226 records.
 500 The Current Population Survey (CPS) is a household sample survey conducted monthly by
 the Census Bureau to provide estimates of employment, unemployment, and other characteristics
 of the general labor force, estimates of the population as a whole, and estimates of various
 subgroups in the population. Each March, in addition to the core of
 information mentioned above, the Current Population Survey: Annual Demographic Files provide
 detailed demographic data representative of the non-institutionalized, United States civilian
 population and male members of the Armed Services living in civilian housing. Approximately
 200,000 records are included for each year. The data files for the years 1968-1976 were
 obtained from the Data Program and Library Service (DPLS), the University of Wisconsin. Some
 data management operations intended to store the records more efficiently were performed by
 DPLS. That organization also revised the original Census Bureau documentation. Sources of the
 later files are listed in their individual descriptions. Please note that other, related
 Current Population Surveys are conducted during March. These surveys are, nevertheless, sepa-
 rate entities.
 500 Holding archive: National Archive of Computerized Data on Aging.
 500 ICPSR data class: Class IV.
 651 0 United States |x Population |x Statistics.
 650 0 Households |z United States |x Statistics.
 650 0 Labor supply |z United States |x Statistics.
 653 I. Census Enumerations: Historical and Contemporary Population Characteristics. |a A.
 United States. |a 3. Current Population Survey Series.
 710 1 United States. |b Bureau of the Census.
 710 2 University of Wisconsin-Madison. |b Data Program and Library Service.
 710 2 National Archive of Computerized Data on Aging (U.S.)
 710 2 Inter-university Consortium for Political and Social Research.

Appendix B

Guidelines for Using AACR2 Chapter 9 for Cataloging Microcomputer Software (1984)

```

OCLC: xxxxxxxxxx      Rec stat:   c
Entered:   xxxxxxxx  Replaced:   XXXXXXXX   Used:   XXXXXXXX
Type: m    ELvl: I    Srce: d    Audn:   Ctrl: 0    Lang: N/A
BLvl: m    File: b    GPub:           MRec           Ctry: dcu
Desc: a                                DtSt: s    Dates: 1982,

045    x8x8
090    QA76.8.A662 |b F73 1982
049    XXXX
245 00 Freeloader 500 software library |h machine-readable data file / |c compiled and edit-
ed by Sheryl A. Nutting... [and three others].
260    Washington, D.C. : |b American Software Publishing Co., |c c1982.
300    2500 + program files on 61 computer disks ; |c 5 1/4 in. + |e 7 sourcebooks (28 cm.)
500    In 7 containers.
538    System requirements: Apple II (or higher).
538    Disk characteristics: floppy disk, double sided.
500    Title from disk labels.
500    Includes indexes.
505 0   v. 1. Business & finance - v. 2. Utilities - v. 3. Graphics & sound - v. 4.
Education - v. 5. Games - v. 6. Adventures - v. 7. Home.
520    "... a compilation of public domain software for Apple computers... written by micro-
computer enthusiasts and donated to computer clubs for use by others."
650 0   Business |x Computer programs.
650 0   Finance |x Computer programs.
650 0   Utilities (Computer programs) |x Computer programs.
650 0   Graphics |x Computer programs.
650 0   Education |x Computer programs.
650 0   Games |x Computer programs.
650 0   Home economics |x Computer programs.
700 1   Nutting, Sheryl A.
710 2   American Software Publishing Company.
753    Apple II
753    Apple II+
753    Apple IIe

```

Appendix C
Anglo-American Cataloguing Rules, 2d ed.1988 rev.

OCLC: XXXXXXXX Rec stat: p
Entered: XXXXXXXX Replaced: XXXXXXXX Used: XXXXXX
Type: m ELvl: Srce: Audn: d Ctrl: Lang: N/A
BLvl: m File: b GPub: MRec: Ctry: mnu
Desc: a DtSt: s Dates: 1993,

010 93-22558
020 0792902599 : |c \$69.00
037 MS-900 |b MECC
041 0 |g eng
043 n-usp-
050 00 F880
082 00 979.5 |2 12
245 04 The Oregon Trail |h [computer file].
250 Deluxe VGA ed., version 3.0.1.
256 Computer program.
260 Minneapolis, Minn. : |b MECC, |c c1993.
300 3 computer disks : |b col. ; |c 3 ½ in. + |e 1 manual (72 p.)
538 System requirements: IBM PC, Tandy, or compatible; 640 K RAM; MS-DOS 3.3 or later;
hard disk; VGA
graphics capabilities; mouse.
500 Title from title screen.
500 Ed. statement from disk label.
521 Grades 5-12.
520 Educational simulation in which students experience an 1848 journey on the Overland
Trail from Independence, Missouri to the Willamette Valley of Oregon.
651 0 Oregon Trail |x Juvenile software.
651 1 Oregon Trail |x Software.
650 1 Frontier and pioneer life |x Software.
710 2 Minnesota Educational Computing Corporation.
753 IBM PC |c MS-DOS 3.3
753 Tandy |c DOS

Appendix D

Guidelines for Bibliographic Description of Interactive Multimedia (1994)

```

OCLC: xxxxxxxx      Rec stat:  n
Entered: XXXXXXXX   Replaced:  XXXXXXXX   Used:  XXXXXXXX
Type:  m      ELvl:  I      Srce:  d      Audn:      Ctrl:      Lang:  eng
BLvl:  m      File:  i      GPub:      MRec:      Ctry:  cau
Desc:  a                        DtSt:  s      Dates: 1995,

007  c |b o |d c |e g |f a
020  1900275007
092  520 |b Red
245 00 Redshift 2 |h [interactive multimedia] : |b multimedia astronomy.
246 1 |i Title on disc label: |a Redshift 2, explore your universe
246 3 Redshift two
246 3 Red shift 2
250  Version 2.0.2.
260  San Rafael, CA : |b Maris Multimedia, |c c1995.
300  1 computer optical disc : |b sd., col. ; |c 4 3/4 in. + |e 1 user guide + 1 systems
reference card + 1 installation card.
538  System requirements: IBM compatible 386SX or higher processor (486 recommended); 8 MB
RAM with 2.5 MB free; Windows 3.1 or higher; MD-DOS 3.3 or higher; Windows 95; 256 color
VGA monitor (64K/16 bit color
recommended); Windows-compatible sound card; double speed CD-ROM drive; mouse.
538  System requirements : Macintosh LC II or higher; 8 MB RAM with 2.5 MB free; System
7.0 or higher (System 7.1.2 required for PowerMac); Quicktime 2.0 or higher; color monitor
(14 in.); double speed CD-ROM drive; mouse.
500  Title from title screen.
500  Includes hypertext links to entries from: Penguin dictionary of astronomy /
Jacqueline Mitton.
520  Makes astronomy accessible to beginners yet delivers the highest level of accuracy
for the serious user. Contains over 700 astro-photographs, simulations of planetary movement
star fields, and more, and 250,000 stars, asteroids and other sky objects.
650  0 Astronomy |x Interactive multimedia.
650  0 Planets |x Interactive multimedia.
700 1 Mitton, Jacqueline. |t Penguin dictionary of astronomy.
710 2 Maris Multimedia (Firm)
753  IBM PC |c DOS 3.3
753  Macintosh |c System 7
753  CD-ROM

```

Appendix E

Dublin Core

Title I Read It on the Internet!--Teaching about Web Literacy.
 Identifier. URI http://www.education-world.com/a_lesson/lesson230.shtml
 Type.AACR2-gmd [electronic resource]
 Type. Note World Wide Web Resource
 Contributor. name Personal
 Coverage
 Creator. name Personal
 Date.issued.MARC21-Date
 Description "I Read It on the Internet!--Teaching about Web Literacy" is an April 2, 2001 article by Linda Starr featuring various lesson plans and activities for all grade levels. Students learn about Internet hoaxes, Internet literacy, and how to evaluate a Web site. Starr also offers access to related links. Education World, Inc. provides the article online as part of its Lesson Planning Center resource.
 Format. medium. IMT
 Language.ISO639-2 eng
 Publisher. name
 Relation
 Rights
 Source. URI
 Subject. class. DDC 025.0407078
 Subject. class. DDC 025.04
 Subject. class. DDC 070.5797
 Subject. class. DDC 375.001
 Subject. class. DDC 371.3028
 Subject. name Corporate Education World, Inc.
 Subject. topical Electronic information resource literacy • Study and teaching • Aids and devices
 Subject. topical Internet (Computer network) in education
 Subject. topical Electronic publications
 Subject. topical Curriculum enrichment
 Subject. topical Lesson planning
 Subject Electronic publications

Appendix F

Anglo-American Cataloguing Rules, 2d ed., 1988 rev. Amendments 2001

OCLC XXXXX Rec Stat n

Entered: XXXXXXX Replaced: XXXXXXXX Used: XXXXXXXX

Type: m ELvl: I Srce: d Audn: Ctrl: Lang: eng

BLvl: m File: i GPub: s MRec: Ctry: flu

Desc: a DtSt: s Dates: 2000,

040 XXX |c XXX

007 c |b o |d c |e g |f a

092 0 940.5318 |b T253 |2 21

049 XXXX

245 02 A teacher's guide to the Holocaust |h [electronic resource] / |c produced by the Florida Center for Instructional Technology, College of Education, University of South Florida.

246 30 Holocaust

250 Version 3.0

260 [Tampa, Fla.] : |b Florida Center for Instructional Technology, College of Education, University of South Florida, |c c2000

300 1 CD-ROM : |b col., sd. ; |c 4 3/4 in.

538 System requirements: Windows or Macintosh computer; web browser; QuickTime 4.0; Adobe Acrobat Reader.

500 Title from title screen.

521 8 Middle school and high school teachers.

520 "An overview of the people and events of the Holocaust through photographs, documents, art, music, movies, and literature"--Title screen.

650 0 Holocaust, Jewish (1939-1945) |x Study and teaching (Middle school)

650 0 Holocaust, Jewish (1939-1945) |x Study and teaching (Secondary)

710 2 Florida Center for Instructional Technology.

Predicting Publication Prices

Are the Old Models Still Relevant?

Pamela Bluh, James G. Neal, and J. Randolph Call

The three brief articles here are based on presentations given in June 2002 at the Annual Conference of the American Library Association in Atlanta at a program sponsored by the ALCTS Committee on Library Materials Cost Index, titled "Predicting Publication Prices: Are the Old Models Still Relevant?"—Editor

Predicting Publication Prices: Introduction

Pamela Bluh

For many years, the library community has maintained an exceptional and persistent interest in monitoring price increases for library materials; during periods of economic uncertainty or recession, this topic takes on added significance. In 1957, perhaps in response to market conditions in the late 1950s, an ad hoc Committee on Cost of Library Materials Index was established. Its members spent the next two years developing a methodology to predict publication prices for the library community, and in 1959 the committee shed its ad hoc designation and became a standing committee of the Acquisitions Section of the Resources and Technical Services Division, the forerunner of the Association for Library Collections and Technical Services, a division of the American Library Association. The initial members of this committee were James W. Henderson (New York Public Library), William H. Kurth (National Library of Medicine), who served as chair, Sidney E. Matthews (Ohio State University), Frank L. Schick (U.S. Office of Education), Helen Welch (University of Illinois Library), and Avis Zebker (Brooklyn Public Library). They were responsible for assembling the pricing information, which first appeared in *Library Journal* (Kurth 1960).

This modest beginning paved the way over the years for additional cost studies and, in 1965, a name change to Library Materials Price Index Committee to more closely reflect the group's activities. The committee's succinct charge, "to prepare and publish price indexes of library materials," gives it considerable freedom and flexibility. Over the years, the composition of the committee has increased and so, too, has the number of price indexes for which it is responsible.

As with any venerable group, the Library Materials Price Index Committee has struggled from time to time with questions about its role and the relevancy of its activities. Several of the indexes seem to be in a state of limbo, and recent difficulties in the subscription agent community have raised concerns about the timeliness with which the data can be obtained, as well as the future of the indexes in general. The meteoric rise of e-journals and the overabundance of

Pamela Bluh (pbluh@law.umaryland.edu) is Associate Director for Technical Services and Administration, Thurgood Marshall Law Library, University of Maryland School of Law, Baltimore. **James G. Neal** (jneal@columbia.edu) is Vice President for Information Services and University Librarian, Columbia University, New York. **J. Randolph Call** (rcall@detroit.lib.mi.us) is Interim Assistant Director, Technical Services, Detroit Public Library.

acquisitions models for e-journals are making price predictions much more complicated. The current dire economic outlook is one more factor to be considered as the question of the relevancy of the committee's current and future work is examined.

The convergence of all these factors precipitated discussion among members of the committee about whether the price indexes, as they are presently constituted, still provide useful information and whether they are worth continuing. Could external factors signal the demise of the price indexes? Should new methodologies for tracking prices be explored? How could prices for electronic publications be handled? Has the time come to "retire" some of the indexes permanently? What might the role of the committee be with regard to preparation and publication of the price indexes in the future?

To search for answers to these fundamental questions, the committee sponsored a program in June 2002 at the Annual Conference of the American Library Association in Atlanta titled "Predicting Publication Prices: Are the Old Models Still Relevant?" at which presentations by two librarians (published in this issue of *LRTS*), an economist, and a vendor examined the role of price indexes in various settings in an effort to shed light on their relevancy in today's marketplace. Mark McCabe, Assistant Professor of Economics, Georgia Institute of Technology, has done considerable work for both the Association of Research Libraries and the American Association of Law Libraries to analyze the trends that influence publishers and ultimately result in increased publication prices. Information about his research and publications can be found at his Web site at www.prism.gatech.edu/~mm284.

The vendor's perspective, as reported by Tina Feick, Vice President, Customer Service, Swets Blackwell, Inc., touched on the business considerations that influence price increases. She noted that traditional factors such as inflation, the rising cost of paper and production services, the rate of exchange of the U.S. dollar against foreign currency, and the introduction of the Euro, often blamed for rising prices, are rapidly being overshadowed by the intense desire for access to electronic data and the confusion this shift creates for standard price prediction models.

The two papers presented here represent the library point of view on the value of the price indexes. James Neal explains how pricing data should be used together with other information to generate realistic budget expectations and assessments. In academe, the budget-planning process is as much a practical matter as it is a political one, and the use of price indexes may help to confer a degree of authority to the budgeting process. R. Randolph Call draws on his experience in budget planning in a large urban public library and offers comments about the nature of the planning process and the value of the published indexes in the public library setting.

Libraries approach the budget-planning process in different ways, and they use the price indexes in different ways as well. Exclusive reliance on the price indexes is a thing of the past. Libraries now use these indexes in conjunction with a variety of other tools and other sources of information. In order to achieve the level of credibility and reliability the published indexes had in the past, they will require some changes. The methodology may need to be tweaked, and the indexes must become more nimble so that they can respond quickly to market vacillations. In their present form, the price indexes are most valuable when combined with other sources of pricing data because they endow the budget-planning process with a degree of authority. With some modifications, and with the development of tools to track and predict prices for electronic resources, price indexes will continue to provide a useful service.

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Predicting Publication Prices: An Academic Library Perspective

James G. Neal

Publication price indexes are an integral part of the collection budgeting process in the academic library. Indexes support the core objectives for preparing the collection budget: to satisfy the information needs of academic priorities and to respond effectively to market trends. Indexes enable the creation of budget models and help to define budget roles and responsibilities among director, collection development staff, and committees. Indexes link to budget inputs—the creation and formulation of the financial plan, and to budget outputs—the allocation and implementation of expenditures. Indexes are political tools, serving to influence behaviors and decisions on the collection budget. Indexes are integral to budget presentations, communicating authoritative information to both internal and campus audiences.

Are publication price indexes still relevant in the context of important trends and developments? Such developments may include the expanding investment in electronic resources, not tracked by the standard indexes; the increasing bulk licensing versus the purchase and ownership of publications; the recognition that quality is influenced by content *and* functionality; the growing importance of consortial rather than institutional purchasing; innovative and

diverse models of scholarly publishing and communication; the record of expanding investment in serials subscriptions at the expense of book acquisitions; and the impact of retrospective and foreign buying.

Forecasting is both a science and an art. A forecast is a prophecy, estimate, or prediction of a future happening or condition. An index is a ratio derived from a series of observations used as an indicator or measure. Probability is the chance that a given event will occur. What confidence do we have in chance, observations, and prophecies in managing the collection development process?

The results from an informal online survey conducted in the spring of 2002 with 55 academic research and liberal arts college libraries indicate that budget planners use multiple sources in developing a budget. They do not rely solely on published indexes, but also take very close notice of a number of additional factors, including institutional price history, publisher-produced data, vendor-produced data, Association of Research Libraries data, and consortium price history, in developing a budget.

How do academic library leaders use price indexes? Based on the survey input, the following applications were identified as important:

- to influence campus administrative support
- to strengthen campus budget presentations
- to analyze library purchasing power
- to plot trends and plan budgets
- to provide support for new academic programs
- to educate faculty and secure their support
- to assist with journal cancellation projects
- to influence state budget agencies
- to value collections for insurance purposes
- to support asset accounting for collection discards
- to determine charges for lost books
- to assist with the training of new selectors

What concerns do academic library leaders have about price indexes? Based on the survey input, the following objections were raised:

- currency
- accuracy
- local relevance
- usability
- acceptance
- level of detail
- coverage of world areas
- coverage of nonbook and electronic media
- coverage of interdisciplinary fields
- applicability to diverse institutional settings
- absence of standards
- acceptability by a new generation of selectors

Publication price indexes present an important continuum of usability as a tool for collection development and fiscal decisions. Are indexes primarily political, communication, planning, budgeting, or allocation tools? In most academic library settings, all of these uses apply, but with varying levels of relevance and confidence.

Predicting Publication Prices: A Public Library Perspective

J. Randolph Call

In the public library environment, the answer to the question “are the old methods for predicting publication prices still relevant?” is “yes,” but with some equivocation. The old familiar tools now appear to play only a minor role in the budgeting process. In order to understand how the public library factors price information into its budgeting process, one could look at the procedures used at the Detroit Public Library (DPL) as an example of how public libraries deal with price increases.

The Detroit Public Library is one of the oldest and largest public libraries in the United States, first opening its doors in 1865 (Woodford 1965). The Detroit Public Library System consists of a main library and twenty-three branches, serving the citizens of Detroit as well as providing services to residents throughout the state of Michigan. In 2001–2002, the library collection consisted of more than 7.5 million volumes including approximately 4.5 million federal depository items. The library is not a unit of the city of Detroit or any other local jurisdiction in the state of Michigan, rather it is an independent municipal corporation with its own taxing authority and, as such, it may differ radically from most other public libraries whose budgets are established by the municipalities in which they are located.

Regardless of how the funding is obtained, a public library’s budget is derived primarily from tax revenue. Particularly in large urban areas, populations have been declining, resulting in a shrinking tax base and less revenue. In some cities, changing economic conditions may not only have caused property values to decrease, but simultaneously also may hamper the ability of some citizens to pay their taxes. Consequently, the library’s budget is prone to fluctuate dramatically from one fiscal year to the next.

The annual budget-planning process usually begins nine to ten months prior to the beginning of the fiscal year. In Detroit, where the fiscal year begins on July 1, the initial planning phase begins in the fall and usually lasts three to four months, during which time sources of revenue are identified. The library is required to submit a balanced budget, so anticipating changes in revenue and projecting income is frustrating and challenging. The budget-planning cycle

includes several preliminary or draft budgets and, in extreme circumstances, the library may even begin a new fiscal year without having received its final operating budget.

DPL determines its budget by prioritizing needs and by keeping close tabs on changing sources and levels of revenue. The priorities are established during the budget-planning process and the competition for funds is fierce. Maintaining the materials budget is extremely important. Equally important is maintaining the physical infrastructure in an aging, urban library system, which requires constant improvement to the physical plant. Funds to replace or upgrade technology and telecommunications also are urgently needed, as are funds to absorb ongoing expenditures for services financed initially through grants or by donations.

The library's focus, first and foremost, in this process is on the materials budget and on ensuring that sufficient funds are allocated to maintain the collection of periodicals, serials, and standing orders. In one year, library materials may be budgeted at 6 percent of the total budget and, in the following year, the budgeted amount may go as high as 10 percent. Securing an adequate allocation for library materials often varies widely from year to year, and the percentage allocated for library materials rarely remains steady for two consecutive years, making planning and collection development extremely problematic.

In order to gauge the amount of money needed, budget planners examine not only revenue estimates, but also study price prediction tools for serials and periodicals. The most reliable tools for this purpose are the periodical and serial price studies previously published annually in *Library Journal*, then in *American Libraries*, and now in *Library Resources and Technical Services*. Each study reports multiple analyses and, by comparing that data with the data developed in-house by library staff, the relevance of the published price predictions can be confirmed. From the public library perspective, a useful component of these prices studies is each study's variant of U.S. periodical and serial titles most often subscribed to by public and school libraries.

These two annual studies are used to project the funding that will be required to maintain the library's current print and microform subscriptions and standing orders. That information is compared to the proposed materials allocation outlined in the budget drafts. Based on that comparison, decisions are made whether there are sufficient funds to handle the proposed increases, whether cuts will be required, or whether additional funding might be available.

Budgeting for traditional print publications is done, in part, by using established price prediction tools, but as libraries move more heavily into the provision of access to electronic databases and full-text data files, the price indexes are losing their primacy. Predicting price increases for electronic data is still very much experimental and is much more complicated than developing predictions for print materials because many more variables must be considered. As a result, predicting prices for electronic resources frequently is based on anecdotal evidence as well as on market intelligence, otherwise known as rumors, gleaned from online discussion lists, from reviews of the professional literature, and from contact with colleagues. To borrow from the vernacular, predicting prices for electronic journals is a "craps shoot."

The bulk of the library's budget is earmarked for serials, standing orders, and other ongoing commitments and, as a result, funds for monographic material are extremely limited. Price predictions for monographic material published in the *Bowker Annual: Library and Book Trade Almanac* are only useful in a theoretical sense, since budgets based on those predictions are routinely rejected very early in the planning process simply because the resources are insufficient to meet the budget estimates. As a result, the library no longer uses price prediction tools to help develop a budget estimate for monographic material and makes do with whatever funds remain after allocations for ongoing commitments have been made.

In the public library, as in the academic library, published price prediction tools play a less significant role today than they have in the past. While the information is interesting from a theoretical standpoint, it has become less valuable in practice as libraries grapple with a wide variety of influences and considerations in planning their budgets. When funds flowed freely, predictions of price increases based on published data were given considerable credence. When revenue is inadequate to keep up with the library's needs and when traditional collections are in decline in favor of nontraditional resources, traditional price prediction tools are only one means of many that must be employed to design and achieve a reasonable budget.

Work Cited

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U.S. Periodical Prices— 2003

Brenda Dingley

Publication of the 2003 U. S. Periodical Price Index represents the forty-third annual study of this type sponsored by the Library Materials Price Index Committee (LMPIC) of the ALA's Association for Library Collections and Technical Services (ALCTS). 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*. For the nineteenth consecutive year, the price index is based on subscription price information supplied by divine/Faxon Library Services. The annual study follows guidelines, definitions, and criteria established in the ANSI/NISO standard (Z39.20-1999) for library materials price indexes (National Information Standards Organization [NISO] 1999).

Purpose, Scope, and Methodology

The purpose of the index and accompanying tables and analysis is to measure changes in average U.S. periodical prices in a historical context. The information provided here is of use to librarians who must prepare annual budget requests for serials, as well as those involved in analyzing serials pricing trends over a period of years.

The scope of this study is a selected sample of 3,914 periodical titles published in the United States, each of which has an established subscription price and which fulfills the definition of a periodical outlined in ANSI/NISO Z39.20-1999: "A publication that comprises publications in a continuous series under the same title, published more than once a year over an indefinite period, with individual issues in the series numbered consecutively or with each issue dated." (NISO 1999, 3).

Consistency with previous years' indexes is ensured by maintaining the same periodical titles sample as in previous years, except for those titles that ceased publication or otherwise changed for the 2003 subscription year, and that no longer conform to the standard. Serial services, microform editions, electronic journals, annuals, newspapers, and serial publications not adhering to the ANSI/NISO Z39.20-1999 definition of a periodical are excluded from the survey. Periodicals that change title are considered the same publication if volume numbering remains continuous.

Because of the need to maintain the continuity of current price index data with that presented in previous studies in this series, no additional periodical titles over and above the standard sample of 3,914 titles have been analyzed. Although the title selection procedure represents a deviation from the ANSI/NISO Z39.20-1999 standard, LMPIC's emphasis on historical perspective justifies the sampling methodology used in this study.

Subscription price information for the 2003 subscription year is derived from Faxon's online subscription rate file as of December 31, 2002. The price information used is established by the publishers for U.S. libraries. Annual sub-

Brenda Dingley (Dingleyb@umkc.edu) is Assistant Director for Technical Services, University of Missouri-Kansas City.

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Ongoing responsibility for continuing the U.S. Periodical Price Index rests with the ALA/ALCTS Library Materials Price Index Committee. Comments may be addressed to Sharon Sullivan, Chair, The H.W. Wilson Company, 950 University Ave., Bronx, NY 10452; e-mail: ssullivan@hwwilson.com.

scription prices used in this study are publishers' list prices and exclude all related Faxon service charges as well as publisher discounts to Faxon. The 2003 subscription prices for titles included in this study but not available through Faxon before Faxon closed its offices were obtained directly from the publishers by telephone or e-mail inquiry, or from publisher Web sites.

A total of 69 titles included in the 2002 price study were dropped from the 2003 sample for one or more of the following reasons:

- title no longer published in the United States
- suspended publication
- title no longer available on a subscription basis
- title available free from publisher
- delayed or slow publication
- title no longer conforms to the standard definition of a periodical due to changes in publication pattern
- title no longer available in print format

Replacement titles for 64 of those 69 titles dropped from the 2002 price index sample were selected according to criteria established by the LMPIC and were selected on a title-by-title basis from the same subject category as those titles that were dropped. Replacement titles were identified according to similar Library of Congress (LC) subject classification and price range. Five titles in the Russian Translations category were not replaced in the 2003 study because suitable replacements could not be found. (The titles in this category are becoming increasingly difficult to replace). Consequently, the total sample for this study is 3,914 rather than the 3,919 used in 2002.

The average annual subscription prices and price indexes for each subject category were computed using the method specified in the ANSI/NISO Z39.20-1999 standard. This procedure involves the following process:

- For each of the 25 subject categories, the total annual subscription cost is divided by the number of titles in the category to determine the average price by category.
- Each average subscription price for the current year is divided by the average price in that subject category for the base year (1984) and then is multiplied by 100 to arrive at the current price index for each category.

Periodical Price Index Highlights

The 2003 edition of the U.S. Periodical Price Index (USPPI) shows little change from the previous study. The average price for the sample, excluding the Russian Translations cat-

egory, rose from \$282.31 in 2002 to \$303.96, which represents a 7.7% rate of increase, down 0.2 of a percentage point from last year. The rate has been very similar over the past three years with 8.3% and 7.9% posted in 2001 and 2002, respectively, and 7.7% in 2003.

The inclusion of the Russian Translations raises the average price for 2003 to \$389.45, which is 7.1% higher than the 2002 price of \$363.77. This rate of increase is slightly lower than the rate of 7.6% posted in 2002 and is lower than the increases of 9.2% and 8.6% posted in 2000 and 2001, respectively. In 2003, the increase for the Russian Translations category alone was 7.7%.

Table 1 of the study provides a ranking of average periodical prices for each of the 25 subject categories included in this survey and a comparison of the rankings with those of the previous three years. Russian translations continued to post the highest average price in 2003, at \$2,112.70. The next highest category in price was once again chemistry and physics at \$1,626.47. These two categories continue to dominate the sample. The third highest category was medicine at \$847.76, slightly more than half that of chemistry and physics.

As in years past, table 1 shows very little change in the rank order by average price of the 25 subject categories. The top 11 rankings remained the same as 2002; in fact, the top 7 categories have remained constant since 1983. These "usual suspects" are, respectively: Russian translations; chemistry and physics; medicine; mathematics, etc.; zoology; engineering; and psychology. The categories in the lowest tier, from 17th to 25th positions, remained unchanged. Until 2000, these categories had remained unchanged for four years. There are only slight changes in the rankings of categories 12 through 16 from 2002.

Table 2 ranks the subject categories by rate of price change from the previous year and includes comparisons for the most recent four years of data. This table typically exhibits much more fluctuation in rank order than table 1, and the 2003 study continues this trend. Library and Information Science titles showed the greatest percentage increase with an 11.9% rate of increase over the 2002 price, after showing the third greatest rate of increase last year. The largest changes in this table belong to industrial arts, history, and zoology, which all jumped 12 positions from 2002, while Russian translations and home economics both dropped 12 positions this year. The greatest single drop in position was shown by industrial arts, from 4th to 22nd position, with a 4.8% average increase in price.

The data in table 2 also show that two of the categories increased in price in 2003 by a rate of at least 10%, which matches the number of categories that increased by more than 10% in 2002. Rates of increase in 2003 ranged from a high of 11.9% (library and information science) to a low of 0.4% (children's periodicals). The median rate of increase

for the sample was 7.7%, which is just under the median rate of 7.8% in 2002.

Table 3 groups 24 of the categories by broad subject and lists annual percent increases for each year over the most recent ten-year period. A ten-year average annual percent change for each specific subject category is also provided. The Russian translations category is not included since it is interdisciplinary in nature. While average price increases for the science and technology categories usually outpace those in the social sciences and the humanities, in 2003 the increases in the social sciences categories generally outpaced all other categories.

Average increases for science and technology ranged from a low of 4.8% (industrial arts, last year's high) to a high of 8.9% (engineering). The median increase was 8.6% in 2001, 8.0% in 2002, and 7.2% in 2003. None of the eight categories in this group posted double-digit increases this year, and six were down from the 2002 figures with industrial arts showing the most significant drop from 9.0% in 2002 to 4.8% in 2003. Zoology showed the most significant jump from 6.5% in 2002 to 8.7% in 2003. Medicine dropped from 8.6% to 7.4% this year.

Comparatively, social sciences ranged from a low of 3.8% (physical education and recreation) to a high of 11.9% (library and information science), with a median rate of 8.4%. For humanities, the low category was 3.9% (fine and applied arts) and the high was 10.0% (literature and language), the same low and high categories as in 2002. General interest periodicals and children's periodicals remain low at 5.9% and 0.4% respectively. The median ten-year cumulative rate of increase for the entire sample, excluding Russian translations, was 7.6%.

Table 4 provides a more detailed analysis of the mathematics, botany, geology, and general science subcategory, a category under science and technology, which contains not only mathematics titles but those from earth, life, botanical, and general sciences as well. This table shows average prices and percent increases for each of the five subcategories in this group over the most recent three-year period. General sciences (including astronomy titles) has the lowest rate of increase in 2003 with an average price of \$387.37, which represents a 3.0% increase over 2002. Botanical sciences showed an average price in 2003 of \$321.08, for a 10.3% increase, the highest rate of increase for the group. Life sciences, as usual, shows the highest average price for the group, with an average price in 2003 of \$1,064.93, an 8.6% increase over 2002.

Table 5 examines each subject category in terms of the proportion of titles in each category that increased in price over the three-year period from 2001 to 2003. This table traditionally is dominated by the Russian translations category, which typically has a very high percentage of its titles increasing in price each year. In 2003, the median was 37% and

Russian translations again posted the highest number of titles increasing in price at 95%, the only category with a figure of at least 90%. The next highest numbers came from medicine at 89%, chemistry and physics at 81%, and psychology at 80%. No other category had more than 80% of its titles posting an increase in price. The overall rate for the entire sample, including Russian translations, was 48% in 2003, which is exactly equal to the three-year average rate for the sample.

Table 6 is a detailed analysis of average price and percent increase by single- and two-letter Library of Congress Classification Codes, for the three-year period from 2001 to 2003. Average prices in this table for 2003 range from a low average price of \$29.89 for Class TT (handicrafts, arts and crafts) to a high of \$1,905.66 for Class QD (chemistry), followed very closely by Class QC (physics) at \$1,856.20. Chemistry and physics have maintained the positions at the top of the table for each of the three years shown and beyond. As always, rates of change vary widely each year in this table. In 2003, the lowest rate of increase was posted by Class TT (handicrafts, arts and crafts) with negative 2%, while the highest increase was 24% by Class U-V (military science, naval science), followed by 19% by all other S codes.

Tables 7.1–7.27 provide detailed data concerning average price percent change and price index for each category in the study. In these tables, an index of 100.00 is equivalent to average prices for 1984; the parenthetical information applies to 2003. The highest index figure posted in these tables in 2003 is 754.4 by the zoology category (table 7.27). This means that the titles in this group have increased by 754.4% since the base year 1984. Chemistry and physics (table 7.3) was in a close second position at 710.6, followed by medicine (table 7.18) at 675.1. Mathematics, botany, geology, and general science (table 7.17) is next at 607.3, followed by psychology (table 7.22) at 601.4 and engineering (table 7.6) at 598.8. Russian translations (table 7.24) follows at 553.3, and sociology and anthropology (table 7.20) at 537.6, representing all categories with index figures over 500. The lowest index figure posted in 2003 was by general interest periodicals (table 7.8) at 180.6. The median index figure was at 459.0, while the index for all titles was 537.4 including Russian translations and 552.9 excluding Russian translations.

Finally, table 8 compares the U.S. Periodical Price Index to the U.S. Consumer Price Index (CPI) and the Higher Education Price Index (HEPI) (Research Associates of Washington 2002). The producers of the HEPI have indexed that study to a base year of 1983, while the CPI and USPPPI are indexed to a base year of 1984. The base index figure is 100.0. CPI and HEPI figures for the current year are not yet available. The HEPI figure for 2002 is an estimate. The comparative figures serve to illustrate the fact that U.S. periodicals prices continue to rise at approximately twice the rate of the HEPI, and more than four times the rate of the CPI.

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Tables**Table 1.** Subject Categories Ranked by Average 2003 Subscription Price

2000	2001	Rank	2002	2003		Average price, 2003 subscription (\$)
1	1		1	1	Russian translations	2,112.70
2	2		2	2	Chemistry and physics	1,626.47
3	3		3	3	Medicine	847.76
4	4		4	4	Mathematics, etc.	647.10
5	5		5	5	Zoology	591.06
6	6		6	6	Engineering	471.29
7	7		7	7	Psychology	419.39
8	8		8	8	Sociology and anthropology	235.83
9	9		9	9	Business and economics	178.40
11	10		10	10	political science	161.24
10	11		11	11	Education	159.39
14	12		13	12	Labor and industrial relations	147.69
13	13		12	13	Home economics	145.62
12	14		14	14	Journalism and communications	139.61
16	16		16	15	Library and information sciences	129.79
15	15		15	16	Industrial arts	128.55
18	17		17	17	Agriculture	115.67
17	18		18	18	Law	109.31
19	19		19	19	History	79.33
20	20		20	20	Philosophy and religion	72.18
22	21		21	21	Literature and language	71.43
21	22		22	22	Fine and applied arts	64.79
23	23		23	23	Physical education and recreation	59.33
24	24		24	24	General interest periodicals	50.38
25	25		25	25	Children's periodicals	26.67
					U.S. Periodicals Price Index excluding Russian translations	303.96
					U.S. Periodicals Price Index including Russian translations	389.45

Table 2. Subject Categories Ranked by Annual Subscription Price Percentage Increases

2000	2001	Rank			(%) increases		
		2002	2003		2001 over 2000	2002 over 2001	2003 over 2002
17	4	3	1	Library and information sciences	11.0	9.1	11.9
19	15	10	2	Literature and language	7.7	8.2	10.0
18	18	15	3	History	6.2	7.7	9.8
8	10	12	4	Engineering	8.7	7.9	8.9
16	5	17	5	Labor and industrial relations	10.6	6.9	8.8
10	11	18	6	Zoology	8.5	6.5	8.7
6	13	2	7	Sociology and anthropology	8.0	10.2	8.5
9	8	9	8	Education	9.2	8.3	8.4
5	2	5	9	Political science	12.3	8.9	8.4
2	3	5	10	Psychology	11.3	8.9	8.3
11	16	13	11	Business and economics	7.5	7.8	8.3
14	19	22	12	Journalism and communications	5.4	5.3	8.3
3	1	1	13	Russian translations	12.7	10.6	7.7
25	23	18	14	Law	2.1	6.5	7.6
12	17	16	15	Philosophy and religion	6.6	7.5	7.6
1	7	8	16	Medicine	9.6	8.6	7.4
4	12	13	17	Mathematics, etc.	8.2	7.8	7.3
7	13	11	18	Chemistry and physics	8.0	8.0	7.0
14	9	7	19	Home economics	8.8	8.7	6.5
13	5	20	20	Agriculture	10.6	6.4	6.0
23	22	25	21	General interest periodicals	3.3	3.5	5.9
20	24	4	22	Industrial arts	1.6	9.0	4.8
21	20	22	23	Fine and applied arts	4.7	5.3	3.9
22	21	21	24	Physical education and recreation	4.3	5.6	3.8
24	25	24	25	Children's periodicals	1.5	4.1	0.4
				U.S. Periodicals Price Index excluding Russian translations	8.3	7.9	7.7
				U.S. Periodicals Price Index including Russian translations	8.6	7.6	7.1

Table 3. Average of Annual Subscription Price Percent Change by Broad Subject Category, 1994–2003 (Excluding Russian Translations)

	1994 (%)	1995 (%)	1996 (%)	1997 (%)	1998 (%)	1999 (%)	2000 (%)	2001 (%)	2002 (%)	2003 (%)	Change (%)
General interest and children's periodicals											
General interest periodicals	4.7	2.8	2.4	3.4	3.8	2.5	2.7	3.3	3.5	5.9	3.5
Children's periodicals	3.0	4.3	1.6	6.6	4.6	2.2	1.8	1.5	4.1	0.4	3.0
Humanities											
Fine and applied arts	6.8	4.1	3.2	3.7	4.1	4.7	3.6	4.7	5.3	3.9	4.4
Literature and language	6.0	5.2	5.6	5.8	7.0	6.5	4.7	7.7	8.2	10.0	6.7
Philosophy and religion	6.4	6.5	6.7	6.8	5.9	5.2	7.6	6.6	7.5	7.6	6.7
Social sciences											
Business and economics	8.3	7.1	8.8	11.2	6.6	8.3	7.8	7.5	7.8	8.3	8.2
Education	6.1	8.2	7.5	9.7	9.1	9.7	8.9	9.2	8.3	8.4	8.5
History	6.0	6.3	6.1	6.8	5.7	4.5	5.4	6.2	7.7	9.8	6.5
Journalism and communications	5.6	7.4	6.1	7.5	6.2	4.3	6.9	5.4	5.3	8.3	6.3
Labor and industrial relations	7.5	4.0	5.2	7.6	7.3	8.8	6.6	10.6	6.9	8.8	7.3
Law	3.6	2.9	5.4	3.7	5.0	2.8	1.2	2.1	6.5	7.6	4.1
Library and information sciences	3.7	7.8	6.6	7.6	10.4	5.4	5.5	11.0	9.1	11.9	7.9
Physical education and recreation	4.6	5.4	5.2	4.4	5.4	4.3	3.4	4.3	5.6	3.8	4.6
Political science	7.5	10.6	10.3	6.7	9.8	9.6	10.1	12.3	8.9	8.4	9.4
Psychology	9.6	10.9	11.1	10.5	10.7	11.2	11.0	11.3	8.9	8.3	10.4
Sociology and anthropology	9.5	8.9	9.5	8.5	9.8	10.2	9.7	8.0	10.2	8.5	9.3
Science and technology											
Agriculture	7.3	8.8	8.1	7.9	9.8	8.9	7.1	10.6	6.4	6.0	8.1
Chemistry and physics	12.0	13.3	12.9	10.4	11.0	12.0	9.5	8.0	8.0	7.0	10.4

Table 3. Average of Annual Subscription Price Percent Change by Broad Subject Category, 1994–2003 (Excluding Russian Translations), Continued

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Change
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Science and technology											
Engineering	8.7	10.5	14.6	10.3	12.2	10.4	9.0	8.7	7.9	8.9	10.1
Home economics	6.3	5.0	7.1	7.0	1.5	7.7	6.9	8.8	8.7	6.5	6.6
Industrial arts	5.5	4.7	6.2	7.1	5.6	7.3	4.2	1.6	9.0	4.8	5.6
Mathematics, etc.	12.8	13.7	10.8	11.0	10.7	11.0	10.7	8.2	7.8	7.3	10.4
Medicine	11.4	12.8	13.3	12.4	13.7	13.8	11.1	9.6	8.6	7.4	11.4
Zoology	10.8	9.6	12.4	12.8	13.9	12.6	8.4	8.5	6.5	8.7	10.4
U.S. Periodicals Price Index, excluding Russian translations	9.6	10.4	10.8	9.9	10.3	10.4	9.0	8.3	7.9	7.7	9.4

Table 4. Subcategory Breakdown of Mathematics, Botany, Geology, and General Science Category, 2001–2003

	No. of Titles			Average price (\$)			Increase (%)		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
Mathematics	88	89	90	738.81	779.36	830.18	9.8	5.5	6.5
Earth sciences (including geography titles)	58	58	58	279.64	299.37	316.80	8.3	7.1	5.8
Life sciences	41	41	41	906.12	980.85	1,064.93	14.9	8.2	8.6
Botanical sciences	26	26	26	265.27	291.19	321.08	9.4	9.8	10.3
General sciences (including astronomy titles)	25	24	23	312.54	376.14	387.37	6.4	20.3	3.0
Total	238	238	238	559.23	603.11	647.10	10.7	7.8	7.3

Table 5. Percent of Titles Increasing in Price by Subject Category, 2001–2003

Category	2001 (%)	2002 (%)	2003 (%)	Average (%)
Agriculture	29	31	29	30
Business and economics	43	45	45	44
Chemistry and physics	85	81	81	82
Children's periodicals	19	28	19	22
Education	49	52	48	50
Engineering	59	57	58	58
Fine and applied arts	32	32	27	30
General interest periodicals	19	23	22	21
History	36	34	34	35
Home economics	39	41	37	39
Industrial arts	28	39	22	30
Journalism and communications	30	28	33	30
Labor and industrial relations	43	39	37	40
Law	22	24	22	23
Library and information sciences	33	35	37	35
Literature and language	41	46	44	44
Mathematics, etc.	64	66	67	66
Medicine	86	88	89	88
Philosophy and religion	33	35	34	34
Physical education and recreation	20	19	23	21
Political science	50	46	43	46
Psychology	84	88	80	84
Russian translations	92	97	95	95
Sociology and anthropology	60	68	62	63
Zoology	63	52	59	58
U.S. Periodicals Price Index excluding Russian translations	46	47	46	46
U.S. Periodicals Price Index including Russian translations	48	49	48	48

Table 6. U.S. Periodicals, (Including Russian Translations) 2003 Average Prices by Library of Congress Classification Codes

Classification code	No. of titles 2001	No. of titles 2002	No. of titles 2003	Average price (\$) 2001	Average price (\$) 2002	Average price (\$) 2003	% increase 2001/2000	% increase 2002/2001	% increase 2003/2002
A General works	122	121	122	33.68	35.02	35.43	2	4	1
B Philosophy,psychology. religion	218	216	216	162.25	177.66	190.84	10	9	7
B-BD,BJ Philosophy	42	42	42	122.27	136.28	145.81	6	11	7
BF Psychology	81	80	80	320.20	350.99	377.92	11	10	8
BL-BX Religion	95	94	94	45.24	48.63	51.74	8	7	6
C Auxiliary sciences of history	11	10	10	91.55	99.00	105.90	21	8	7
D History: general & old world	65	66	69	91.94	98.78	106.71	10	7	8
E-F History: America	115	116	114	54.42	57.33	63.37	6	5	11
G Geography,anthropol. recreation	160	160	159	110.57	118.26	122.14	-4	7	3
G-GC Geography,oceanog.	29	29	27	253.89	277.06	297.74	-4	9	7
GN Anthropology	22	22	22	189.23	204.91	217.85	-11	8	6
GV Recreation	102	102	103	49.63	51.19	52.12	4	3	2
All other G codes	7	7	7	157.57	165.43	174.29	6	5	5
H Social sciences	565	565	562	172.13	186.47	204.23	9	8	10
H General	32	32	32	181.06	198.78	224.75	17	10	13
HB-HC Ec.theory,hist.&cond.	54	54	53	262.57	287.81	317.41	9	10	10
HD Land.agric.industry	124	126	124	124.72	140.88	153.07	9	13	9
HE Transport.&communic.	23	21	21	97.25	108.22	113.38	4	11	5
HF Commerce	97	97	97	139.23	140.55	152.81	7	1	9
HG-HJ Finance,public fin.	79	80	81	194.28	200.97	224.63	7	3	12
HM Sociology (general)	33	33	33	270.79	297.03	327.82	10	10	10
HQ Family.marriage.woman	44	44	44	181.37	193.89	209.00	14	7	8
HV Social/publ.welf.crim.	46	45	45	195.11	223.40	237.42	14	14	6
All other H codes	33	33	32	146.42	161.49	177.72	9	10	10
J Political science	80	81	80	163.42	179.80	193.36	11	10	8
K Law	268	269	270	97.65	105.44	110.97	2	8	5
L Education	181	182	177	116.65	127.34	140.21	9	9	10
M Music	39	39	39	54.38	57.10	59.38	4	5	4
N Fine arts	84	88	89	54.04	55.28	57.86	5	2	5
P Language and literature	225	223	226	75.12	80.13	87.95	8	7	10
P Philology & ling.	22	21	21	156.77	178.57	191.48	11	14	7
PN Literary history	108	108	109	77.19	80.63	91.32	6	4	13
PR-PS Engl.lit.Amer.lit.	44	43	45	46.56	49.70	53.01	6	7	7
All other P codes	51	51	51	60.21	64.21	68.93	10	7	7
Q Science	598	587	585	1,138.75	1,233.32	1,315.94	10	8	7
Q Science (general)	43	43	42	390.12	473.31	513.25	10	21	8
QA Mathematics	122	122	123	865.76	916.71	974.96	10	6	6
QB Astronomy	16	16	16	940.93	1,028.49	1,105.55	9	9	7
QC Physics	94	91	91	1,637.75	1,770.25	1,856.20	9	8	5
QD Chemistry	84	80	78	1,611.65	1,770.65	1,905.66	12	10	8
QE Geology	30	30	30	602.09	639.03	686.53	9	6	7

Table 6. U.S. Periodicals, (Including Russian Translations) 2003 Average Prices by Library of Congress Classification Codes, Continued

Classification code	No. of titles 2001	No. of titles 2002	No. of titles 2003	Average price (\$) 2001	Average price (\$) 2002	Average price (\$) 2003	% increase 2001/2000	% increase 2002/2001	% increase 2003/2002
QH Nat.hist.(incl.gen. biol.)	76	75	75	1,171.41	1,289.19	1,402.68	11	10	9
QK Botany	18	17	17	363.00	370.82	413.18	11	2	11
QL Zoology	53	52	52	1,018.74	1,110.67	1,177.06	8	9	6
QP Physiology	45	45	45	1,563.98	1,672.69	1,782.04	9	7	7
QR Microbiology	17	16	16	1,031.44	1,085.94	1,180.25	8	5	9
R Medicine	266	262	260	378.91	410.42	448.95	10	8	9
R Medicine (general)	30	29	28	327.67	353.04	391.61	13	8	11
RA Public aspects of med.	38	38	38	351.00	376.61	415.52	10	7	10
RC Internal medicine	104	103	102	397.84	435.21	476.02	10	9	9
RD Surgery	21	21	22	393.57	430.46	449.27	10	9	4
RM Therapeutics.pharm.	17	17	17	367.06	404.06	429.82	17	10	6
All other R codes	56	54	53	388.40	411.94	457.09	7	6	11
S Agriculture	207	207	207	137.36	146.97	157.72	9	7	7
S Agriculture (general)	66	67	65	185.93	196.97	215.54	8	6	9
SB Plant culture	46	46	46	124.71	130.33	136.45	10	5	5
SF Animal culture	69	68	72	87.30	93.21	97.22	10	7	4
All other S codes	26	26	24	168.84	188.14	223.40	9	11	19
T Technology	577	570	573	441.11	476.45	505.74	8	8	6
T Technology (General)	31	30	31	191.10	215.07	236.92	8	13	10
TA Engineering.civil eng.	86	93	93	750.84	783.95	859.18	8	4	10
TD Envir.tech.sanit.eng.	22	21	21	507.92	557.89	593.68	11	10	6
TH Building construction	28	26	27	111.57	78.36	81.91	2	-30	5
TJ Mechanical eng.& machinery	52	49	47	607.86	704.02	732.08	7	16	4
TK Electric.eng.electronics	65	67	68	511.39	568.37	624.48	9	11	10
TL Motor veh.aeron.astronaut.	27	26	26	211.55	233.34	249.03	9	10	7
TN Mining eng.metallurgy	37	36	35	666.67	713.71	716.10	11	7	0
TP Chemical technology	72	67	67	751.60	784.63	841.58	6	4	7
TS Manufactures	59	57	59	178.52	196.33	202.29	12	10	3
TT Handicrafts.arts & crafts	29	28	27	29.05	30.53	29.89	2	5	-2
TX Home economics	44	45	46	108.03	117.26	124.74	7	9	6
All other T codes	25	25	26	158.07	169.27	176.42	11	7	4
U-V Military science, naval science	27	27	27	50.22	52.15	64.50	9	4	24
Z Bibliography. library science	128	130	129	128.81	143.07	159.63	8	11	12

Table 7. U.S. Periodicals: 1984–2003

Year	No. of titles	Average price (\$)	% increase	Index
U.S. Periodicals excluding Russian translations*				
1984	3,731	54.97	—	100.0
1985	3,731	59.70	8.6	108.6
1986	3,731	65.00	8.9	118.2
1987	3,731	71.41	9.9	129.9
1988	3,731	77.93	9.1	141.8
1989	3,731	85.37	9.5	155.03
1990	3,731	93.45	9.5	170.0
1991	3,731	104.36	11.7	189.8
1992	3,731	117.11	12.2	213.0
1993	3,731	123.55	5.5	224.7
1994	3,731	135.37	9.6	246.3
1995	3,731	149.46	10.4	271.9
1996	3,731	165.61	10.8	301.3
1997	3,729	181.98	9.9	331.1
1998	3,729	200.74	10.3	365.2
1999	3,729	221.66	10.4	403.2
2000	3,729	241.54	9.0	439.4
2001	3,729	261.56	8.3	475.8
2002	3,729	282.31	7.9	513.6
2003	3,729	303.96	7.7	552.9

U.S. Periodicals including Russian translations**

1984	3,942	72.47	—	100.0
1985	3,942	80.78	11.5	111.5
1986	3,942	87.38	8.2	120.6
1987	3,942	96.36	10.3	133.0
1988	3,942	105.45	9.4	145.5
1989	3,942	114.07	8.2	157.4
1990	3,942	124.74	9.4	172.1
1991	3,942	138.53	11.1	191.2
1992	3,942	155.93	12.6	215.2
1993	3,941	165.25	6.0	228.0
1994	3,941	179.53	8.6	247.7
1995	3,941	196.57	9.5	271.3
1996	3,941	215.37	9.6	297.2
1997	3,939	237.14	10.1	327.2
1998	3,938	259.69	9.5	358.4
1999	3,937	285.04	9.8	393.3
2000	3,935	311.37	9.2	429.7
2001	3,928	338.23	8.6	466.7
2002	3,919	363.77	7.6	502.0
2003	3,914	389.45	7.1	537.4

* (64 titles dropped; 64 titles added); (46% of the titles increased in price)

** (69 titles dropped; 64 titles added); (48% of the titles increased in price)

Parentetical information applies to 2003.

Note: Index of 100.0 equivalent to average prices for 1984.

Table 7.1 Agriculture

Year	No. of titles	Average price (\$)	% increase	Index
1984	153	24.06	—	100.0
1985	153	26.05	8.3	108.3
1986	153	28.71	10.2	119.3
1987	153	31.14	8.4	129.4
1988	153	33.56	7.8	139.5
1989	153	36.62	9.1	152.2
1990	153	42.43	15.9	176.4
1991	153	42.36	-0.2	176.1
1992	153	49.48	16.8	205.6
1993	153	53.17	7.5	221.0
1994	153	57.06	7.3	237.1
1995	153	62.07	8.8	258.0
1996	153	67.12	8.1	279.0
1997	153	72.40	7.9	300.9
1998	153	79.50	9.8	330.4
1999	153	86.58	8.9	359.9
2000	153	92.72	7.1	385.4
2001	153	102.6	10.6	426.3
2002	153	109.1	6.4	453.5
2003	153	115.7	6.0	480.8

Note: (4 titles dropped; 4 titles added); (29% of the titles increased in price)

Table 7.2 Business and Economics

Year	No. of titles	Average price (\$)	% increase	Index
1984	262	38.87	—	100.0
1985	262	44.41	14.3	114.3
1986	262	47.15	6.2	121.3
1987	262	50.39	6.9	129.6
1988	262	53.89	6.9	138.6
1989	262	57.93	7.5	149.0
1990	262	63.25	9.2	162.7
1991	262	70.87	12.1	182.3
1992	262	78.09	10.2	200.9
1993	262	81.33	4.1	209.2
1994	262	88.10	8.3	226.6
1995	262	94.37	7.1	242.8
1996	262	102.69	8.8	264.2
1997	262	114.18	11.2	293.7
1998	262	121.77	6.6	313.3
1999	262	131.82	8.3	339.1
2000	262	142.08	7.8	365.5
2001	262	152.79	7.5	393.1
2002	262	164.70	7.8	423.7
2003	262	178.40	8.3	459.0

Note: (6 titles dropped; 6 titles added); (45% of the titles increased in price)

Table 7.3 Chemistry and Physics

Year	No. of titles	Average price (\$)	% increase	Index
1984	170	228.90	—	100.0
1985	170	238.43	4.2	104.2
1986	170	264.05	10.7	115.4
1987	170	294.06	11.4	128.5
1988	170	294.06	0.0	128.5
1989	170	367.99	25.1	160.8
1990	170	412.67	12.1	180.3
1991	170	472.84	14.6	206.6
1992	170	549.50	16.2	240.1
1993	170	605.46	10.2	264.5
1994	170	678.03	12.0	296.2
1995	170	767.96	13.3	335.5
1996	170	867.00	12.9	378.8
1997	170	957.36	10.4	418.2
1998	170	1,062.49	11.0	464.2
1999	170	1,189.46	12.0	519.6
2000	170	1,302.79	9.5	569.2
2001	170	1,407.47	8.0	614.9
2002	170	1,519.83	8.0	664.0
2003	170	1,626.47	7.0	710.6

Note: (3 titles dropped; 3 titles added); (81% of the titles increased in price)

Table 7.4 Childrens' Periodicals

Year	No. of titles	Average price (\$)	% increase	Index
1984	78	12.21	—	100.0
1985	78	13.31	9.0	109.0
1986	78	13.76	3.4	112.7
1987	78	15.19	10.4	124.4
1988	78	16.39	7.8	134.2
1989	78	16.95	3.4	138.8
1990	78	17.51	3.3	143.4
1991	78	18.38	5.0	150.6
1992	78	19.48	6.0	159.6
1993	78	19.83	1.8	162.4
1994	78	20.43	3.0	167.4
1995	78	21.31	4.3	174.5
1996	78	21.65	1.6	177.3
1997	79	23.08	6.6	189.0
1998	79	24.15	4.6	197.8
1999	79	24.69	2.2	202.2
2000	79	25.14	1.8	205.9
2001	79	25.52	1.5	209.0
2002	79	26.56	4.1	217.5
2003	79	26.67	0.4	218.4

Note: (7 titles dropped; 7 titles added); (19% of the titles increased in price)

Table 7.5 Education

Year	No. of titles	Average price (\$)	% increase	Index
1984	203	34.01	—	100.0
1985	203	37.81	11.2	111.2
1986	203	40.47	7.0	119.0
1987	203	43.30	7.0	127.3
1988	203	47.95	10.7	141.0
1989	203	51.43	7.3	151.2
1990	203	56.33	9.5	165.6
1991	203	62.43	10.8	183.6
1992	203	67.42	8.0	198.2
1993	203	70.48	4.5	207.2
1994	203	74.76	6.1	219.8
1995	203	80.87	8.2	237.8
1996	203	86.90	7.5	255.5
1997	200	95.34	9.7	280.3
1998	200	103.98	9.1	305.7
1999	200	114.04	9.7	335.3
2000	200	124.23	8.9	365.3
2001	200	135.72	9.2	399.1
2002	200	146.98	8.3	432.2
2003	200	159.39	8.4	468.7

Note: (1 title dropped; 1 title added); (48% of the titles increased in price)

Table 7.6 Engineering

Year	No. of titles	Average price (\$)	% increase	Index
1984	265	78.70	—	100.0
1985	265	84.38	7.2	107.2
1986	265	92.66	9.8	117.7
1987	265	103.49	11.7	131.5
1988	265	114.83	11.0	145.9
1989	265	128.37	11.8	163.1
1990	265	138.84	8.2	176.4
1991	265	160.13	15.3	203.5
1992	265	192.77	20.4	244.9
1993	265	180.00	-6.6	228.7
1994	265	195.62	8.7	248.6
1995	265	216.23	10.5	274.8
1996	265	247.74	14.6	314.8
1997	265	273.31	10.3	347.3
1998	265	306.60	12.2	389.6
1999	265	338.59	10.4	430.2
2000	265	369.23	9.0	469.2
2001	265	401.32	8.7	509.9
2002	265	432.88	7.9	550.0
2003	265	471.28	8.9	598.8

Note: (1 title dropped; 1 title added); (58% of the titles increased in price)

Table 7.7 Fine and Applied Arts

Year	No. of titles	Average price (\$)	% increase	Index
1984	145	26.90	—	100.0
1985	145	27.03	0.5	100.5
1986	145	28.28	4.6	105.1
1987	145	30.58	8.1	113.7
1988	145	32.43	6.0	120.5
1989	145	35.07	8.1	130.4
1990	145	36.89	5.2	137.2
1991	145	38.61	4.7	143.5
1992	145	41.15	6.6	153.0
1993	145	42.08	2.2	156.4
1994	145	44.92	6.8	167.0
1995	145	46.74	4.1	173.8
1996	145	48.24	3.2	179.3
1997	144	50.02	3.7	185.9
1998	144	52.08	4.1	193.6
1999	144	54.53	4.7	202.7
2000	144	56.51	3.6	210.1
2001	144	59.17	4.7	220.0
2002	144	62.33	5.3	231.7
2003	144	64.79	3.9	240.9

Note: (1 title dropped; 1 title added); (27% of the titles increased in price)

Table 7.8 General Interest Periodicals

Year	No. of titles	Average price (\$)	% increase	Index
1984	181	27.90	—	100.0
1985	181	26.41	-5.3	94.7
1986	181	26.95	2.0	96.6
1987	181	27.79	3.1	99.6
1988	181	28.29	1.8	101.4
1989	181	29.69	5.0	106.4
1990	181	31.24	5.2	112.0
1991	181	32.25	3.2	115.6
1992	181	34.56	7.2	123.9
1993	181	35.73	3.4	128.1
1994	181	37.39	4.7	134.0
1995	181	38.45	2.8	137.8
1996	181	39.37	2.4	141.1
1997	185	40.72	3.4	146.0
1998	185	42.26	3.8	151.5
1999	185	43.32	2.5	155.3
2000	185	44.48	2.7	159.4
2001	185	45.96	3.3	164.7
2002	185	47.57	3.5	170.5
2003	185	50.38	5.9	180.6

Note: (6 titles dropped; 6 titles added); (22% of the titles increased in price)

Table 7.9 History

Year	No. of titles	Average price (\$)	% increase	Index
1984	151	23.68	—	100.0
1985	151	25.55	7.9	107.9
1986	151	26.04	1.9	110.0
1987	151	27.64	6.2	116.7
1988	151	30.16	9.1	127.4
1989	151	32.27	7.0	136.3
1990	151	35.51	10.0	150.0
1991	151	38.35	8.0	161.9
1992	151	43.27	12.8	182.7
1993	151	42.46	-1.9	179.3
1994	151	44.99	6.0	190.0
1995	151	47.83	6.3	202.0
1996	151	50.76	6.1	214.4
1997	148	54.20	6.8	228.9
1998	148	57.31	5.7	242.0
1999	148	59.88	4.5	252.9
2000	148	63.12	5.4	266.6
2001	148	67.06	6.2	283.2
2002	148	72.23	7.7	305.0
2003	148	79.33	9.8	335.0

Note: (4 titles dropped; 4 titles added); (34% of the titles increased in price)

Table 7.10 Home Economics

Year	No. of titles	Average price (\$)	% increase	Index
1984	90	37.15	—	100.0
1985	90	41.04	10.5	110.5
1986	90	45.59	11.1	122.7
1987	90	48.67	6.8	131.0
1988	90	54.73	12.5	147.3
1989	90	60.92	11.3	164.0
1990	90	64.49	5.8	173.6
1991	90	74.11	14.9	199.5
1992	90	75.13	1.4	202.2
1993	90	77.33	2.9	208.2
1994	90	82.23	6.3	221.3
1995	90	86.32	5.0	232.4
1996	90	92.44	7.1	248.8
1997	90	98.88	7.0	266.2
1998	90	100.39	1.5	270.2
1999	90	108.07	7.7	290.9
2000	90	115.57	6.9	311.1
2001	90	125.77	8.8	338.5
2002	90	136.69	8.7	367.9
2003	90	145.62	6.5	392.0

Note: (2 titles dropped; 2 titles added); (37% of the titles increased in price)

Table 7.11 Industrial Arts

Year	No. of titles	Average price (\$)	% increase	Index
1984	106	30.40	—	100.0
1985	106	35.09	15.4	115.4
1986	106	39.75	13.3	130.8
1987	106	41.45	4.3	136.3
1988	106	44.20	6.6	145.4
1989	106	48.68	10.2	160.1
1990	106	54.69	12.3	179.9
1991	106	60.96	11.5	200.5
1992	106	69.47	14.0	228.5
1993	106	74.66	7.5	245.6
1994	106	78.78	5.5	259.1
1995	106	82.49	4.7	271.3
1996	106	87.57	6.2	288.1
1997	106	93.79	7.1	308.5
1998	106	99.05	5.6	325.8
1999	106	106.33	7.3	349.8
2000	106	110.83	4.2	364.6
2001	106	112.57	1.6	370.3
2002	106	122.70	9.0	403.6
2003	106	128.55	4.8	422.9

Note: (4 titles dropped; 4 titles added); (22% of the titles increased in price)

Table 7.12 Journalism and Communications

Year	No. of titles	Average price (\$)	% increase	Index
1984	90	39.25	—	100.0
1985	90	46.08	17.4	117.4
1986	90	47.54	3.2	121.1
1987	90	50.66	6.6	129.1
1988	90	53.39	5.4	136.0
1989	90	58.13	8.9	148.1
1990	90	60.85	4.7	155.0
1991	90	62.81	3.2	160.0
1992	90	68.68	9.3	175.0
1993	90	75.89	10.5	193.4
1994	90	80.14	5.6	204.2
1995	90	86.06	7.4	219.3
1996	90	91.31	6.1	232.6
1997	90	98.16	7.5	250.1
1998	90	104.26	6.2	265.6
1999	90	108.71	4.3	277.0
2000	90	116.17	6.9	296.0
2001	90	122.44	5.4	311.9
2002	90	128.96	5.3	328.6
2003	90	139.61	8.3	355.7

Note: (2 titles dropped; 2 titles added); (33% of the titles increased in price)

Table 7.13 Labor and Industrial Relations

Year	No. of titles	Average price (\$)	% increase	Index
1984	70	29.87	—	100.0
1985	70	34.75	16.3	116.3
1986	70	37.14	6.9	124.3
1987	70	38.65	4.1	129.4
1988	70	44.06	14.0	147.5
1989	70	50.65	15.0	169.6
1990	70	52.74	4.1	176.6
1991	70	57.59	9.2	192.8
1992	70	66.69	15.8	223.3
1993	70	72.95	9.4	244.2
1994	70	78.42	7.5	262.6
1995	70	81.59	4.0	273.1
1996	70	85.80	5.2	287.2
1997	70	92.28	7.6	308.9
1998	70	98.99	7.3	331.4
1999	70	107.74	8.8	360.7
2000	70	114.84	6.6	384.5
2001	70	127.02	10.6	425.2
2002	70	135.74	6.9	454.4
2003	70	147.69	8.8	494.4

Note: (1 title dropped; 1 title added); (37% of the titles increased in price)

Table 7.14 Law

Year	No. of titles	Average price (\$)	% increase	Index
1984	273	31.31	—	100.0
1985	273	35.13	12.2	112.2
1986	273	36.44	3.7	116.4
1987	273	39.82	9.3	127.2
1988	273	43.33	8.8	138.4
1989	273	46.01	6.2	146.9
1990	273	50.32	9.4	160.7
1991	273	53.30	5.9	170.2
1992	273	60.53	13.6	193.3
1993	273	73.44	21.3	234.6
1994	273	76.06	3.6	242.9
1995	273	78.26	2.9	250.0
1996	273	82.48	5.4	263.4
1997	272	85.57	3.7	273.3
1998	272	89.81	5.0	286.8
1999	272	92.33	2.8	294.9
2000	272	93.44	1.2	298.4
2001	272	95.40	2.1	304.7
2002	272	101.56	6.5	324.4
2003	272	109.31	7.6	349.1

Note: (1 title dropped; 1 title added); (22% of the titles increased in price)

Table 7.15 Library and Information Sciences

Year	No. of titles	Average price (\$)	% increase	Index
1984	118	38.85	—	100.0
1985	118	40.66	4.7	104.7
1986	118	42.82	5.3	110.2
1987	118	48.42	13.1	124.6
1988	118	51.61	6.6	132.9
1989	118	54.45	5.5	140.1
1990	118	57.34	5.3	147.6
1991	118	62.73	9.4	161.5
1992	118	59.42	-5.3	152.9
1993	118	60.81	2.3	156.5
1994	118	63.04	3.7	162.3
1995	118	67.98	7.8	175.0
1996	118	72.50	6.6	186.6
1997	119	78.00	7.6	200.8
1998	119	86.12	10.4	221.7
1999	119	90.80	5.4	233.7
2000	119	95.78	5.5	246.5
2001	119	106.31	11.0	273.6
2002	119	115.98	9.1	298.5
2003	119	129.79	11.9	334.1

Note: (2 titles dropped; 2 titles added); (37% of the titles increased in price)

Table 7.16 Literature and Languages

Year	No. of titles	Average price (\$)	% increase	Index
1984	158	23.02	—	100.0
1985	158	24.18	5.0	105.0
1986	158	25.21	4.2	109.5
1987	158	26.21	4.0	113.9
1988	158	28.04	7.0	121.8
1989	158	29.41	4.9	127.8
1990	158	30.63	4.1	133.0
1991	158	32.99	7.7	143.3
1992	158	35.77	8.4	155.4
1993	158	37.46	4.7	162.7
1994	158	39.72	6.0	172.5
1995	158	41.80	5.2	181.6
1996	158	44.16	5.6	191.8
1997	158	46.72	5.8	203.0
1998	158	49.98	7.0	217.1
1999	158	53.24	6.5	231.3
2000	158	55.74	4.7	242.1
2001	158	60.03	7.7	260.8
2002	158	64.95	8.2	282.1
2003	158	71.43	10.0	310.3

Note: (1 title dropped; 1 title added); (44% of the titles increased in price)

Table 7.17 Mathematics, Botany, Geology, and General Science

Year	No. of titles	Average price (\$)	% increase	Index
1984	238	106.56	—	100.0
1985	238	116.93	9.7	109.7
1986	238	129.96	11.1	122.0
1987	238	146.08	12.4	137.1
1988	238	159.33	9.1	149.5
1989	238	173.21	8.7	162.5
1990	238	188.20	8.7	176.6
1991	238	209.55	11.3	196.7
1992	238	235.26	12.3	220.8
1993	238	240.92	2.4	226.1
1994	238	271.68	12.8	255.0
1995	238	308.79	13.7	289.8
1996	238	342.07	10.8	321.0
1997	238	379.84	11.0	356.5
1998	238	420.36	10.7	394.5
1999	238	466.61	11.0	437.9
2000	238	516.70	10.7	484.9
2001	238	559.23	8.2	524.8
2002	238	603.11	7.8	566.0
2003	238	647.10	7.3	607.3

Note: (2 titles dropped; 2 titles added); (67% of the titles increased in price)

Table 7.18 Medicine

Year	No. of titles	Average price (\$)	% increase	Index
1984	182	125.57	—	100.0
1985	182	137.92	9.8	109.8
1986	182	151.77	10.0	120.9
1987	182	169.36	11.6	134.9
1988	182	180.67	6.7	143.9
1989	182	199.22	10.3	158.7
1990	182	217.87	9.4	173.5
1991	182	249.94	14.7	199.0
1992	182	276.01	10.4	219.8
1993	182	288.38	4.5	229.7
1994	182	321.39	11.4	255.9
1995	182	362.52	12.8	288.7
1996	182	410.66	13.3	327.0
1997	182	461.60	12.4	367.6
1998	182	524.65	13.7	417.8
1999	182	597.03	13.8	475.5
2000	182	663.21	11.1	528.2
2001	182	726.61	9.6	578.6
2002	182	789.44	8.6	628.7
2003	182	847.76	7.4	675.1

Note: (1 title dropped; 1 title added); (89% of the titles increased in price)

Table 7.19 Philosophy and Religion

Year	No. of titles	Average price (\$)	% increase	Index
1984	130	21.94	—	100.0
1985	130	24.30	10.8	110.8
1986	130	24.85	2.3	113.3
1987	130	25.60	3.0	116.7
1988	130	27.09	5.8	123.5
1989	130	28.62	5.6	130.4
1990	130	30.76	7.5	140.2
1991	130	32.91	7.0	150.0
1992	130	35.96	9.3	163.9
1993	130	37.84	5.2	172.5
1994	130	40.25	6.4	183.5
1995	130	42.86	6.5	195.3
1996	130	45.71	6.7	208.4
1997	130	48.84	6.8	222.6
1998	130	51.71	5.9	235.7
1999	130	54.42	5.2	248.0
2000	130	58.54	7.6	266.8
2001	130	62.43	6.6	284.5
2002	130	67.11	7.5	305.9
2003	130	72.18	7.6	329.0

Note: (1 title dropped; 1 title added); (34% of the titles increased in price)

Table 7.20 Physical Education and Recreation

Year	No. of titles	Average price (\$)	% increase	Index
1984	151	20.54	—	100.0
1985	151	23.72	15.5	115.5
1986	151	24.98	5.3	121.6
1987	151	26.67	6.8	129.8
1988	151	28.60	7.2	139.3
1989	151	30.16	5.4	146.8
1990	151	32.20	6.8	156.8
1991	151	34.64	7.6	168.7
1992	151	35.81	3.4	174.3
1993	151	37.74	5.4	183.8
1994	151	39.47	4.6	192.2
1995	151	41.59	5.4	202.5
1996	151	43.73	5.2	212.9
1997	151	45.65	4.4	222.2
1998	151	48.10	5.4	234.2
1999	151	50.17	4.3	244.3
2000	151	51.87	3.4	252.5
2001	151	54.11	4.3	263.4
2002	151	57.15	5.6	278.2
2003	151	59.33	3.8	288.8

Note: (7 titles dropped; 7 titles added); (23% of the titles increased in price)

Table 7.21 Political Science

Year	No. of titles	Average price (\$)	% increase	Index
1984	136	32.43	—	100.0
1985	136	32.72	0.9	100.9
1986	136	35.19	7.5	108.5
1987	136	39.95	13.5	123.2
1988	136	41.55	4.0	128.1
1989	136	45.03	8.4	138.9
1990	136	49.67	10.3	153.1
1991	136	52.81	6.3	162.8
1992	136	56.93	7.8	175.6
1993	136	65.57	15.2	202.2
1994	136	70.50	7.5	217.4
1995	136	77.99	10.6	240.5
1996	136	86.02	10.3	265.3
1997	136	91.82	6.7	283.1
1998	136	100.82	9.8	310.9
1999	136	110.45	9.6	340.6
2000	136	121.62	10.1	375.0
2001	136	136.59	12.3	421.2
2002	136	148.77	8.9	458.7
2003	136	161.24	8.4	497.2

Note: (3 titles dropped; 3 titles added); (43% of the titles increased in price)

Table 7.22 Psychology

Year	No. of titles	Average price (\$)	% increase	Index
1984	138	69.74	—	100.0
1985	138	76.34	9.5	109.5
1986	138	83.71	9.7	120.0
1987	138	92.05	10.0	132.0
1988	138	100.57	9.3	144.2
1989	138	114.52	13.9	164.2
1990	138	125.31	9.4	179.7
1991	138	135.40	8.0	194.1
1992	138	145.22	7.3	208.2
1993	138	156.74	7.9	224.7
1994	138	171.80	9.6	246.3
1995	138	190.58	10.9	273.3
1996	138	211.72	11.1	303.6
1997	138	233.90	10.5	335.4
1998	138	258.91	10.7	371.3
1999	138	287.91	11.2	412.8
2000	138	319.46	11.0	458.1
2001	138	355.63	11.3	509.9
2002	138	387.15	8.9	555.1
2003	138	419.39	8.3	601.4

Note: (1 title dropped; 1 title added); (80% of the titles increased in price)

Table 7.23 Sociology and Anthropology

Year	No. of titles	Average price (\$)	% increase	Index
1984	149	43.87	—	100.0
1985	149	50.87	16.0	116.0
1986	149	56.31	10.7	128.4
1987	149	60.29	7.1	137.4
1988	149	64.27	6.6	146.5
1989	149	66.73	3.8	152.1
1990	149	77.61	16.3	176.9
1991	149	88.69	14.3	202.2
1992	149	91.19	2.8	207.9
1993	149	97.04	6.4	221.2
1994	149	106.28	9.5	242.3
1995	149	115.77	8.9	263.9
1996	149	126.77	9.5	289.0
1997	149	137.54	8.5	313.5
1998	149	151.01	9.8	344.2
1999	149	166.48	10.2	379.5
2000	149	182.56	9.7	416.1
2001	149	197.24	8.0	449.6
2002	149	217.37	10.2	495.5
2003	149	235.83	8.5	537.6

Note: (2 titles dropped; 2 titles added); (62% of the titles increased in price)

Table 7.24 Russian Translations

Year	No. of titles	Average price (\$)	% increase	Index
1984	211	381.86	—	100.0
1985	211	453.47	18.8	118.8
1986	211	483.09	6.5	126.5
1987	211	537.54	11.3	140.8
1988	211	592.22	10.2	155.1
1989	211	621.70	5.0	162.8
1990	211	678.09	9.1	177.6
1991	211	742.80	9.5	194.5
1992	211	842.42	13.4	220.6
1993	210	906.26	7.6	237.3
1994	210	964.13	6.4	252.5
1995	210	1,033.65	7.2	270.7
1996	210	1,099.42	6.4	287.9
1997	210	1,216.51	10.7	318.6
1998	209	1,311.50	7.8	343.5
1999	208	1,421.31	8.4	372.2
2000	206	1,575.51	10.8	412.6
2001	199	1,774.85	12.7	464.8
2002	190	1,962.39	10.6	513.9
2003	185	2,112.70	7.7	553.3

Note: (5 titles dropped; 0 titles added); (95% of the titles increased in price)

Table 7.25 Zoology

Year	No. of titles	Average price (\$)	% increase	Index
1984	94	78.35	—	100.0
1985	94	90.75	15.8	115.8
1986	94	102.83	13.3	131.2
1987	94	112.91	9.8	144.1
1988	94	127.33	12.8	162.5
1989	94	142.14	11.6	181.4
1990	94	153.78	8.2	196.3
1991	94	172.56	12.2	220.2
1992	94	197.89	14.7	252.6
1993	94	219.58	11.0	280.3
1994	94	243.38	10.8	310.6
1995	94	266.72	9.6	340.4
1996	94	299.84	12.4	382.7
1997	94	338.31	12.8	431.8
1998	94	385.40	13.9	491.9
1999	94	433.79	12.6	553.7
2000	94	470.43	8.4	600.4
2001	94	510.53	8.5	651.6
2002	94	543.96	6.5	694.3
2003	94	591.06	8.7	754.4

Note: (1 title dropped; 1 title added); (59% of the titles increased in price)

Table 8. Chart A: Price Index Comparison (CPI, HEPI, USPPI)

	Index				% Increase over Previous Year				
	CPI 1984	CPI Avg. 1984-2002	HEPI 1983	USPPI excl. Russian Trans.	USPPI incl. Russian Trans.	CPI	HEPI	USPPI excl. Russian Trans.	USPPI incl. Russian Trans.
1984	100.0	103.9	104.8	100.0	100.0	3.2	4.8	9.4	10.2
1985	103.6	107.6	110.8	108.6	111.5	3.6	5.8	8.6	11.5
1986	105.5	109.6	116.3	118.2	120.6	1.9	5.0	8.9	8.2
1987	109.3	113.6	120.9	129.9	133.0	3.7	4.0	9.9	10.3
1988	113.9	118.3	126.2	141.8	145.5	4.1	4.4	9.1	9.4
1989	119.3	124.0	132.8	155.3	157.4	4.8	5.3	9.5	8.2
1990	125.8	130.7	140.8	170.0	172.1	5.4	6.0	9.5	9.4
1991	131.1	136.2	148.2	189.8	191.2	5.5	5.2	11.7	11.1
1992	135.6	140.9	153.5	213.0	215.2	3.4	3.6	12.2	12.6
1993	139.1	144.5	158.0	224.7	228.0	1.3	2.9	5.5	6.0
1994	142.6	148.2	163.3	246.3	247.7	2.6	3.4	9.6	8.6
1995	146.7	152.4	168.3	271.9	271.3	2.8	3.0	10.4	9.5
1996	151.0	156.9	173.3	301.3	297.2	3.0	3.0	10.8	9.6
1997	154.5	160.5	178.6	331.1	327.2	2.3	3.0	9.9	10.1
1998	156.9	163.0	184.7	365.2	358.4	1.6	3.4	10.3	9.5
1999	160.3	166.6	189.1	403.2	393.3	2.2	2.4	10.4	9.8
2000	165.7	172.2	196.9	439.4	429.7	3.4	4.1	9.0	9.2
2001	170.5	177.1	206.4	475.8	466.7	2.8	4.8	8.3	8.6
2002	173.2	179.9	214.2*	513.6	502.0	1.6	3.8*	7.9	7.6
2003	N/A	N/A	N/A	552.9	537.4	N/A	N/A	7.7	7.1

*2002 HEPI figure is an estimate.

Notes on Operations

Combining Traditional Journal Check-In and Claiming Activities with Electronic Journal Initiation and Maintenance Activities

Xiaoyin Zhang

Electronic resources are revolutionizing libraries. These resources have dramatically changed the way libraries operate. The role of library staff has been changing, and many new activities have been added to technical services units. This article describes experiences in a university library to illustrate how electronic resources have affected traditional periodicals activities and how one library's periodicals unit staff has responded to these changes. Implications are drawn for other libraries.

For generations, most libraries have maintained records about journal issue receipts and attempted to obtain issues that were not received. These tasks have been handled in check-in and claiming units, typically located in acquisitions or serials departments. With the advent of electronic journals, these activities will become less prevalent and may eventually disappear. However, electronic journal subscriptions require new activities to set up initial connectivity and to ensure continued connectivity throughout the life of the electronic subscription. Where will these new activities reside in library organizations? Many options are available in the library's systems department, collection development department, Web department, or acquisitions department. This article explores one library's experience attempting to incorporate these new activities within an existing periodicals check-in and claiming unit of an acquisitions/serials department. Since this is a relatively new area for all libraries, the actual experiences in this endeavor and the lessons that were learned may be useful to other

libraries that might consider a similar change within their environment.

Literature Review

A thorough literature search of recently published articles on the impact of electronic resources on collection development and management was conducted. Most published literature reflects the issues concerning the collection development aspects of electronic resources. A few articles were found on electronic resources collection management. No articles were found on the management of electronic resources connectivity from the periodicals processing perspective.

The impact of electronic resources on library collection development and management is evident. Miller (2000) examines the history of electronic resources and academic libraries between 1980 and 2000 and concludes that librarians now work in a very different milieu from that of twenty years ago. Electronic resources have greatly affected traditional practices for selecting and accessing library materials.

Xiaoyin Zhang (xzhange@cmail.nevada.edu) is Head, Materials Ordering and Receiving, University of Nevada.

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Thornton (2000) states that the autonomy of the local library will fade and the roles of librarians will change drastically as the purchase (particularly through consortial agreements) of electronic resources accelerates. Technology options and licensing issues are identified as the two primary factors influencing collection development activities for electronic resources (Davis 1997). These two issues also have influenced periodicals check-in and claiming activities in the electronic environment. Libraries everywhere are challenged to deal with the issues. Copeland (2001) discussed uniform resource locators (URLs) in union catalogs and focused on accessibility issues for electronic resources from the cataloging perspective. URLs provide the global address of documents and other resources on the Web. Copeland examined how URLs in catalog records obtained from member libraries are displayed, where URLs are best placed for patron access, and how effective participating libraries are in maintaining URLs in their local online catalogs and in the union catalog.

This article considers electronic resources from the perspective of periodicals work and addresses organizational structure, work flow, and staffing issues. Library periodicals staff facing changes in the periodicals process at other institutions may benefit from the experiences at the University of Nevada, Las Vegas (UNLV) libraries.

Background

The University of Nevada, Las Vegas, founded in 1957, is a young and fast-growing institution with a student population of approximately 24,000 and more than 700 full-time faculty. With the rapid development of new programs and changes in the curriculum of the university, the UNLV libraries are challenged to provide more comprehensive services to meet

instruction and research information needs. To meet growing expectations of faculty and students for ever increasing access to online journals and databases that they can use for remote research, the UNLV libraries have excelled at finding ways to build its electronic collection. In 1999, the libraries helped reconstitute the Nevada Council of Academic Libraries as a consortium that has collaborated on several projects. In 2000, the libraries became an affiliate of the Utah Academic Library Consortium, which led the libraries to cooperative electronic resources purchasing and sharing. In 2001, the libraries decided to purchase only the electronic version when both print and electronic versions of a journal were available. In 2002, the libraries began working with the EPSCoR Science Information Group to jointly license scientific, technical, and medical electronic journal packages. These initiatives and efforts have greatly enhanced the UNLV libraries' electronic resource collection. Although the libraries have had a flat materials budget for the past five years and a 5% cut in fiscal year 2002/03, they found ways to foster collection growth in electronic resources. The portion of the libraries' materials acquisitions budget allocated to the purchase of electronic resources has increased by more than 10 percent every year since 1999. In the past several years, the electronic resources collection at the UNLV libraries has grown from a handful of CD-ROM databases into a current collection of 163 electronic indexes and full-text databases and more than 8,000 electronic journals including aggregated database titles.

The rapid transition from print to electronic resources has made a great impact on library services in all areas. The maintenance of these electronic resources quickly became a major drain on the libraries' information systems librarian, who was hired to manage the libraries' Web environment.

The need to identify additional staff resources to centralize and support the workload became imperative.

In the fall of 2000, the periodicals unit, residing in the Materials Ordering and Receiving (MOR) department, assumed the responsibility of processing and ongoing maintenance of electronic resources. The periodicals unit was selected to take over the responsibility for several reasons. First, it had a traditional role in the processing of library periodicals. Second, it could provide one clear point of contact for vendors, publishers, and library public services staff for all electronic resources connectivity-related problems. Third, this transfer would free the information systems librarian's time to deal with the libraries' "Web-centric" related projects and issues. Finally, centralizing processing for all periodicals, regardless of the format, made sense.

Re-engineering the Periodicals Unit

In preparation for the implementation of the new work assignment, the periodicals unit went through an organizational change in early 2001. Prior to the change, the periodicals unit held periodicals management responsibilities, including holding statement maintenance, check-in, claiming, and binding of 6,800 print periodicals. It was staffed with one unit supervisor, three library assistants, and four student workers. The unit supervisor was responsible for maintaining holding statements and solving problems, while overseeing the operation of the unit. The three library assistants were responsible for three major periodicals processing areas: check-in, claiming, and binding. Periodicals unit staff had no responsibilities in maintaining electronic resources connectivity. The information systems librarian was the primary library staff member maintaining these resources. However, in

the summer of 2001, both the periodicals check-in and the claiming staff persons resigned. The vacant check-in position was transferred to another library department. In order to integrate the new process fully into the existing periodicals routine work flow, the following changes were made:

- The vacant claiming position was reclassified to a higher level to include the responsibilities of maintaining electronic resources. The person in this position no longer just performs traditional claiming activities. Initiating and maintaining electronic journals connectivity has become a primary responsibility of the position.
- The binding position was revised. With the rapid transition to electronic serials and reduced focus on binding monographs at the UNLV libraries, the position's workload had changed dramatically. Half of the position's time was thus reassigned to support traditional check-in and claiming activities.
- Student assistants were assigned more complex work with greater responsibility, including daily periodicals check-in that used to be performed primarily by the library assistants.

The shifting of responsibilities resulted in the claiming position becoming more specialized in maintaining electronic resources connectivity, while the binding position became more general. The student position responsibilities expanded. These changes ensured that the periodicals unit had a primary person in charge of the new work flow, while keeping the traditional periodicals processes moving smoothly. Involving student employees in daily check-in activities freed full-time staff to handle an increasing volume of work generated by electronic resources.

Skills and Training

One of the major challenges facing the UNLV libraries periodicals unit staff has been the need to develop new skills required for processing electronic resources quickly. A few years ago, tasks such as compiling lists of IP addresses for suppliers of electronic publications and using URLs provided by suppliers to check access to electronic journals were unknown. What skills and knowledge should staff working with periodicals have, in addition to a strong traditional periodicals-processing background?⁹ A preliminary list would include: a basic understanding of how journals are published and delivered online; knowledge of Internet and Web interfaces; information retrieval skills; familiarity with electronic publishing; basic understanding of license/contract terms; strong problem-solving skills; understanding of the interrelationships among departments in the library; and very strong communication skills.

Adapting to a new work flow is not always easy or comfortable, especially when a new set of skills is required. The library should provide the staff working with periodicals processing with opportunities for continuing education, whenever possible, to help them develop needed skills. This can be arranged in various ways, including in-house training, participating in online courses, and attending more formal workshops and conferences. At the UNLV libraries, the information systems librarian provided six training sessions for the periodicals staff. These sessions covered an overview of the Web environment and the basic concepts of hypertext transfer protocol (HTTP), the underlying protocol used by the Web to define how messages are formatted and transmitted); hypertext markup language (HTML), the authoring language used to create documents on the Web; and Internet protocol (IP), the system that specifies the format of

data packets sent over the Internet and the addressing scheme for sites on the network. The sessions also addressed how Web browsers, Web servers, and proxy authentication work, and why proxy servers are used. The classes presented a new picture of how journals, indexes, and abstracts are delivered in the Web environment and gave examples of many problems that the periodicals staff might encounter in dealing with electronic resources. After the training, the information systems librarian continued to work with the periodicals staff during the transition of responsibility. This gave the periodicals staff time to gain hands-on experience with the process. Meanwhile, vendors and publishers were invited to the library to provide training on their products. To learn the terms of license for electronic resource, some of the staff also took the Online Licensing Tutorial course offered by the ALA's Office for Information Technology Policy.

Following the training, in the summer of 2002, the periodicals unit took over the entire responsibility for initiating and maintaining electronic resource connectivity. The periodicals unit is now expected to be a "switch station" that screens and solves problems related to electronic resources and that delegates problems to the appropriate departments, depending on whether the problems involve selecting, cataloging, or technology that are beyond the staff's training level. The staff's role is becoming more one of "traffic control," ensuring that ongoing communication does not get jammed between the suppliers' system and our local systems, as well as "maintenance," maintaining and fixing broken links.

Work Flow Change

As the periodicals unit staff started to work with electronic resources, they found the work flow that had served the unit well for print periodicals

check-in and claiming no longer functioned effectively. They also realized that—in the electronic resources culture—they could no longer work alone due to the complexity of ensuring ongoing access. The new medium of electronic materials simply does not behave like traditional print resources. To ensure that the work flow in the periodicals unit moved smoothly after all the changes, the MOR Department formed the Electronic Resources Connectivity Management group (ERCM) which consists of the head of MOR, the periodicals unit supervisor, and the electronic maintenance staff member who occupies the reclassified periodicals claiming position. The group meets weekly to address issues related to the electronic resources processing and to establish new procedures.

Two work flow charts were developed by the ERCM group. Figure 1 shows the periodicals process for print materials. Figure 2 shows the process for electronic resources. As Curtis pointed out, “it is difficult to use print based models for Web based serials. Each medium provides different challenges and problems to solve. This is certainly true of the check-in and claiming processes” (Curtis 2000, 139). Figure 3 provides an outline of the similarities and differences identified in these parallel processes.

Next Steps

Using aggregators for electronic journals has now become a practical means in most libraries for cost savings and efficiencies in the management of journals. This is especially true in the UNLV library, which is facing a static budget and staffing shortage. How to provide access to the aggregate titles? How to keep track of titles to be added or deleted from aggregate databases? What are the implications for the periodicals process? In the summer of 2002, the library purchased Serials

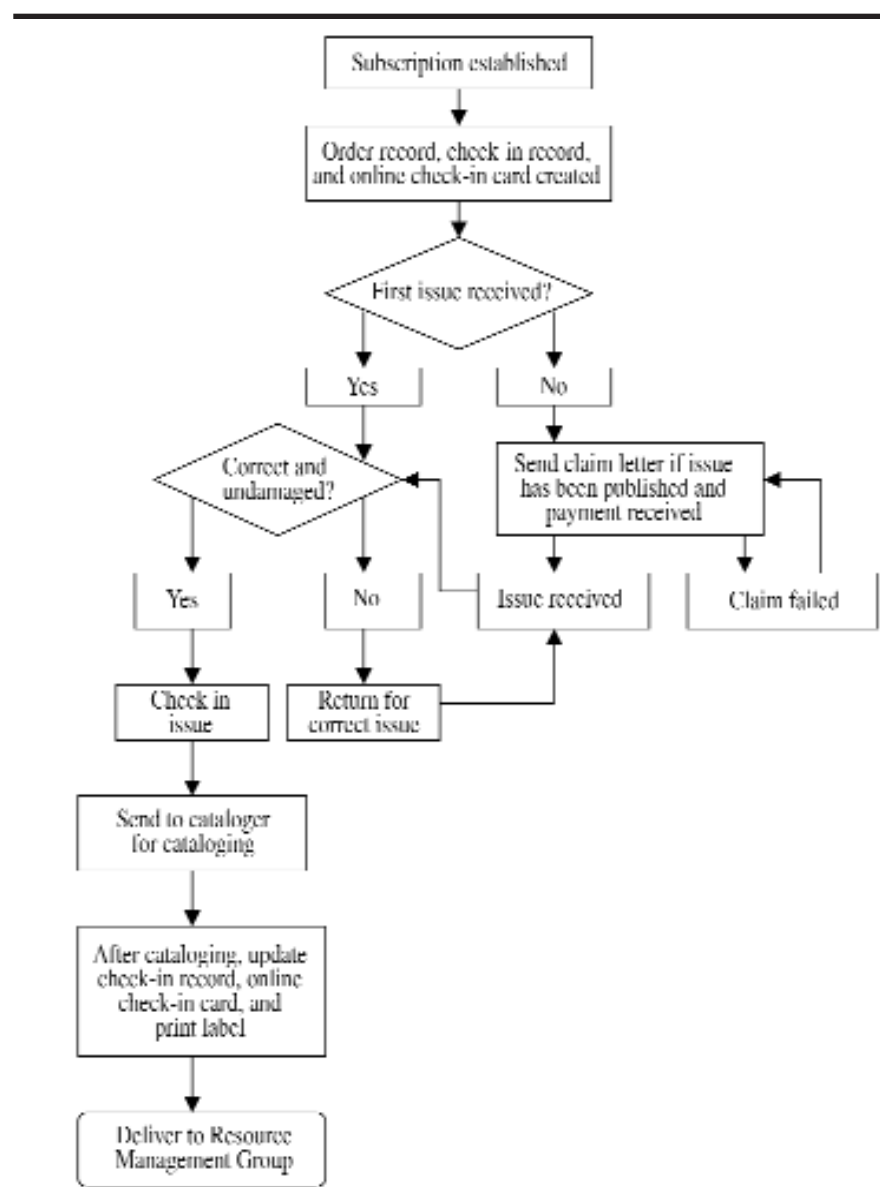


Figure 1. Print Materials Process Workflow

Solutions, a vendor database used for managing aggregate subscriptions. The periodicals unit was assigned to maintain Serials Solutions for all aggregate electronic journals to which the library has access. Also in 2002, the library implemented EZProxy software to manage electronic resources connectivity for remote access.

Continued increase of responsibilities in the management of electronic resources connectivity has brought

up questions about staffing. How can we move smoothly into the electronic information environment while maintaining the commitment to keep the existing work flow current for traditional formats with no additional staff? Print materials are not likely to become obsolete soon. Many print documents will not be digitized (Miller 2000). The UNLV experience has shown that operating in both print and electronic environments requires

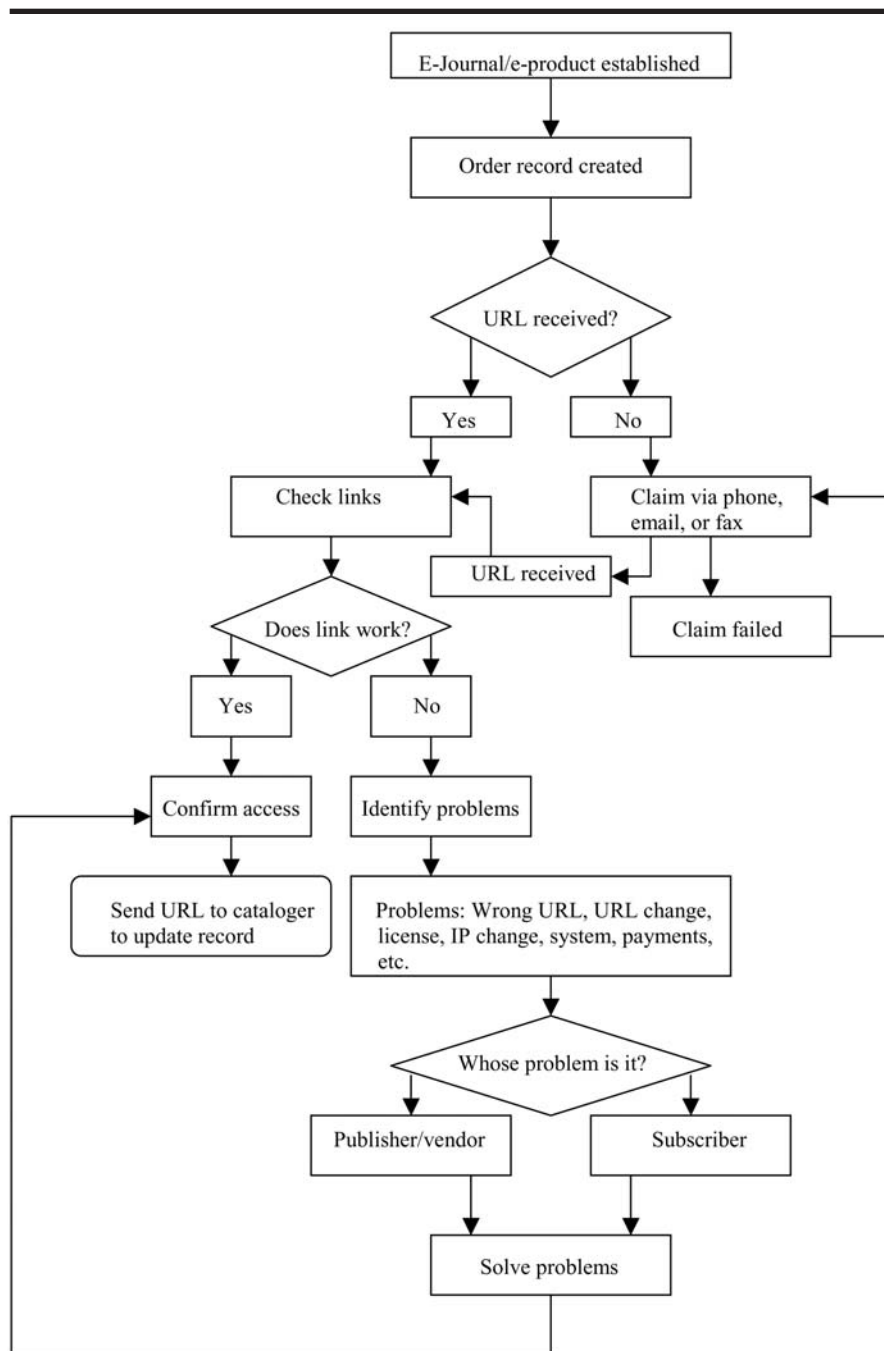


Figure 2. Electronic Resources Process Work Flow

additional periodicals staff time to annotate periodical records, update holding statements, prepare last volumes for binding, link records of print subscriptions to online versions, and monitor the status of print and elec-

tronic titles. The workload in the periodicals unit will be doubled unless the library cancels existing print subscriptions when adding electronic versions of these titles to its collection. The claiming and binding workload will not

decrease if the library continues to apply traditional policies and procedures for claiming and binding during the transition from print to electronic.

Additionally, managing electronic periodicals is more time-consuming than managing print-based titles. Our statistics show that in the print culture, the periodicals staff can check in an issue in a minute or two, while in the electronic culture, it can take an average of five to seven minutes to check a good link. If it is a problematic link, it can take an hour, days, or even weeks to get it working. An increasing workload in testing and confirming access to electronic resources is expected. Drexel University's experience shows an increasing workload for the technical services staff in providing access to electronic journals after its transition to an electronic journal collection (Montgomery 2000).

Continued evaluation of existing staff resources is essential for a successful management of the periodicals work flow. In the beginning of 2003, the UNLV library decided to hire an electronic resources librarian to support the acquiring of electronic resources. The person in this position will work directly with the periodicals staff as well as librarians from other departments in the library. The electronic resources librarian will also participate in reviewing licenses and contracts and facilitate the acquisitions of electronic resources. The periodicals unit will continue to face the need to evaluate its policies and procedures for both the print and electronic resources processes. The electronic resources librarian will make a major commitment to the management of electronic journals.

Implications for Other Libraries

The UNLV library experience suggests several areas that libraries may wish to consider as they seek effective and

	Print journal	Electronic journal
Differences	Physical issue delivered	URL delivered
	Check in issue	Check link
	Verify issue	Confirm access
	Claim for missing issue	Claim for missing link
	No licensing	Licensing
	Space needed	Little space needed
Similarities	Binding	No binding
		Maintain connectivity
	Establish subscription	Establish subscription
	Pay for subscription	Pay for subscription
	Renew/cancel subscription	Renew/cancel subscription

Figure 3. Major Differences and Similarities

efficient approaches to processing electronic resources.

Having a clear communication and support system in place within the library is extremely important. Many times, the periodicals staff has to work closely with the systems department to understand the technical issues involved in checking and confirming access to electronic products. Problems arise, such as why an engineering professor cannot access the product from his or her office or why a certain IP address does not work. Sometimes the periodicals staff also must consult with the collection development librarians to ensure that the license agreement/contract is signed and all user needs are met before the link can be received. Many questions need to be answered. Should we link to a product if the connection to the product is authenticated via user ID and password? Should we set up the link if access is limited to only one location in the library? Should we confirm the link if the access to the product is no longer free? The library needs to have written documentation that clearly spells out who and which department is responsible for what part of the process so that the periodicals staff knows where and who to ask for support.

It is critical that the periodicals unit establishes a system in which claiming for an undelivered product, a missing or broken link, can be done in

a timely manner. In the print environment, the claim cycle for a title is established according to the frequency and regularity of the title. The claim cycle for electronic resources, however, is based on connectivity. Once an order is placed, the expectation is that access to the product will be available immediately. Once a link is missing, the problem will be noticed right away. Time has become an important factor in the claim process of electronic resources. The periodicals staff no longer has the luxury of a six- to eight-week waiting time for a follow-up claim. Whatever they do will have a direct and immediate impact on the library users who now expect to have access. It is important that a weekly claim cycle be set up for newly purchased products to ensure the orders are placed by suppliers and URLs are sent. A daily claim process should be set up for any problems identified or reported regarding missing URLs or broken links. In order to expedite the claiming process, a generic e-mail account or a phone line designated for the process will be helpful.

The library should have a tracking system for all electronic titles ordered to ensure uninterrupted service. The renewal process for electronic resources has proven to be more complicated than the renewal process for print materials due to the licensing and legal issues involved. Renewal requires

a thorough review of all aspects related to the product (i.e., changes in price, terms of contract, package deal, clauses prohibiting cancellations, possible consortium purchasing). If there is a payment problem or a product is not renewed prior to its expiration date, a link can suddenly become invalid and access to the product can disappear without warning. A tracking system should allow the library to generate reports on any renewal information for all purchased electronic resources whenever needed. The report should include the title, renewal date, supplier, last invoice date, and how the title was purchased so that the library can determine well in advance when and whether the title should be renewed or invoice paid. Never wait until a renewal notice is on one's desk to make a decision.

The library should take the initiative to contact its major subscription agents and publishers to establish a system so that the library can be notified of change in a timely manner. To ensure that the system works, the library should write its requirements into vendor service profiles or other service agreements between the library and its suppliers. If the library keeps both print and electronic versions of the same journal, the periodicals unit staff should watch for any possible title change information in print issues at the time of journal check-in.

The library should have effective reports to manage the workload statistics for electronic resources activities. The tracking mechanism used for check-in and claiming print materials does not transfer to electronic materials. In the print culture, the check-in rate has always been recorded. In the electronic culture, should one record how many URLs have been tested in an hour, or should one record how many phone calls have been made to hook up a link? What kind of management information associated with the electronic resources process will be

useful? The following two reports are identified as important at the UNLV libraries for the periodicals unit to keep on a daily basis for electronic resources process activities:

- *Report on Electronic Titles URL Checking.* Data recorded in this report are total URLs checked, total URLs working and total URLs not working, date URLs checked and confirmed, time spent, vendor, and performer's initials.
- *Report on Identifying and Solving Problems with Online Resources.* Data recorded in the report are resource title, date problem reported, description of problem, person reporting problem, action taken, result, date problem resolved, and comments.

Data can be drawn from these reports to assist managers in determining staff productivity for online periodicals processing and to use as part of periodicals unit staff performance evaluations. It can also be used to evaluate vendor and publisher performance.

The periodicals unit staff must share an ongoing commitment to keeping access to electronic journals available to users. In the print environment, once an issue has been checked in, the issue will be shelved or sent to a cataloger if it is a new title. The periodicals check-in process ends here. Later, if an issue is missing from the shelf or a user cannot locate an issue, a member of the public services department normally would deal with the problem. With electronic resources, however, if a user cannot

access a product, periodicals unit staff are responsible for identifying the problem and re-instituting access.

Conclusion

The future of library periodicals processing will be very different from what it is now. Clearly, with the rapid development of new technology in publishing and disseminating human knowledge, academic libraries will become more and more "Web-centric" in terms of providing library services. Increasingly, the staff will have to determine why a link does not work rather than why an issue has not arrived. Increasingly, the staff will be spending more time in making sure that access is delivered appropriately and on time. How to manage and direct changes in the serials world is a challenge faced by library administrators, managers, and staff working with periodicals. A number of good models can be adapted.

Placing management of electronic resources in the periodicals unit works best for UNLV for several reasons. Centralizing periodicals processing, regardless of format, facilitates efficient work flow. It provides one clear point of contact for vendors, publishers, and the library's public services staff for all issues related to periodicals and also improves communication and problem solving. It utilizes the current periodicals staff members to their maximum potential. It frees library systems staff to focus on other Web-based problems. Other academic libraries may learn from the UNLV experience and implement a similar change within their organiza-

tion, depending on their own institutional structure.

Evaluation and fine tuning of the organizational structure are essential for continued success. Re-engineering the periodicals unit for the new process has provided several advantages at the UNLV libraries in facilitating the transition from a print to an electronic environment, but also has resulted in a system that requires ongoing review and change in order to keep both the traditional work flow as well as the work flow for electronic resources moving smoothly.

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Book Reviews

Edward Swanson, Editor

Integration in the Library Organization. Ed. by Christine E. Thompson. Binghamton, N.Y.: Haworth Information Pr., 2000. 140p.; \$39.95 (ISBN 0-7890-0966-8); \$24.95 paper (ISBN 0-7890-0984-6).

This volume, a special topic issue of the *Journal of Library Administration* that was published simultaneously as a monograph, offers an updated look at the evolving relationship between public and technical services. In her introduction, the editor states that the book will both examine approaches taken by libraries toward redefining traditional organizational roles and assess the extent to which the library profession has combined both public and technical services into a unified service-providing organization. While moderately successful in addressing the first topic, this collection provides little insight into the second. The most disappointing thing about this book is that most of the articles are so narrowly focused on a particular context or on the experience of particular individuals that it is difficult to draw any reliable conclusions regarding overall trends toward integration in library organization.

A few themes do emerge in the book. Several articles point to the implementation of information technology as a trend driving increased cooperation between public and technical services and increased organizational integration overall. The majority of the articles are written from a technical services perspective. In fact, justifying the importance of maintaining technical services operations within the context of individual

libraries, as opposed to outsourcing technical services functions, seems to be the chief objective of several articles. While most of the articles that fall into this category present valid and compelling arguments against wholesale outsourcing, they do little to advance the understanding of how public and technical services can be effectively integrated. Inclusion of more articles written from a neutral or public services perspective might have provided a more balanced view focused specifically on the integration issue.

The contribution by Christine DeZelar-Tiedman titled, "A Perfect Fit: Tailoring Library Positions to Match Individual Skills," stands out for its careful analysis of the skills traditionally possessed by successful catalogers and reference librarians and for its clear articulation of the benefits of allowing and encouraging those who are so inclined to engage in both public and technical services work. Likewise, Mary K. Bolin presents a thoughtful essay on the role of collegiality in the organization of academic libraries. At the other end of the spectrum, it is difficult to understand how an article describing in excruciating detail the process that one library had to go through simply to come to consensus about recommendations for new floor coverings supports the contention that there has been "a continuing and rapidly accelerating trend toward integration of public and technical services," as the editor asserts in her brief conclusion (134). On the contrary, I would argue that much of the evidence presented in this volume indicates that there are still significant

barriers between public and technical services and a great deal of progress is needed in order to achieve full integration in library organization.—*Shirley Lincicum (lincics@wou.edu), Western Oregon University, Monmouth*

Licensing Digital Content: A Practical Guide for Librarians.

By Lesley Ellen Harris. Chicago: ALA, 2002. 137p. \$45 paper (ISBN 0-8389-0815-2).

With the popularity of virtual libraries, library patrons' expectations have increased dramatically. The demands for content in digital format have grown exponentially, and libraries are facing a number of unique challenges posed by this relatively new medium. These challenges are compounded by issues of access and use by different user groups: local or distance, institution-affiliated or not. As Trisha Davis, an expert on copyright and licensing issues states, "the vast majority of us do not understand contract law. Most serials librarians simply wish these mysterious, complex, and frustrating contracts would disappear" (Davis and Reilly 1998, 248). Building a digital collection differs from the print collection; "unlike paper materials, digital information generally is not purchased by the library; rather it is *licensed* by the library from information providers. A license usually takes the form of a written contract or agreement between the library and the owner of the rights to distribute digital information" (LIBLICENSE Web site).

Licensing has its roots in contract law, copyright, patent, and trademark parentage. Meta Nissley and Nancy

M. Nelson wrote the first practical guide on CD-ROM licenses and libraries in 1990, *CD-ROM Licensing and Copyright Issues for Libraries*. Their guide included samples of licenses and how to interpret them. The 1990s also saw the growth of workshops, consortia, electronic discussion lists, and Web sites concerning licensing and copyright law (Ogburn 2001).

It is not surprising that the author, a lawyer and an expert on copyright, licensing, and e-commerce issues, understandably knows her subject content well. What is surprising is the fact that she presents the complexities of copyright licensure in a clear, jargon-free style. She does well what she sets forth in the introduction, namely that "the book has been written to set out the basics about digital licensing for librarians, and to discuss the questions and issues that arise when interpreting, negotiating, and entering into digital licenses" (ix). The work, which includes extensive tips and notes, provides a lively source of information and ideas for those relatively new to licensing issues and negotiations with vendors. The introduction is followed by an important announcement to Canadian and other non-United States readers, enlightening them that although there are some country-specific issues, digital licensing has global implications.

The first chapter, "When to License," introduces the novice reader to the world of digital revolution, explaining the terms when appropriate. It sets the stage for rest of the book, observing that the role of the librarians has changed over the recent years as they have become "negotiators and interpreters of legal agreements which open the door to a wide variety of electronic content for their patrons" (1). The chapter ends with a useful annotated bibliography of reprography collective societies in the United States and Canada. The second chapter introduces the basic steps to

negotiating a license, highlighting the key issues and clarifying twelve misconceptions about license agreements. The third chapter is useful especially to a beginner in the field as it acquaints the reader with the legal jargon and ends with a section on the Digital Millennium Copyright Act. Harris tackles the difficult issues with licensing clauses in chapters 4 and 5, respectively "Key Digital Licensing Clauses" and "Boilerplate Clauses."

In chapter 6, the author switches gears in order to ease the fear of negotiations and contracts. It is not an "aggressive, argumentative unpleasant activity" (87) as one may think it to be; rather, the process is about two parties discussing and ironing out the issues and understanding each other. This chapter states common-sense facts about negotiations, but reinforces them in a library scenario by stating who should be at the table during the negotiations. The author points out that chapter 7 is based on the questions she received from the librarians around the world, both by e-mail and during workshops and seminars. The final chapter documents how to develop the actual agreement and reinforces all the points made in the earlier chapters. In keeping with rapid and constant technological changes, the author provides some suggestions for different kinds of license agreements. The appendixes include Section 107 and Section 108 of the United States Copyright Act, along with a glossary that is a definite bonus.

To librarians and educators, the words "licensing digital content" bring forth myriad responses, traversing the gamut from enthusiastic involvement to utter indifference. Most people are inclined to flinch at the words, often confronted with difficult-to-comprehend legal mumbo-jumbo. But Harris impressively clarifies and simplifies these issues. Though the book is remarkably readable, free of legal jargon, and thoroughly enjoyable, inclusion of a sample model license would

have been beneficial, though there are pointers to a few model license sites. This useful feature is also absent in another well-known book on the subject, Bielfield and Cheeseman's (1999) *Interpreting and Negotiating Licensing Agreements: A Guidebook for the Library, Research and Teaching Profession*. Bielfield and Cheeseman provide introduction to licensing in general and some may find the licensing clauses easier to understand in their book as they are presented in a tabular format of "Clauses," "Explanation," and "Cautions." While Harris does dedicate sections to each clause, the tabular format is lacking, as is the "Checklist for Evaluating Licenses."

Nevertheless, *Licensing Digital Content* is a comprehensive, practical volume that provides the necessary information needed by librarians. An invaluable resource for those already working in the field of digital licensing as well as for those just starting to get their feet wet, it adds much to the current literature concerning libraries and licensing due to the complexity that electronic journals pose to copyright and licensing negotiations and is a definite asset to any collection.—*Mou Chakraborty (mou@nova.edu), Nova Southeastern University, Fort Lauderdale, Florida*

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Volume 47, 2003

Compiled by Edward Swanson

General Procedures Used in Compiling the Index

The following types of entries are included:

- a. authors—of articles, reviews, and letters
- b. titles—of articles and of articles about which letters were published
- c. subjects—of articles and of books reviewed

Subject entries for individuals are identified by “(about)”; letters are identified by “(c)”.

Reviews are indexed by name of reviewer and by subject of the work reviewed, identified by “(r)”. They are also listed by title under the heading “Books reviewed”.

Entries are arranged word by word following the “file-as-spelled” principle. Numbers are arranged before alphabetical characters; acronyms without internal punctuation are arranged as words.

Subject headings are based on: *ASIS Thesaurus of Information Science and Librarianship*, 2d ed., edited by Jessica L. Milstead (Medford, N.J.: Published for the American Society for Information Science by Information Today, Inc., 1998).

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Instructions for Authors

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