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Bibliographic Families in the Library Catalog: A Qualitative Analysis and Grounded Theory

Gregory H. Leazer and Richard P. Smiraglia

Forty-five years have passed since Lubetzky outlined the primary objectives of the catalog, which should facilitate the identification of specific bibliographic entities, and the explicit recognition of works and relationships among them. Still, our catalogs are better designed to identify specific bibliographic entities than they are to guide users among the network of potential related editions and translations of works. In this paper, we seek to examine qualitatively some interesting examples of families of related works, defined as bibliographic families. Although the cases described here were derived from a random sample, this is a qualitative analysis. We selected these bibliographic families for their ability to reveal the strengths and weaknesses of Leazer's model, which incorporates relationship taxonomies by Tillett and Smiraglia. Qualitative analysis is intended to produce an explanation of a phenomenon, particularly an identification of any patterns observed. Patterns observed in qualitative analysis can be used to affirm external observations of the same phenomena; conclusions can contribute to what is known as grounded theory—a unique explanation grounded in the phenomenon under study. We arrive at two statements of grounded theory concerning bibliographic families: cataloger-generated implicit maps among works are inadequate, and qualitative analysis suggests the complexity of even the smallest bibliographic families. We conclude that user behavior study is needed to suggest which alternative maps are preferable.

In his landmark study, Lubetzky (1953) outlined the primary objectives of the catalog. Although Lubetzky's first objective (like that of Panizzi, Cutter, and many others before and since) remained that of facilitating the identification of specific bibliographic entities, the second objective was to facilitate the explicit recogni-

tion of works. Lubetzky wrote (1953, 54, emphasis added):

The second objective is designed to enhance the utility and effectiveness of the catalog by requiring the cataloger also to relate the given work to the other works of the author and the other editions of the work. Thus the catalog will tell the inquirer

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not only whether or not a given work is in the library, *but also what other editions or translations of the work the library has*, and what other works of the author, *so that he could select the edition most useful or suitable for his purposes*, or another edition if the one wanted is not in the library.

Forty-five years have passed since Lubetzky wrote those words, yet still our catalogs are better designed to identify specific bibliographic entities than they are to guide users among the network of potential related editions and translations of works.

BIBLIOGRAPHIC ENTITIES, ITEMS, AND WORKS

A bibliographic entity is a unique instance of recorded knowledge, e.g., a sculpture, a textbook, etc. Each bibliographic entity has both physical and intellectual properties. The physical property—the *item*—is represented in the catalog by a transcribed record of its inherent bibliographic characteristics (the item's dimensions, its details of publication, etc.). The intellectual property—the *work*—is the actual knowledge recorded. Although an important objective of the catalog is to facilitate the location of a specific item in a library collection, authors from Panizzi (1848) to Wilson (1989a and 1989b) have asserted that the more crucial objective for any bibliographic retrieval tool is to facilitate the location of a specific work, or group of works.

As in our previous research (Smiraglia and Leazer 1999), we define a work as the intellectual content of a bibliographic entity. Any work has two properties: a) the propositions expressed, which form ideational content; and b) the expression of those propositions (usually a particular set of linguistic [musical, etc.] strings), which forms linguistic content. This definition is derived from Wilson (1968, 1989a and 1989b) and Carpenter (1981). Every work is unique. Any change in ideational or linguistic content results in the creation of a new work. A major advantage to this definition is its versatility in operationalizing empirical research into the extent of relationships among

works. In prior studies, Smiraglia (1992) and Smiraglia and Leazer (1999) have demonstrated the utility of this definition and have explored the size and extent of families of related works.

In the present paper we seek to examine qualitatively some interesting examples of families of related works (we will define these as bibliographic families below). Our purpose in this analysis is to step back from the constrictions of the empirical paradigm so as to see more clearly the complexity of the relationships among works derived from a common set of ideational and linguistic strings.

BIBLIOGRAPHIC RELATIONSHIPS AND FAMILIES

A principle objective of the catalog has been to associate works on the basis of shared textual identity: in this paper we are interested primarily in expressing how one work might be derived from another. In this instance two works can be modeled like a family tree, i.e., as two objects that share a relationship. Any work, either a wholly new work or a work derived from some other work, can serve as a progenitor for additional works. Furthermore, multiple works can exist within multiple items. The set of such interrelated works and items is called a bibliographic family, where the relationships among entities express shared semantic or linguistic activity, or the material expression of such identity in an item. If explicitly included in the library catalog, bibliographic relationships would assist users in selecting the most suitable work for their own purposes.

Derivative relationships are the primary relationships that exist among the members of a bibliographic family. More precisely, derivative bibliographic relationships exist between any new conception of a work and its original source (the progenitor), or its successor, or both. For instance, a work and its abridgment, various translations of the work and their abridgments, separately issued excerpts, a motion picture film version of the work, and a programmatic musical work based on the thematic content of the progenitor,

along with their associated items, together constitute a bibliographic family. It can be said that derivative bibliographic relationships express the evolving textual identity that lies at the core of our interest in controlling bibliographic families.

As Wilson (1989a and 1989b) and others have noted, many members of a bibliographic family can exist simultaneously. Smiraglia (1992), building on research conducted by Tillet (1987, 1991, and 1992) presented a taxonomy of bibliographic relationships to express the derivative associations among works. Smiraglia (1992, 28) developed his taxonomy from an examination of the Anglo-American Cataloguing Rules (AACR2), and suggested that the following categories of derivation exist and can be encountered:

- *Simultaneous derivations.* Works that are published in two editions simultaneously, or nearly simultaneously, such as a British and a North American edition of the same work. Often such simultaneous derivations will exhibit slightly different inherent bibliographic characteristics.
- *Successive derivations.* Works that are revised one or more times, and issued with statements such as "second, [third, etc.] edition," "new, revised edition," works that are issued successively with new authors, as well as works that are issued successively without statements identifying the derivation.
- *Translations,* including those that also include the original text.
- *Amplifications,* including only illustrated texts, musical settings, and criticisms, concordances and commentaries that include the original text.
- *Extractions,* including abridgments, condensations, and excerpts.
- *Adaptations,* including simplifications, screenplays, librettos, arrangements of musical works, and other modifications.
- *Performances,* including sound or visual (i.e., film or video) recordings.

The existence of these types of derivations is acknowledged by AACR2, in which each receives special attention. In

most cases, AACR2 instructs catalogers to enter a derivative work under the access point for the work from which it was derived. This treatment in effect constitutes an implicit link, by causing the bibliographic record for the derivation to collocate with the bibliographic record for its progenitor. Collocation in the contemporary catalog is primarily a listing technique, whereby bibliographic records are displayed in a linear sequence (or "mapped"). These cataloger-generated implicit "maps" of bibliographic families fail to take the full range and nature of bibliographic relationships into consideration. Furthermore, current collocation techniques fail to allow catalogers to model the complex and interlocking structure of associations within a bibliographic family. A more sophisticated system would allow catalogers to enter each work separately, and explicitly map the links among them, and more accurately reflect the nature of derivation.

Four major empirical investigations into the size and extent of bibliographic families have been completed to date. Tillet (1992) noted that approximately 15% of all bibliographic records in the catalog of the Library of Congress (LC) expressed derivative bibliographic relationships, and thus were members of a bibliographic family. Smiraglia (1992; 1994) measured the amount and extent of derivation from a sample of progenitor works drawn from the Georgetown University library catalog by using the OCLC Online Computer Library Center Online Union Catalog (OLUC, now known as the WorldCat) and the Research Libraries Information Network (RLIN) catalog of the Research Libraries Group. His results indicated that $49.9\% \pm 4\%$ of all works in a local research library catalog exhibited derivative bibliographic relationships. Smiraglia found a mean of 4.7 members per bibliographic family; the mean size for bibliographic families with size greater than or equal to two (i.e., a family exhibiting at least one derivative relationship) was 8.4 members. Smiraglia also discovered an eighth category of derivative relationship—the predecessor—"a work from which a progenitor is clearly derived, e.g.,

a short story from which a novel is derived" (1992, 74).

Vellucci (1997) studied bibliographic relationships in the catalogs of the Sibley Music Library at the Eastman School of Music. She found that the categories Tillett and Smiraglia had suggested were represented in large numbers. Her results demonstrate the high likelihood that musical works will generate complex bibliographic families (85.4% of the works in the sample demonstrated derivative relationships). Smiraglia and Leazer (1999) found $30.2\% \pm 4.1\%$ of progenitor works in a sample drawn from the OCLC WorldCat exhibited derivative relationships. The mean family size in their sample was 1.77 members, with a mean 3.54 members for families of size greater than one. Derivative bibliographic relationships are clearly a prevalent and important part of the bibliographic universe.

Leazer (1993) presented a model for the separate control of works and items, which he developed, in part, as recognition of the complexity of bibliographic families. Others have suggested similar models, such as Gorman (1982) and the

IFLA Study Group on the Functional Requirements for Bibliographic Records (1998). According to Leazer's model, a simple bibliographic entity is conceived as a work-item dyad that shares a containment relationship, as seen in figure 1, shown as a dashed line in all of the figures in the remainder of this paper.

In the catalog environment, the work node and the item node would each receive a separate descriptive record, using data elements that are unique to each type of entity. According to this model, two works also can be related to each other on the basis of some shared attribute. The model uses Tillett's and Smiraglia's taxonomy of bibliographic relationships to form linkages among work records.

Leazer's model was presented in theoretical terms, and provided several examples of how bibliographic families could be modeled. Figure 2 is one example (1993, 103). The model was not validated with a random selection of bibliographic families.

We can view this model as a way of expressing bibliographic data, and a method for evaluating the structure of actual bibliographic families. We applied the model

to a sample of bibliographic families to investigate its expressiveness as a model, and to discover problems associated with its use. We provide several examples in detail from this exercise, ranging from the simple to the complex. Although the families come from a random sample, we make no attempt to measure characteristics of typical or random bibliographic families in a statistically rigorous way. We simply describe the families that we think best illustrate the concept of the bibliographic family.

METHOD

A random sample of works was drawn from the OCLC WorldCat for a study on the size and extent of bibliographic families; the method



Do your own upholstery /
by Rena Cross.

London ; New York, 1975.
106 p.

Figure 1. Work-Item Dyad.

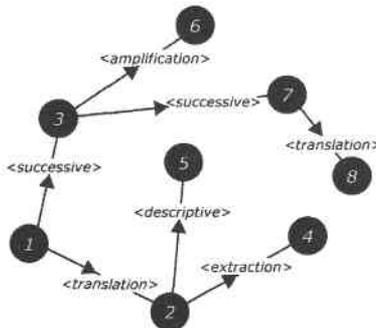


Figure 2. Theoretical Bibliographic Family (adapted from Leazer 1993, p. 103).

for drawing the sample is reported in Smiraglia and Leazer (1999). We then located bibliographic records for all derivative works for each progenitor extant and included in the WorldCat. This was accomplished by a thorough search of WorldCat by professional catalogers. We conducted author and title searches for each work in an attempt to locate as many members of a bibliographic family as possible. Some cases required judgment to determine whether two things were related or not. In several cases it was not clear whether all members of a bibliographic family had been located in the catalog. Both of these problems demonstrate why derivative relationships that are controlled only implicitly (if at all) are a problem: a user must recognize the relationship, yet even professionals trained in searching WorldCat have a hard time recognizing relationships. We removed duplicate records.

We then assembled bibliographic families according to the work-item model from our saved records. We examined only the descriptive data in the bibliographic records, not the bibliographic entities themselves. Each record was decomposed into a work-item dyad of the type seen in figure 1. For each work we first attempted to determine whether the work already was present in the sample, using our strong definition of the work. Work records were aggregated when multiple records for the same work existed. Next, for families with more than one work, we attempted to relate works to each other using the taxonomy of relationships provided above. This effort required extensive human judgment, including knowledge of cataloging rules and bibliographic record formats. We recorded the evidence used to determine the identity or associations of a work.

Although the cases described here are derived from a random sample, this is a qualitative analysis. We selected these bibliographic families for their ability to reveal the strengths and weaknesses of the model. This is the approach Glaser and Strauss advocated in their influential book that developed the key concepts of grounded theory (1967). They describe a

process of theoretical sampling, a "process of data collection for generating theory whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them, in order to develop his theory as it emerges" (45). Theoretical sampling is a key component of grounded theory, a method for discovering concepts and hypotheses directly from the data under observation (6-7, 46). Cases are selected to study "according to their potential for helping to expand on or to refine the concepts or theory that have already been developed. Data collection and analysis proceed together" (Taylor and Bogdan 1984, 126).

Although we used our original random sample as a frame for the selection of cases presented in this paper, cases were selected here for their ability to generate interesting (though not necessarily typical) problems for analysis. Furthermore, we are not characterizing central or distributive tendencies in our sample, as is traditionally done with descriptive or inferential statistics. Our purposive method of sampling is appropriate, as its aim is distinct from more common empirical sampling techniques (what Glaser and Strauss call "statistical sampling"). "Theoretical sampling is done in order to discover categories and their properties, and to suggest the interrelationships into a theory. Statistical sampling is done to obtain accurate evidence on distributions . . . to be used in . . . verifications" (Glaser and Strauss 1967, 62).

FINDINGS

Most bibliographic families contained in the random sample consisted of a single work, with no bibliographic relationships. These singleton families model as a simple work-item dyad, as shown in figure 1. Each node in this illustration is shorthand for a complete work or item record, similar in use to the full bibliographic record used today. Abbreviated bibliographic data are provided in the figure to identify each node. The work and item nodes are connected by a containment relationship.

ALPHABETICAL BIOGRAPHICAL CATALOG

A single work can be associated with more than one item, as seen in figure 3. The *Alphabetical Biographical Catalog* was published originally in 1933, and microfilmed in 1980; one is a photoreproduction of the other. Because the intellectual content of the two items is comparable, we can make an argument that both contain the same work. However, such decisions about the identity of a work are made by the cataloger on behalf of the catalog user. It is almost certainly the case that readers would prefer one format over another, to such an extent that we might not consider these two entities to be entirely interchangeable. Figure 4 is an alternative model for this family, where a reader's preference for one format of material is interpreted as a change in content from one work to another.

Tillett's taxonomy of bibliographic relationships contains an equivalence relationship, defined as the relationship that exists between an original document and its mechanical reproduction. Tillett did not split entities into works or items, as we

have done here, and we are left with some ambiguity on how to model this relationship. The equivalence relationship could be expressed as a link between the two item records, or they could be expressed as shown in figures 3 or 4. Thus a simple family with a maximum of two works could be modeled in a number of different ways, with no clear criterion for selecting among the alternative models.

HANDBOOK OF BASIC FABRICS

Another simple family also points out another problem: what happens when a member of a bibliographic family is implied by the data, but not included in the catalog? Figure 5 is a model of the *Handbook of Basic Fabrics*. The bibliographic record for this item states that it is the second edition, but the first edition is not present in WorldCat. This bibliographic family still qualifies for our sample because the second edition is the first work present in the OLC for this family. This family could be modeled through the presence of a work record with no attached item record, or the record for the

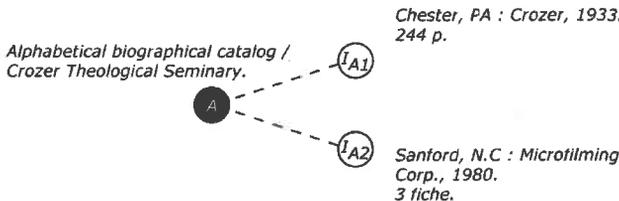


Figure 3. *Alphabetical Biographical Catalog*, 1 Work.

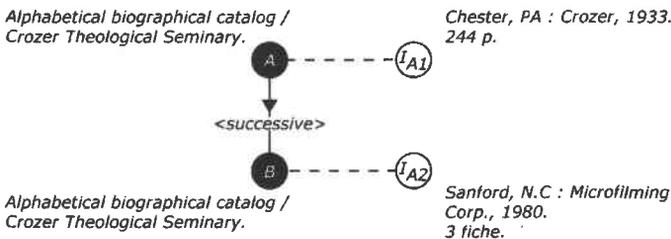


Figure 4. *Alphabetical Biographical Catalog*, 2 Works.

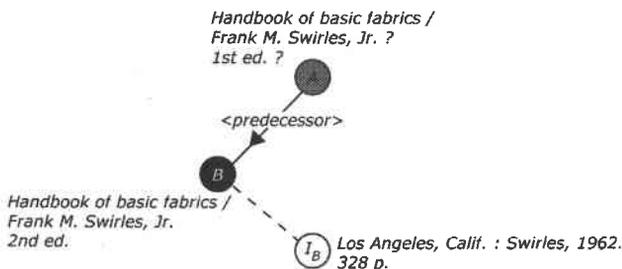


Figure 5. *Handbook of Basic Fabrics*.

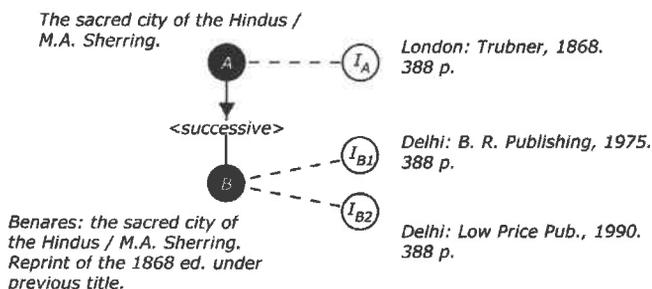


Figure 6. *Sacred City of the Hindus*.

second edition could be the first (and in this case the only) work record present in the family. This latter solution would require the user to interpret the family structure and understand the possible existence of other related works. While alternative models for the self-published *Handbook of Basic Fabrics* are not likely to cause much debate among readers, records for works that no longer exist would be useful in some cases, such as books known to have existed in antiquity but which now are lost.

Figure 6 is a step up in complexity: a family with two works, contained in a total of three items. We describe the second work as its own work because of the different title and the presence of an edition statement. However, all three of the books described in the three item records provide evidence that the second work is a simple republication of the first work, originally published a century earlier. Thus an alternative model might describe

this as one work, with three item records attached. The model provides no assistance in how to interpret this family, but it does point out problems associated with various definitions of the work as currently implemented in cataloging practice.

IMPUESTO SOBRE SUCESSIONES, TRANSMISIONES PATRIMONIALES . . .

Figure 7 is an example of a bibliographic family with three works and three associated items. The progenitor work, *Impuesto Sobre Sucesiones, Transmisiones Patrimoniales . . .*, is published in two volumes, each with its own title. Presumably each volume contains its own title page with a separate title, or perhaps was sold separately, because each component volume is cataloged separately in OCLC. We have modeled each component part, as implied by the presence of the records in OCLC, as its own work, each connected to the progenitor by a whole-part relation-

ship. This relationship does not express derivative textual evolution, but rather comes from Tillett's taxonomy of bibliographic relationships.

An alternative model of this family is provided in figure 8. Here no effort is made to describe each part as its own work; rather, each volume is described as a component item. Thus I_B and I_C from figure 7 are the same as I_{A1} and I_{A2} in figure 8; only the relationships and the absence of works B and C make figure 8 different from figure 7. Again, the model provides no clear clue on how to structure this family, but provokes a question in contemporary cataloging practice: when are works to receive their own descriptions, and when are they to be entered as a holdings note on an existing record? The cataloger who entered the record for figure 7's work B and item B might or might not have been

aware of the records for work A and item A . That cataloger, with only the first volume of the work, faced a decision either to make a new bibliographic record for the item in hand (as expressed in the AACR2, rule 0.24), or to modify the original record, perhaps entering an added entry for the part of the title, and making a note in the local catalog that the library held volume 1 only. This latter option is perhaps the more economical, but would certainly not be applied to all works issued as components of conglomerate works, such as Dante's *Inferno*.

A hybrid and most complex way of modeling this family would be to express the whole-part relationships among items in figure 7, resulting in figure 9. This results in a 7:6 relationship to node ratio, as opposed to the previous 5:6 ratio. It is unclear whether the additional data are use-

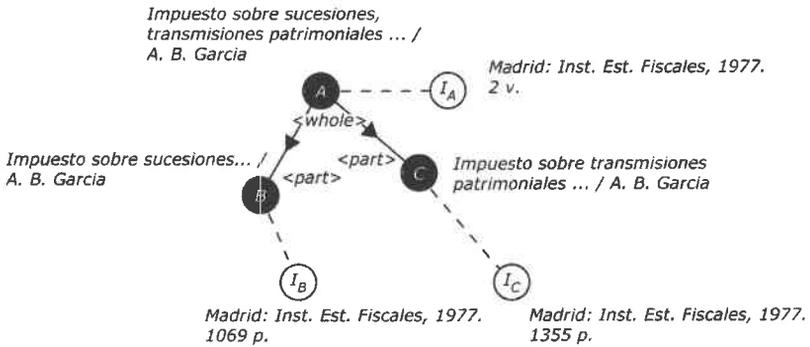


Figure 7. *Impuesto Sobre Sucesiones*, Work Whole-Part Relationships.

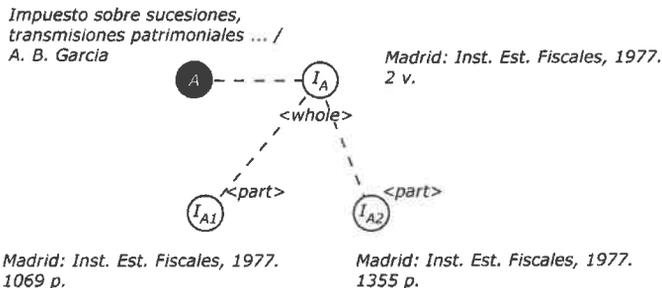


Figure 8. *Impuesto Sobre Sucesiones*, Item Whole-Part Relationships.

ful, especially relative to the marginal cost added to including information on these relationships. The best way to resolve questions of this nature is through a deliberate examination of searcher behavior using systems that contain information on explicitly modeled bibliographic relationships.

QUESTIONS ON THE PRINCIPLES OF ECONOMICS

A larger bibliographic family is *Questions on the Principles of Economics*, by Day and Davis (figure 10). This is a bibliographic family with five works contained

in six items—the progenitor also exists in microfilm copy. As in the example of the *Alphabetical Biographical Catalog*, we face the problem of how to handle entities with highly similar content, but in two distinct ways. First, item I_{A2} is a mechanical reproduction of I_{A1} ; this problem was described above. Second, works $B-E$ all contain the same edition statement, the same number of pages, though slightly varying date information. Although we have modeled this with five works, we could also collapse all of the derivative works ($B-E$) into a single work node, with four associated item nodes. Although

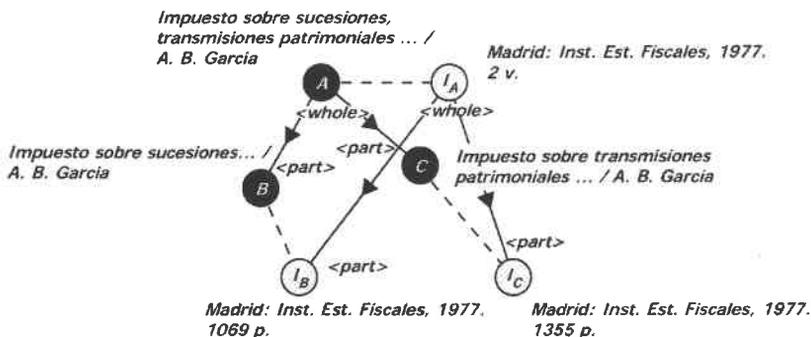


Figure 9. *Impuesto Sobre Sucesiones*, Work and Item Whole-Part Relationships.

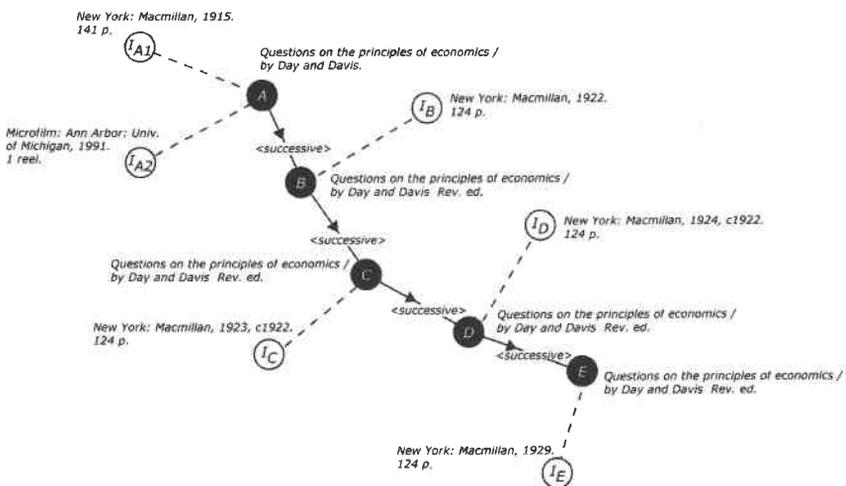


Figure 10. *Questions on the Principles of Economics*.

large, this is a typical bibliographic family where the relationships are all of the *successive derivation* type; the family is a fairly simple linear chain of works, each derived from the last.

I CAN PHYSICAL EDUCATION PROGRAM

The largest bibliographic families in our sample depart from this linear form, and contain more types of relationships, yielding a more complex, web-like form of associations. Figure 11 is a model of the *I Can Physical Education Program*, with a key provided in appendix A. *I Can* is a physical education curriculum for students with disabilities, and many of the works in the family take the form of kits, with several component parts: games, cards, score sheets, teacher guides, films, etc. The curriculum has been revised, amplified, and adapted for different age groups. Adding to the complexity of the bibliographic family, several different cat-

aloging agencies have given members of the family different treatment, including the separate cataloging of component parts in some cases.

The catalog record for work A, for example, contains a contents note for four works, which are expressed as works B–E. Works B and C were cataloged separately by other libraries, whose bibliographic records formed the basis of nodes *I_{B1}*, *I_{B2}*, and *I_C*. Works D and E, however, received no separate cataloging effort; we include them here only to give them equal treatment as works B and C. There are no item records to attach to works D and E, implying that these works have no material expression. However, in this case the item record attached to a work holds all the component parts of that work, including those parts that have no item nodes explicitly attached to them. Such is the case as well with work L, a part of work B (in turn a part of work A). No item records are attached directly to work L, though it

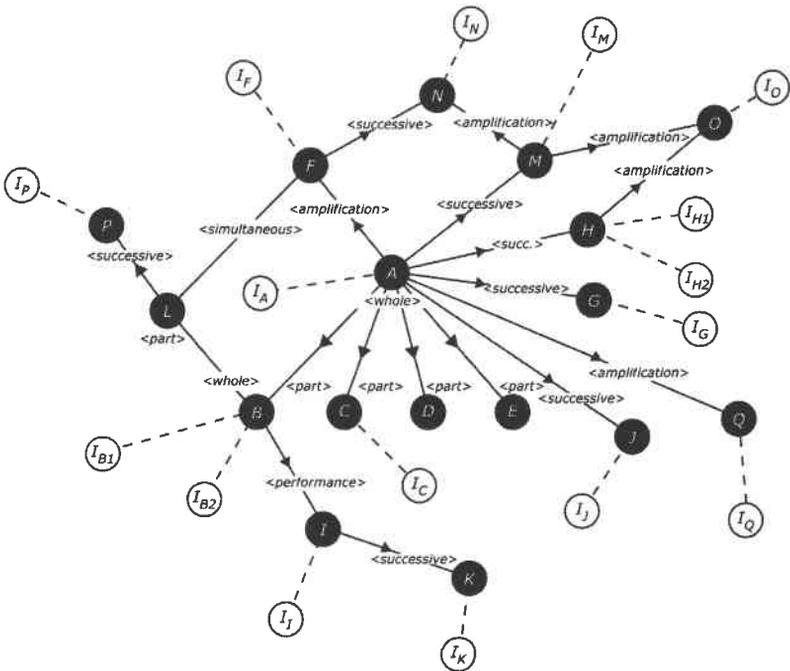


Figure 11. *I Can Physical Education Program*.

is connected via a whole-part relationship to work *B*, which is attached to two item records, implying that *L* can be found in items *I_{B1}*, *I_{B2}*, and *I_A*, but this is an inference many users might not make.

The amplification relationship also has this ability to traverse more than one node. Work *N* apparently is derived from work *F*, although it contains an edition statement "first edition." Work *F* is an amplification of the progenitor, *A*. Work *N* is also an amplification of *M*, which is derived from *A*. Thus there are two paths of equal length from *A* to *N*: *A-F-N* or *A-M-N*. We can infer that work *N* is in some way an amplification of work *A*. Even more tenuous multi-node traversals include the *F-A-B-I-K* path: an amplification (*F*) of a whole (*A*) with a part (*B*), a performance (*I*) (as a videorecording) with a successive descendant (*K*).

There is also ambiguity about modeling the chain of successive relationships. The previous example of *Questions on the Principles of Economics* was a simple linear chain of derivations, one clearly derived from the other. The *I Can* family, however, has multiple successive derivations present in the family: works *G*, *H*, *J*, and *M* somehow successively are derived from the progenitor *A*. There are several alternatives for modeling these successions. First, the works could be placed into a linear concatenation, based on some evidence such as sequential order, yielding *A-G-H-J-M*, as shown as option

1 in figure 12. The star formation shows all of the successive derivations related directly to the progenitor, illustrated in option 2. Option 3 shows a compromise between the first two options: place works into a linear chain when there is clear evidence of a sequence of derivation (e.g. a sequence of edition statements), and show derivation directly from the progenitor when evidence of derivation from an intermediate successive derivative work is missing. Option 4 shows each succeeding work as derived from all earlier works. This last option is generally closest to modeling how the later works are created if all of the works were written by the same author. In this case, the creator likely is drawing from experience of the creation of the earlier works as each new work is created. This last option is the most complex, however, leading to rapid expansion in the number of relationships that must be modeled for each new work that joins the set of successively-derived members in the family. Again, deliberate analysis of user behavior might provide the evidence required to select the most useful of the alternative models.

The same problem arises in sequencing amplification works. Amplifications sometimes clearly describe which work they amplify; other cases are not so clear, such as work *Q* in the *I Can* family. Again, the options are to anchor work *Q* to the progenitor, the immediately preceding work in the main sequence of successive

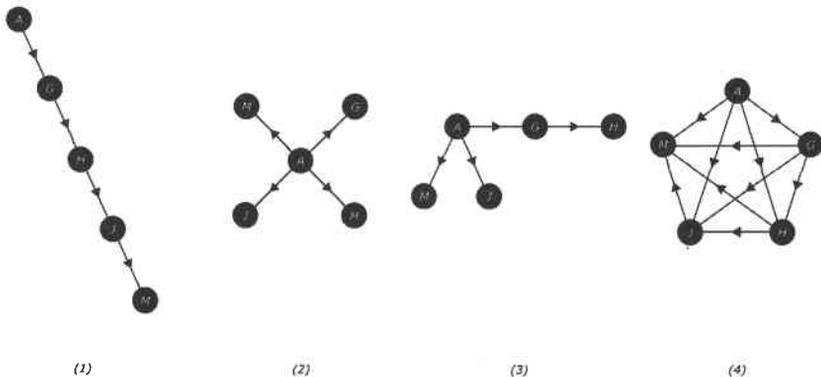


Figure 12. Alternative Modeling Techniques.

derivations leading from the progenitor, or all works in that sequence (the A-G-H-J-M set in the *I Can* family).

CHARAKA SAMHITA

The last example of a bibliographic family is quite complex—a model created from a set of 45 bibliographic records, the largest bibliographic family in our sample (figure 13 and appendix B). This is the model for the family for the *Charaka Samhita*, a classic Indian text of mythic origin and a foremost document of ayurvedic medicine. The family of this work contains multiple successive editions of the progenitor and has received numerous commentaries, some dating from antiquity, some modern. Many of the various works have been translated from the original Sanskrit into modern languages. Many of these works appear together in a single item, except apparently for the progenitor, for the appearance of multiple works in the progenitor's volume would have caused it to be eliminated from our sample.

The complexity of this family is a reflection, in part, of the origins of the progenitor text. "According to myth, Indian medicine was revealed to man by the gods" (Prioreshi 1995, vol. 1, 241). The *Charaka Samhita* mentions the steps in this transmission, from Brahmin to Prajapati, the Ashwin twins, Indra, Bharadvaja, Punarvasu Atreya, Agnivesa to Charaka, all in succession (Prioreshi 1995, vol. 1). Modern texts do not agree on who in this sequence was historical or who was mythical—there is doubt whether the personages prior to Charaka really existed. There is general consensus that Charaka was a physician in the second century A.D., though some modern authors believe that he is a composite of several figures, similar to modern conceptions of Homer. Whether Charaka was one person or several, the *Charaka Samhita* is likely a "reconstruction of an oral tradition that was already old at the time of writing" (Prioreshi 1995, vol. 1, 243). Evidence of this is provided by the fact that the *Charaka Samhita* is written

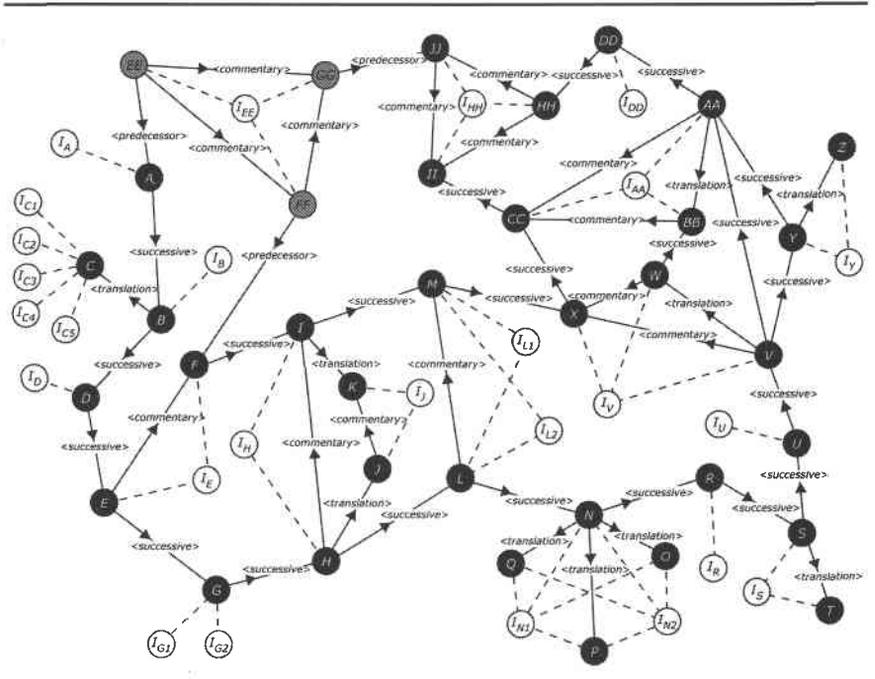


Figure 13. *Charaka Samhita*.

in verse, perhaps to assist in memorization; furthermore, samhita means "compendium" indicating the derivative nature of this work. Components of the composition date back to 800 B.C. The *Charaka Samhita* likely took its present form in the "first century A.D., although there are earlier versions" (*Encyclopaedia Britannica* 1993, v. 23, 776).

Sharma (1992, 188) claims that the *Charaka Samhita* is made up of three substrates, each associated with a different person:

1. Atreya-Agnivesa: 1000 B.C. (original composition)
2. Caraka: 3d-2d cent. B.C. (revision and enlargement)
3. Dridhabala: 4th cent. A.D. (restoration and redaction)

The first layer is a text called the Agnivesa Tantra, which appears to have once existed in written form, though it only exists nowadays as a component of the *Charaka Samhita*. Thus the status of the *Charaka Samhita* as the original progenitor work of its family is in question, and it appears that it is a derivation of either oral tradition or previous written text. "Caraka did not only retouch or redact the Agnivesatantra but recast the entire material, changing its shape and form altogether" (Sharma 1992, 186). Agnivesa's treatise appears to have been available until the eleventh century A.D., as Chakrapanidatta, its commentator, quotes from it (Jaggi 1973).

The *Charaka Samhita* was the victim of the degradation that afflicts many works of antiquity. "It is difficult to decide whether Caraka himself left this work incomplete or he had completed it but by lapse of time the text was partially lost" (Sharma 1992, 186). Lost portions were "reconstructed by Dridhabala on the basis of other ancient treatises" (186). Dridhabala "retouched the entire text and made the samhita complete in every respect as far as possible" (188). Modern scholars do not agree on which portions of the work were contributed by Dridhabala.

Mukhopadhyaya (1923, vol. 3) lists 17 commentators of the *Charaka Samhita* and its revision; only six of them are

TABLE I
SUBSETS OF THE CHARAKA SAMHITA
BIBLIOGRAPHIC FAMILY

<i>Charaka Samhita</i>	<i>Ayurveda-Dipika</i> commentary of Chakrapanidatta	Gagneadhara's <i>Jalpakaipataru</i> commentary
EE	FF	GG
A	F	JJ
B	I	
D	M	
E	X	
G	CC	
H	II	
L		
N		
R		
S		
U		
V		
Y		
AA		
DD		
HH		
English translations		
C	K	
J		
Q		
W		
Z		
BB		
Hindi translations		
O		
T		
Gujarati translation		
P		

known to exist. Most of the extant commentaries were not located for inclusion in the model of the bibliographic family.

Table I shows how the individual works in this family can be placed into groups. The largest group belongs to the *Charaka Samhita* in the original Sanskrit.

It is difficult to break this group down further into additional subsets. Many of the works in this group contain allusions to the original Agnivesa treatise. Several of the works, if not all, include the Dridhabala revision as well—some make overt reference to the revision, others likely include it (perhaps including the progenitor) but make no overt reference to it. Work *Q* is an example of a work that clearly refers to the presence of all three works. Because the apparent intermingling of these works is so extensive, it may be impossible to conceive of them as separate works. Pre-Dridhabala works may no longer be extant.

The *Ayurveda-Dipika* and *Jalpaka-pataru* commentaries (by Chakrapanidatta and Gagneadhara, respectively), on the other hand, apparently are not intertwined with the *Charaka Samhita* proper, and only a minority of bibliographic entities make explicit references to these works. The citations for these commentaries makes them appear as an external appendage to the *Charaka Samhita*.

The same alternatives for modeling each subset of works in the *I Can* family appear in the *Charaka Samhita* family: works for the *Charaka Samhita* proper, and the *Ayurveda-Dipika* and *Jalpaka-pataru* commentaries (and other groupings) can be modeled via one of the four major alternative modeling techniques illustrated in figure 12. We generally modeled works in the main *I Can* successive derivation sequence using the star formation technique, shown as the second option in figure 12; for the *Charaka Samhita* we have used the concatenated sequential ordering (option 1). We used one technique for one family, and an alternative for the other only to illustrate the different techniques. The frequent appearance of works appearing together in a single item (or two, such as the *N-O-P-Q-IN1-IN2* clique) marginally lent itself to better modeling using the concatenated technique.

The problem of predecessor works also appeared in this family, as it occurred in the family illustrated in figure 5. Here the predecessors in the *Charaka Samhita*

family (works *EE*, *FF* and *GG*) do have an associated item record (*IEE*), although this is a contemporary reprint of an 1841 publication. This did not cause the family to be rejected from our sample because item *IA* is still the first publication for this family represented in the OLU. However, the presence of the predecessor posed problems for the concatenated sequential ordering technique we selected for this family. It is not entirely clear where to position the predecessors in the model. We can infer from the 1841 date of the original publication that all three works appeared at that time, though this represents an assumption because we did not examine the actual publications. We therefore placed these works in the position they would have occupied if the 1841 publication had appeared in our sample—at the head of the concatenated sequence, as seen in table 1.

The concatenation technique led to another peculiarity in the model. Once we resolved where to place the predecessors in the chained sequence, almost all of the other works fit into a sequence without conflict. Thus the chains of works presented in table 1 form the chains illustrated in figure 13. An exception is work *AA*, which states that it is a second edition. Two works can claim to be the immediate predecessor for this work. The first edition is present in the sample as work *V*. However, the *V-AA* chronological sequence is interrupted by work *Y*. The *V-AA* association is a paradigmatic example of the successive edition relationship, the concatenated modeling technique suggests that works inherit from their immediate chronological predecessor. We resolved this issue by allowing work *AA* to inherit a successive relationship from both works.

Another minor exception to the clear logic of the concatenated modeling technique occurs when the presence of a work is implied but is absent. Works *J* and *K* state that they are third editions, though no earlier editions were detected in the OLU. Works *H* and *I* appear to be earlier editions (no edition statements are present, perhaps implying they are the first editions), though they are different

languages, indicating a translation relationship. No ghost nodes were created for the implied works.

The transitivity of the amplification relationship also applies to the translation relationship. In some cases it is unclear which work served as the progenitor to a particular translation—the progenitor of the entire family (e.g., work *A* for all translations), the first member of the group receiving translation (e.g., work *A* for work *Q*, work *F* for work *K*), the most recently published work of the translated group (e.g., *N* for work *Q*, work *I* for work *K*), or all or part of the members of the translated group (e.g., works *A–HH* in table 2 for work *Q*, works *F–I* for work *K*). Translations were anchored to a specific work in the cases where a work and its translation were published together in a single item, a logical way to model translations for side-by-side translations. This suggested that standalone translations should be attached to the most recently published work in the sequence of works being translated.

We handled the transitivity of the commentary relationship in two different ways. When three works were published together, one an original work, the second a translation, and the third a work of commentary (e.g. works *V*, *W*, and *X*, and works *AA*, *BB*, and *CC*), then relationships were expressed among all three works. This included a *commentary* relationship between the translation and the commentary on the original (translated) work. However, in most cases the works are not published together, and the relationship between the commentary and translation is not expressed—it must be inferred by the transitivity of the commentary and translation relationships working together, i.e., a commentary on a work is also a commentary on a translation of that work.

CONCLUSIONS: TOWARD A GROUNDED THEORY OF BIBLIOGRAPHIC FAMILIES

Qualitative analysis is intended to produce an explanation of a phenomenon observed in its natural environment and particularly an identification of any patterns

observed. Our intention in this study was to explore the complexity of bibliographic families in hopes of yielding a more sophisticated understanding of complexity that is difficult to quantify. When patterns observed in qualitative analysis can be used to affirm external observations of the same phenomena, conclusions can contribute to what is known as grounded theory—a unique explanation grounded in the phenomenon under study. Over time, the accumulation of grounded theory contributes to the substantive theory of a phenomenon. In this way, qualitative analysis can contribute beyond the parameters and limitations of empirical observation. We conclude with two statements of grounded theory concerning bibliographic families.

CATALOGER-GENERATED IMPLICIT MAPS ARE INADEQUATE

Currently, works are entered into catalogs by catalogers following AACR2 and other professional standards. The formulation of uniform headings for names and titles of works creates a linear sequence of authors' names and within that sequence a subset (but still linear) of the works by that person. References from variant forms of names and titles create a network of linkages among related terms and from variant forms of names or titles to the authorized forms. This syndetic structure constitutes a search path for any user seeking a specific work in the catalog. Bregzis (1982, 23) called this "entry syndetic structure" and pointed out that its mechanistic simplicity did not provide a design that would allow a user to select knowledgeably among editions or translations of a work.

Carlyle (1997, 98) suggests that "relationship-based displays [in online catalogs] meet the needs of those users interested in seeing the range of materials available in a given library on a given work or author and would assist other users in the selection of a particular item or items." Current catalog design is inadequate in part because design principles regarding *bibliographic relationships* are weak and undertheorized for two major

reasons. First, the catalog and its code fail to provide catalogers with the proper concepts to recognize and express bibliographic relationships. Smiraglia found (1992), for example, that catalog records for 63.2% of the works in bibliographic families made no explicit reference to the existence of the other works in the bibliographic family. Second, catalogers cannot express or control the relationships that they manage to perceive. Catalog design forces catalogers to list works in a prescribed linear order that does violence to the robust and complex structures of bibliographic families. Reducing the structure of the *Charaka Samhita*, for example, into a linear structure would strip it of an element critical for interpreting this bibliographic family, and selecting works from it. Thus the implicit maps of textual associations created by catalogers are inadequate to the task set by Lubetzky—to tell the user what editions or translations might be selected to best suit the user's purpose.

QUALITATIVE ANALYSIS SUGGESTS THE TRICKY COMPLEXITY OF EVEN THE SMALLEST BIBLIOGRAPHIC FAMILIES

Smiraglia (1992, 72) noted that "bibliographic families can be as complex as human, genealogical families. Many generations can exist . . . at the same time." Because of this, empirical research can only quantify the extent of bibliographic families in terms of the gross numbers of members assigned to categories of the taxonomy of derivation. Qualitative analysis, on the other hand, employs the naturalistic observation of phenomena to describe their inherent characteristics, and can reveal patterns too complex for quantification.

As our findings indicate, the bibliographic families we studied and the relationships among nodes within them are not linear. In fact, our attempt to map the relationships in a linear way inflicts some damage on the family map by suppressing its inherent multi-dimensionality. Yet the purpose of this study is not to suggest any specific system design for the display of works and the relationships among them.

Rather our purpose has been to explore the complexity of those relationships, an effort that in the end was difficult and time-consuming. This reinforces our grounded theory that cataloger-generated implicit maps are insufficient for the retrieval of works.

USER BEHAVIOR STUDY IS NEEDED TO SUGGEST WHICH ALTERNATIVE MAPS ARE PREFERABLE

Obviously, further empirical research will be required to comprehend the extent of bibliographic families and the inherent characteristics of works in the bibliographic universe. Further qualitative analysis of bibliographic families can help yield more and better maps of their complexities. But the primary area for further study must be user-behavior. Carlyle (1997, 98) suggests that "in an ideal online catalog, users would have the ability to custom-design their own displays to meet their own specific information needs." Without a better understanding of users' work-specific search behavior we cannot hope to build models sufficient for representation of bibliographic families or systems adequate to their retrieval.

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APPENDIX A
I CAN . . . KEY

A: I can physical education program / Janet A. Wessel

I_A: Northbrook, Ill. : Hubbard Scientific Co., c1976. 4 kits.

B: I can : fundamental skills / Field Service Unit in Physical Education and Recreation for the Handicapped, Michigan State University. Janet A. Wessel, Project Director.

I_{B1}: Northbrook, Ill. : Hubbard Scientific Co., c1976-79. 1 kit.

I_{B2}: Northbrook, Ill., Hubbard, c1976. 1 kit.

C: I can physical education program : body management / Janet Wessel.

I_C: Northbrook, Ill. : Hubbard, 1976. 1 kit.

D: I can physical education program : health and fitness / Janet Wessel.

E: I can physical education program : aquatics / Janet Wessel.

F: I can implementation guide / Field Service Unit in Physical Education and Recreation for the Handicapped, Michigan State University, Janet A. Wessel, Project Director.

I_F: Northbrook, Ill. : Hubbard Scientific Co., c1976. 35 p.

G: I can : primary skills program. / Field Service Unit in Physical Education and Recreation for the Handicapped, Michigan State University. Janet A. Wessel, Project Director.

I_G: Northbrook, Ill. : Hubbard Scientific Co., 1976- . 1 kit.

H: I can : the sport, leisure, and recreation skills program. / Field Service Unit in Physical Education and Recreation for the Handicapped, Michigan State University. Janet A. Wessel, Project Director.

I_{H1}: Northbrook, Ill. : Hubbard Scientific Co., 1976-79. 1 kit.

I_{H2}: Northbrook, Ill. : Hubbard Scientific Co., 1976-79. 1 kit.

I: Fundamental skills

I_I: Austin, Texas : Pro-Ed, c1977. 2 videocassettes (ca. 20 min. ea.)

J: Individual/dual skills : track & field / The Field Service Unit in Physical Education & Recreation for the Handicapped, Michigan State University ; Janet A. Wessel, project director. Field test ed., 1976-77.

I_J: [East Lansing, Mich.] : The Unit, 1977. 200 p.

K: I CAN fundamental skills.

I_K: Northbrook, Ill. : Hubbard, 1978. Motion picture: 4 reels.

L: I can implementation guide : teaching the ABC Model / by Luke E. Kelly [and] Janet A. Wessel.

Contained in I_{B1} and I_{B2}.

M: I can : preprimary motor and play skills / J.A. Wessel, editor and author ; contributing authors, Joanne Didion ... [et al.].

I_M: East Lansing, Mich. : Field Service Unit in Physical Education and Recreation For the Handicapped, Michigan State University, c1980. 6 v.

N: I can implementation guide : teaching preprimary motor and play skills / Field Service Unit in Physical Education and Recreation for the Handicapped, Michigan State Uni-

versity, Janet A. Wessel, Project Director. 1st ed.

I_{N1}: East Lansing, Mich. : Field Service Unit in Physical Education and Recreation for the Handicapped, Michigan State University, 1980. 133 p.

O: I can adaptation manual for teaching physical education to severely handicapped individuals / Field Service Unit in Physical Education and Recreation for the Handicapped, Michigan State University, Janet A. Wessel, Project Director.

I_O: East Lansing, Mich. : Instructional Media Center/Marketing Division, Michigan State University, 1981. 180 p.

P: I can implementation guide : teaching the ABC model / Luke E. Kelly, Janet A. Wessel.

I_P: Austin, Tex. : Pro-Ed, c1991. 164 p.

Q: I CAN physical education program for special children: teacher training overview packet / Janet A. Wessel, Luke Kelly.

I_Q: Austin, Texas : Pro-ed, [19??]. [108] p.

APPENDIX B

CHARAKA SAMHITA KEY

A: Agnivesa maharsi krta Charaka prati Samskrta cha Sri Charaka samhita ... [Charakasamhita, attributed to Agnivesa, in the original metre, in eight parts; ed. by Sankara Sastri]

I_{A1}: Mumbayyain, Nirnayasarakhya mudranalaya, 1867. 851 p.

B: Carakasarmhitea: Seutra-Nideana-Veimeana-bSeairendriya-Cikitsita Kalpa-Siddhistheaneatmikea : eayurvedeiyea / Atreyarna Punarvasunea upadirsrtea, Agnivebsaneamadheyena viracitea, Carakeabhidhena tRrsimea pratisarmskrtea ; Jiveananda Vidyeaseagara Bhartreacearyerna baheuni eadarbsapustakeani samealocya sarmskrtea.

I_B: Microfiche. New Delhi : Library of Congress Office, 1981. 11 microfiches. Microreproduction of: [Calcutta] : Bhartreacearyerna, 1877. 962 p.

C: Charaka-Samhita : translated into English. Translated by Kaviraj Kaviratha.

I_{C1}: Calcutta : [Published by Avinash Chandra Kavirata], printed by D.C. Dass, 1888-1912. 64 pts. in 3 v.

I_{C2}: Microfilm. New York : New York Public Library, 1981. 1 microfilm reel.

I_{C3}: Calcutta : Avinash Chandra Kaviratna, 1890-1914. 67 parts.

I_{C4}: Calcutta : Printed by D.C. Dass, 1892-1925. 2174 p.

I_{C5}: Calcutta : Dass, [1891-1914]. 90 pts.

D: Charaka samhita. Rev. by Maharshi Charaka. Compiled & edited by Debendra Nath Sen and Upendra Nath Sen.

I_D: Calcutta, Dhanwautari, Shakabdma 1816 [1894]. 1056 p.

E: **The Charakasamhita, by Agnivesha**, with the Ayurveda-Dipika commentary of Chakrapani Dutta; ed. by Vaidya Bhushan Vaman Kesheo Datar. 1st ed.

I_{E1}: Bombay, Pandurang Jawaji, 1922. 699 p.

F: The Charakasamhita, by Agnivesha, with **the Ayurveda-Dipika commentary of Chakrapani Dutta**; ed. by Vaidya Bhushan Vaman Kesheo Datar. 1st ed.

Contained in I_E.

G: Agnivebsamaharsikrtea Carakapratisarmskrtea Dtrrdhabalapeuritea Caraka-sarmhitea /Teareadattapantena Bheageirathyea rtipparnyea vibheursitea sarmsodhitea ca.

I_{G1}: Banearasa Sirtei : Caukhambea Sarmsktrta Seiriza Aphisa, 1938. 929,
I_{G2}: Banearasa Sirtei : Caukhambea Sarmsktrta Seirija Aphisa, 1937-1938, 2 v. in 1

H: The **Charakasamhita** / by Agnivesa, revised by Charaka and Dridhabala. With the Ayurveda-dipika commentary of Chakrapanidatta. Edited by Vaidya Jadavji Trikamji Acharya. **Sanskrit.**

I_H: Varanasi : Chaukhambha Sanskrit Sansthan, 1941 (1984 printing). 1 v.

I: The Charakasamhita / by Agnivesa, revised by Charaka and Dridhabala. With the **Ayurveda-dipika commentary of Chakrapanidatta**. Edited by Vaidya Jadavji Trikamji Acharya. **Sanskrit.**

Contained in I_H.

J: The Charakasamhita, by Agnivesa, revised by Charaka and Dridhabala. Collated & edited by Vaidya Jadavji Trikamji Acharya, 3d ed. **English.**

I_J: Bombay : Pandurang, 1941. 738 p.

K: The Ayurveda-dipika commentary of Chakrapanidatta. Collated & edited by Vaidya Jadavji Trikamji Acharya, 3d ed. **English.**

Contained in I_J.

L: **Carakasarmhitea** / Punarvasunopadirsrtea, tacchirsyerneagnivebsena prarneitea, Carakadrrdhabaleabhyeam pratisarmsktrtea ; bSreicakrapearnidattaviracitayea Ayurvedadeipikeavyeakhyayea sarmvalitea ; Acearyopeahvena Trivikrameatmajena Yeadavabsarmarnea sarmbsodhitea. , Caturtheavtrrttirh.

I_{L1}: New Delhi : Munbseireama Manoharaleala, 1981. Reprint. Originally published: Bombay: Nirnaya Sagar Press, 1941. 738 p.

I_{L2}: New Delhi : M. Manoharlal, 1981. 738 p.

M: Carakasarmhitea / Punarvasunopadirsrtea, tacchirsyerneagnivebsena prarneitea, Carakadrrdhabaleabhyeam pratisarmsktrtea ; bSreicakrapearnidattaviracitayea Ayurvedadeipikeavyeakhyayea sarmvalitea ; Acearyopeahvena Trivikrameatmajena Yeadavabsarmarnea sarmbsodhitea. , Caturtheavtrrttirh. **Cakrapearnidatta / Ayurvedadeipikea.**

Contained in I_{L1} and I_{L2}.

N: The caraka Sarmhitea / expounded by the worshipful Atreya Punarvasu, compiled by the great sage Agnivebsa and redacted by Caraka & Drrrdhabala ; edited and published in 6 volumes with translations in Hindi, Gujarati and English by Shree Gulabkunverba Ayurvedic society, De Luxe Edition. **Sanskrit.**

I_{N1}: Jamnagar, India : The Shree Gulabkunverba Ayurvedic Society, 1949. 6 v.

I_{N2}: Microfilm. Washington, D.C. : Library of Congress, Photoduplication Service, 1985. 1 microfilm reel.

O: The caraka Sarmhitea / expounded by the worshipful Atreya Punarvasu, compiled by the great sage Agnivebsa and redacted by Caraka & Drrrdhabala ; edited and published in 6 volumes with translations in Hindi, Gujarati and English by Shree Gulabkunverba Ayurvedic society, De Luxe Edition. **Hindi.**

Contained in I_{N1} and I_{N2}.

P: The caraka Sarmhitea / expounded by the worshipful Atreya Punarvasu, compiled by the great sage Agnivebsa and redacted by Caraka & Drrrdhabala ; edited and published in 6 volumes with translations in Hindi, Gujarati and English by Shree Gulabkunverba Ayurvedic society, De Luxe Edition. **Gujarati.**

Contained in I_{N1} and I_{N2}.

Q: The Caraka Sarmhitea / expounded by the worshipful Atreya Punarvasu, compiled by the great sage Agnivebsa and redacted by Caraka & Dtrrdhabala ; edited and published in 6 volumes with translations in Hindi, Gujarati and English by Shree Gulabkunverba Ayurvedic society, De Luxe Edition. **English.**

Contained in I_{N1} and I_{N2} .

R: Carakasarmhitea, / Vidyecalnkeara, Jayadeva, ed. and tr, **Romanized Sanskrit.**

I_R : s.l. : s.n., [1963]-66. 2 v.

S: Carakasarmhitea. Bhagavateagnivebsena prameitea, Ayurvedeacearyabsreijayadevavidyecalnkearerna prameiteaya tantrearthadeipikeakhyayea Hindeivyeakhyayea rtiparnyeya ca samanvitea, 7. sarmskarannah. **Sanskrit.**

I_S : Dillei, Moteileala Banearaseideasa, 1963-66. 2 v.

T: Carakasarmhitea. Bhagavateagnivebsena prameitea, Ayurvedeacearyabsreijayadevavidyecalnkearerna prameiteaya tantrearthadeipikeakhyayea Hindeivyeakhyayea rtiparnyeya ca samanvitea, 7. sarmskarannah. **Hindi.**

Contained in I_S .

U: Carakasarmhita / Agnivesena pranita Carakadrda-blalbyam pratisamskrta. Cakrapanidattaviracita-'Ayurvedadipida'-vyakhyasamvalita-'Vid yotini' - Hindivyaakhyavibhusita. Hindivyaakhyakara Kasinatha Sastri. Sampadaka Gangasahay Pandya.

I_U : Varanasi : Caukhamba Sanskrita Sirija Aphisa, [1969-70]. 2 v.

V: Agnivebsa's Caraka sarmhita : **text** with English translation & critical exposition based on Cakraparni Datta's Ayurveda deipikea / by Ram Karan Sharma and Bhagwan Dash. 1st ed. **Sanskrit.**

I_V : Varanasi : Chowkhamba Sanskrit Series Office, 1976-1988. 3 v.

W: Agnivebsa's Caraka sarmhita : **text** with English translation & critical exposition based on Cakraparni Datta's Ayurveda deipikea / by Ram Karan Sharma and Bhagwan Dash. 1st ed. **English.**

Contained in I_V .

X: Agnivebsa's Caraka sarmhita : **text** with English translation & critical exposition based on Cakraparni Datta's Ayurveda deipikea / by Ram Karan Sharma and Bhagwan Dash. 1st ed.

Contained in I_V .

Y: Caraka-sarmhitea : Agnivebsa's treatise refined and annotated by Caraka and redacted by Dtrrdhabala : **text** with English translation / editor-translator, Priyavrat Sharma. 1st. ed. **Sanskrit.**

I_Y : Varanasi : Chaukhambha Orientalia, 1981-1985. 3 v.

Z: Caraka-sarmhitea : Agnivebsa's treatise refined and annotated by Caraka and redacted by Dtrrdhabala : **text** with English translation / editor-translator, Priyavrat Sharma. 1st. ed. **English.**

Contained in I_Y .

AA: Agnivebsa's Caraka sarmhita : **text** with English translation & critical exposition based on Cakraparni Datta's Ayurveda deipikea / by Ram Karan Sharma and Bhagwan Dash. 2nd ed. **Sanskrit.**

I_{AA} : Varanasi : Chowkhamba Sanskrit Series Office, 1983. 2 v.

BB: Agnivebsa's Caraka sarmhita : **text** with English translation & critical exposition based on Cakraparni Datta's Ayurveda deipikea / by Ram Karan Sharma and Bhagwan Dash. 2nd ed. **English.**

Contained in I_{AA}.

CC: Agnivebsa's Caraka sarmhita : text with English translation & **critical exposition based on Cakraparni Datta's Ayurveda deipikea** / by Ram Karan Sharma and Bhagwan Dash. 2nd ed.

Contained in I_{AA}.

DD: Carakasarmhitea : Caraka-candrikeahindeivyeakhyayea, vibersavaktayvedibhiscas vibheursitea / bSreimadagnivebsena prarneitea ; Caraka-Dtrrdhabaleabhyearm pratisarmsktrtea ; vyeakhyeakera Brahmeananda Tripearthei ; preakkathana-lekhaka Gagneasaheaya Pearnrdeya. 1, sarmskarana.

I_{DD}: Vearearnasei : Caukhambea Surabhearatei Prakeabsana, 1983. 1052 p.

EE: Carakasarmhitea / Bhagavateagnivebsena prarneitea ; Carakerna pratisarmsktrtea ; bSreimaccakrapearnidattaprarneitayea Ayurvedadeipikeakhyarteikayea Gagneadhakaraviratnakavireajaviracitayea Jalpakalpatarusameakhyayea rteikayea ca samalagnktrtea ; Narendraneatha Senaguptena, Baleaicandra Senaguptena ca sampeaditea sarmsbodhitea ca. Punarmudrita 2. sarmskarana. **Sanskrit.**

I_{EE}: Vearearnasei : Vidyevileasa Presa, 1984-1991. 5 v. Reprint. Originally published: Calcutta, 1849.

FF: Carakasarmhitea / Bhagavateagnivebsena prarneitea ; Carakerna pratisarmsktrtea ; bSreimaccakrapearnidattaprarneitayea Ayurvedadeipikeakhyarteikayea Gagneadhakaraviratnakavireajaviracitayea Jalpakalpatarusameakhyayea rteikayea ca samalagnktrtea ; Narendraneatha Senaguptena, Baleaicandra Senaguptena ca sampeaditea sarmsbodhitea ca. Punarmudrita 2. sarmskarana. **Cakraparnidatta. Ayurvedadeipikea.**

Contained in I_{EE}.

GG: Carakasarmhitea / Bhagavateagnivebsena prarneitea ; Carakerna pratisarmsktrtea ; bSreimaccakrapearnidattaprarneitayea Ayurvedadeipikeakhyarteikayea Gagneadhakaraviratnakavireajaviracitayea Jalpakalpatarusameakhyayea rteikayea ca samalagnktrtea ; Narendraneatha Senaguptena, Baleaicandra Senaguptena ca sampeaditea sarmsbodhitea ca. Punarmudrita 2. sarmskarana. **Gagneadhara, 1798-1885. Jalpakalpataru.**

Contained in I_{EE}.

HH: **Caraka-sarmhitea** / carakacatuveananabsreimaccakrapearnidattaprarneitayea ayurvedadeipikeakhyarteikayeamahemahopeadhyayea bsreigagneadharkaviratnakavireajaviracitayejalpakalpatarasameakhyayea r teikayea ca samalarikrtea Kavireaj bSrei Narendraneath Sengupten Kavireaj Srei Baleaicandra Sengupten ca sampeaditea sarmsbodhitea prakeasitea ca.

I_{HH}: Veararnasei : Caukhambhea oriyantealiya, 1991. 5 v.

II: Caraka-sarmhitea / carakacatuveananabsreimaccakrapearnidattaprarneitayea ayurvedadeipikeakhyarteikayeamahemahopeadhyayea bsreigagneadharkaviratnakavireajaviracitayejalpakalpatarasameakhyayea r teikayea ca samalarikrtea Kavireaj bSrei Narendraneath Sengupten Kavireaj Srei Baleaicandra Sengupten ca sampeaditea sarmsbodhitea prakeasitea ca. **Ayurvedadeipakea.**

Contained in I_{HH}.

JJ: Caraka-sarmhitea / carakacatuveananabsreimaccakrapearnidattaprarneitayea ayurvedadeipikeakhyarteikayeamahemahopeadhyayea bsreigagneadharkaviratnakavireajaviracitayejalpakalpatarasameakhyayea r teikayea ca samalarikrtea Kavireaj bSrei Narendraneath Sengupten Kavireaj Srei Baleaicandra Sengupten ca sampeaditea sarmsbodhitea prakeasitea ca. **JalpakalpataruI.**

Contained in I_{HH}.

Facts? of Publication: Cataloging Problems Posed by Deceptive Information

Gregory Frohnsdorff

False imprint information and other deceptive publication details present problems for catalogers. In this article, I describe different types of misleading information, including fictitious names of publishers, incorrect places of publication, and false dates; mention possible reasons for deception, including fear of prosecution; and emphasize the need for catalogers to be suspicious when handling certain types of material. Erotic printed materials and bootleg sound recordings are discussed in detail, and examples of misleading information in each medium and explanations of how cataloging rules address or fail to address specific circumstances are included. Catalogers need to be aware of both the potential problems associated with certain types of materials and the types of reference sources to consult when dealing with those materials.

When catalogers prepare to describe books or other items, they are fortunate if no difficult cataloging decisions need to be made. Often an item presents information concerning its title, author, publisher, etc., in a clear enough manner that a general familiarity with the *Anglo-American Cataloguing Rules*, 2d edition (AACR2) is all the cataloger needs to begin transcribing the appropriate details. However, information is not always straightforward, and it sometimes becomes necessary not only to look closely at several possibilities within AACR2, but also to make use of other cataloging guides before deciding how best to proceed. Situations that require this more cautious approach might result from a title-page layout that—from the cataloger's perspective—is illogical and con-

fusing, or from the fact that important details are contained outside the chief source or prescribed sources of information. These problematic situations might come about merely because the cataloger is not familiar with the particular type of material. However, these situations generally can be recognized for what they are—problems that require special attention—and must be dealt with when they arise. There are other problems, though, that are not always successfully dealt with because the cataloger might not even be aware that they exist.

Since the earliest days of printing, there have been deliberate attempts by some printers and publishers to provide misleading information about certain publications. Books bearing false dates, fictitious names of publishers, and incor-

rect details regarding place of publication have appeared since the late fifteenth century (Hellinga 1989), and misleading information continues to appear, both in books and in other items. Unlike anonymous and pseudonymous works, which appear often enough that the cataloger can expect to encounter them now and then, these other types of deceptive items are less familiar and easily can catch the cataloger off guard.

Unintentional misprints account for more inaccurate publication information than do deliberate attempts to conceal, but because instances where information is inaccurate by design rather than by chance are not rare, one might well wonder about the motivations behind them. The reasons for falsifying publication information vary, but misleading details often appear on a title page because a publisher or printer runs the risk of prosecution and punishment if identified. As an extreme example, during the German occupation of the Netherlands people could be—and were—killed for their part in the production of books not approved by the government (Simoni 1975). Under such conditions one can easily understand the need for publishers to hide behind false imprints. Yet in other situations, where the potential punishment might be less severe, e.g., fines or imprisonment, the motivation to deceive can still be strong.

False imprints also have been put to use simply for reasons of profit. This motivation is most evident in cases of forgery, where an entire book, document, or other item is intended to pass for something it is not. The ever-increasing values of some early American documents have led to a number of forgeries appearing on the market over the past few decades that “have deceived a variety of knowledgeable dealers, librarians, historians, and collectors” (Larson 1989, 1397). But deception for profit is not limited to forgery. During the 1580s, John Wolfe and other English printers used false imprints to increase sales of some of their books. There was a special demand at that time for books in Italian that had been banned by papal decree and could no longer be printed in Catholic countries. Although

these books could legally be printed in England, Wolfe found it advantageous to use fictitious imprints on the books he published in foreign vernaculars . . . [because of] the bad reputation which English printing had by then acquired in this field. Books, or sections of them, in foreign languages were poorly printed on bad paper in England, with many misprints and corruptions. Foreign books, on the contrary, had good reputations, and besides there was always the prestige value of an imported article. Giordano Bruno says, of his books which were printed in Italian in London . . . that his printer insisted on the use of fictitious imprints in order to help sales. . . . (Woodfield 1973, 9)

There are other reasons for falsifying title page information, such as the satisfaction some derive from a successful hoax, but no matter what the motivation, the results for the cataloger are ultimately the same: an item in need of description, but about which the true details of publication are hidden behind false ones. This is a different situation from one in which details are simply not provided, for in that case one can either track down the details or make it clear that they are not present through the use of such notations as “s.l.” or “s.n.,” or, in the case of dates, the use of an estimated date followed by a question mark. Information is incomplete rather than untrue. When faced with fictitious information, however, the cataloger not only is expected to transcribe the information as found, but also to emphasize through notes that it is inaccurate and that the true details are unknown. If the true details are known, the cataloger must provide the accurate details as instructed in AACR2 rules 1.4B6 and 1.4F2.

The real problem is that catalogers often do not realize there is anything unusual about these items, so they actually assist in carrying on the deception. The result is that many items are likely either to be overlooked by those who seek them or to be used in error. For example, if someone is researching William Butler Yeats and hopes to examine several foreign editions of his works published during the last year of the poet's life, that researcher might be led by the OCLC

Online Computer Library Center database WorldCat to a 1939 Amsterdam edition of Yeats's *Selected Poems*. Unfortunately, the researcher would have no way of knowing from the OCLC record (number 6121091) that the book being requested through interlibrary loan actually was published in 1944 and that the date "1939 on the titlepage is false by intention, as to deceive the Gestapo, because it was forbidden to bring out anything that did not come from the Nazi 'kultuurkamer' and anything of 'Anglo-American-bolshevistic-plutocratic' culture in particular" (Simoni 1975, 227).

Obviously, catalogers can neither be expected to know instinctively when publication information is false, nor to have the correct information at their fingertips. Many deceptive items produced throughout the years will never even be suspected of bearing misleading information; others might be under suspicion but cannot be proven false. Yet there are certain types of material in which misleading publication information is commonly found. It is important for more catalogers to be made aware of this fact, so that they can treat suspicious items with the extra attention required.

Treadwell (1989, 29) provides "a modest beginners' guide to when to become suspicious that the work in front of us may not in fact have been printed by, printed for, or sold by those whose names it bears in black on white and as likely as not, in italics." Although his comments focus on imprints from 1660 to 1750, they are a good starting point for insight into misleading imprints in general. The sections that follow, however, cover two specific types of material in which misleading information often appears: printed erotica and, as an example of a nonprint medium, bootleg sound recordings.

MISLEADING EROTICA

Any discussion of erotic publications is potentially controversial, both because of the sexually explicit nature of the items under consideration and because of the term "erotica" itself: What exactly is meant by the term? Is there a difference

between erotica and pornography?, etc. What needs to be focused on here, however, is that many libraries do acquire material that is often referred to as erotica, and much of it has not been openly cataloged (Legman 1991; Kearney 1981). Even if a library has no plans to obtain such material, there is the chance that an occasional item might show up among batches of donated books. Much of the older erotic material is of such rarity that to discard it or leave it uncataloged would be a great disservice to researchers.

Because erotic material has been controversial for centuries, and especially because obscenity laws have existed for many years both in Europe and in North America, erotica can be a real bibliographic challenge. Kearney (1982, 9) states, "Everything about erotica is invariably disguised behind false authors, publishers, dates and places of publication. Nothing is what it seems." Legman (1962, 23-24) claims:

The hidden world of erotic literature offers the most difficult of challenges to the bibliographers, far more difficult than the incunabula of the fifteenth century and the secret publications of religious and political controversy. All of these share to some degree the same curious anonymity, appearing originally without any printed place or date of publication—or with place and date fantastically disguised and falsified—and without any satisfactory indication of the real names of the authors, publishers, and printers. But with this difference: the early incunabula, and the religious and political tracts, can generally be identified by the internal typographical evidence of printing types and styles, or when, eventually, the authors and publishers of the polemic tracts win the day and come out of hiding, to sign their later productions and even to brag of the earlier. The authors and publishers of erotic literature have never come out of hiding, so far as the Western civilizations are concerned, until barely yesterday, and only the accident of a brush with the police and law-courts ever serves to bring them even briefly into the open.

Consequently, a cataloger must be suspicious when dealing with erotic mate-

rial. Even today, when the need for secrecy might not be as great as it once was, the fact that misleading information continues to appear is no surprise.

Printed erotica in English can be traced back at least to the seventeenth century, although material in such other languages as Italian and French appeared earlier. Almost from the beginning, deceptive information can be found on the title pages of these works. It is believed that the imprint in a 1683 edition of *The Whore's Rhetorick* is false (Foxon 1965; Kearney 1982). Prosecutions in 1689 of the publisher and printer of a play generally attributed to the Earl of Rochester—*Sodom, or, the Quintessence of Debauchery*—most likely were based on an edition printed that year but predated 1684 (Foxon 1965; Kearney 1982; Thomas 1969).

Kearney (1982, 23) states that false dates are “a favourite trick of erotica publishers,” though Foxon (1965, viii) emphasizes that

More usually, these books give a correct date in their first edition, but after the authorities have suppressed them, subsequent publishers are likely to use the original date either in order to persuade the customer into thinking that he is getting a copy of the rare, suppressed first edition, or else in the hope that if the authorities take action against him, he can persuade them that he has not printed a new edition but is merely selling off a few copies left over from the first.

This practice does not make it easy for the cataloger. For example, there are at least four different editions of John Cleland's *Memoirs of a Woman of Pleasure* that claim to have been printed in London in 1749. Only one of these bears a true imprint; the others are early editions cashing in on the book's notoriety (Foxon 1965).

Sometimes it is obvious that publication information is false. If a date such as “1,000,000” (Foxon 1965, viii, 35; Kearney 1982, 32) or “5850” (Fraxi [1877] 1962, 446; Kearney 1982, 183) appears, a cataloger is unlikely to accept it at face value. Similarly, catalogers are likely to look at any books containing such state-

ments as “printed at Carnopolis” (Mendes 1993, 91, 179–81) or “printed and published on Mons Veneris” (Fraxi [1877] 1962, 126). And catalogers probably would doubt books dealing with flagellation that claim that they are published at “Birchington-on-Sea” (Kearney 1982, 119; Mendes 1993, 131–32), or books “printed by Whipwell & Co., Bottom Lane, London” (Fraxi [1877] 1962, 434) with suspicion as well. In these instances, where the information is clearly untrue, the cataloger can at least include a note as part of the bibliographic description, perhaps something as simple as “Actual place of publication unknown” or “False publication date. Actual date unknown.”

Much trickier, and more common, are publications that are not so obvious about their deception—for example, books that are published in London, but claim to have been published in Paris or Brussels; books that are published in any given year but claim to have been published five years earlier; and books produced by one publisher that bear the imprint of another.

In some instances a publisher might have been operating fairly openly for several years, but if eventually the police or other authorities made it difficult for that publisher to operate, the publisher might have needed to use more deceptions just to stay in business. Legman (1991, 56) states that “all the erotica publishers . . . beginning in the mid-19th century . . . and probably before . . . also issued polite or mildly *galante* works, both to justify and explain their activity to the often curious police (who sometimes black-mailed them), and also to attract customers, who would surely be interested in something a bit stronger too, kept in the back room.” These “polite” works—often on topics that might not be considered polite by everyone, but nonetheless are unlikely to be considered obscene—generally carry accurate publication information, while the more explicit works often do not. For instance, Charles Carrington, “the publisher/bookseller who was to dominate the English-speaking pornography market during the period 1894–1914” (Mendes 1993, 31), openly published

Women that Pass in the Night: Reminiscences of the Parisian Queens of Prostitution with the imprint "Paris: Charles Carrington, 1906." Two years later he published another book, *The Memoirs of a Voluptuary: The Secret Life of an English Boarding-School*, this time with a false imprint: "London: James Kennedy, 1908." Carrington probably chose the name Kennedy because it would have been a common enough name in London at the time not to draw attention to itself. Supposedly, no one would have thought to look to Carrington, across the Channel, as the person responsible for this particular publication.

At times, a publisher tries to give the impression that a book has been printed by another publisher, one that actually exists but that most likely has no idea that its name is being used without authorization. Fraxi ([1877] 1962, 167) gives the following example:

O Confessionario ou O Proveito dos Frades por Mr. OHLARAC Doutor na faculdade da Redof, lente da 1ª cadeira de Racinruf, auctor do methodo repentino de tirar sogriv, etc. Bruxelles Typ. BRUYLANT-CHRISTOPHIE et C^{ie} Rue Blas, 31 1862.

8vo.; pp. 37; 12 obscene lithographs, poor in design and execution. A publishing firm, Bruylant-Christophe & C^{ie}, really exists at 33 (not 31) Rue Blaes; but they never published the book, which moreover is not known at Brussels in the trade. The impress is then evidently a *supercherie*, and the volume was probably printed in Portugal.

In the matter of false dates, there are cases where it is quite clear that the falsification exists more to deceive the reader than to deceive the authorities. Two books by Edward Sellon, *The New Epicurean, or, the Delights of Sex Facetiously and Philosophically Considered in Graphic Letters Addressed to Young Ladies of Quality* and its sequel, *Phoebe Kissagen, or, the Remarkable Adventures, Schemes, Wiles, and Devilries of Une Maquerelle*, bear the imprints "London: 1740 [Reprinted 1865.]" and "London: 1743 [Reprint.]," respectively. Yet the first of these "is no 'reprint,' but an original work, first published by W. Dugdale in 1865" (Fraxi [1877] 1962, 314). The second was first

published in 1866. Sellon has set both tales in the mid-eighteenth century, and it was undoubtedly considered a selling point to suggest to the potential reader that these were "classic" works of that period rather than recent compositions.

There are at least two other ways in which the producers of erotic publications attempt to deceive. The first of these, the use of false covers, was probably at one time quite effective in disguising large batches of material for shipment from one country to another but is unlikely to pose any problem for the cataloger today. The second, the use of false titles, can be a real problem.

Carrington used a false cover about the time of the first World War. For several years, when necessary, he bound the sheets of certain works in false wrappers, so that anyone glancing at those items but not actually looking at them closely would not be aware of their erotic nature. These disguised items varied, but the cover was usually the same: one indicating that the work within was *La Guerre des Balkans*, by Jean Debrit (Kearney 1982; Mendes 1993). Because the cataloger, when confronted with one of these works, would still have a title page with which to work, the false covers are more of a curiosity than a source of real trouble and can be explained in notes.

False titles, however, can be extremely misleading. These can serve the same concealing purpose as false covers, but there is no true information hidden behind them. Fraxi ([1877] 1962, 266) lists one item, *The Genuine and Remarkable Amours of the Celebrated Author, Peter Aretin*, about which he states:

The title is entirely false; the story has nothing whatever to do with Aretino, but is in truth (after the first three and a half pages), simply . . . 'The Amours, &c., of Tom Johnson' . . .

Here the purpose might also have been to fool the customer into purchasing the same work twice. Catalogers, however, can be deceived as well, especially if the work is not in their native language; unless they are familiar with the text it would have to be very obvious that text and title do not match before the cata-

loger would suspect that something was amiss.

Of the methods of deception discussed above, none is unique to erotica, but because erotica is rife with examples of misleading information, this genre probably best illustrates some of the problems a cataloger might have to face when describing printed materials. Many of these problems are associated with nonprint media as well; bootleg sound recordings in particular present additional problems.

TRACKING THE BOOTLEG

Unauthorized sound recordings have existed since "the early 1900s . . . [when] the apparent 'Father of Bootlegging,' Lionel Mapleson, . . . librarian at the Metropolitan Opera Company, recorded performances . . . at the Metropolitan Opera House in New York, thus beginning the time-honored (if not otherwise honored) practices of not only 'bootlegging' but also 'performance piracy'" (Schultheiss 1981, 399).

The term *bootleg* has been more commonly associated with the unlawful distillation, transportation, and sale of alcohol, especially during the American era of Prohibition, but was actually used to describe illicit recordings as early as "1929, when the entertainment publication *Variety* . . . dared to refer to the . . . market for 'bootleg disk records'" (Schultheiss 1981, 397). Bootleg recordings can be described as commercially available (albeit not through normal channels) unauthorized recordings that make no attempts to completely duplicate legitimately issued recordings, but are nonetheless recordings of performances by artists who are under contract to a record company. Thus bootlegs include recordings of concerts, or sections of concerts, not otherwise on the market, as well as studio recordings that might have been financed by a legitimate recording company, but never released by one. They might also include selections from legitimately released recordings that are not commonly available. Bootleg recordings differ from counterfeit recordings, which are illegally

reproduced versions of, for the most part, popular releases (e.g., top-selling discs or tapes by performers such as Madonna or U2) misleadingly sold as the official product. Counterfeits of bootlegs confuse matters even further.

One thing bootlegs and counterfeits have in common is that the legality of manufacturing and selling them is not open to question. In this country, at least, such endeavors are generally in violation of copyright laws as well as other laws, and many have faced lengthy prison terms for their part in the bootleg or counterfeit business (see, for example, Cotten and DeWitt 1983, xxviii–xxxi).

However, it is probably not illegal to own bootleg items, and some libraries already have substantial bootleg collections (e.g., the collection at Bowling Green State University, in Ohio). As the historical value of the recordings becomes apparent, there is bound to be greater interest in acquiring them. Yet even if they are not intentionally sought, bootlegs can still become part of library collections as donations or as regular purchases, for it is possible, especially when ordering by mail or over the Internet, to buy them without being aware that they are unofficial recordings. At that point, assuming the library has made the decision to keep them, the bootlegs must be cataloged.

Although bootleg recordings can be traced to the turn of the century, as long as the recording equipment used to produce them was significantly inferior to that used by the record companies, and the market for them was relatively small (primarily opera and jazz aficionados), there was not much pressure to control them, and they were not seen as a real threat to the recording industry's income. All of this changed in 1969 with the release of the first widely available rock bootleg, *The Great White Wonder*.

This album, containing previously unavailable recordings by Bob Dylan, constitutes the real beginning of the bootleg industry, for it is reputed to have sold thousands of copies (although actual figures are unavailable), and was written about in such widely circulated publications as *Rolling Stone* and the *Wall Street*

Journal. The recording industry was quick to take notice, and FBI investigations began almost immediately. Almost immediately was not soon enough, however, for by then enough people had realized that there was money to be made that several bootlegging operations had begun in earnest.

As with the publishers of erotica, the producers of bootleg recordings have had good reason to remain in hiding and to present false information on their wares; today, in fact, they face even greater risks of prosecution. And while it is possible—so long as one is aware that misleading information is present—to work within AACR2 when describing a printed item, one must sometimes break the rules to best describe a sound recording that bears false information. In addition, there is not yet much good information available about the production of many of these bootleg recordings. Where they come from, who produces them, etc., is still often a mystery. Because of this, only a few of the problems a cataloger might encounter are discussed.

The first of these, which really distinguishes this type of material from a deceptive printed item, is the question of chief source of information. According to AACR2 (rule 6.0B1), the chief source of information for both the title and the statement of responsibility for a sound disc is the disc itself or any label permanently affixed to it. Only when that source contains no information, or if a collective title is required, is it possible to obtain the appropriate details from accompanying textual material or the disc's container. However, the circumstances under which a bootleg disc is produced sometimes make it impossible for the "chief source" to be trusted. When bootleg producers make thousands of vinyl record albums or, more recently, compact discs (CDs), in a manufacturing plant that easily could be visited by law enforcement officials, and when those same discs must be shipped long distances, where they could be examined by customs officials, the producers must be careful not to reveal too much. If a disc is prominently stamped with the name of a well-known recording artist, yet

is clearly not an officially sanctioned product, the authorities might take notice.

One of the people responsible for *The Great White Wonder*, identified by Heylin (1994, 45) only as "Dub," claims that "the originals [of that album] are just a white cover and a white label, there's nothing on them." He goes on to state:

One of the [first] customers we had was the *LA Free Press* . . . They had bookstores in L.A. One of 'em was on Fairfax, and we went to their office and we talked to this woman who was from Brooklyn . . . and explained that we had this underground Dylan album and [asked], "Would you like to carry it in your store?" And she just loved the idea, she goes "This is great. We'll put ads in our newspaper saying that we have this unreleased Bob Dylan album . . ." We were real excited about this, 'cos that was the first time that someone could actually advertise it . . . There was such an anti-establishment feeling in the air . . . We were in there talking to her and she says, "You know, we have to call this album something . . . Why don't we call it . . . how about *Great White Wonder*?" And we looked at her and we said, "That's fine . . . we'll call it *Great White Wonder*." So we went out and had a rubber stamp made that said "GWW" and started stamping the fronts of the covers. I don't think that she meant that Dylan was the great white wonder or anything, but we thought, "That sounds a little weird, let's do it!" (Heylin 1994, 45–46).

In cataloging Dub's Bob Dylan discs (*The Great White Wonder* is a two-record set), a cataloger would first look to the discs' labels for title and statement of responsibility. Finding no information there, it would, according to AACR2, be acceptable to transcribe "GWW" as the title proper, with a note stating, "Title from container." The information that this was a Bob Dylan album would have to come from another source. Yet in the face of Dub's story it is clear what the title was meant to be, and that is the title by which the album has become known. Is it possible to defy AACR2 in a situation like this?

A more obvious example of the need to ignore some of the instructions in AACR2 when cataloging a bootleg disc is a John

3285 **RIM SHOUT** (RS 6141) same as **SHATTERED** (Entry 3313)

Uniform titles are a necessity in the face of this confusion, but the cataloger still must consider the source of the uniform title. For such performers as the Rolling Stones, the Beatles, Bob Dylan, and Elvis Presley, whose recording and concert activities have been well documented, it might be worth looking to a particular recording session or concert as a basis for the title. For example, the Beatles performed at Budokan Hall in Tokyo on July 2, 1966. At least 41 discs contain material from that concert, but the performances are collected, to varying degrees, under such titles as *The Beatles on Stage in Japan: The 1966 Tour*, *Five Nights in a Judo Arena, Tokyo 1966*, and *Second to None* (see Reinhart 1981, 32, 33, 76, 142, 165, 300). A uniform title along the lines of "Budokan concert: July 2, 1966" could help bring this material together.

The problems caused by misleading publication details on bootleg discs are not much different from those discussed in relation to printed material, yet the problems are magnified. Because the spread of bootlegging is a recent phenomenon, and with the popularity of CDs still growing tremendously, it has been impossible for any cataloger to keep track of it all. The people producing the discs frequently might change the names appearing on their labels. Heylin (1994, 80) indicates that Dub changed the labels on his records one after another, so that it would not be clear that "[Winkhofer,] Har-Kub, Lurch and Blimp were all guises of the same bootlegger."

The places of manufacture often are hard to pin down as well. The early rock bootlegs mostly came out of California, but it was not long before bootlegs were produced in other parts of the United States, in Canada, in Europe, and in Japan. Today many bootleg CDs possibly originate in Italy or Germany. There is no guarantee that a cataloger will be able to determine where unauthorized sound recordings were produced. When there is any doubt as to place of issue, adding a question mark after the location is good

practice, as a final quotation from Dub shows:

One of the things I had done to throw people off in this country was to have our plant here have labels that said "Made in Holland" on them, because of the liberal laws in Holland. We had a distributor in Holland who received shipments from us . . . So [when] the copyright control in Britain wanted to make an example of [Virgin Records on Oxford Street] . . . and went in there, got rough, wrecked the place, confiscated the records—I heard they roughed some people up. I heard they'd smashed counters, I heard it was like a drug bust, I heard this second hand—anyway, the record companies had a big write up about this, "Pirated records seized at major store in London . . ." it said "Scotland Yard after careful investigation has traced the operation to Holland . . ." All they had done was looked at one of the records, which was made here in LA [but] which said "Made in Holland" on it! (Heylin 1994, 151)

If Scotland Yard can be misled, what are catalogers to do? Fortunately, catalogers are not likely to encounter deceptive books, discs, or other items every day. On the other hand, if they were, these items could be better handled. It is not the cataloger's responsibility to be the first discoverer of the true details behind every deceptive item that comes along. Yet the cataloger needs to be aware of the types of material that are likely to deceive, as well as the reference sources that discuss them, so that when some bibliographer or other dedicated person already has made the effort to enlighten, the cataloger knows where to turn for help.

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Comparison of Required Introductory Cataloging Courses, 1986 to 1998

Jodi Lynn Spillane

Cataloging is an important part of library education. Concerns about the declining number of required introductory cataloging courses led to this study, in which data collected from library school bulletins were compared to data gathered in a similar 1986 study. Results indicate that the number of required introductory cataloging courses has dropped.

Cataloging has been an important element of library education and remains one today. It is also an important aspect of library operation. It is the function that creates the bibliographic record, the core of a library's catalog. Many librarians in the field have observed what they see as a deemphasis of cataloging education in library schools and lament that schools no longer require introductory cataloging classes and are reducing the number of courses offered. I undertook this study to satisfy my curiosity about the validity of these often-heard concerns and to obtain a long-term perspective on changes in cataloging curricula.

HISTORY

Cataloging has been a part of library education since the days of Melvil Dewey's first library school in 1887 at Columbia College. Clack (1993, 28) noted that at Dewey's School of Library Economy "the curriculum was primarily an apprenticeship in cataloging and classification patterned after the practical training pro-

grams operating in various public libraries. . . ." The classes were based on practical applications and students received a lot of hands-on experience. Even though all the schools in the early part of the century offered cataloging, the number of hours actually spent in class varied. Sellberg (1988) points out a study conducted in the early 1920s that showed that hours varied from as little as 35 class hours at one school to 105 hours at another, with the average for the 11 schools surveyed being 60 hours.

Beginning in the 1920s, a more theoretical aspect entered cataloging courses. Less emphasis was placed on laboratory work. This decrease in laboratory work was necessary to make room for the theoretical course work and other electives being offered in the schools' curricula (Sellberg 1988). If faculty at library schools were setting curricula based on workplace demand, a decrease in the need for catalogers might indicate that fewer cataloging courses needed to be offered. Sellberg (1988) suggests that the introduction of purchased cataloging in

the form of catalog cards from the Library of Congress (LC) and H. W. Wilson reduced the need for teaching the intricacies of the catalog card. In the 1950s, most schools attempted to include theory and technique in their courses (Bernal 1987).

Between 1920 and 1960 an effort was made to standardize curricula in the library science field, and the concept of core courses and elective courses first emerged (Miksa 1989). Emphasis on cataloging lessened as a result. Instead of being the center of the library school program, cataloging had become only one of several core courses. Miksa (1989, 276) points out that at the same time "there was almost no corresponding development of it among the electives. . . ." In the early 1960s an increase in automation in libraries led to the addition of technology courses to library school curricula (McAllister-Harper 1993).

As the use of technology increased, educators began to predict its effects on cataloging education. Daily (1967) predicted that LC would be the only supplier of copy for every book a library would buy and that fewer librarians would be needed. The catalogers who were left would do primarily management, occasional cataloging, and computer system designing.

During the 1970s library schools could not agree on their core courses. Sellberg (1988) noted that some schools decreased their cataloging requirements and 11.7% dropped it from their core courses. While decreasing the number of cataloging courses from their curricula, some schools kept the theoretical discussions in integrated core courses that gathered information from other parts of librarianship as well as cataloging. This trend seems to be widespread in today's library schools. Virtually all library schools offer cataloging courses, but fewer and fewer require an introductory course as part of their core curricula. In this study, I investigate the change in the number of required introductory cataloging courses offered by library schools. I used a 1986 study of cataloging courses as a baseline comparison.

BACKGROUND

Thomas (1976) conducted a 1973 survey of library schools on the curricula of their required cataloging courses. The survey was sent to faculty at 58 schools accredited by the American Library Association (ALA); 47 responses were received. Participants were asked about the organization, design, objectives, and content of their required courses. After evaluating the data, Thomas made recommendations for curricula in the future. For his study, he focused on schools that required cataloging classes. He found that 70% of the library schools had required cataloging courses, most of them only one course. Thirty-three of the 47 schools required a course that was entirely or mostly devoted to cataloging, classification, and subject headings. Thirty listed one course and three required two. Thomas did not list the courses, their course descriptions, or how each school answered. Because of this, a direct comparison cannot be made between his data and the data obtained in this study.

Editors at *Cataloging & Classification Quarterly (CCQ)* (Cataloging news 1987) reported on data gathered on cataloging courses offered by library schools. Faculty at 63 ALA-accredited library schools were sent a questionnaire in which they were asked to list the courses that they considered cataloging courses and to provide information on how often the classes were offered. In addition, participants were asked whether these classes were required, whether the class credits counted in obtaining a masters degree, how many students were enrolled, whether the class was open to undergraduate students, and whether the course provided hands-on experience with a bibliographic utility. There were 55 usable responses. Two responses were left out because the programs involved were being discontinued. Another had recently lost its accreditation and was left out of the survey. Five schools did not return their questionnaires. A total of 209 courses were listed. At five schools, no cataloging courses at all were required for the masters degree. Some of the courses listed by participants

were deemed not to be cataloging courses and were removed from the analysis.

Vellucci (1997) analyzed library school programs to determine the strength of the cataloging being taught and how well the competencies being recommended in the Cooperative Cataloging Council, Cataloger Training Task Group, and the ALCTS Educational Policy Statement were being taught. As part of her study, she used bulletins to find information "about the scope and general content of each course, as well as a listing of courses offered, and, in most cases, details of program requirements . . ." (44). She grouped the courses into three categories: Introductory Courses, Advanced Cataloging Courses, and Other Cataloging Electives. Her criteria focused on the content more than the requirement of the cataloging courses. She concluded by recommending a syndetic structure toward teaching cataloging that "identifies the relationships among various courses, and links courses with the concepts and competencies necessary for organizing information, rather than with specific jobs . . ." (56).

In the last decade, two other studies have been published in which the content of cataloging and classification courses were analyzed. McAllister-Harper (1993) conducted an analysis of cataloging and classification courses at 16 library schools. She analyzed trends and needs of cataloging professionals from the literature and compared them to course descriptions. She identified the ways that content is covered and called for educators to be aware of the requirements of the profession in setting up their classes.

Khurshid (1998) conducted an analysis of cataloging and related courses in the Arabian Gulf region to see whether the schools there were preparing catalogers for present and future electronic trends in cataloging. Khurshid found that the library schools had not revised their curriculum in five or more years. Further, cataloging and classification courses were offered mostly at the undergraduate level, with very few offered at the graduate level. Khurshid called for in-depth content analysis.

These researchers have investigated

the content of cataloging courses offered in library schools, but did not touch on the requirement of cataloging courses. In this study, I asked whether there was a change in the number of required cataloging courses. My hypothesis was that the number of required cataloging courses had declined from the number of required courses reported by the editors of *CCQ* (Cataloging news 1987).

PURPOSE OF STUDY AND DEFINITIONS

The purpose of this study was to determine the number of schools in 1998 in which students were required to take an introductory cataloging course and to compare these numbers with those reported in 1986. In order to make such a comparison, some definitions had to be made and criteria determined.

An introductory cataloging course was defined as a course that gives students a basic introduction to cataloging and classification. It covers description, at least one subject heading system, and at least one classification system. Theory might be included, but cataloging and classification must make up the majority of the course work.

An integrated course, which is sometimes used as or mistaken for an introductory course, was defined as one that discusses some theoretical aspects of cataloging along with other technical services topics such as automation, indexing, abstracting, controlled vocabularies, and the organization of information. They often have names such as "Organization of Information" or "Information Storage and Retrieval." Thomas (1976, 10) calls these courses modern integrated courses, "in which the required cataloging, classification and subject heading contents adds up to less than one half of the scope, with the three techniques being incorporated within courses of wider coverage comprehending information studies or bibliography. . . ."

Below is a sample integrated cataloging course description from the Catholic University of America (LIS 551 1997). It includes discussion of (among other things) the methods of information orga-

nization, classification principles, and the use of controlled vocabularies, but does not discuss descriptive cataloging or list any specific classification or subject analysis schemes. Topics are discussed in a broad sense that can be applied to other parts of the curriculum.

551 Organization of Information. Introduction to the basic principles of information organizations. Covers the nature, forms, and media of information and knowledge; the nature of user information needs and its implications for information organization; terms and concepts related to information organization; principles of information representation, authority control, and subject analysis; methods of information organization; classification principles, structures and applications, the use of controlled vocabulary and natural language for subject analysis; standards and filing systems.

Below is a sample introductory cataloging course description, also from the Catholic University of America (LIS 601 1997). It includes explicit references to Anglo-American Cataloguing Rules, Library of Congress Subject Headings, Dewey Decimal Classification, and LC Classification. Specific rules and schemes are discussed, and students are exposed to the theory behind cataloging as well as hands-on work.

606 Cataloging and Classification. Covers the theory and practice of the organization of library materials. Focuses on knowledge and skills needed for cataloging monographs using AACR2R, OCLC, the Library of Congress Subject Headings, and the Dewey Decimal classification systems. Includes the cataloging of nonbook materials and Internet resources, and provides a brief introduction to the Library of Congress Classification system.

These criteria for describing a course as introductory versus integrated were used to categorize the course descriptions in both the 1986 study and this study. Because the criteria used in this study differ from those used in the 1986 study, there is a difference between the results found in the two studies.

Ten other categories were used to classify the remaining cataloging classes:

Advanced Cataloging, Classification Only, Subject Analysis Only, Description Only, Special Formats, Special Topics/Problems, Technical Services, Indexing/Abstracting, Automation, and Internship. Advanced Cataloging classes were defined as those that offered a more in-depth study of description, subject analysis, and classification. The categories of Classification Only, Subject Analysis Only, and Description Only were defined as courses that covered only classification, subject analysis, or description respectively. The Special Formats category covered courses in which the cataloging of nonbook formats such as maps, audiovisual materials, electronic, and Internet resources was taught. The Special Topics/Problems category covered courses in which specific problems or topics in cataloging were discussed. These topics might change from semester to semester. Technical Services courses were defined as those courses in which technical services departments and functions in libraries were discussed. In these classes, students would be introduced to topics such as cataloging, acquisitions, and preservation. The Indexing/Abstracting category covered classes that teach indexing or abstracting. The Automation category covered classes in which various aspects of automation in libraries were discussed. The Internship category was for specific courses that offered an internship for students in a cataloging department.

METHOD

In both Thomas (1976) and Cataloging news (1987), data were collected by directly surveying library schools with written questionnaires. I used a different method for this study. In the summer of 1997, using a list of ALA-accredited library schools found on the ALA home page, requests were sent to library schools for course bulletins and, in some cases, class syllabi, as described below. The first step was to see whether the school had a Web site. Some sites have Web forms for prospective students to request information. Some schools provided a comment box with these Web forms and others just an area for name

TABLE 1
INTRODUCTORY CATALOGING COURSE REQUIREMENT STATUS

	1986		1998	
	No.	%	No.	%
Required	43	78.2	31	55.4
Not Required	12	21.8	25	44.7

and address. If a comment box was not provided, program information was requested without any explanation of this study. If there was a comment box, the purpose of the request was explained. Some schools did not have Web forms but gave an e-mail address to use to obtain information. These schools were e-mailed and given a purpose for the request. If an electronic method was not available, a letter was mailed to the school. After a few months, if no reply was received from the electronic requests, a letter was mailed to these schools as well. In the end, a response was received from almost every school contacted. For those from which a response was not received, the information was obtained from the school or university Web site.

Once the school information was received, required courses were evaluated and an effort was made to determine which courses, if any, met the criteria described above for introductory cataloging. In the cases where this was not quite clear, the Web site was checked again and, in some cases, the school e-mailed. The remaining cataloging courses were categorized based on the criteria described above. Updated information for fall 1998 was sought; consequently, data were checked against school Web sites in the summer of 1998.

Despite differences in data collection, the data sought were the same. For each school, the following information was collected: requirements for introductory courses, the number of

courses offered, and the nature of courses offered.

A total of 56 library school programs were surveyed in this study, in which 221 courses in cataloging were offered.

RESULTS

The primary focus of this study was a comparison of the requirements for students to take introductory cataloging courses. Since 1986, the number of schools that required introductory courses dropped from 43 (78.2%) to 31 (55.4%) in 1998 (table 1). Change also was observed in the number of cataloging courses offered by individual schools and the total number of courses offered by all schools. Figure 1 shows the distribution of the number of courses offered by individual schools. Most of the quantitative changes in the number of courses offered are seen in the mid-range of courses offered, although there are obvious changes at the end points as well. By 1998, one school of-

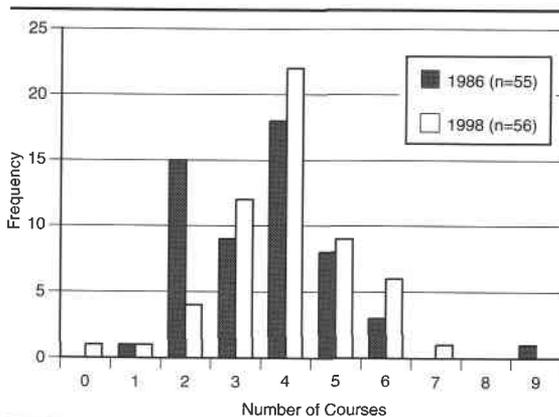


Figure 1. Frequency of Programs by Number of Courses Offered, All Schools.

TABLE 2

INTRODUCTORY CATALOGING COURSE REQUIREMENT STATUS FOR CORE SCHOOLS

	1986		1998	
	No.	%	No.	%
Required	37	77.1	25	52.1
Not Required	11	22.9	23	47.9

ferred no cataloging courses and no school offered nine courses. Reflecting the changes in course distribution by schools, the median number of courses offered by schools dropped from 5 to 3.5. The total number of courses offered, however, rose from 197 to 221. The average number of courses offered by all schools increased from 3.6 in 1986 to 4 in 1998.

The data were subsequently examined for the core schools, which were defined as the 48 schools included in both studies. For the core schools, the results show similar trends. The schools that required introductory cataloging courses declined, from 37 (77.1%) schools in 1986 to 25 (52.1%) schools in 1998 (table 2). The number of courses offered in individual schools shifted (figure 2), and the median number of courses offered by schools dropped from 5 to 3.5. As with the full set of schools surveyed, the total number of courses increased from 161 to 173 and the average number of courses offered by all schools rose from 3.6 to 4.0.

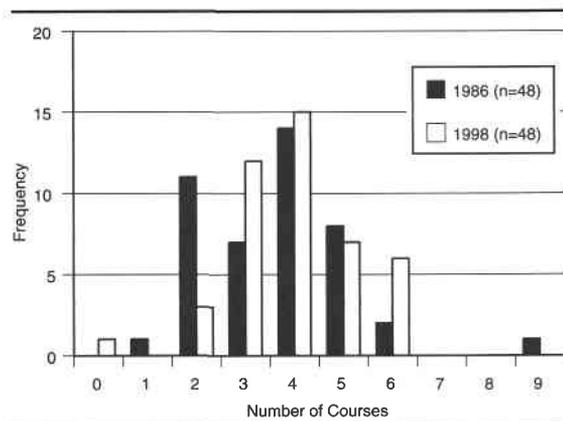


Figure 2. Frequency of Programs by Number of Courses Offered, Core Schools.

Figure 3 provides detail on cataloging curricula changes by the types of courses offered. Arranged alphabetically, the 12 categories include all courses taught. It is interesting to note that, while the number of required introductory courses has dropped, the actual number of introductory courses has increased. The largest increase between the two studies appears to be in the number of courses in indexing and abstracting, which has almost doubled. It is also interesting to note that, while the number of introductory courses has increased, the number of advanced cataloging and special formats courses has dropped. Some of the increases might be attributable to the larger number of courses being offered in 1998.

DISCUSSION

The purpose of this study was to determine the number of schools that required their students in 1998 to take an introductory cataloging course and then compare the numbers with those reported in the 1986 study. The data indicate that the number of schools requiring introductory cataloging courses has decreased, although the number of cataloging courses being offered has increased. The drop in the percentage of schools that required introductory cataloging classes (from 78% to 55%) occurred even though the number of schools increased by one during that time period. The numbers become more interesting when the data are compared to Thomas (1976)

for the trend seen over three decades.

Thomas (1976) surveyed schools in 1973 and found that the number of schools that required introductory cataloging classes was 70%. From there, the percent increased to 78% in 1986 and then decreased to 55% in 1998. This study was not used for a direct comparison, however, because of differences in method. Thomas sent a questionnaire to library schools asking them to furnish data on their required cataloging courses, which meant the schools indicated the content of the course. Thomas did not list the course descriptions provided by the schools and therefore the courses could not be grouped similarly with much certainty nor could the criteria used in this study be applied. Nevertheless, Thomas (1976) deserves brief mention, if only to note the seemingly cyclic trends in cataloging requirements.

In analyzing the data, one recurring question was whether the variation in the number of reporting schools was likely to have had any effect on curricular changes. The number of schools included rose from 55 in 1986 to 56 in 1998. Five library schools did not return the 1986 survey. Two schools were excluded from the 1986 study because they were closing their programs and one was excluded because it lost its accreditation (Cataloging news 1987). Six schools included in the 1986 survey were discontinued by the time of the 1998 study (ALA 1998). Yet the data on changes in the core schools show that changes on the range of courses offered, the number of courses offered, and introductory cataloging course requirements moved in the same direction as did the changes for the full set of schools. It is unlikely the changes in schools included had a distinguishable effect on overall changes in the cataloging curricula.

In regard to the nature of the cataloging curricula, the findings identify a possible shift to requiring integrated courses instead of introduc-

tory cataloging courses. Integrated courses by definition provide a briefer introduction to cataloging than do courses focusing only on cataloging, and thus might be one change fueling the debate over the adequacy of cataloging education in the 1990s. In 1986, 10 (5.4%) library schools required integrated courses instead of introductory cataloging courses. By 1998, the number had risen to 15 (6.8%). The change in numbers is small, but Vellucci (1997, 41-42), for one, challenges the adequacy of these integrated classes:

In cataloging courses that are already overloaded with content, however, there is a limit to the amount of time that can be devoted to the study of OPACs beyond the theoretical concepts that directly involve the cataloging process. It is often left to other related courses such as Systems Analysis, Library Automation, Technical Services, or Information Storage and Retrieval, to examine a variety of OPAC design structures and capabilities in greater depth. . . .

It must be noted that, at the same time, the number of total cataloging courses offered has increased from 197 to 221. Even when the numbers are limited to the core schools, the number of cataloging courses increased over the twelve years by one course annually. This finding presents an expanded cataloging curriculum that offers more choices to students

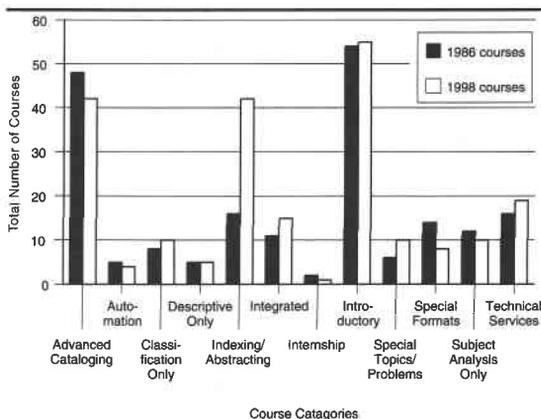


Figure 3. Frequency of Cataloging Courses Offered by Category.

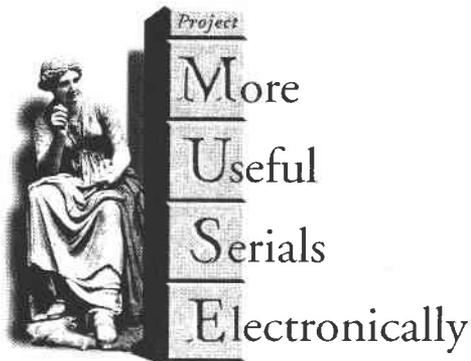
even as the number of required introductory courses has declined.

CONCLUSION

The cataloging curriculum has changed on several dimensions, and contrasting perspectives have emerged. Requirements for introductory courses have decreased while the number of courses has increased. The topical focus of specific courses has shifted. Debate in the field has focused on the decreased requirements, yet an examination of why these curricular changes are taking place is needed for understanding what effect these changes might have on the skills and knowledge of new librarians in tomorrow's world. We in the field worry that without required introductory courses students will show little interest in cataloging and will not acquire necessary skills, but we don't know what changes have taken place in enrollment in cataloging courses. Further study is the clear next step.

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A Statistical Study of Interlibrary Loan Use at a Science and Engineering Academic Library

Moid A. Siddiqui

Interlibrary loan (ILL) use patterns at the King Fahd University of Petroleum and Minerals Library were determined by analyzing one year's worth of ILL requests for journal articles and monographs. The aim of the study was to determine the trends of ILL requests. A total of 1,280 ILL requests processed by the Reference and Information Services in 1997 were analyzed. Results indicated that: the mechanical engineering department generated the maximum number of requests (19%), followed by chemistry (14%), electrical engineering (11%), physics (9%), and civil engineering (8%). Graduate students requested 33% materials, second to faculty, who requested 59% materials. Periodical articles accounted for 84%, while 16% of ILL requests were for monographs. Electronic format (51%) is the single largest citation source of ILL requests, with traditional format contributing 28%. The British Library Document Supply Center (45%) is the major source for supplying materials, followed by Bibliotheek TU Delft (31%). The majority of articles (64%) were supplied to users within four weeks from the date of receipt in the Reference and Information Services.

The effects of the information explosion, escalating prices of library materials, and shrinking library financial resources today make it impossible worldwide for any single academic library to purchase all the materials necessary to satisfy information requirements of their users. Cancellation of journal subscriptions to cope with the increasing cost of subscriptions is a global phenomenon. To meet the information needs of library users, libraries have successfully used interlibrary loan (ILL) services to extend their serial collections (Chrastowski and Anthes 1995) or to fill the gaps due to canceled serial titles (Kilpatrick and Preece 1996). Simi-

larly, the King Fahd University of Petroleum and Minerals (KFUPM) Library provides extensive ILL services to its users with expansion of borrowing services already under active consideration. In this paper, I report on current ILL activity and discuss implications for future course of action.

BACKGROUND

Saudi Arabia contains six major universities. Named after Saudi Arabia's present king, the KFUPM Library was established in 1963 and is located in Dhahran, Saudi Arabia, near major oil fields of

Ghawar, Safaniya, Abqaiq, etc. The university offers 28 bachelors, 17 masters, and 8 Ph.D. programs in the fields of science, engineering, management, and environmental design. The university community numbers approximately 12,500, including 828 faculty, 616 graduate and 9,450 undergraduate students, and 1,606 technical and nontechnical staff. Library holdings slightly exceed 350,000 volumes and 1,000,000 microforms. Current serial subscriptions number 1,079, a declining number because the KFUPM Library faces the same crisis in periodical pricing that confronts academic libraries worldwide. Between 1994 and 1997, the number of serial subscriptions decreased from 1,551 to 1,079 while the paid subscription costs increased from \$1,090,094 to \$1,233,118. The library has access to 20 CD-ROM databases, of which 13 are citation indexes and 7 are full-text image. Online searching is done through DIALOG resources.

ILL services are integral to the KFUPM Library reference services. Therefore, the library pays all costs, including online ordering charges, copying, and mailing (Siddiqui 1991). The ILL service orders books and journal articles from individual libraries and has deposit accounts with a number of major suppliers, including the British Library Document Supply Center (BLDSC), Bibliotheek TU Delft (BTU) in the Netherlands, Universitätsbibliothek Hannover und Technische in Germany, and Chemical Abstracts Document Delivery Service in the United States. Copies of journal articles are received in hard copy via mail or fax, although the KFUPM Library is exploring the costs of obtaining journal articles through more recently available electronic document delivery services, such as CARL UNCOVER. Traditional ILL and electronic document services both provide copies of journal articles but can differ in scope of titles included, chronological coverage, and delivery mode, speed, and cost. In this paper, traditional ILL services are those in which the KFUPM Library has established relationships, while the term electronic document delivery services indi-

cates source suppliers not yet used by KFUPM. Goodyear and Dodd (1994) point to new access options in the light of the growing emphasis on access rather than ownership.

PROBLEM STATEMENT

The KFUPM Library intends to continue supporting the literature requirements of researchers free of charge to individual researchers, and, toward that goal, saw the need to examine ILL activity. The purpose of this study was to create an overview of the use of ILL services by KFUPM faculty, graduate and undergraduate students, and staff, as well as an identification of major suppliers and turnaround time.

LITERATURE REVIEW

The literature is rich with ILL services studies that emphasize the costs of ILL and document delivery services in relationship to journal subscription costs. Milne and Tiffany (1991) described methods of evaluating cost-effectiveness of serials by relating the level of use of a serial to the subscription cost and comparing subscription cost with the cost of ILL. Similarly, Kingma's (1994) early work illustrated an economic model to analyze the cost, efficiency of journal subscriptions, and commercial and consortium document delivery. In subsequent studies, Kingma and Irving (1996) and Kingma (1997) presented decision rules on the economic efficiency of access by ILL versus a journal subscription. Data were provided on the cost of loans, periodical prices, and periodical use to determine the potential savings to the State University of New York (SUNY) consortium.

Hughes (1997), Jaramillo and Lamborn (1996), Gossen and Irving (1995), and Ferguson and Kehoe (1993) reached similarly positive conclusions regarding cost savings in their investigations of the viability of document delivery for access to journals not owned. Based on the reasonable costs spent on articles from canceled journal titles, Hamaker

(1994) integrated document delivery options into the Louisiana State University Library operations. In a cost comparison of traditional ILL and commercial document delivery methods, Kurosman and Durniak (1994) found that traditional ILL was more cost effective than commercial document delivery. Although ILL costs are not the focus of this study, the researchers of the cited studies suggest that ILL and document delivery options can be cost effective alternatives to ownership, and collectively, these studies are an important reason for examining the nature of ILL transactions at KFUPM.

Farr and Brown (1991) explored the causes and the consequences of rapid growth in ILL use at the University of Montana as a result of slow attrition of the acquisition budget, coupled with periodicals inflation, and a concomitant development of new electronic information sources. The library was forced to follow a new emphasis: access, resource sharing, and temporary ownership. The acquisition budget has not kept pace with inflation or with enrollment; actually it was both anemic and stagnant. Rapidly escalating journal costs have resulted in lean monographic acquisitions and many serial cancellations, resulting in increasing reliance upon ILL. The introduction of several new electronic sources from Western Library Network, RLIN, OCLC EPIC, and access to their own library online catalog via the Internet also subsequently increased ILL. To meet the rapid ILL growth, more resources were put into access and ILL technology. The budget was broadened to rely on access and temporary acquisitions. Reliance on other libraries, new electronic access technologies, and a liberal policy of providing free of charge ILL service helped to meet the rapid ILL growth.

In an analysis of one year's ILL request data, Gossen and Kaczor (1997) reported on the use patterns of scientists in selected academic departments at the University of Albany, SUNY. They described several aspects of these ILL transactions, including the use by departments and by individuals, the frequency with which articles were re-

quested from specific periodical titles, whether new or old documents were requested, the source from which the requestor found the citation, and finally, the supplier filling the request. These are questions of interest here as well and I used their questions and methodology, including the categorization of citation sources, as the basis for the KFUPM study. The answers provide base line data for current and future use in evaluating methods of meeting the information needs of the KFUPM Library users.

METHOD

All completed ILL request forms submitted by university faculty, students (graduate and undergraduate), and staff in 20 university departments to the Reference and Information Services of the KFUPM Library during the three semesters of 1997 (spring, summer, and fall) were included in this study. Requests from faculty in the Research Institute go directly to the institute's technical information center for processing and are therefore not included in this study. From each request, the following information was recorded: date of request, user's name, department, status, journal article or monograph, source of citation, and article receipt date. In those cases where an ILL request form did not have complete information about the user's department or status, the information was obtained from official university graduate and undergraduate bulletins. The data were entered into an Enable database for compilation and reporting. Additional data on the number of full-time equivalent (FTE) faculty, graduate students, undergraduate students, and staff in KFUPM were obtained from faculty personnel, College of Graduate Studies, admissions office, and staff personnel, respectively.

FINDINGS

The data from the ILL request forms were used to answer a series of questions on who requests materials (department, status), what type of materials is requested, the source of the request, and how frequently

requests are made. Additionally, to assist in understanding the potential for changes in suppliers, we report on the document suppliers and turnaround time.

USE BY DEPARTMENT

The faculty, graduate and undergraduate students, and the staff of 18 KFUPM departments made 1,280 ILL requests (table 1). The mechanical engineering department generated the highest number of requests (244 requests, or 19%); the earth sciences department had the fewest requests from an academic department (21 or 2%). The departments of chemistry, electrical engineering, physics, and

civil engineering made 182 (14%), 136 (11%), 112 (9%), and 106 (8%) requests, respectively. Together, the top five departments generated 780 (61%) requests out of the total processed requests while the remaining 13 departments made only 500 (39%) of the requests.

Requests by department were also compared with the number of library subscriptions to journals for that department. Table 2 includes the number of journals to which each department subscribed to test the hypothesis that departments with smaller numbers of journal subscriptions would lack more needed material and therefore place more ILL requests. However, no clear

TABLE 1
INTERLIBRARY LOAN REQUESTS

Departments	No. ILL Requests	%
Mechanical Engineering	244	19
Chemistry	182	14
Electrical Engineering	136	11
Physics	112	9
Civil Engineering	106	8
Systems Engineering	78	6
Chemical Engineering	62	5
Mathematical Sciences	60	5
Environmental Design	52	4
Industrial Management	42	3
Petroleum Engineering	39	3
Computer Science and Engineering	38	3
English Language Center	30	2
Library	26	2
Medical	23	2
Earth Sciences	21	2
Information Technology Center	15	1
General Administration	14	1
Islamic and Arabic Studies	—	—
Recreation Center	—	—
Research Institute	—	—
TOTAL	1,280	100

relationship was observed between the ILL requests made by a department and the number of journals to which the library subscribed for that department. While users in some departments (such as mechanical engineering and chemistry) requested a higher percentage of the total ILL requests than their percentage of subscribed titles of the total subscriptions, users in other departments (such as the departments of mathematics and earth sciences) had a greater number of journal subscriptions than they do ILL requests. Many factors might play a role in this measure, including the content of

journals purchased, the focus of the faculty research, and the diversity of patterns by which faculty obtain information, whether from the library, collegial communication, or article preprints.

Requests by department also were compared with the size of a department. Table 3 lists the average number of ILL requests by department members with no pattern emerging. It was thought that departments with more graduate students might make more ILL requests than departments with lower numbers of graduate students. This hypothesis is contradicted here because departments

TABLE 2
INTERLIBRARY LOAN REQUESTS AND JOURNAL SUBSCRIPTIONS

Department	No. ILL Requests	%	No. Titles in	%
Set 1: ILL Requests Greater than the Number of Journal Subscriptions				
Mechanical Engineering	244	19	94	9
Chemistry	182	14	87	8
Electrical Engineering	136	11	42	4
Physics	112	9	84	8
Civil Engineering	106	8	38	4
Systems Engineering	78	6	51	5
Chemical Engineering	62	5	32	3
Environmental Design	52	4	40	4
Petroleum Engineering	39	3	19	2
English Language Center	30	2	14	1
Medical	23	2	12	1
General Administration	14	1	68	6
Set 2: Journal Subscriptions Greater than ILL Requests				
Mathematical Sciences	60	5	123	11
Industrial Management	42	3	85	8
Computer Science and Engineering	38	3	73	7
Library	26	2	48	4
Earth Sciences	21	2	47	4
Information Technology Center	15	1	11	1
Islamic and Arabic Studies	—	—	12	1
Recreation Center	—	—	37	3
Research Institute	—	—	62	6

with more graduate students made fewer ILL requests. For example, as shown in table 4, users in the department of industrial management accounted for 20% of the graduate students, and yet they made only 3% of the ILL requests. Likewise, environmental design and electrical engineering departments, with 16% and 13% of the graduate students, made only 4% and 11% of the ILL requests, respectively.

USE BY PATRON STATUS

As shown in table 5, faculty requested the most articles (59%), followed by graduate students (33%). Staff made 62 (5%) ILL requests. Not surprisingly, undergraduate students made the fewest ILL requests. Undergraduate students are not encouraged to request articles through ILL because their assignments often fall due within a short period, leaving insufficient

time to obtain materials via ILL. Also, the KFUPM Library collection development goals attempt to select literature to meet undergraduate information needs.

The results of this study vary from the findings of Chrzastowski and Anthes (1995), who found that graduate students made 66% requests, faculty made 14% requests, staff made 10% requests, and others made 10% requests. One factor that might account for the lower number of requests from graduate students at KFUPM is that when faculty do not place their own requests, research staff, rather than graduate students, gather information for use in faculty research studies.

Table 6 shows the frequency of ILL requests by patron status. Almost half of the patrons (48%) requested only one article during the study period, while only 10 (2%) of the requestors made extensive use (more than 10 requests).

TABLE 3
INTERLIBRARY LOAN REQUESTS AND DEPARTMENT SIZE

Departments	Dept. Size	Average Requests per Dept. Member
Industrial Management	190	.22
Electrical Engineering	135	1.00
Environmental Design	126	.41
Mechanical Engineering	125	1.90
Systems Engineering	87	.89
Computer Science and Engineering	80	.47
Mathematical Sciences	78	.77
Civil Engineering	70	1.50
English Language Center	70	.42
Chemistry	63	2.80
Physics	62	1.80
Chemical Engineering	58	1.06
Petroleum Engineering	55	.71
Islamic and Arabic	40	0
Earth Sciences	30	.70
Physical Education	17	0

Note: Nonfaculty departments are omitted: Library, Medical, Information Technology Center, and General Administration.

TABLE 4
INTERLIBRARY LOAN REQUESTS AND GRADUATE STUDENTS

Departments	Graduate students		Requests	
	No.	%	No.	%
Category 1: More Graduate Students than ILL Requests				
Industrial Management	125	20	42	3
Environmental Design	99	16	52	4
Electrical Engineering	82	13	136	11
Computer Science and Engineering	52	9	38	3
Petroleum Engineering	26	4	39	3
Earth Sciences	19	3	21	2
Category 2: Fewer Graduate Students than ILL Requests				
Mechanical Engineering	48	8	244	19
Civil Engineering	35	6	106	8
Systems Engineering	32	5	78	6
Chemistry	27	4	182	14
Chemical Engineering	22	3.5	62	5
Physics	21	3	112	9
Mathematical Sciences	8	1	60	5

Note: Departments with no graduate students are omitted: Library, Medical, Information Technology Center, General Administration, Islamic and Arabic, Physical Education, English Language Center.

TABLE 5
INTERLIBRARY LOAN REQUESTS BY PATRON STATUS

Designation	No. ILL Requests	%
Faculty	761	59
Graduate students	418	33
Staff	62	5
Undergraduate students	39	3
TOTAL	1,280	100

USE BY MATERIAL TYPE

A clear majority of requests were for periodical articles (84%) with the remaining 16% requests for monographs (table 7). These results are similar to those reported by Chrzastowski and Anthes (1995), who found that majority of the requests (82%) were for journal articles.

Similarly, Ferguson and Kehoe (1993) found that 85% of the requests were for periodical articles, and 15% were for monographs.

The frequency of requests for individual periodical and monograph titles also was analyzed (table 8). A total of 694 unique periodical titles were requested, with 502 (72%) requested only once and

TABLE 6
FREQUENCY OF INTERLIBRARY LOAN REQUESTS BY PATRON STATUS

No.	Faculty	Requests			Total	
		Graduate	Staff	Undergrad	No.	%
1	159	104	13	17	293	48
2	91	53	6	8	158	26
3	48	29	3	2	82	13
4	29	9	2	0	40	6
5-9	18	10	1	0	29	5
10-14	4	2	0	0	6	1
>15	2	1	1	0	4	1
TOTAL					612	100

TABLE 7
INTERLIBRARY LOAN REQUESTS BY MATERIAL TYPE

Medium	No. ILL Requests	%
Periodical Articles	1,069	84
Monographs	211	16
TOTAL	1,280	100

111 (16%) periodical titles requested twice. These findings are again similar to those of Ferguson and Kehoe (1993), Chrzastowski and Anthes (1995), and Gossen and Kaczor (1997), where 72%, 78%, and 79.7% of titles, respectively, were requested only once.

None of the 211 monographs was requested more than once. This result is similar to that of Ferguson and Kehoe (1993), who found that 96.3% monographs were requested once.

USE BY CITATION SOURCE

At the bottom of the ILL request form, users are requested to identify where they found out about the item. The users were asked to give specific information (name of journal, index, book, etc.). This information is useful not only in analyzing the trend of use of citation sources but also for bibliographic verification as needed. Table 9 shows the single largest citation source to

be CD-ROM (48%), followed by Not Mentioned (17%), and Article (15%) categories. A further breakdown by user status (table 10) shows the use of CD-ROM sources occurs across all user statuses. Gossen and Kaczor (1997) also found CD-ROM as the single largest source of the ILL requests (32%), followed by None Listed and Online (16% each), and Article (15%) categories.

Combining the categories of CD-ROM (48%) and Online (3%) accounts for more than half (51%) of the ILL requests and reveals a not surprising reliance on electronic formats for locating items. At KFUPM, CD-ROM public searching is supported by 13 library subscriptions to bibliographic databases and 7 full-text image CD-ROM databases. Some of the heavily used CD-ROM bibliographic databases are ABI/INFORM, Applied Science and Technology Index, COMPENDEX PLUS, Dissertation Abstracts, Readers' Guide to Periodical Literature, Science Citation Index, and So-

TABLE 8
 FREQUENCY OF INTERLIBRARY LOAN REQUESTS: PERIODICALS AND MONOGRAPHS

No. Times Requested	Periodicals		Monographs	
	No.	%	No.	%
1	502	72	211	100
2	111	16	0	0
3	41	6	0	0
4	28	4	0	0
5	0	0	0	0
6	1	0	0	0
7	0	0	0	0
8	2	0	0	0
9	3	1	0	0
10	5	1	0	0
11	1	0	0	0
TOTAL	694	100	211	100

TABLE 9
 INTERLIBRARY LOAN REQUESTS BY CITATION SOURCES

Citation Sources	Frequency	%
Electronic format		
CD-ROM	619	48
Online	39	3
Total	658	51
Traditional format		
Article	193	15
Printed index	76	6
Book	56	4
Colleague	34	3
Total	359	28
Other	49	4
Not mentioned	214	17
TOTAL	1,280	100

cial Science Citation Index. The use of online searching at the KFUPM Library has decreased considerably due to the availability of comprehensive CD-ROM

searching (particularly COMPENDEX PLUS). Although not specifically examined in this study, online searching is important for finding older information and

TABLE 10
INTERLIBRARY LOAN REQUESTS BY CITATION SOURCES AND USER STATUS

Citation Source	Requests				Total	
	Faculty	Graduate	Staff	Undergrad	No.	%
Article	128	46	16	3	193	15
Book	33	21	2	0	56	4
CD-ROM	354	198	38	29	619	48
Colleague	25	9	0	0	34	3
Online	26	13	0	0	39	3
Printed index	47	27	2	0	76	6
Other	29	20	0	0	49	4
Not mentioned	119	84	4	7	14	17
TOTAL	761	418	62	39	1,280	100
Total %	59	33	5	3		

will continue to complement CD-ROM searching.

Citations from articles represent a different approach than does searching an electronic or printed index, and that avenue is not expected to disappear. Users conduct most of their searches in electronic format (mostly CD-ROM). However, traditional citation sources that cover older materials are required when conducting comprehensive research. Therefore, these sources will be maintained to search older information.

USE BY DOCUMENT SUPPLIERS

The KFUPM Library maintains an extensive network of document suppliers in and out of the Arabian Gulf region (table 11). The BLDSC, with more than 60,000 serial title holdings, is the chief source (45%), followed by BTU (31%). Together, these two suppliers furnished 76% of requests. Although the U.S. and India suppliers would more than likely also be able to supply the documents, library staff turn first to the BLDSC and BTU.

Within the region, all six Arab Gulf countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates) are the signatory to the Arab Bureau of Education for the Gulf States (ABEGS) Inter-

library Loan Code developed in 1983. The KFUPM Library receives periodical articles free of cost from Gulf academic libraries and in return, supplies up to ten articles, per month, per library free of cost to all Gulf libraries. Because the KFUPM Library has a very strong collection in science and engineering in comparison to other Gulf academic libraries, it supplies more articles than it receives from them. The 142 articles shown in table 11 as received from the Gulf sources span three semesters for an average monthly receipt of 14, clearly below the 50 articles sent out each month to these same Gulf libraries. Kuwait University Libraries (Engineering and Health Sciences) are the main Gulf region suppliers with 6% of ILL requests.

TURNAROUND TIME

For this study, turnaround time was defined as the period of time from when the user's request is received in the Reference Department to the time the request is fulfilled. Only 13% ILL requests were supplied to users within 8 days, although 64% of ILL requests were supplied within 4 weeks (table 12). Further analysis showed that document suppliers (identified as those in the list where de-

TABLE 11
INTERLIBRARY LOAN REQUESTS BY DOCUMENT SUPPLIERS

Document suppliers	No. ILL Requests	%
Deposit accounts		
Bibliotheek TU Delft (BTU), The Netherlands	397	31
British Library Document Supply Center (BLDSC), UK	581	45
Chemical Abstracts Service (CAS), USA	12	1
Construction Technology Laboratories (CTL), USA	0	0
Engineering Societies Library (ESL), USA	0	0
Indian National Scientific Doc. Centre (INSDOC), India	0	0
Universitätsbibliothek und TIB (TIB), Germany	37	3
Total	1,027	80
Gulf sources		
Bahrain University Library, Bahrain	12	1
Kuwait University Libraries, Kuwait	77	6
Saudi Aramco Library, Saudi Arabia	10	1
Sultan Qaboos University Library, Oman	18	1
United Arab Emirates University Library, UAE	25	2
Total	142	11
Other Libraries and institutions	111	9
TOTAL	1,280	100

TABLE 12
INTERLIBRARY LOAN REQUESTS BY TURNAROUND TIME

Turnaround Time	No. ILL Requests	%
First Month		
0-8 days (First Week)	163	13
9-15 days (Second Week)	282	22
16-22 days (Third Week)	241	19
23-30 days (Fourth Week)	129	10
Total	815	64
Second Month	286	22
Third Month	179	14
TOTAL	1,280	100

posit accounts had been established) supplied articles more quickly than libraries that supplied items at no cost. Also, items

requested via International Federation of Library Associations and Institutions (IFLA) forms from various libraries and

institutions worldwide were among those with the longest turnaround time.

Overall, within 90 days all 1,280 ILL requests were supplied to users for an average turnaround time of 14.2 days. This result is similar to that of Kilpatrick and Preece (1996), who found an average turnaround time of 14.6 days to fill a request.

PERIODICAL CANCELLATIONS

In 1997, during the time of this study although not as part of the study, the KFUPM Library canceled 75 serial subscriptions for cost savings of \$117,597, leaving 1,079 remaining serial subscriptions. Of the 1,280 ILL requests processed during the study period, 139 (11%) were for articles from serial titles canceled in 1997. The charge from document suppliers for the 139 items requested was \$2,224, which is an average of \$16 per article. Comparing only subscription costs to document charges, the KFUPM Library saw savings of \$115,373, thus realizing one objective of the serial cancellations. Cancellations were done only on the final recommendations of the faculty. These recommendations included evaluations of how useful the journal title was for research, and the use of these evaluations was a key factor in the success of the cancellations.

IMPLICATIONS FOR ILL SERVICES

Several findings here provide important data for the KFUPM Library in examining how best to meet the information needs of its users in the near future. These are: the frequency of requests from individual titles, the number of requests from canceled serial titles, and the difference in turnaround time between libraries providing copies free of charge and document suppliers.

Generally, several articles from a particular periodical were requested by one individual, which suggests that the journal, if purchased, would be of low continuing use by KFUPM scholars. The 81 periodical titles requested three or more times was considered for subscription by the collection development division and

ordered in 1998. The cost of subscribing to these highly requested journals was in some cases still more than the charges for purchasing the requested articles. However, some of the journals were ordered on the basis of faculty evaluations. For journal titles from which articles were requested only once or twice during the study period, a review of the subscription prices revealed that the document delivery charges were less than the subscription price.

Second, the low number of requests (139 or 11%) from titles recently canceled by KFUPM suggests that canceling titles in favor of document delivery services has the potential to be both reasonable from a user perspective as well as cost effective. Where the serials are in high use, cancellation is less cost effective. Chrzastowski and Stern (1994) suggested that for high-use journal titles it is more cost effective to maintain duplicate copies than to rely on traditional ILL, commercial document delivery, or in-house document delivery, yet where titles are not high use, cancellation can be shown to be a reasonable option. Kilpatrick and Preece (1996) assessed the impact of serial cuts done by the Southern Illinois University at Carbondale Library by analyzing ILL serial requests for the canceled titles. They found that use of both traditional ILL and document suppliers is a necessity in today's ILL loan, although reliance on a single document supplier is not feasible, a result similar to that found at KFUPM.

Crump and Freund (1995) looked at the University of Florida's approach to handling a cancellation project of considerable magnitude and evaluated the consequences of de-selection decisions as measured by indicators such as ILL activity. They found that the University of Florida Libraries have shifted dramatically from ownership to access, giving patrons a growing number of options for acquiring information. This result is also similar to the findings here.

Finally, the turnaround time between the requests originated and the material supplied to the user is an important factor in gauging success. Selecting a document

supplier where the supply time is known to be short can decrease turnaround time. At the KFUPM Library, we attempt to obtain as many items as possible from Gulf reciprocal libraries so that the fastest turnaround time can be achieved with the least cost to the library. Additionally, the KFUPM Library staff is seriously exploring the UNCOVER commercial document delivery service. It is expected that the subscription of UNCOVERS, an electronic table of contents and full-text article delivery service, will reduce the turnaround time further and increase the fill rate. Mancini (1996) found a turnaround time of 3 to 4 days with an 86.57% fill rate for UNCOVER.

CONCLUSION

ILL and document delivery services will be increasingly important components of library services. This study, among others, examined characteristics of current ILL transactions and patron behavior, including frequency of requests by patron and by periodical title, turnaround time, supplier scope relative to demand, and article charges. Other studies are investigating the relative costs of ownership and access, and concluding resources will have to shift from resource to access budgets. From these studies, there is a rapidly expanding knowledge base of how to construct cost-effective ILL and document delivery services.

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Notes On Operations

Training for the New Serialist

Laura A. Sill

To succeed in an unfamiliar role, the new serialist needs a plan to guide training and development. In this paper, I describe a strategy for creating and following an individualized training plan that includes assessing the new serialist's training needs, identifying training or learning sources that are available, scheduling or prioritizing training activities, identifying support resources for training, and periodically evaluating the success of the training program. An excerpt from such a plan illustrates how to develop your own training strategy.

Consider the following scenario: A task force is given a charge that "enumerated some of the unique problems posed by the management of serials operations and the challenges of providing physical and bibliographic access to serials. It also described features of the current University Libraries' environment that justify serious examination of our handling of serials" (Serials Task Force Report 1995, 1). As part of its deliberations, the task force examines the organizational structure of the serial operations, concluding (2):

that neither centralization nor decentralization could be adopted as a governing principle, independent of the nature of the operation and the circumstances surrounding it. In general, operations in which effectiveness is enhanced by proximity to user, expertise can be distributed, and necessary information shared electronically are susceptible to decentralization. Those which require highly specialized knowledge and access to physical volumes and facilities are less so. A prudential judgement must be exercised in the light of particular situations.

Ultimately, the group recommends the creation of a new serials department, pulling together serials units from existing acquisitions, cataloging, and access services departments. The rationale for the department is fivefold:

a common organizational identity would assist communication between mutually dependent functions, and would promote common goals; combining technical and public service functions would raise mutual awareness and better direct attention to the needs of the user; concentration of expertise would promote diffusion of knowledge, encourage consultation, and facilitate training; a central serials operation would be a visible resource for those seeking solutions to serials-related problems; and, combining and coordinating operations would promote a more efficient workflow and use of resources. (Serials Department in the University Libraries 1995, 1)

To plan, implement, and manage the services, facilities, programs, and resources of the new department, the new professional position of serials librarian is

also developed. A national search to fill the position draws both internal and external candidates with a wide variety of backgrounds and experience. The chosen candidate, an individual with an acquisitions and library systems background but little direct serials experience, is hired, and work in the new department is underway.

This scenario hints at the debate that has existed for decades over the organization of serials management in libraries. Potter (1981, 85) centers his historical review of serials department organization on the choice between "organizing by form of material or by function." Potter traces examples of both form- and function-based serials organizational structures, concluding that "the organization of procedures by function and the growing use of automation can result in more efficient processing and better service" (93).

Thornton and Jurries (1994, 258) offer reasons that libraries might consider a reorganization: "overall budget responsibility, special skills/expertise, vacancies/opportunities, changing needs, existing staff, logistics/space, power plays, technology/automation, and service to the user." Some of these factors also surface in Gellatly (1990, 2), who edited a collection of case studies "of a number of serials departments of various sorts and sizes." McKinley, Jones, and Randall (1990) describe UCLA's serials department, which evolved over several years with its organizational structure influenced by the introduction of their automated system. Harrington (1990) explains how the serials department at the University of Oklahoma changed in response to automation projects and shifts in staffing. Christ, Monson, and Wilhite (1990) and Bustion (1990) outline how automation has been a major force in the reorganization at the University of Iowa and Texas A&M, respectively, with the result that serials are managed at the unit level and affiliated with a larger function-based group (e.g., acquisitions and cataloging). Chiou-Sen (1995, 20) concludes that "any method of organization is viable as long as it works for the library."

Due to the inevitable variation in serials organizational structure, it is not possi-

ble to recommend a single method or approach to training the new serialist. But the serialist is a vital component in whatever operational organization is chosen. Many library professionals consider themselves serialists, but each can play different roles, focus on different areas of serials management, or have different responsibilities. An individual with little direct experience in new areas of responsibility might fill the serialist position. High-quality, well-informed, and forward-thinking solutions need to be demonstrated in short order to address the concerns that prompted the restructuring in the first place. The stakes are high for the new serialist; therefore, conscious, concentrated attention to training should be considered by the incumbent and administrators alike.

I suggest that while the content of what needs to be learned or the skills that need to be acquired will depend on the nature of the position, a planned strategy is the common thread in training the new serialist. This planned strategy can manifest itself in the form of developing an individualized training plan, which includes assessing the training needs of the new serialist, identifying available training or learning sources, scheduling or prioritizing training activities, identifying support resources for training, and periodically evaluating the success of the training program.

NEEDS ASSESSMENT

Covey (1989) provides a general backdrop for the first step in developing the plan: performing a needs assessment. Covey's habit number two, which is "to begin with the end in mind," calls for having "a clear understanding of your destination. It means to know where you're going so that you better understand where you are now and so that the steps you take are always in the right direction" (98). Lohr (1994, 14) puts it another way; he suggests that we be "SMARTER" in addressing training needs. SMARTER is an acronym for being specific, measurable, action oriented, realistic, time bound, evaluative, and rewarding in carrying out

a training initiative. In assessing the training needs, a clear understanding of and appreciation for the responsibilities of the position are essential. The incumbent must have a firm awareness of the serial functions or areas that the position has as a focus. Documents written in support of the position or administrative area, such as a job description or mission statement, should be analyzed to help the new serialist focus on primary areas to be articulated in the individualized training plan. If such formal documents are not available, interviews with supervisors and colleagues will quickly unveil the expectations for the role of the serialist. To start the needs assessment, analyze the current work environment and job responsibilities in relation to the serialist's position.

Authors in the library literature suggest that the serials organizational structure can vary drastically from library to library. Likewise, they suggest that the work of serialists, in general, is detailed and varied, regardless of the scope or focus areas of the position. Chiou-Sen (1995, 7) writes that "managing serials is not only a long-term project but also a complicated task; the complexity comes mostly from changes. On a serial's long publication path, changes may occur, such as title changes, frequency changes and price changes." Such changes can trigger a number of events that require specific skill sets and knowledge. The analysis of the current work environment and job responsibilities will no doubt reflect this wide variety in work or what could be referred to as skill areas. Because the plan is for individual use, the skill areas must have meaning to the new serialist and be comfortable groupings compatible with the individual. Examples of skill areas might include management, technology, patron services and advocacy, acquisitions, cataloging, standards development, electronic products, scholarship, preservation, binding, interlibrary loan, or document delivery. The skill areas, based on the overall assessment of the position responsibilities and relationships to other library units, can also serve as the physical outline for the individualized training plan.

The new serialist with little serials experience, facing what might seem like mountainous expectations, might find this initial assessment stage overwhelming. The process might have the unfortunate effect of reinforcing how much is not known, rather than highlighting positively what needs to be learned to fulfill the charge of serialist. New serialists must be encouraged by colleagues and supervisors alike not to let the enormity of the number of skill areas be discouraging. All library professionals, regardless of years of service or expertise, need ongoing education. The library profession is evolving and requires open, dynamic thinking and a willingness to take on new skills and master new areas of responsibility. The new serialist is simply jumping into a continuum of learning that has a serials focus. The individual might need to receive added support by being reminded of the valuable skills and experience that landed the new role in the first place, perhaps skills from other areas of librarianship or even other professions. These transferred skills also deserve reflection as part of the needs assessment stage of developing an individualized training plan. Stock should be taken of past skills and experiences, because an assessment of the past, coupled with the analysis of the current role as serialist, will complete the needs assessment, prepare the new serialist for the areas of learning that lie ahead, and boost confidence.

TRAINING SOURCES

COLLEAGUES

The second step to developing an individualized training plan is identifying training sources to match the defined skill areas. A wealth of information regarding serials management can be found in books and journal articles, on the Web, through e-mail list exchanges, at conferences and workshops, and on audio and video cassette. The most immediate source for training, however, comes from library colleagues. Staff working within the serials operation, especially those who have dedicated their own careers to serials work, can help identify valuable sources and teach or explain practices essential to the

day-to-day operations of a serials department. Other librarians, whose specialties are in acquisitions, cataloging, preservation, collection development, and public services, might be more than happy to share their experiences, suggest sources for further study, or assist the new serialist in making further professional contacts. Sheldon (1991, 66–67) writes that “potential mentors are available at all levels of the organization. . . . Depending on the size of the organization, there may be several potential mentors. . . . Developing a rather wide network of professional friends, both in one’s own locale and nationally, is the best way to ensure that career help, advice and encouragement will be readily available.” The new serialist should actively seek the advice of colleagues as the training plan is filled out with sources that match the skill areas.

Vendors are of special note in the area of collegial support for identifying training sources. Serialists, no matter what their set of responsibilities, rely on vendors for services and product support. Vendors also serve as an important source for information and learning. New serialists should be encouraged to take advantage of conference invitations to luncheons where products and services are discussed, receptions where networking can occur, or library site presentations where vendors demonstrate new products and services. The goal of the vendor is not only to get to know the new serialist, but to share their latest developments and discuss emerging trends. The new serialist should view vendors as more than just salespeople—they are partners in the business of providing quality services to libraries, who are willing to engage in a two-way exchange of knowledge and information with the new serialist.

PARENT ORGANIZATION/TRAINING COMPANIES

In the management and technology skill areas, the library or parent organization’s training courses or resources should be explored. For example, in a university setting a campus office of information technology or department of human resources

might offer extensive courses in office productivity software or supervisory skills. Once one training source is explored, the new serialist will often find that this source will lead to others. Many management skills trainers, for example, will provide helpful bibliographies of sources as part of a course in a particular management area, such as time management, motivation, communication, team development, managing conflict, etc. The new serialist should investigate what the organization already offers and post relevant opportunities to the individualized training plan. At the state and regional level, new serialists should look into the possibilities that regional consortia or library school continuing education programs offer. Yet another example in this area are the seminars and materials available from management training companies, such as SkillPath Seminars of Mission, Kansas (<http://www.skillpath.com>) or CareerTrack of Boulder, Colorado (<http://www.careertrack.com>). Once on the mailing lists of such companies, the serialist will receive what will seem like weekly mailings of upcoming training opportunities.

INDEXES, WEB, DISCUSSION GROUPS

With defined skill areas firmly in hand, a few hours of research with indexes or the Web will reveal helpful and timely sources for training. The serialist easily can find information about associations, newsletters, e-mail lists, library standards, local procedures in processing serials, and the latest professional topics. Even though the focus of this paper is on the process of developing a plan and not on providing an exhaustive training curriculum, some examples might provide a helpful starting point to filling in the plan with relevant sources.

Many library units develop Web sites that describe local practices, as well as point to resources that would be of use to any practicing serialist. Examples include: Technical Processing Online Tools (<http://tpot.ucsd.edu/>) at the University of California, San Diego or the Massachusetts Institute of Technology Libraries, Collection

Services page (<http://macfadden.mit.edu:9500/colserv/>). Other sites, hosted by various entities, provide points to begin the search for training plan sources. Tools for Serials Catalogers (<http://www.library.vanderbilt.edu/erceland/serials.html>) at Vanderbilt University pulls together basic sources on documentation, serials organizations, electronic journals, discussion e-mail lists, and other sources that serialists, especially those with a cataloging focus in their responsibilities, find useful. The American Library Association's Association for Library Collections & Technical Services (ALCTS), provides valuable syllabi for serials librarians (<http://www.ala.org/alcts/publications/educ/syllabi/index.html>). The syllabi, each devoted to a different aspect of serials librarianship, provide an outline for study that includes the theoretical and practical, followed by a bibliography of sources. Because Web sites can lead to a rich set of resources for the training plan, it is important to be focused and clear about which skill areas should be addressed.

Similarly, if the new serialist has access to e-mail, subscribing to the myriad serials-related discussion groups is another helpful way to stay in touch with issues of concern to the training plan and to hear about training opportunities, such as conferences, Web sites, or other written publications. Participants in the discussion group Newsletter on Serials Pricing (<http://www.lib.unc.edu/prices/prices.html>) discuss issues related to journal pricing, publisher and vendor news, conference information, etc. The general-purpose serials discussion group SERIALST is an informal electronic forum for most aspects of serials processing in libraries (<http://www.uvm.edu/~bmacleenn/serialst.html>).

Chiou-Sen (1995, 157) encourages serialists to "keep up with the future" by exploring these avenues, which also includes a regular review of the library literature. Establishing a regular routine of scanning library journals, such as *Library Resources & Technical Services*, *Serials Review*, and *The Serials Librarian*, can have the same effect as searching literature indexes, the Web, and subscribing to e-mail lists. Chiou-Sen (1995) provides a

basic list of serials management periodicals that the new serialist could include in the training plan.

ASSOCIATIONS

Networking with fellow serialists through attendance at conferences or participation in the work of associations can provide opportunities for sharing information and experiences, support for challenges currently being faced, and news about trends and work in the field. Two examples of serials organizations are the North American Serials Interest Group (<http://www.nasig.org/>) and the ALCTS Serials Section (<http://www.ala.org/alcts/organization/ss/>). The Web pages for these organizations provide a great deal of useful information, including details about upcoming conference or meeting topics, scholarship information, bibliographies on serials resources, association publication information, and last, but not least, encouragement.

Because of the wide range of possible resources available, the new serialist must realize that it might not be possible to take advantage of all of the opportunities. The training plan will serve as a helpful tool for catching and organizing the possibilities. Scheduling training opportunities (i.e., deciding which to focus on at any given time) and securing the necessary support will help the new serialist sort through the various opportunities and decide which ones can actually be utilized.

SETTING PRIORITIES

The new serialist is no different from most professionals, who find it difficult to set aside enough time in the day to satisfy job demands *and* tend to professional learning and continued education. In fact, perhaps those new serialists with little serials experience have even greater obstacles to overcome. Without any discipline, the new serialist will most likely get by, learning what needs to be learned, as it needs to be learned. If, however, a more diligent or aggressive approach is necessary, adding priorities and deadlines to the training plan will lend a sharper focus

to it. A sample training plan is included here in appendix A. Prioritization is the third step in developing an individualized training plan. Personal planning systems such as Franklin/Covey provide advice for setting priorities for personal growth.

The point in mentioning personal planning systems is not to advocate their use explicitly, but to share the principles they teach. When the new serialist considers how to schedule or prioritize working with the sources identified in each skill area of the training plan, thought should be focused on managing time as "event control" (Smith 1990). Be proactive in utilizing limited training time. The goal is to expand understanding and knowledge in specific skill areas. To reach that goal, then, focusing on the skill areas must become a planned event. When a goal is valued, it becomes a priority. When goals are valued together, prioritization is the result. Prioritization consists of determining the precedence of events. Franklin/Covey teaches that prioritization is "laser thinking": focusing on priorities and determining which are most important (Smith 1990).

In marking priority levels in the individualized training plan, the new serialist should consider the difference between urgent and important activities. Urgent events are insistent, pressing, and imperative, while important activities are significant and consequential (University of Notre Dame Department of Human Resources 1996). Within a given skill area, letters, numbers, or symbols that help to distinguish first level priority from second level, and so on, should be applied to the training plan. Making decisions about priorities in an explicit, visible way will assist the new serialist in keeping focused on a given skill area or within a given skill area.

SUPPORT FOR THE PLAN

Step four in developing an individualized training plan is considering how the training regimen will be supported. Continued learning is an investment in one's professional career. The most obvious and often most difficult resource to come by is money to support the purchase of materials or at-

tendance at conferences. This will, of course, vary by individual and institution. To help make a case for funding and to solicit support, the new serialist might include in the plan the cost of training for each source identified. This not only gives the new serialist a sense of the necessary resources needed to participate in the training, but also helps to track the source for funding. In addition to financial support, time off from normal work duties is necessary to accomplish many training goals. Administrations that emphasize the importance of training and development for library employees and back this belief with supportive decisions and funding should be commended. As a personal investment, the new serialist should expect training to be supported by a mixture of personal and institutional resources. Look also to library associations for support. For example, NASIG's Horizon Award provides a conference stipend for attendance at the NASIG annual conference (<http://www.nasig.org/public/timedated/horizondescription.html>). The ALCTS Bowker/Ulrich's Serials Librarianship Award helps new serialists attend an ALA Annual Conference (<http://ala8.ala.org/alcts/awards/firststep.html>).

EVALUATION

The fifth and final step in developing an individualized training plan is to build in an evaluation of the plan and of the training opportunities that the new serialist has utilized. Having a plan is a good way to measure growth between point A and point B. The key is periodic review. The new serialist might make the training plan an integral part of the annual review with the supervisor. Progress made in the past year and confirmation of priorities and support for the coming year can be noted. Any set activity, such as writing a monthly report, can be used by the new serialist to assess growth, make necessary adjustments to the plan, and chart out the next period of learning. The individualized training plan becomes a diary of sorts for the new serialist's growth. It can help articulate areas of focus, where more emphasis is needed, where more information should be gath-

ered, or where more time must be spent. The more precise the training plan, the easier it will be to evaluate growth.

CONCLUSION

The new serialist should not forget the final "R" in SMARTER: to find reward through training efforts. As new serialists witness progress, they should recognize that the once seemingly insurmountable list of skill areas is being conquered. New serialists should fuel continued learning with each new concept uncovered, technique mastered, or informative contact made. The training sources identified and managed in each skill area can provide solid support for growth and success in the field of serials management. It is important for new serialists to remember Covey's habit number two, "to begin with the end in mind."

To close, it is Covey's habit number seven, "sharpen the saw," and the concept of the "upward spiral" that are worth noting. Covey (1989, 306) wrote that "moving along the upward spiral requires us to learn, commit and do on increasingly higher planes. We deceive ourselves if we think that any one of these is sufficient. To keep progressing, we must learn, commit, and do—learn, commit, and do—and learn, commit and do again." There is no "one-size-fits-all" solution to training new serialists. There could be many suggested approaches to training, dependent on the nature of the position and its responsibilities, the availability of relevant training sources, the ability to set supported priorities for learning, and the institutional and personal commitment to training. By bringing thoughtful discipline and structure to what might seem like an overwhelming situation, and by doing so through the use of an individualized training plan, the new serialist can focus positively on growth and progress along the continuum of learning.

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APPENDIX A
SAMPLE TRAINING PLAN FOR SKILL AREAS:
MANAGEMENT AND CATALOGING FOR 1996 THROUGH 1998

Skills Area—Management

A/B/C Priority	Deadline	\$\$\$\$\$	Training Source	Type
			Sheldon, Brook E. <i>Leaders in Libraries</i> . Chicago: American Library Association, 1991.	book
			<i>Library Communication: The Language of Leadership</i> , ed. Donald Riggs. Chicago: American Library Association, 1991.	book
			<i>Supervisory Development Series</i> . Eight-week session taught by Angela Knobloch, Senior Training Consultant, the Department of Human Resources, University of Notre Dame, Fall 1996. (Sessions included: time management, motivation, communication, team development, managing conflict, managing performance, coaching & counseling, and problem solving.)	training session
C			Department of Human Resources. <i>Manager's Guidebook</i> . University of Notre Dame, January 1993.	book
			Scholtes, Peter R. <i>The Team Handbook: How to Use Teams to Improve Quality</i> . Madison, WI: Joiner Associates, 1992.	book
			"Surviving in the Midst of Change." Lunch-time session presented by Angela Knobloch, Senior Training Consultant, Department of Human Resources, University of Notre Dame, April 1998.	training session
			"Lighten Up!: Keeping a Sense of Humor." Lunch-time session presented by Angela Knobloch, Senior Training Consultant, Department of Human Resources, University of Notre Dame, March 17, 1998.	training session
		\$99	"How to be a Better Communicator." One-day workshop in South Bend, IN, offered by CareerTrack, October 7, 1997.	training session
			"Getting It All Done" One-day workshop in South Bend, IN, offered by CareerTrack, March 19, 1997.	training session
			Sandborn, Mark. "Managing Your Time, Energy & Relationships." 2 audio cassettes. CareerTrack Publications, 1995.	audio tape
		\$52.45	Dellinger, Susan. "Psycho-Geometrics: The Science of Understanding People, and the Art of Communicating with Them." 4 audio cassettes. CareerTrack Publications, 1996.	audio tape

Skills Area—Management (con.)

A/B/C Priority	Deadline	\$\$\$\$\$	Training Source	Type
		\$52.45	"How to Organize Your Life & Get Rid of Clutter." 4 audio cassettes. CareerTrack Publications.	audio tape
A	Aug. '98		Covey, Stephen R. <i>The 7 Habits of Highly Effective People</i> . New York: Fireside Book, 1989.	book
B	Dec. '98		Neuhauser, Peg C. <i>Tribal Warfare in Organizations</i> . New York, Harper Business, 1988.	book

Skills Area—Cataloging

A/B/C Priority	Deadline	\$\$\$\$\$	Training Source	Type
A	Sept. '98		"Syllabus for Serials Cataloging Unit" <i>ALCTS Newsletter</i> 3:7 (1992): 89-91.	article
A	Sept. '98		"Syllabus for Serials Collection Management, Records Systems & Preservation Unit." <i>ALCTS Newsletter</i> 4:1 (1993): 8-9. (Includes section on cataloging & processing priorities, minimal level cataloging, and union lists.)	article
			Johnson, Kay G. "A Select Survey of AACR2 Tools for Serials Cataloging." <i>The Serials Librarian</i> 32:1/2 (1997) p. 39-52. ("Handbooks, manuals, textbooks a workbook and electronic resources that focus on or have substantial sections applying AACR2 to serials cataloging . . ." p. 39.)	book
A	May '98		<i>The Serials Librarian</i> 32:1/3 (1997) ("Serials Cataloging at the Turn of the Century"). (Includes articles on AACR2 tools, CONSER & PCC, system migration, e-resources cataloging.)	journal issue
			Hirons, Jean and Crystal Graham. "Issues Related to Seriality." <i>International Conference on the Principles and Future Development of AACR2</i> , Toronto, Canada, Oct. 23-25, 1997 (http://www.nlc.bnc.ca/jsc/confpap.htm)	article/ Web
			AACRCONF@INFOSERV.NLC-BNC.CA (e-list for International Conference on the Principles and Future Development of AACR2, Toronto, Canada, Oct. 23-25, 1997)	e-list
			OCLC Collection & Technical Services, "OCLC Cataloging Micro-Enhancer for Windows." (vendor literature)	vendor literature

Skills Area—Cataloging (con.)

A/B/C Priority	Deadline	\$\$\$\$\$	Training Source	Type
B	Oct. '98		MARBI, ALA ALCTS/LITA/RUSA Machine-Readable Bibliographic Information Center in conjunction with Network Development and MARC Standards Office, LC. "The USMARC Formats: Background and Principles" (http://lcweb.loc.gov/marc/ 96principl.html#one).	Web
A			<i>Cataloging Service Bulletin</i> . Washington, D.C.: Collections Services, Library of Congress, 1978-	journal
A			Maxwell, Robert L. and Maxwell Margaret F. <i>Maxwell's Handbook for AACR2: Explaining and Illustrating the Anglo-American Cataloging Rules and the 1993 Amendments</i> . Chicago: American Library Association, 1997.	book
A			<i>Anglo-American Cataloging Rules</i> , 2nd edition, 1988 revision. ed., Michael Gorman and Paul W. Winkler. Chicago: American Library Association, 1988.	book
A			Program for Cooperative Cataloging (PCCLIST@RS8.LOC.GOV)	e-list
A			USMARC (USMARC@RS8.LOC.GOV)	e-list
C	Dec. '98		The Interactive Electronic Serials Cataloging Aid (IESCA) Northwestern University. Available: http://www.library. nwu.edu/iesca/home.htm	Web
A			CONSER Homepage. Available: (http://lcweb.loc.gov/acq/conser/ homepage.html)	Web

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Legal Implications of the Digital Future

William M. Hannay

Editor's note: This speech was presented at the ALCTS President's Program at the American Library Association Annual Meeting in New Orleans, June 28, 1999. Since the speech was given, the Uniform Computer Information Transaction Act was approved at the July 1999 National Conference of Commissioners on Uniform State Laws in Denver.

There also has been activity on the legislation to provide additional protections to databases. The House Subcommittee on Courts and Intellectual Property and the House Committee on the Judiciary marked up the "Collections of Information Antipiracy Act," H.R. 354, 106th Cong. (1999). An alternative bill, H.R. 1858, 106th Cong. (1999), strongly supported by the library community, has been marked up by the House Committee on Computer Subcommittee on Telecommunications, Trade and Consumer Protection. No database legislation has been introduced to date in the Senate.

As I was preparing for today's program, I reviewed the American Library Association (ALA) Web site. Lots of good things there! In fact, if you were to download and carefully read the materials available on the Intellectual Property & Copyright Web page of ALA's Office for Information Technology Policy (OITP) (American Library Association 1999) you really wouldn't need to be sitting out there in the audience; you'd qualify to be up here on the panel. But, you've been busy. It's summer and you had to get ready for national copyright day, which celebrates the first book copyrighted in the United States. The date was June 9, 1790, and the book was John Barry's *Philadelphia Spelling*. So, you haven't had the time to hang out in ALA's cyberspace. I will discuss the least understood and most vex-

ing legal issues with regard to electronic publishing and access in the future.

By the way, I should mention that, by continuing to listen to this speech, you have agreed to the following:

- If you rely upon anything I tell you and things go wrong, you agree not to sue me.
- You are responsible for discovering any mistakes I make, but I am under no obligation to correct them.
- You may not take notes of what I tell you, and you may not tell anyone else anything about what I am telling you.
- If you violate any of the terms of this agreement, you agree to pay me \$10,000 per occurrence, plus all the fees my law partners can justify, and you agree that I or my agent may either

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enter your home or office to retrieve your ears and/or I can remotely access and disable your brain to prevent further occurrences.

- If you are unhappy about any of these contract terms, you can return any information I have given you and file an arbitration claim with the International Chamber of Commerce in Geneva, Switzerland.

Does that sound extreme? Well, I bet it actually sounded familiar if you've had the excruciating pleasure of reading the legal boilerplate contained in a shrink-wrap contract (or its online sister, the click-wrap contract) or the contract that routinely is tendered by database publishers these days.

FROM COPYRIGHT TO CONTRACT LAW

Last July, Henderson (1998), a senior staff member at ALA, delivered a speech on why librarians care, or should care, about intellectual property law and policy. The opening sentence of that speech caught my eye. It read:

The roles libraries play are shaped by copyright law. (Henderson 1998, 1)

I thought about those words, and it seems to me that, however true they were a year ago, today they would read more accurately as follows:

The roles libraries may play in the future are shaped by contract law and specifically by contracts over which they have little control.

About one month from today, 300 people meeting at a hotel in Denver, Colorado, will make a decision that could profoundly affect the way that you—and the institutions in which you work—operate in the twenty-first century. If you take away one thing from my presentation today—and I am hereby unilaterally altering our contract to let you take this away with you—it is this: call, write, or e-mail your state's representatives to that meeting and let them know what you think, before they vote on your library's future.

Well, what is this big meeting? It is the annual meeting of the National Conference of Commissioners on Uniform State Laws (NCCUSL), and they are going to

vote either to approve or to disapprove the Uniform Computer Information Transactions Act (UCITA). Let me ask, how many of you have heard of the UCITA? Well, you need to know about it.

NCCUSL is a group that was founded in the late nineteenth century during the states' rights movement. The commissioners are attorneys, usually from small law firms, appointed and paid for by the states to represent them at the conference.

UCITA is the latest embodiment of the efforts to create a statute governing the licensing of computer software. For several years, the effort was focused on drafting a new article to the Uniform Commercial Code (UCC), to have been called Article 2B. That effort was undertaken by NCCUSL in joint cooperation with the American Law Institute (ALI), a distinguished body of legal scholars and practitioners.

The UCC 2B project had gone on for several years and became more and more controversial, more and more problematic as time went on. The difficulties and complexities inherent in creating uniform laws governing any commercial transaction became magnified as the technological and market aspects of cyberspace continuously changed. By the spring of 1999, objections by outside groups had grown louder and disagreements among the drafters wider. On April 7, 1999, NCCUSL and ALI issued a joint press release (NCCUSL 1999a) announcing that "legal rules for computer information transactions will not be promulgated as Article 2B of the Uniform Commercial Code," but that NCCUSL would proceed alone to promulgate a uniform act relating to computer information transactions.

The press release gave little explanation for the decision, acknowledging that "[l]ack of uniformity and lack of clarity of the legal rules governing these transactions engender uncertainty, unpredictability, and high transaction costs" but noting merely that it has nonetheless "become apparent that this area does not presently allow the sort of codification that is represented by the Uniform Commercial Code."

While no official reason has been given by ALI for its decision to withdraw from the project, it was clear that many participants were of the view that promulgation of a new statute was premature in light of rapidly changing technology and business practices and that the scope of the project was not properly bounded (Braucher 19). In the face of a lack of consensus about the need for Article 2B and increasing opposition to it from many affected interests, ALI's decision is not surprising. What is surprising is the decision by NCCUSL's leadership to press forward.

FIRST SALE AND FAIR USE

Let me take a step back and put the legal issues into some context. As you well know, the wonderful world of computers has driven up library budgets enormously, and I don't just mean your electric bills. Researchers, scholars, and students expect to—and are expected to—do research more broadly, more deeply, and maybe even more efficiently, electronically. While serial acquisition costs have been going up for a long time, the move to electronic publishing has made matters worse, not better. Online subscriptions to periodicals and other databases have become a fact of life for every library.

And of course computer application programs (i.e., software) have to be bought for the endless stream of PCs or workstations that are spread throughout the librarians' offices as well as the libraries themselves. Now that's interesting. I used the word "bought" in reference to the software. But is that what happens? Do we "buy" software in the same sense that we buy a book? Right there, in a nutshell, is what the whole battle over UCC 2B (now UCITA) is all about. The proponents of UCITA see the paradigm of the "computer information transaction" as a "license." However, UCITA's opponents see the transaction as akin to a "sale of goods," which should be governed by rules just like those that apply when one buys a car, a hamburger, or a book. The premise underlying the doctrine of first sale is what allows libraries to buy and circulate a book, directly to patrons or in-

directly through interlibrary lending, time after time after time, with no further purchase costs.

This then takes me back to the opening sentence from the ALA speech I mentioned earlier: "The roles libraries play are shaped by copyright law." That sentence is right on the mark, historically. Over the years, libraries have joined with teachers and other users of the printed word—as well as with authors and publishers—in a never-ending dance to balance the competing interests of these three groups. Through legislation as well as through courtroom litigation, the dancers have kept it up. "Fair use" is a good example.

A judge-made doctrine for most of its life, fair use was given express statutory recognition for the first time in Section 107 of the 1976 Copyright Act (Copyright Act of 1976 § 107, Pub. L. No. 94-553, 90 Stat. 2541, 2546 [codified as amended at 17 U.S.C. § 107 (1994)]). Recently, judges have shaped the fair use doctrine in cases of music parodies: for example, the rap group 2 Live Crew's parody of Roy Orbison's "Pretty Woman" (*Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994)) and in *The Nation's* extensive quotations from Gerald Ford's unpublished memoirs (*Harper & Row, Publishers, Inc. v. Nation Enterprises*, 471 U.S. 539 (1985)). One aspect of fair use (the well-known Classroom Copying Guidelines) is not part of the statute itself but is contained in the legislative history of the Act, reflecting the negotiations between representatives of educators, authors, and publishers (H.R. Rep. No. 94-1476, at 68-72 [1976]). The doctrine permits copyrighted materials to be used without infringement in certain circumstances, especially for purposes of criticism, comment, news reporting, teaching, scholarship, or research.

Identifying the particular circumstances has always been—and remains—the hard part. Library photocopying generated extensive debate during the run-up to the 1976 Act and produced the intricate compromise embodied in Section 108. Section 108 largely (but not entirely) preempts the fair use doctrine in this area, as seen by comparing *American*

Geophysical Union v. Texaco Inc., 60 F.3d 913 (2d Cir. 1994), cert. dismissed, 116 S. Ct. 1995 with *Williams & Wilkins Co. v. United States*, 487 F.2d 1345 (Ct. Cl. 1973), affirmed by an equally divided Court, 420 U.S. 376 (1975).

Under Section 108 (Copyright Act of 1976 § 108, Pub. L. No. 94-553, 90 Stat. 2541, 2546-48 [codified as amended at 17 U.S.C. § 108 (1994 & Supp. III 1997)]), the copyright owner's exclusive rights are subject to an exception enabling libraries and archives with open collections to make or distribute "isolated and unrelated" single copies of copyrighted works for the noncommercial purpose of preserving an unpublished work, replacing a published work, or meeting a user's request for a small part of an available work or a copy of an unobtainable work. Section 108(g)(2) prohibits "systematic" copying but creates an exception for "interlibrary arrangements" where they do not "substitute for" a subscription to or purchase of the copyrighted work. This exception to Section 108(g)(2)'s prohibition is explained in guidelines drafted by the Commission on New Technology Uses (CONTU) with participation by the library community and made part of the Act's legislative history (H.R. Rep. No. 94-1733, at 72-73 [1976]).

More recent efforts include the library community's effort to build in a safe harbor for software lending by nonprofit libraries in the 1992 amendments to the Copyright Act and attempts to develop fair use guidelines in areas not covered in the 1976 legislative process through the Consortium of College and University Media Centers (CCUMC) and the Conference on Fair Use (CONFU). In regard to software lending, the software industry won an amendment to Section 109(b) prohibiting commercial rental of copyable computer programs, but an exception for lending by nonprofit libraries was included in Section 109(b)(2) (Copyright Act of 1976 § 109 Pub. L. No. 94-553, 90 Stat. 2541, 2548 [codified as amended at 17 U.S.C. § 109 (1994 & Supp. III 1997)]). A required warning of copyright on library copies is set forth in 37 C.F.R. § 201.24 (1998). CONFU's attempt ended in 1998

without reaching consensus on any fair use guidelines, in large part because the parties were in disagreement over the fundamental purpose of the guidelines. Users wanted to identify safe harbors while copyright owners wanted to establish outer limits. Despite the intensity of these efforts, however, the most dramatic battles over copyright law occurred in Congress in 1998, when two pieces of legislation were enacted: the Digital Millennium Copyright Act (Pub. L. No. 105-304, 112 Stat. 2860 [1998]) [codified in scattered sections of 17 U.S.C.] and a copyright term extension bill.

THE NEW COPYRIGHT PROVISIONS

The changes that most obviously and directly affect libraries are the revision to Section 108 and the Online Copyright Infringement Liability Limitation Act (Pub. L. No. 105-304, tit. II, § 202, 112 Stat. 2877-86 [1998] [codified at 17 U.S.C. § 512 (West Supp. 1999)]), both of which were actively sought by the library community. The 1976 version of Section 108 prohibited libraries from employing digital technology to preserve works and restricted them to making only one copy of a work. In practice, though, three copies were actually required: an archival copy, a master, and a use copy from which working copies could be made. The 1998 revision made three important changes: (1) it increased the number of copies that can be made for preservation purposes from one to three; (2) it expressly permitted the use of digital formats for preservation; and (3) it expanded the definition of preservation to recognize the need for preservation when a format has become "obsolete."

The Online Copyright Infringement Liability Limitation Act resulted from concerns in both the commercial and noncommercial spheres about potential liability of "online service providers" (OSPs) that link users to the Internet for infringements that occurred online. Even though an OSP may not have placed any copyrighted works online, their facilitation of widespread access by others to

content placed online by other users could expose them to liability for direct or contributory infringement. The new statute exempts an OSP that provides online access from monetary liability for copyright infringement *provided that* the entity or institution has not itself placed the infringing material on line, its online system meets certain technical standards, it has no actual knowledge of the copyright infringement, and it complies with "notice and takedown" and other procedures to disable access and limit the harm to the copyright owner. In addition, the statute also includes a special rule providing that faculty and graduate students employed by public and nonprofit higher educational institutions to teach or conduct research shall not be considered "the institution" with respect to the requirement that the institution has not placed infringing material on line.

COPYRIGHT TERM EXTENSION ACT

There are two other important aspects of the 1998 act which I will come back to in a moment. But first let me outline the second piece of legislation enacted in 1998.

Moving through Congress at the same time as the Digital Millennium Copyright Act was the Sonny Bono Copyright Extension Act (Pub. L. No. 105-298, 112 Stat. 2827 [1998] [codified as amended in scattered sections of 17 U.S.C.]). Despite its name, the latter does more than protect songs written by the late Congressman Bono such as the fabulously memorable "I Got You, Babe." The 1976 Act changed the general term for copyright from two terms of twenty-eight years (an original and a renewal term) to life of the author plus 50 years or 75 years, in the case of works made for hire. The Bono Act automatically extends the copyright term for all protected works to life of the author plus 70 years, and 95 years for works made for hire.

The 20-year extension raised significant concerns among researchers and librarians about its effect on scholarship. In an effort to resolve these concerns, an understanding was reached permitting nonprofit libraries, archives, and educational

institutions to use older works during what constitutes the extended copyright term. Such institutions may now copy, distribute, display, or perform a work in digital or facsimile form for purposes of preservation, scholarship, or research. They can do this provided that the institution has determined on the basis of reasonable investigation that the work is not subject to normal commercial exploitation and a copy cannot be obtained at a reasonable price. The exemption applies only to uses within or by the qualifying institutions, not to subsequent, outside users.

TECHNOLOGICAL PROTECTION MEASURES AND DATABASE PROTECTION

Returning now to the Digital Millennium Copyright Act, two other aspects of the act are of importance to libraries: one that made it into the final version and one that did not. Because piracy of their electronic products is a major worry of software makers and others, Congress responded to that concern by enacting new rules to prohibit circumvention of electronic encryption techniques, known as technological protection measures (TPMs). The new Act prohibits the manufacture and sale of any software or other service device that can be used to circumvent TPMs.

During the debates, the library community became concerned that this generally worthwhile law could interfere with a library's ability to fulfill its traditional role as an archive for research. Similarly, other interest groups were concerned about the law's effect on fair use by interfering with their ability to obtain workable access to the copyrighted work. The result was a compromise that established a process by which the librarian of congress would periodically determine whether access to particular classes of works protected by anti-circumvention technology should nonetheless be allowed in order to facilitate fair use and other exceptions to copyright.

The second aspect of the legislative process leading to the Digital Millennium law that is worthy of note is a part that

almost made it into the final version but was omitted at the last moment by hard work on the part of library spokespeople and other user groups. An earlier version of the DMCA passed the House of Representatives containing a provision that would have created a new type of protection for uncopyrightable databases. This section was removed on condition that it would separately be considered in the current Congress. The issue, therefore, has not gone away.

Database protection has been in controversy for a number of years, especially since the U.S. Supreme Court's 1991 decision in *Feist Publications, Inc. v. Rural Telephone Service Co.* 499 U.S. 340 (1991). There, the Supreme Court substantially limited the extent of copyright protection available to telephone directory white pages (and inferentially to other collections of facts). Publishers of printed or electronic databases have sought to regain substantial protection for their products by moving on two fronts: contractually, through the use of rigorous form contracts, and legislatively, through the creation of a new, non-copyright form of protection. Illustrations of both are seen first, in *ProCD, Inc. v. Zeidenberg*, 86 F.3d 1447 (7th Cir. 1996), which upheld the shrink-wrap license accompanying the plaintiff's CD-ROM telephone directory, and second in *Vault Corp. v. Quaid Software Ltd.*, 847 F.2d (5th Cir. 1988), a Louisiana statute that permitted enforcement of shrink-wrap licenses, which was preempted by Section 117 of the Copyright Act.

Both of these approaches present a direct threat to the mission of libraries, not only because they would read out of existence the copyright doctrine of fair use, but also because they would strike libraries where it hurts most: in the wallet. Without putting too fine a point on it, public and research libraries exist to provide the most information to the most people at the cheapest possible price. In the latter regard, "free" is best. By contrast, publishers of books, periodicals, fact compilations, and any other form of "data" are generally in the business of making as much money as possible from

the use of their data. In the latter regard, charging money each time somebody opens up the cover of a book or logs onto the database is best.

If the vendor world can succeed in extending a new form of legislative protection over their products and services—one that goes beyond traditional copyright laws—they gain one more tool to use to extract additional profits from those products. I will leave it to moral philosophers or perhaps political economists to judge whether the extraction of these additional monies is fair or just, and whether "investment" or sweat-of-the-brow is a more proper basis for earning intellectual properties than "creativity." The point is not that the vendor community's point of view is wrong. The point is that your point of view, the library community's point of view—and the broader user community's point of view—needs to be constantly factored into the calculus and the balance before any new rights are legislatively created.

UNIFORM COMPUTER INFORMATION TRANSACTION ACT

The same is true of the creation, recognition, and enforcement of new contractual rights. And this brings me back, at last, to the proposed UCITA. Between July 22 and July 30, the NCCUSL will debate and then vote on the UCITA. If approved, it will be submitted to the state legislatures of every state in the Union and, if history is a guide, it is likely to be enacted by many states.

If you love shrink-wrap and click-wrap licenses, you should support the UCITA. If you harbor grave doubts about the appropriateness of that approach, you should oppose it and let your state's commissioners know how you feel.

Many believe that libraries and other public institutions that serve a special function in our society—but that lack the economic muscle to negotiate on a level playing field with computer information vendors—need and deserve special protection from the crammed-down effect of so-called "license" agreements. Whether it's an agreement that you don't know

about until after you get the software home or the multipage, fine-print contract that comes from your database vendor, individual libraries are faced with a take-it-or-leave-it, one-size-fits-all choice that's no choice at all. Anderson (1999) describes the problem perfectly. He recounts his all-too-true and all-too-frustrating efforts to talk to someone at a software publisher about varying the terms of a shrink-wrap license. The publisher expressed his view that this is a crazy situation because for a product that costs \$100, they can't afford to get into legal negotiations for every sale that size or they would go broke. And these are not unique occurrences (Johnson 1990). The UCITA, if approved by NCCUSL and enacted by state legislatures, would permanently lock in this situation. And, in this regard as well as in others, computer information vendors would end up with rights far beyond any that a conventional print publisher has.

What's so bad about the UCITA? One good, recent news article describes some of the concerns about the UCITA, pointing to various Web sites along the way, under the descriptive title "Law Gives Firms License to Kill Your Computer" (Gillmor 1999). Someone jokingly complained to me that "it's too long and has too many words." In a sense, that's not a bad criticism. UCITA is so long and so complex that it is difficult for most people—even lawyers—to understand what it means. And when its drafters tell you that the statute represents a "turning point in the fastest growing part of the United States economy," the fact that the text is difficult for most people to understand should caution against a rush to judgment. Yet that is exactly what has been happening. The more questions and criticisms raised about UCITA, the faster its advocates want to push to a decision despite exceedingly controversial provisions, such as the one that allows vendors to disclaim warranties, and in turn liability, for defective software. Compare this with two earlier cases, *M.A. Mortenson v. Timberline Software*, 970 P.2d 803 (Wash. Ct. App. 1999) and *Hill v. Gateway 2000*, 105 F.3d. 1147

(7th Cir. 1997), in which the courts ruled differently.

More substantively, there is a deep-seated doubt on the part of many observers and interested sectors that the fundamental premise of the statute is correct. That is, many question whether we need a law for computer information transactions that is different from the law governing any other type of transaction. The prefatory note to the current draft of UCITA explicitly states that:

Goods-based transactions remain important, but transactions in intangibles of computer information are a central element of commerce. . . . Neither the subject matter nor the type of transactions in computer information are similar to sales or leases of goods. The law of toasters, televisions and chain saws is not appropriate for contracts involving on-line databases, artificial intelligence systems, software, multimedia, and Internet trade in information. (NCCUSL 1999b)

Does that ring true to you? To many it does not. The Federal Trade Commission (FTC), which is the nation's consumer watchdog, for example, has gone on record as calling for changes to UCC 2B (the predecessor of UCITA) because of its potential adverse consumer impact, including its likely inhibition of innovation and competition in the markets for computer software and other products containing information programming (Bernstein 1998). Like a number of other critics, the FTC has expressed concern about the need for the existing "unconscionability" provision of UCITA, which in the FTC's view "narrowly protects consumers from only the most extreme and onerous terms, and does not, for example, appear to protect the public policies inherent in other laws, such as consumer protection statutes or the other intellectual property laws" (Bernstein 1998).

The library community has weighed in at times over the past two years with respect to UCC 2B (Webster 1998) and presumably will do so with respect to UCITA at the NCCUSL annual meeting. However, it would help substantially if *your* voices were heard as well. Here's

one thing that you can do: sign on to the e-mail petition being put together by Infoworld's Ed Foster. The petition states as follows:

In light of the concerns previously expressed over proposed UCC [Uniform Commercial Code] Article 2B by a variety of interest groups, and the lack of time such groups have had to study and respond to its new reincarnation as a uniform act, the undersigned urge the National Conference of Commissioners on Uniform State Laws to not approve the Uniform Computer Information Transactions Act at this time. (Foster 1999, at 145)

To sign the petition, all you have to do is send an e-mail to ucita@infoworld.com, including your name, city, and state.

If you would like to play a more direct role, you should consider writing a message similar to the one in Ed Foster's petition directly to the members of your state's delegation to the NCCUSL. There are only four or five of them in each state, and they would be pleased, I am sure, to hear from someone as knowledgeable and as deeply affected by the UCITA as a college librarian. A list of the names and addresses of each commissioner is available on NCCUSL's Web site at <http://www.nccusl.org/>. Not only is it not too late to have your voice heard, it is precisely the right time to speak out.

CONCLUSION

At present, it is more true than not that the roles that libraries may play in the future are shaped by contract law and more specifically by contracts over which they have little control. By working together through ALA and other library organizations, however, it is possible to have a stronger and louder voice in the debates that will shape contract law in the near future. The UCITA is a good example. By speaking out loudly and now, librarians may be able to halt or in some other meaningful way affect the course of that proposed legislation. Remember, it is easier to prevent bad law from being enacted than to remove it from the books once it has been codified.

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Book Reviews

Margaret Rohdy, Editor

How Classifications Work: Problems and Challenges in an Electronic Age. Eds. Geoffrey C. Bowker and Susan Leigh Star. *Library Trends*; 47, no. 2 (Fall 1998). Champaign, Ill.: University of Illinois at Urbana-Champaign, Graduate School of Library and Information Science, 1998. 185–340p. single copy, \$18.50 (ISSN 0024-2594).

The seven contributions in this issue of *Library Trends* include the theoretical (Susan Leigh Star on grounded theory and facet analysis); using implementations to elucidate theory (Hanne Albrechtsen and Elin Jacob on Book House and Database 2001); using theory to examine a specific classification scheme (Jeffrey Huber and Mary Gillaspay on HIV/AIDS and HIV/AIDS-related terminology); Hope Olson on the Dewey Decimal Classification; Geoffrey Bowker on the International Classification of Diseases; Mark Spasser on the Diagnostic and Statistical Manual of Mental Disorders; and advice for practitioners (Jennifer Tobias on how to improve cataloging). Except for Tobias, the authors share a social constructionist point of view. It seems that the editors included Tobias because she argues, as others do, for the inclusion of previously under-represented voices.

Constructionists analyze or “read” a “text” by pointing out the social and cultural context within which it was created. Olson and Huber and Gillaspay explain what social constructionism means to them; Albrechtsen and Jacob situate their point of view by contrasting it with others’, so it is ironic that the editors do not state their social constructionist point of view explicitly. Do they assume that every reader understands and accepts social

constructionism? By reversing what is taken for granted, do they purposefully appropriate the language of power by taking the stance of the mainstream that it is not necessary to identify or justify their point of view?

This collection contains obstacles to communication: inaccurate title, jargon, wordy and disembodied prose, fuzzy thinking about library and information science issues, and unsupported generalizations about the digital age. Some examples show why this work is tough going. The title is misleading in that most of the authors do not deal with the “Electronic Age.” Furthermore, they discuss categorization schemes and various controlled vocabularies, rather than classification *per se*; and all but one of the specific systems described are medical. Jargon manifests itself as classification developed by “discourses” (235); “clues to re-narrativizing” (276) a classification; and “the duality/dualism distinction” (318). The title of the introduction, “Classification in the Wild,” would be meaningless without its footnote explaining that it is a play on *Cognition in the Wild*, the title of a book by Edwin Hutchins.

When individual words do make sense, it is often hard to figure out what they mean strung together, as in “They [classification systems] hold in place sets of arrangements that allow one to read the natural as stable and objective and the social as tightly linked to it” (277), and “The analytic significance of the modalities is that they provide the coupling elements whereby the analysis of interaction is linked to the (re)production of the structural components of social systems” (317). Much of the writing seems disembodied. Readers interested in context and

history will find this lack of specificity odd. Despite close readings, examples, and quotes, I didn't learn where or how the subject systems would be used, by whom, and for what purpose. Huber presents the genesis of a controlled vocabulary without reference to the associated information retrieval system. How did a recognition of social construction, stigma, etc., affect his choice and display of terms? Tobias is similarly vague on collection, searchers, and uses for subject information.

Perhaps because of my traditional cataloging background, the writers' lack of clarity on library and information science issues rankled me. Spasser is the only writer dealing with a nonlibrary system who makes the connections with library and information science explicit. Obvious parallels are also ignored. For example, Bowker's discussion of not knowing what users' needs are (261–62) could be enhanced by mention of the International Standard Bibliographic Description, the Anglo-American Cataloguing Rules, and MARC (MACHINE Readable Cataloging), whose designers also grapple with how much information to include in the record.

The concepts of categorization, classification, indexing, and thesauri are all used more or less interchangeably. Definitions of classification are not given, and hierarchy and notation are scarcely mentioned (e.g., is there a difference between classifying diseases and documents?). The purpose of classification as an information retrieval device is barely touched upon. Power, control, pigeonholing, and gathering statistics are discussed at great length, but except for Olson's chapter, collocation is barely mentioned; browsing and serendipity are absent. Star says that knowing "how work settings and the flow of real life tasks give rise to information needs and strategies" (219) is a challenge to classification in the digital age. What exactly is it about the electronic environment that makes this more of an issue? Tobias suggests adapting metadata standards to reap the indexing benefits of traditional and new media. How? Why?

Despite these problems, this collection does provide food for thought. Bias

cannot be eliminated from a classification system, but an awareness of point of view can allow us to incorporate more than one view. The idea of context determining meaning is part of classification theory (Svenonius 1990); Dewey's relative index provides such a context. Examples from archeology and medicine show that the way in which classification as pigeonholing is used in practice can be worth studying. Library and information science researchers should investigate whether searchers make use of hierarchy and classified order. Since the authors are writing from a social constructionist framework, they refer to user groups rather than to individuals. What kind of research would help us decide which groups to focus on and having done so, whether our groups are useful? Collaboration among system designers, librarians, and the public is possible and effective.

I suspect that ecological postmodernism (Spretnak 1999) would be a much more fruitful approach to the study of classification than social constructionism. Ecological postmodernism entails an understanding of reality as grounded in our physical bodies, geographic locales, and spiritual context. This framework will yield questions such as: How does automated information retrieval affect our sense of place? How can a classification scheme ground searchers and relate them to themselves, their communities, and the rest of the cosmos?

Aside from the general idea of including previously excluded voices, this collection does not include specific design suggestions for classifications, interfaces, or systems for discovering information and knowledge. In an interactive system with information identified by a faceted scheme, searchers could rearrange the citation order of the facets to create their own displays (Anderson 1991). That's a challenge for classification in an electronic age!—*Dee Michel (damichel@facstaff.wisc.edu), Madison, Wis.*

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Introduction to Metadata: Pathways to Digital Information. Ed. Murtha Baca. Los Angeles: Getty Information Institute, 1998. 41p. \$9.95. (ISBN 0-89236-533-1) LC98-35383.

This slim volume offers a useful overview of metadata, an information-age concept that encompasses, but is not confined to, the kinds of information found in library catalogs, bibliographies, and acquisition records. Although this book is one in a series dedicated to information resource issues for museums and art libraries, its treatment of the subject is sufficiently general to engage information specialists in all fields. Indeed, its unexpectedly few references to art information resources serve not only to anchor the discussion in a specific realm of information needs, but also to illumine the potential of metadata for facilitating control of, and thus access to, digital images.

Introduction to Metadata is not an integrated presentation of the subject, but rather a series of essays covering individual aspects of the subject, followed by reference information. The three essays have been commissioned and arranged to good advantage, beginning with an extended definition of the concept of meta-

data, continuing with a look at the relationship between metadata and its most crucial realm of functionality, the World Wide Web, and concluding with a brief discussion of a particularly salient task involving metadata on the Web—the alignment of a variety of metadata schemes to simplify the searching of multiple databases.

In “Defining Metadata,” Anne Gilliland-Swetland takes an approach that is both refreshingly nontechnical and satisfyingly comprehensive. She begins with the metadata-as-cataloging perspective familiar to many librarians and swiftly expands it to include administrative, technical, and indexing data, with examples drawn from both traditional librarianship and the world of electronic resources. She then dissects this global view to reveal the various types, characteristics, and functions of metadata, at which point she addresses and easily dispels some common misconceptions about metadata. The only problem with this otherwise incisive presentation is that while Gilliland-Swetland calls attention to Text Encoding Initiative (TEI) headers and Hypertext Markup Language (HTML) META tags as examples of metadata attached to digital documents, she does not acknowledge their analog counterparts—the title pages and front matter of books.

In the next essay, “Metadata and the World Wide Web,” Tony Gill narrows the focus to the critical application of the moment. Gill, a veteran art information specialist, discusses the key conundrum of the Web—the overwhelming size that makes organization so necessary also renders it well-nigh impossible. This leads to the familiar calls for structured resource descriptions, approaches combining human and machine intelligence, and data standards, with META tags, XML (Extensible Markup Language) and Dublin Core briefly presented as representative standards under development. There is little new here for readers acquainted with Web access issues, but Gill provides an effective and readable thumbnail sketch of an important problem.

The final essay, much briefer than the

other two, functions as an introduction to an equivalency table of metadata schemes (called a crosswalk). In "Crosswalks, Metadata Mapping, and Interoperability," Willy Cromwell-Kessler provides a clear statement of the need for, and issues facing, the definition of equivalent and near-equivalent relationships among data elements within the various metadata standards. While sensibly acknowledging the inexact nature of "translation" among metadata schemes as among languages, she highlights both its potential for enabling universal data access in an electronic networked environment, and the importance of its own standardization through metadata registries and crosswalks.

Cromwell-Kessler concludes with brief descriptions of the nine metadata schemes represented in the crosswalk. These include seven major standards for art and architecture information, plus USMARC (MACHINE Readable Cataloging) and Dublin Core. The crosswalk, under development by the Research Libraries Group and the Getty Information Institute, is presented as a preliminary draft. It primarily maps the CDWA (Categories for the Description of Works of Art), a standard developed by the Getty Information Institute, to the other eight schemes, but the tabular arrangement allows the reader to see the implied relationships among the other standards. The book concludes with helpful glossaries of technical terms and acronyms, the latter with Web addresses.

Introduction to Metadata fulfills its title task remarkably well. It is pitched to an audience of librarians, presuming an awareness of digital resources and of information access issues, but nothing more. With a text that is succinct and, for the most part, well written, this book is a quick but thorough presentation that puts flesh and bone into the reader's hazy concept of metadata by outlining the promise and the problems of metadata on the Web, and presenting an important approach to fulfilling that promise, along with a concrete example. The reader is thereby acquainted with many current initiatives and standards, as well as much

of the key terminology. Few other writings on this topic, to my knowledge, take this approach, and none executes it so effectively. This booklet puts the novice reader in an excellent position to learn much more about metadata, and in so doing sets a high standard for future introductions to the topic.—Gregory Wool (gwool@iastate.edu), Iowa State University Library, Ames

The Organization of Information. By Arlene G. Taylor. Library and Information Science Text Series. Englewood, Colo.: Libraries Unlimited, 1999. 280p. \$45 (ISBN 1-56308-493-7) \$35 pbk. (ISBN 1-56308-498-8) LC98-53625.

The Organization of Information is not another book on cataloging. Taylor realized that there was a need for this book when she began working on a new edition of her *Introduction to Cataloging and Classification*. With *The Organization of Information*, she now provides library school students, librarians, and others with an ambitious introduction to "the theory, principles, standards, and tools behind the organization of information in all types of environments" (xviii). Her primary audience is library and information science students in a core or initial course on the organization of information. Practicing librarians, though, will find this text of great interest and highly useful as an overview of libraries within the larger context of the human impulse to organize information. Taylor's book fills the niche for a comprehensive text on this critical subject, but only for now. The first edition will not be the last for this text, and this will not be the last book on the organization of information.

Taylor attempts to encompass a vast range of subjects and wrap them into a coherent whole—the human urge to organize information, the history of catalogs and cataloging, a survey of the varieties of metadata, discussions of verbal subject analysis and classification schema, online catalog design, and more. Each of the chapter topics has been treated in many books and articles—Taylor's challenge is to condense, relate, and clarify. That she succeeds as well as she does in only 280

pages is impressive, but as a reader, one of my chief complaints is that there is no room to sustain thematic analyses or build strong narratives. The constraint of too little space is always present, and at times the brevity of coverage distorts. A small but important example: some of the lists of suggested readings that complete each chapter are so short that the selections seem arbitrary, making the lists less useful to readers than more representative lists would be.

Taylor has arranged the book well. She begins with the basic human need to organize information, then develops that theme with questions about why we organize recorded information, what it means to organize it (using Ronald Hagler's six functions of bibliographic control), and how various environments, such as libraries, museums, the Internet, and offices, affect how recorded information is organized. She next addresses retrieval tools with quick descriptions of bibliographies, catalogs, indexes, finding aids, registers, databases, and bibliographic utilities, why we need them, and how we use them.

The core of the book is a survey and discussion of metadata (encoding, description, access), verbal subject analysis, and classification schema. But before these chapters, Taylor steps back to recount briefly the development of catalogs and cataloging, from the oldest known list of books in the western world, a Sumerian tablet from about 2000 B.C.E., to Henriette Avram and MARC (MACHINE Readable Cataloging), Fred Kilgour and OCLC, and RLIN (Research Libraries Information Network). This 20-page discussion allows little room for analysis or development of themes. Although it is a useful summary, and it earns its place in the book, this chapter clearly reveals a major weakness: in trying to achieve a comprehensive text in so few pages, the analytic and narrative power of the text is greatly reduced from what it might have been. To meet the ambitions of this work, future editions must increase in scale and force.

Taylor's successes come from her judicious selection of critical points for succinct overview discussions. In the

chapters on encoding standards, for example, she surveys descriptive metadata schema and verbal subject analysis by effectively condensing the material, relating the parts to each other and the whole, and clarifying the distinctions among the various standards and schema. Especially useful is her coverage of how surrogate records are created within the rules or semantic schema used by librarians (International Standard Bibliographic Description and Anglo-American Cataloguing Rules), archivists (Archives, Personal Papers, and Manuscripts and Encoded Archival Description), visual arts specialists (Visual Resources Association Core Categories), and on the Web (Dublin Core). The variety of approaches to creating and using metadata within various professional communities and the relation between the concept of cataloging and the concept of metadata is clarified.

A few small faults should be mentioned. The glossary is a weak point. Boolean is not defined. The definitions of HTTP, URL, XML, Internet, and MARC are inadequate or misleading. The suggested reading lists also could be more representative of the literature without becoming tediously long. These lists should provide the best possible jumping off points for the reader who wants to know more.

Taylor devotes the last two chapters to what she calls arrangement and display and system design, but what I think would be more aptly named online catalog index and record displays and online systems design. These two chapters are too narrowly focused on library tools. The larger context of arrangement, display, and design issues for organized collections of recorded information is missing. The potentially rich linkages among online catalogs, graphic design, and human-machine interface design are missing. The potential value in Taylor's book is most realized when she closely approaches her goal of explaining the organization of information in all environments. Too much focus on libraries weakens the book and reduces its value to the reader. Overall, Taylor's book approaches

her goal, but at times it does not reach it. In her preface, Taylor points out that the book is about the organization of recorded information. It is unfortunate that she did not use that wording more often in the book or even in the title. Readers would thus have been relieved of some small part of the burden of assumptions that they must make, and it would perhaps have aided the author in creating more precise arguments or distinctions throughout the book.

The scope of Taylor's discussion is more limited than her phrase "all types of environments" (xviii) suggests. She explicitly removes from her consideration commercial enterprises that organize information for sale rather than for posterity. The ban is not as absolute as her preface states, but it is nearly so. By ignoring commercial efforts to organize recorded information, Taylor diminishes the context into which she means to place librarianship. The result is a somewhat distorted picture of how and why human beings organize recorded information. It also distorts how we perceive the role that libraries might have in that larger context. These distortions present libraries, museums, and archives as dominant figures in the landscape of information management. We are not. Commercial creators and users of metadata make it clear that library cataloging and its related industries of indexing and bibliography are not all there is to organizing recorded information. A book like this one should turn students in library and information schools toward the intellectual core of our discipline—the organization of recorded information. An introduction to the organization of information should not only enlighten their minds but also fire those who are susceptible with a passion for organizing recorded information to serve the reader. —*Matthew Beacom (matthew.beacom@yale.edu), Yale University Library, New Haven, Conn.*

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Hagler, Ronald. 1997. *The bibliographic record and information technology*. 3d ed. Chicago: American Library Association.

Understanding the Business of Library Acquisitions. 2d ed. Ed. Karen A. Schmidt, Chicago: American Library Association, 1999. 395p. \$54 (ISBN 0-8389-0741-5). LC98-41701.

The work of library acquisitions has changed dramatically in the past ten years, so much so in many libraries as to make acquisitions departments almost unrecognizable. Similarly, the new edition of *Understanding the Business of Library Acquisitions*, whose first edition appeared in 1990, has been updated so thoroughly as almost to merit a change in title.

Although the second edition includes articles on almost all of the same subjects as the first—after all, the basic purpose of acquisitions remains the same—most of the articles, even with the same or similar titles, are entirely new papers by different authors. Only six of the eighteen articles in the first edition are reprinted, and these have been thoroughly updated. The nineteen papers in the 1999 edition cover traditional aspects of acquisitions and reflect the many new concerns facing acquisitions librarians today, such as automation and digitization, software licensing, and outsourcing. All of the authors demonstrate an awareness of the most recent trends in acquisitions librarianship, referring to such innovations as PromptCat, shelf-ready services, and the impact of the Web, not to mention the ever-present specter of shrinking budgets. Although the collection's obvious audience is the library profession, its presentation offers an effective balance of perspective, with articles written by both library professionals and representatives of the publishing and bookselling business.

The presentation of the papers follows a logical grouping and progression. The volume opens with a general discussion, "Acquisitions, the Organization, and the Future," in which Karen Schmidt and Carol Pitts Diedrichs explore the role of acquisitions within the library and the changes it has undergone. The next two articles, "The Business of Book Publishing" by Patricia Glass Schuman and Charles Harmon and "The Business of Scholarly Journal Publishing" by Gary J.

Brown, provide valuable perspective from the publisher's side of the table.

The next five papers are devoted to the relationship between libraries and vendors. Audrey Melkin explores the issues that unite and divide publishers, vendors, and libraries; Scott Alan Smith's "The Cost of Service: Understanding the Business of Vendors" and Mary K. McLaren's "Vendor Selection: Service, Cost, and More Service!" present the benefits of employing vendors as well as a guide to finding and choosing the right one. Karen E. Cargille guides the reader through performing a vendor study in order to monitor the efficiency of service provided. In "Approval Plans: Library-Vendor Partnerships for Acquisitions and Collection Development," Joan Grant describes the benefits of such plans and gives tips for identifying and choosing vendor services.

Moving on to more specialized areas of acquisitions, Thomas D. Kilton offers an in-depth guide to identifying foreign publications and selecting vendors, with an area-by-area guide to the various idiosyncrasies of publishing and distribution in all the major regions of the world. James R. Mouw leads the reader through the highly specialized world of serials publishing, selection, and purchasing and includes a useful guide to resources. In "Out of Print and Antiquarian Markets," Margaret Landesman provides a detailed discussion of locating and pricing out-of-print or rare materials, offering an excellent list of resources such as e-mail lists, Web sites, and printed guides. Steven Carrico's "Gifts and Exchanges" is a discussion of recent changes in G&E operations—of automation in particular—and a list of advantages and drawbacks of these methods of acquisition. Y. Peter Liu offers an abundant list of resources, both print and electronic, for locating and evaluating nonprint materials.

The business aspects of acquisitions are next addressed. "Basic Acquisitions Accounting and Business Practice" by Kay Granskog should be required reading

for anyone planning to enter the acquisitions field; it offers a remarkably clear and concise introduction to the financial management of acquisitions. In "Payment Ethics: Librarians as Consumers," Corrie Marsh examines various problems that can arise with receipt, billing, and payment, and suggests possible solutions.

Turning to personnel issues in acquisitions, Barbara J. Winters, in "Ethics in Acquisitions Management," discusses guidelines for ethical dealing with staff and business associates. Lisa German focuses on the management of staff, offering useful advice for any supervisor, in "Acquisitions Personnel Management, Organization, and Staffing Issues."

Less traditional aspects of acquisitions work are the subject of Glenda Alvin's "Outsourcing Acquisitions: Methods and Models," in which she explores the growing trend of outsourcing, describing the experiences of several academic and public libraries. The volume concludes with "Licensing in Lieu of Acquiring" by Trisha L. Davis, on the advantages and challenges—legal, technical, and financial—of licensing electronic products.

The articles in this book are uniformly well written and highly informative, offering solid documentation and rich sources for further study. If one were to find a fault—a minor one given the general excellence of the book—it would be the evidence of sloppy editing, such as misspellings of some proper names common in the library book trade.

Libraries and individuals who have the first edition of *Understanding the Business of Library Acquisitions* will want to acquire this updated version; those lacking the first edition will find this one indispensable. It remains to be seen in these interesting times what changes the next decade will bring to the business of acquisitions, but one hopes that Schmidt and her authors will be prepared to guide librarians through them.—Catherine Denning (catherine_denning@brown.edu), *Brown University Library, Providence, R.I.*

Letters

Dear Colleagues:

"End-User Understanding of Subject Headings in Library Catalogs" (July 1999) prompts these three questions:

- To enhance searching effectiveness *and* comprehensibility, why not introduce "expert meanings" for subdivided forms as 450s (e.g., "Marketing of cattle in the United States. *See* Cattle—United States—Marketing")?
- How well understood are some *primary* descriptors (e.g., "Intervertebral disk displacement" instead of "Slipped disk," "Antineoplastic agents" rather than "Anticancer drugs," and "Canada. Treaties, etc. 1992 Oct. 7" for "NAFTA" or "North American Free Trade Agreement")?
- What about needed, not yet legitimated, subheads like "Lobbying" (under names of groups or movements), "Empowerment" and "Rights" (under such occupations and classes of people as "Battered women," "Indigenous peoples," "Poor people," and

"Women workers"), "Commercialization" (e.g., under "Religion," "Christmas," "Culture," "Schools," and "Libraries"), and "Labor practices (under names of firms or organizations, like "Nike—Labor practices" and "Wal-Mart—Labor practices")?

In the same issue, "Spelling Errors in the Database: Shadow or Substance?" failed to acknowledge that if misspellings can so readily enter databases and somewhat impede searching, misspellings by *searchers* are an even greater problem, but one that can be easily remedied. For instance, someone making a subject search for material on the "prostrate gland" or the country of "Columbia" or the topic of "Ecnomics" will ordinarily find nothing in the catalog and assume there *is* nothing in the collection. However, converting those misspelled terms into 450s will produce solid hits (e.g., "Columbia. *See* Colombia").—*Sanford Berman, Edina, Minn.*

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Volume 43, 1999

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*, edited by Jessie L. Milstead (Medford, N.J.: Published for the American Society for Information Science by Learned Information, Inc., 1994).

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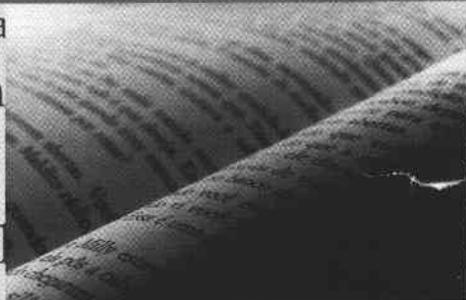
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Sometimes the revolutionary
idea isn't inside the book.
It is the book.

...ue, M_0 , with a time constant
...ion in the transverse plane
...ilibrium value, $M^{\circ}_{xy} =$
...nuclei with macromolecul
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...nt tissues. There is, in general, no closed-form
...uces two approximate solutions). Ignoring the
...lity when formulating the imaging equations),
...f a static polarizing field $H_0 = H_z$ corresponds to
...at a rate $\omega_0 = -\gamma H_0$. Since the detected signal vol
... of 1 s, only components transverse to the polarizing



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