2015

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Paul Riermaier

Recommended Citation

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BROWSING VERSUS USER-CENTRIC SPACES IN ACADEMIC LAW LIBRARIES

A library is thought in cold storage.
—Herbert Samuel

Whenever it is necessary to do violence to classification sequences, some of the values of the classification are sacrificed, but that may be justified in those situations, to secure other, more important values.
—Thomas S. Dabagh

INTRODUCTION

An individual who is familiar with the general layout and arrangement of legal materials in a law library can likely walk into any academic law library and be able to locate specific materials with little effort. That same person may be surprised to learn that this relative uniformity of arrangement only became the norm in academic law libraries near the end of the 20th century. Previously, the arrangement of the tangible materials within a specific law library were unique to that library and based on distinctive factors. Of course, there were some generally accepted principles of arrangement, but most law library collections were unclassified and the physical arrangement of their materials reflected as much.

These principles of arrangement were developed and institutionalized during a period when academic law libraries were dealing with growing print collections. Today's academic law libraries face different prospects: the growth of print collections is significantly slowed and most

libraries are actively decreasing their print collection or requiring that for every accession there is a deaccession.[1] The factors shaping this landscape are increasingly familiar: academic law library budgets are in a prolonged shrinking period, which is leading to decreased acquisitions budgets; electronic and print material purchase or subscription costs are rising; and libraries' physical space is regularly being repurposed, either to create more study or work space for students or to create office or classroom space. A concomitant change in user preference for electronic materials over print materials has occurred. Consequently, libraries are faced with using the majority of their physical space resources to store print materials that are used less and less.

Despite budgetary pressures, interest in repurposing library space, and an increasing reliance on electronic materials, the consensus among librarians is that print materials still play an important, if shrinking, role in the makeup of an academic law library's collection. Nevertheless, library administrators should periodically examine library processes, services, and other operations in order to ask whether library capital expenditures, especially in terms of space usage, are warranted and effectively meet user needs. To that end, administrators should query whether the costs of maintaining a print collection in subject-orientation arrangement in open, browseable stacks is a worthwhile investment. Justifying maintenance of a subject arrangement may be even more difficult if a library is faced with reorganization or movement of its collection due to remodeling or other factors.[2] In order to aid such an inquiry, this paper will provide an overview of the development of subject classification, focusing on the Library of Congress Classification's ("LCC") Class K; briefly examine alternative classifications and arrangements that developed prior to Class K; consider the economics of book storage; explore information gathering techniques in browseable systems; and finally consider the effects of implementing a non-browseable arrangement of print materials and how browsing may be facilitated in other ways.

The purpose of this discussion is to question whether in light of external pressures, it makes sense to arrange print materials by subject. The arrangement of materials on a shelf generally implicates the classification of those materials. Consequently, it is necessary to discuss classification principles, and it is helpful to look at the history of the classification of legal materials, but this paper focuses on how classification affects the physical arrangement of materials on the shelf and users' access to those materials.

Classification is generally the translation of some characteristic of the book, often its subject, into an artificial language. Classification of materials does not necessarily dictate the position of books on the shelf, but at least for the purposes of academic law libraries, materials are typically arranged pursuant to their order within the classification scheme.[3] Classification and arrangement are necessarily entwined, but to the extent possible, the following discussion will separate classification from arrangement in order to directly address the question whether subject

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[1] *See* Lee F. Peoples, *Placemaking in the Academic Law Library*, 33 LEGAL REF. SERV. Q. 157, 157 (2014) ("As one law librarian succinctly put it, 'we are no longer building print collections.'").

[2] *See* Joan S. Howland, *Transforming Law Libraries to Meet the Challenges of the 21st Century*, 11 TRENDS L. LIBR. MGMT. & TECH. 1, 1 (2000) ("In libraries, as in the business world, the creation of customer value should be the linchpin of all change initiatives.").

[3] *Cf.* Thomas S. Dabagh, *Elementary Considerations Regarding Classification for Law Libraries*, 30 L. LIBR. J. 382, 383 (1937) ("Now what do we mean when we speak of library classification? Primarily we have in mind the relative position of the books on the shelf.").

arrangement is worth the cost and effort.

I.   HISTORY OF THE DEVELOPMENT OF SUBJECT ORIENTATION IN U.S. LAW LIBRARIES

The following discussion of the development of subject orientation in the United States is designed to emphasize that the ubiquitous Class K did not always exist and that historically law libraries arranged their materials in myriad ways. Some of those different arrangement methods were effective given the nature of the specific collection. Others were not effectively arranged, and as the amount of legal materials increased the shortcomings of ineffective arrangement methods were highlighted. In short, libraries did not always arrange their materials pursuant to Class K and it is not written in stone that libraries must continue to arrange their materials pursuant Class K.

Another note, this discussion of classification and arrangement will focus primarily on monographs. As will be discussed below, many legal materials do not require or do not lend themselves to classification; think of large continuing multi-volume works like legal encyclopedias, statutes, or reporters. In contrast, monographs and other works that focus on a single topic or subset of topics benefit more readily from classification. Consequently, in this discussion classification and arrangement primarily refers to how to arrange monograph materials on the shelf in an academic law library.

A. Arrangement of the Earliest Law Collections in the United States

Academic law libraries in the United States developed from the private collections of attorneys and jurists.[4] In its early years, the United States produced very few primary legal sources, and many lawyers based a successful career on a personal collection comprised of very few volumes. Most of these volumes were collections of English law or commentary. The first reporter of U.S. judicial opinions was printed in 1789 and the first U.S.-based law journal was printed in 1808.[5] In due course, more and more U.S.-based legal materials were produced and incorporated into collections. These collections necessarily began very small, but as the availability of material grew so did private collections. Given that these collections were private and often comprised of few volumes, there was no need for a systematic arrangement.

Many academic law library collections were started when a private collection was donated.[6] Occasionally the library would arrange the collection in the order that the donee had arranged the materials.[7] However, as a collection grew, or if the material did not have a set arrangement or the library chose not replicate a donee's arrangement, the materials were arranged haphazardly.[8]

As the volume of U.S. legal materials expanded, it was more difficult for attorneys to maintain or access complete collections needed to effectively practice. This led to the

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[4] Christine A Brock, *Law Libraries and Librarians: A Revisionist History; or More Than You Ever Wanted to Know*, 67 L. LIBR. J. 325, 327 (1974). The following discussion draws heavily on Christine A. Brock's excellent history on the evolution of law libraries in the United States.

[5] *Id*. at 329.

[6] *Id*. at 327.

[7] *Id*. at 329.

[8] Werner B. Ellinger, *Subject Classification of Law*, 19 LIBR. Q. 79, 79 (1949).

development of bar association libraries. Like private collections, these libraries normally did not have a formal classification or arrangement scheme. While these bar libraries ranged in size, some were quite large. However, there was no user-accessible arrangement. Rather, the librarian was a human catalog and a high-level of service was valued. Users merely had to request material and it was quickly delivered.[9]

In all of these collection types, private, bar association, or early academic, a number of factors limited the need of classification. First, the amount of materials, even as the U.S. legal publishing industry developed, was limited. Second, many of the materials had prominent characteristics that were self sorting. Reporters or other collections easily arranged themselves and any other monographs comprised a small enough number that alphabetical by author, order of accession, or even a random arrangement sufficed.[10]

As noted, the first academic law libraries relied largely on donations of materials. These collections were composed of primary or secondary materials that lended themselves to self sorting.[11] These self-sorting characteristics, in conjunction with the perception of law as a livelihood and not a scholarly pursuit, led to a delayed development of the law librarianship profession.[12] Many early academic law librarians were custodial caretakers of the legal collections more than they were professional librarians. While library science generally was developing, the local law librarian was still viewed as a role that could be filled by a modestly educated individual who would accept a small salary.[13] Essentially, because the legal materials seemed to arrange themselves and the volume of materials produced was limited, administrators did not see law library duties as necessitating a professional. The slow development of law librarianship contributed to the slow development of law library catalogs and legal classification schemes.

B. The Earliest Classification Efforts

Attitudes within the legal community removed law and law libraries from the larger academic sphere.[14] Thus, law libraries typically remained apart from developments in the field of library science, and the systematic arrangement and classification of legal materials was slowed. Law was seen as a livelihood and legal materials were the tools of that trade. When those tools were small in number or easily accessed from the most rudimentary arrangement scheme, practitioners did not see a need for devoting resources to develop more refined or systematic arrangement methods.

The aversion to classification may be attributed to the effects of classification of law in general libraries. In general public libraries, legal materials were often classified pursuant to the

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[9] Brock, *supra* note 4, at 330.

[10] Ellinger, *supra* note 8, at 79.

[11] Gail M. Daily, *Reference Work in a Classified Collection: Is LC Class K Successful?*, 13 LEGAL REF. SERV. Q. 91, 91 (1993).

[12] Jolande E. Goldberg, *Development of a Universal Law Classification: A Retrospective on Library of Congress Class K*, 35 CATALOGING & CLASSIFICATION Q. 355, 363-64 (2003).

[13] Brock, *supra* note 4, at 347.

[14] *See* F. Allan Hanson, *From Key Numbers to Keywords: How Automation Has Transformed the Law*, 94 L. LIBR. J. 563, 572 (2002) ("[T]he form, organization, access and transmission of legal information has integrally participated in the formation of 'the law' as a distinct realm . . . .").

classification system used for the general collection.[15] Most general classification schemes treated law not "as an autonomous branch of learning but rather . . . as an aspect of human activities represented by other fields of knowledge."[16] Unimpressed with this secondary treatment and organization that Dewey Decimal Classification and other popular classification schemes provided for legal materials, many librarians viewed subject classification of law with suspicion.[17]

Nevertheless, arrangement is a human endeavor,[18] and law-specific classification and arrangement schemes did develop, even if the legal community was often ambivalent or worse. The earliest legal classification schemes focused on grouping books together that supplemented or duplicated content.[19] Additionally, groups of materials were arranged in a manner that they could then be used in sequence. Despite obstacles, law librarians were thinking about how to aid researchers and increase access to their materials. An arrangement that could create logical associations or proximities of complimentary materials, no matter how imperfect or incomplete, was deemed a net positive.[20]

Some early examples of organizational schemes are the Social Law Library of Boston's scheme and the Law Library of Congress's pre-Class K classification scheme. The Social Law Library began it's collection using a subject orientation.[21] The subjects were arranged alphabetically. Consequently, while the subject arrangements themselves promoted browsing activity, intersubject browsing was limited because there was no meaningful relationship between subjects.[22]

The Law Library of Congress and the Library of Congress warrant greater discussion due to their role in impeding the development and adoption of a standard classification of legal materials; prior, of course, to the introduction of Class K. The history of the Library of Congress, the Law Library of Congress, and Class K have been told better and in greater detail elsewhere.[23] However, this summary will highlight the events that helped determine how most legal materials are arranged on academic law library shelves today.

In its earliest form, the Law Library of Congress held a small collection of materials, much like other early law libraries.[24] Like other early law libraries, the small size of its collection and the self-sorting nature of the materials obviated the primary factors that would necessitate

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[15] Ellinger, *supra* note 8, at 80.

[16] *Id*.

[17] *See id*.

[18] *See* Dabagh, *supra* note 3, at 382 ("It seems to me that classification of things is a fundamental process of living, and libraries are not exempt, not even law libraries.").

[19] *Id*. at 383.

[20] *Id*.

[21] Ellinger, *supra* note 8, at 81.

[22] Alphabetical arrangement is essentially random arrangement. Thus, while the Social Law Library's classification began to work to further principles of classification, the use of alphabetical arrangement indicates that they were working with a very high-level arrangement scheme that did not narrow down. *See id*. at 81, 85. See also Mary Whisner, *Alphabetical Order and Other "Simple" Systems*, 96 L. LIBR. J. 757 (2004), for a discussion of the practical shortcomings of alphabetical arrangement.

[23] *See, e.g.*, Jolande E. Goldberg, *Development of a Universal Law Classification: A Retrospective on Library of Congress Class K*, 35 CATALOGING & CLASSIFICATION Q. 355 (2003).

[24] Goldberg, *supra* note 12, at 359 ("[O]ne year after establishment of the Library [of Congress], the holdings were 740 volumes and 9 maps.").

classification. Eventually, the Law Library of Congress, which, notably, started as a specialized law library and then evolved into a general library as the Library of Congress, greatly expanded the size and scope of its collection with the donation and integration of Thomas Jefferson's library. With acquisition of Jefferson's collection came the adoption of Jefferson's classification method.[25] Broadly, Jefferson's scheme had three major categories, History, Philosophy, and Fine Arts.[26] Within those three categories, Jefferson created forty-four chapters, or subcategories.[27] The classification represented Jefferson's interests and activities, and the sections concerning law and politics were more detailed than other sections of the classification.[28]

The Library of Congress' next phase of collecting brought about the introduction of the Library of Congress Classification scheme, with the notable omission of Class K, which was reserved for law.[29] The decision not to classify law might seem baffling today. Yet, the Library of Congress saw little need for classification because legal materials were treated as a form division within other classes.[30] Thus, in the Library of Congress's general collection legal materials were subsumed within LCC broadly and classified within the overarching subject to which they pertained. This meant that within the general collection of the Library of Congress there was no discrete, self-contained collection of legal materials. Thus, materials on the causes of action arising from airplane crashes were shelved with other materials relating to aviation generally, and they were separated from materials about torts in general. However, "[t]he theory of classing law with the subject to which it relates [w]as in numerous instance not . . . carried to its logical end."[31] For instance, material on music and artistic copyright was classed alongside material on literary copyright "under the topic 'Book industries and trade' in the class for bibliography (Z)."[32]

The decision not to develop Class K led to a great deal of debate over whether classifying legal materials within the general collection aided users.[33] The Library of Congress's position was that keeping all subject materials within the same grouping aided researchers who could then review the entirety of a subject collection in the same area rather than having to consult the general collections subject materials and the legal collection's subject materials. In essence, the argument was that treating law as a form division benefited the greatest number of users, even if it was to the detriment of legal researchers.[34]

The Library of Congress's position was certainly defensible. Consider that classification works to highlight materials within a collection that might not otherwise be viewed; thus, for a researcher who is generally focused on a subject it seems likely that they will review the library's largest and general classification of that subject. If legal materials are alongside more familiar

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[25] *Id.*

[26] THOMAS JEFFERSON & DOUGLAS L. WILSON, THOMAS JEFFERSON'S LIBRARY ix, 3 (2010).

[27] *Id.* at 2.

[28] *Id.* at ix, 3.

[29] Goldberg, *supra* note 12, at 361.

[30] *Id.* at 367.

[31] Ellinger, *supra* note 8, at 90 n.37.

[32] *Id.*

[33] Goldberg, *supra* note 12, at 367.

[34] *See id.* at 364 ("What a strange assumption this was that the 'general reader' should dictate the principles or methods of arranging library collections. In fact, the general reader, the end-user is irrelevant for design of different classification addressing both the general and the specialized library collection.").

subject materials the researcher is more likely to discover and incorporate legal materials into their research. The Library of Congress's decision addressed the implications of the Principle of Least Effort and the Catastrophe of Convenience, which will be discussed in greater detail below, but that respectively hold that users will employ the materials, without regard to their comparative quality, that are most easily accessible,[35] and that users will be myopic about the universe of materials, focusing only on those that are immediately perceivable.[36]

C. *World War II, the Increase in Legal Publications, and Calls for Classification*

Despite the reasoning in support of the Library of Congress's classification method, law libraries were placed in a difficult position. While general academic libraries could adopt and thereby benefit from the Library of Congress's classification scheme, the nature of academic law libraries prevented them from similarly benefitting. Namely, specialized law libraries that adopted LCC, prior to the development of Class K, would essentially have expended effort and money to classify materials that, when devoid of the general subject material that surrounded them in a non-legal collection, were without meaningful order. Thus, there was little to no incentive for academic law libraries to adopt any of the general classification schemes, little need for them to devise their own classification schemes, and scant interest among the community of law librarians to develop and implement a legal classification.[37]

Over time the nature of academic law libraries changed enough to turn the community in favor of legal classification. Law library collections began to grow larger and be comprised of materials that did not lend themselves to self sorting. The reasons for this change are myriad, but two stand out: (1) the increased volume of treatises and secondary sources, which unlike primary sources are ripe for subject orientation, and (2) World War II increased interest, importance, and availability of international legal materials. Academic law libraries saw their collections grow in size and variety. What had previously been a manageable, modest collection of similar and familiar materials grew increasingly unwieldy. The days of the human catalog appeared numbered, and disarray was threatening those libraries that were not prepared for this influx of new materials.[38]

The American Association of Law Schools ("AALS") was one of the factors driving the increase in size and complexity of academic law libraries. In 1900, AALS's Article 6 Section 4 stated that the law school "should own or have convenient access to, during all regular library hours, a library containing the reports of the State in which the school is located and of the U.S. Supreme Court." By 1924, AALS required that a law school have a library comprised of 5,000 volumes that are "well selected and properly housed and administered for the use of its students." Despite the AALS's urging that law libraries grow in size and in nature of the support of the law school, it was not until the 1940's that the AALS recommended that academic law librarians

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[35] THOMAS MANN, LIBRARY RESEARCH MODELS: A GUIDE TO CLASSIFICATION, CATALOGING, AND COMPUTERS, 91 (1993).

[36] Bethany R. Levrault, *Integration in Academic Reference Departments: From Print to Digital Resources*, 35/36 ACQUISITIONS LIBR. 21, 27 (2006).

[37] *See* Ellinger, *supra* note 8, at 79-81 (noting that prior to the prominence of foreign law and the increased publication of monographs, classification of legal materials was haphazard).

[38] *See* Oscar C. Orman, *Reorganization of the Law Library at Baylor University*, 32 L. LIBR. J. 16, 18 (1939).

devote the majority of their time to library activities.[39]

The American Bar Association ("ABA") is tasked with accrediting law schools. Over the years the ABA imposed various requirements upon the form and makeup of law libraries. Initially, those standards began as loose guidelines that allowed libraries a great deal of flexibility. Eventually the standards focused on the annual expenditures and acquisitions as a measure of the appropriateness of the library. This focus on the amount of materials acquired culminated in 1960s and 1970s with lists of required materials that libraries must have in their collections. At the end of the 20th century the ABA returned to its more flexible requirements that granted libraries greater control over the composition of their collection.[40]

Even as collections grew in size and the pressures on librarians to maintain order increased, into the 1930s some librarians opposed efforts to classify and cataloging library materials.[41] However, as mentioned, classification schemes did exist. Apart from early examples like the Social Law Library and the Law Library of Congress's idiosyncratic arrangement, Columbia Law School's law library developed and published its own classification scheme that was derived from its collections.[42] Debate surrounded the value these and other schemes provided. Librarians argued over how, and even whether it was possible, to classify the law. Nevertheless, academic law libraries began to adopt these classification schemes and modfied them to suit their local needs.[43]

Despite the debate over classification as applied to legal materials, there was limited agreement about the general benefits of classification: collocation, browsing, and increased user comprehension of subject materials.[44] Subject-oriented catalogs were seen as a substitute to shelf arrangement by subject, albeit an unworthy one. Detractors of subject-orientation catalogs contended that while a user could gain some perspective and context from a catalog, the limited detail contained in a catalog entry was no substitute for the full-text information that the materials themselves offered.[45] Yet again, imperfect subject access was seen as better than no subject access at all.

D. The Development and Spread of Library of Congress Class K

The Library of Congress published the first Class K schedules in 1969. Academic law libraries gradually but uniformly adopted the scheme. However, because the cost of reorganization and classification was expensive, implementation within an individual library was often partial, with new materials being classified pursuant to LCC, while the rest of the collection persisted with the old classification and arrangement.

Even though the schedules were introduced in 1969 and academic law libraries began to adopt and implement it, adoption was not universal until the 1980s at the earliest. Consider the

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[39] Brock, *supra* note 4, at 325.

[40] Cindy Hirsch, *The Rise and Fall of Academic Law Library Collection Standards*, 31 LEGAL REF. SERV. Q. 65, 66-74 (2012).

[41] Brock, *supra* note 4, at 359.

[42] *See* Ellinger, *supra* note 8 at 98-99 (discussing A. Arthur Schiller's classification scheme at Columbia).

[43] *See, e.g., id.* at 95-96.

[44] Ellinger, *supra* note 8 at 95-86; Dabagh, *supra* note 3, at 382, 384.

[45] Dabagh, *supra* note 3, at 384, 400-01 ("Use of the catalog is much less convenient than direct examination of the books.").

University of Illinois Law Library's implementation of Class K as an example. In 1976, the library began reclassifying its collection pursuant to Class K. Prior to reclassification, Illinois' collection "was arranged by a form of classification with separate divisions for reporters, statutes, periodical and texts (treatises)."[46] Each division was primarily arranged alphabetically. Moreover, faculty requests had resulted in the creation of subject-specific sub-collections, like tax or labor, segregated from the main collection. Each subject-specific collection was maintained in random order. Consequently, the collection was accessed via forty different shelf lists. "As can be imagined, without call numbers, the circulation files were in total disarray."[47]

The effort it took to rearrange Illinois' collection was enormous and required the better part of three years. In 1978, the library shifted 35,000 volumes; a task that took three weeks and 570 hours of labor.[48] In 1979, the entirety of the collection "occupying 8.546 miles of shelf space" was put into call number order. The library was closed for three weeks during the shift.[49] These numbers alone should explain why libraries chose to delay Class K implementation or only apply it to new acquisitions and maintain form division arrangement or other non-LCC schemes.

As with any profound change, Illinois' reclassification project and arrangement provoked impassioned responses: while most users were able to grasp the new, logical arrangement of the materials and were able to more easily see the materials that the library owned in different subject areas (a key benefit of classification), others found that the physical arrangement of materials in the classed order moved heavily used materials to inconvenient locations within the library.[50] Despite the effort required for such a move, librarians felt that the benefits, which included highlighting materials that otherwise had been ignored, were worth the expense.

Despite, or perhaps because of, its widespread adoption, critics readily identified shortcomings within Class K. Many of these shortcomings stemmed from the belief that the law was unique and a general classification that included law, as the LCC was, would necessarily be inadequate. For instance, in 1993, Gail M. Daly, while acknowledging that the overall benefits of classification were worthwhile, argued that the generalist perspective of LCC permeated Class K and hampered its efficacy. Specifically, Daly noted that materials that would logically be collocated if they were classified for law-specific collections were instead dispersed throughout, limiting the ability to fully browse. Ultimately, Daly's appraisal of Class K was less than enthusiastic: "The schedules satisfy the basic functions of promoting browsing, encouraging self service, and simplifying shelving and retrieval; at a bare minimum they do provide an address on the shelf."[51] Again the notion that some classification, no matter how imperfect, was better than no classification reigned.

II. SUBJECT-ORIENTATION CLASSIFICATION AND ITS AFFECT ON BOOK STORAGE COSTS

The preceding discussion provided background for how the collection of most U.S. academic law libraries came to be arranged today. Of course, with any classification scheme, very few

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[46] Nancy P. Johnson, *Rearranging a Law Library: A Case Study*, 73 L. LIBR. J. 129, 130 (1980).
[47] *Id.*
[48] *Id.* at 131.
[49] *Id.* at 132.
[50] *Id.* at 133.
[51] Daily, *supra* note 11, at 103.

libraries have the space to accommodate arrangement in permanent classification order. Moreover, many libraries modify classification schemes to meet local user needs or promote distinct goals. Common modifications include choosing to not classify legal periodicals pursuant to LCC and maintaining separate collections as subsets of the general collections (a reference collection that does not circulate widely is a prime example). Nevertheless, most academic law libraries arranged their materials pursuant to LCC and kept the materials in open, browser-friendly stacks.

Maintaining books in open stacks pursuant to classification arrangement is space and labor intensive.[52] As previously stated, with the expense associated with maintaining such an arrangement, library administrators should regularly consider whether the benefits derived from such an arrangement are worth the cost and should consider whether an alternative arrangement would better utilize resources.

A. *General Book Storage Costs and Construction Costs*

Libraries have continually grappled with the problem of book storage, but the pressures and challenges have not remained the same. A. Jerome Dupont, while discussing the future of the University of Michigan Law Library in 1982, concluded that "the book-storage problem will probably be the most expensive single decision . . . ."[53] More than ever, institutions and budgets are less accommodating of a library that functions more as a warehouse than as an active part of the academic environment.[54]

There are generally two major changes that may necessitate a collection reorganization: renovation or remodeling of an existing library building or construction of a new library facility.[55] It costs on average $280 per square foot to construct an academic building.[56] In order to store materials in open stacks that are browseable "books of different heights must be shelved together. Such an arrangement causes a space lost of 25 to 35 percent per shelf."[57] Similarly, a minimum width requirement amongst the shelves must be maintained. Some relief from these space requirements can be achieved using compact shelving. Compact shelving carries a higher cost of installation than regular shelving, and it can only be installed on flooring that satisfies heightened load requirements, but compact shelving can double storage capacity while maintaining a browseable collection.[58] Whether traditional shelving or compact stacks are used, maintaining a print collection in open, browseable stacks is a proposition that requires a significant investment in library resources.

Undoubtedly, subject arrangement "'promotes browsing, encourages self service, reduces reference work and provides a specific location for each item in the collection, thereby

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[52] *See, e.g.*, A. JEROME DUPONT, THE LAW LIBRARY TO THE YEAR 2000: STORING AND PRESERVING THE COLLECTIONS 23 (1982).
[53] *Id.* at 2.
[54] Peoples, *supra* note 1, at 169.
[55] *Id.* at 164.
[56] *Id.* at 167.
[57] WILLIS E. BRIDEGAM, A COLLABORATIVE APPROACH TO COLLECTION STORAGE: THE FIVE-COLLEGE LIBRARY DEPOSITORY 8 (2001).
[58] *Id.*

simplifying shelving and facilitating retrieval.'"[59] Certainly these benefits were worth the cost of maintaining a subject arrangement on the shelves at one point. However, given the changing nature of legal research and the services academic law libraries seek to promote, it is not clear that devoting resources into promoting browsing in this method is still a worthwhile endeavor. Thus, any law library that is faced with change necessitating collection movement or reorganization should question whether its users reap sufficient benefits from a browseable collection to warrant the cost.

B. *Trends in Offsite Storage*

General academic research libraries have also struggled with the problem of storage of print materials. Among both law libraries and general research libraries offsite storage has emerged as a less expensive way to maintain access to print materials.[60] Offsite storage is not bound by the cost imposing restraints that accompany subject arrangement and it is cheaper to build. Additionally, because patron access to offsite storage is often closed or restricted, it is cheaper than storing materials within the main library facilities. Offsite facilities provides for high-density storage of library materials, and "are designed for efficient storage of very large quantities of library materials with no direct patron access . . . . In most cases, holdings are organized by size rather than by call number order, to maximize storage density . . . ."[61]

Generally there are two types of offsite storage facilities: Harvard-model facilities and Automated Storage and Retrieval Systems (ASRS). The Harvard-model facilities are the cheapest to construct and feature "high fixed shelving (30+ feet in height) with volumes stored by size in cardboard trays for manual retrieval by an operator using a mechanical order-picker."[62] Harvard-model facilities generally can deliver material in response to a patron request within 24 to 72 hours. ASRS facilities store volumes in metal bins that are retrieved by an automated mechanism. ASRS facilities "cannot hold the same large quantities as the Harvard facilities, but can retrieve and deliver a requested item within minutes."[63] Harvard-model facilities are the cheaper of the two options, but even ASRS facilities cost substantially less than the construction of traditional library space.[64]

Offsite storage is not a panacea for the problem of print storage. "Even as libraries are running out of shelf space, their off-site storage facilities are at or near capacity. . . . [Seventy-five] percent of the 68 high-density facilities [surveyed] are more than half full."[65] Libraries are increasingly confronting difficult questions over what print items should be maintained onsite or offsite, whether a suitable electronic substitute exists, and how to maximize ever-limited space. Library administrators should consider every available storage option for the collection with the

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[59] Daily, *supra* note 11, at 92.

[60] Bridegam, *supra* note 57, at 1 ("[T]he idea of storing and preserving less-used periodicals and books in remote storage centers has grown and received grudging acceptance.").

[61] LIZANNE PAYNE, LIBRARY STORAGE FACILITIES AND THE FUTURE OF PRINT COLLECTIONS IN NORTH AMERICA 8 (2007), *available at* http://www.oclc.org/programs/publications/reports/2007-01.pdf.

[62] *Id.* at 8.

[63] *Id.* at 14.

[64] *Id.*

[65] *Id.* at 24.

goal of identifying the best use of library space.

<p style="text-align:center">III. ALTERNATIVES TO SUBJECT-ORIENTATION</p>

The preceding discussion highlighted the space limitations and challenges that academic law libraries are facing. Ideally, a library would be able to identify which print materials should be placed in compact, offsite, or depository storage; which materials should be kept readily accessible in browseable, open stacks; and which materials do not have to be kept because they no longer fit within the library's mission or because a suitable electronic substitute exists.[66] However, the reality is that libraries must work within the constraints and limitations unique to their institution. This may require balancing the needs or mission of the law school against the law library's relationship with the general library of the parent institution. Working with legacy print collections librarians and administrators should strive to create maximum efficiency within their storage system, while continuing to provide a high level of value and service to patrons. The subsections below will look at the nature of print collections and examine what level of use they are likely to have in the increasingly electronic environment.

<p style="text-align:center">A. *Pareto Law Library and Digital Coverage*</p>

Within the context of academic libraries, Pareto's Principle[67] states that 80% of the research needs of an institution can be met by 20% of the materials.[68] Michael Chiorazzi argued that within law libraries it may be that 90% of the research needs can be met by 20% of the materials.[69] Given that so much of the research needs of law library users can be met by such a small subset of a library's materials, Chiorazzi asked whether "[g]iven the cost of new space and the cost of acquiring seldom used material, is it time to rethink our law libraries' collection development policies?"[70] Pursuant to Pareto's Principle, academic law libraries should question whether a one-size-fits-all approach to providing access to library materials is sensible, or whether only the most used 20% should be prioritized in terms of access and library space.

<p style="text-align:center">B. *Increasing Importance of Space and Place Within Libraries*</p>

While there appears to be increasingly less clear need for maintaining print collections and the space required to keep those collections open and browseable becomes increasingly coveted for other use, pressure is mounting for libraries to evolve "'from a monastery full of books and

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[66] See Michelle M. Wu, *Why Print and Electronic Resources Are Essential to the Academic Law Library*, 97 L. LIBR. J. 233, 235-247 (2005), for a discussion of the value in retaining print resources in lieu of or alongside electronic counterparts.

[67] Pareto's Principle has been applied in a vast number of contexts, with law libraries being one of them. The principle was developed by Vilfredo Pareto, an economist working in the 19th century. *See* VILFREDO PARETO, COURS D'ECONOMIE POLITIQUE (1896), *reprinted in* SOCIOLOGICAL WRITINGS 97 (S. E. Finer ed., Derick Mirfin trans., 1966).

[68] Michael Chiorazzi, *Books, Bytes, Bricks and Bodies: Thinking About Collection Use in Academic Law Libraries*, 21 LEGAL REF. SERV. Q. 1, 5 (2002).

[69] *Id*.

[70] *Id*. at 7.

journals for scholars to a marketplace competing for clients.'"[71] Lee F. Peoples argued that "the large amounts of space devoted to housing legacy collections of print materials duplicated online are an untapped resources that should be used to transform a library's physical presence, meet the needs of current students, and attract prospective students." However, as Peoples noted there are legitimate reasons to maintain a vibrant print collection, including the fact that not all materials are available electronically.[72] Additionally, electronic materials implicate concerns about the "authenticity, stability, and . . . ongoing cost of . . . electronic subscriptions."[73]

Peoples argued that libraries should rethink their use and arrangement of print collections: "Law libraries should consider using space freed up by removing print statutes, reporters, and periodicals to create alcoves, nooks, or reading areas devoted to subject-specific collections."[74] Peoples claims that subject-specific collections "allow related materials to be brought together into a coherent whole. Patrons can browse the subject collection and discover related materials that otherwise might not have been located."[75]

Essentially, Peoples contended that law libraries may better identify and collocate material that will further a law school's specific programs using methods that are more effective than LCC, which as noted, has separated seemingly related materials and may not best serve the specific needs of local institutions.[76] With the increased flexibility that is derived from a smaller print collections and more available space,[77] the library is able to develop arrangement schemes that are designed specifically to support law school programs. These schemes that address local needs can mitigate aspects of LCC that make browsing and retrieval of like materials difficult,[78] while providing librarians the opportunity to curate materials designed to serve their patrons.

This approach is concerned with maintaining the value that libraries can provide, even as traditional library services and functions change. Libraries should regularly evaluate their resources and services, with the understanding that such self-reflection will help the library develop into a more "user-centric space [that] can help a law school attract more applicants in a very competitive admissions market."[79] To that end, the discussion below will address whether browsing should be a valued feature of a library and whether the benefits of browsing are worthy of the space requirements it entails.

IV. AFFECT OF ARRANGEMENT ON INFORMATION GATHERING

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[71] Stephen Young, *Looking Beyond the Stacks*, 14 AALL SPECTRUM 16, 17 (2009-10); *see also* Chiorazzi, *supra* note 67, at 24 ("Filling library space with books will become increasingly viewed as inefficient. Other alternatives will be sought.").

[72] Peoples, *supra* note 1, at 171. These materials would have been discarded or removed because the library chose to rely on electronic access to the resources, which likely duplicated their print coverage.

[73] *Id.* at 171-72.

[74] *Id.* at 177.

[75] *Id.* at 180.

[76] *See* Daily, *supra* note 11, at 93-94.

[77] Consider that a library's storage capacity is essentially full when 80% of the shelving area is filled. "The margin of 20% left over is necessary if the collections are to have 'breathing space' . . . ." Dupont, *supra* note 52, at 18.

[78] *See* Daily, *supra* note 11, at 94 (discussing shortcoming of Class K).

[79] Peoples, *supra* note 1, at 180.

A classification arrangement "reflects ideas about meaningful relationships among the part in the body of information being classified."[80] In a collection arranged pursuant to Class K, the Library of Congress created those relationships. Peoples proposed that librarians identify and highlight the relationships among their local collections that, if observed, would be most beneficial to the library's user base. People's envisioned a hypothetical academic law library that creates niche spaces to support its clinics, LL.M. programs, and other special interests.[81]

Identifying and creating relationships that are locally important and that are based on the composition of a specific collection and the needs of specific users, relies on the value of collocation and browsing. "[B]rowsing a section of the stacks is a legitimate and worthwhile way of supplementing a search for information."[82] When browsing, a user is engaged in "area scanning" during which "'the searcher is exposed to a variety of related areas, some of which, because of the jumping around, may be related in unexpected ways—thus producing serendipitous discoveries.'"[83] Thomas Mann argued that library classification ideally allows a researcher to browse through "full texts—not just brief catalog records representing those texts but the texts themselves—in a systematic fashion."[84] He noted that:

> the physical contiguity of full texts also adds the feature of serendipity to searching; that is, it enables one to recognize relevant books whose titles, or indeed contents, are phrased so idiosyncratically that they could not be specified in advance by a researcher trying to find them by means of an index file of surrogate catalog records.[85]

Peoples and Mann both see value in arranging materials in a way that allows users to identify complex relationships derived from the physical location and contextual information inherent in a shelf arrangement. However, Peoples proposed foregoing, to an extent, a collection-wide systematic arrangement and instead focusing on highlighting the relationships among a smaller set of sub-collections. Seemingly possessing a fuller commitment to classification arrangement, Mann, writing in 1993, contended:

> It is necessary that a method of access be provided that does offer systematic (rather than random) access to full text features (tables of contents back-of-the-book indexes, illustrations, chapter subdivisions, individual paragraphs, sentences, and even specific words) . . . . It is a library classification scheme for books on the shelves that provides precisely this kind of systematic, royalty-free, in-depth access.[86]

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[80] Hanson, *supra* note 14, at 574.

[81] Peoples, *supra* note 1, at 174-75. Peoples identified an added benefit that subject-specific niches may fill: "Recent and proposed revisions to the [ABA] Standards demonstrates a growing flexibility 'to allow different academic law libraries to collect and *organize* their information in a way that might vary from collection to collection.'" *Id.* at 175 (quoting Michael Whiteman, *Book Burning in the Twenty-first Century: ABA Standard 606 and the Future of Academic Law Libraries as the Smoke Clears*, 106 L. LIBR. J. 11, 32 (2014)).

[82] Bridegam, *supra* note 57, at 7.

[83] Emily Lynema et al., *Virtual Browse: Designing User-oriented Services for Discovery of Related Resources*, 61 LIBR. TRENDS 218, 219 (2012).

[84] Mann, *supra* note 35, at 15.

[85] *Id.*

[86] *Id.* at 18.

Today, when so much research is done electronically, and print materials, despite dominating the library's physical space occupy only a small portion of the research activity, is there still a place for browsing in the library? Is it a meaningful and worthwhile activity for more than a tiny subset of researchers? Or, can a library reorganize their collections pursuant to space-efficient arrangements, utilize discrete subject-specific subcollections *à la* Peoples, and focus its resources on providing alternatives to browsing in a manner that improves library services for the majority of its user population?

For the foreseeable future, academic law libraries will continue to maintain a print collection even as their electronic holdings grow in number and prominence.[87] Academic law libraries are also facing increasing demands on maximizing the use of library space. This demand may come from a desire to increase user-friendly spaces or to convert library space to offices or classrooms. Digital materials are changing the way legal research is done and how users engage with the library's collection. In light of this changing environment, academic law libraries should try to minimize the footprint of their print materials while using new methods to improve access to print materials and highlight their relationship to electronic materials.

If faced with the need to reorganize or rearrange their collection, a library should adopt the most efficient collection arrangement that its facilities and budget can support. Arguably, maintaining a print collection in a browseable arrangement is not the highest and best use of library space. This may be especially true in light of the fact that so few users employ physical browsing as a regular research strategy.

In trying to maximize user-centric space and minimize space devoted to print material storage, libraries may move materials offsite or into closed, compact stacks, or abandon subject-orientation access altogether. Merely moving materials arranged by subject into compact stacks can double the storage capacity of a physical plant.[88] Moving material into compact stacks but maintaining subject orientation preserves self-service options for users and allows for browsing, even if the requirement of manipulating compact stacks reduces its desirability and convenience. Compact stacks are expensive to purchase and require reinforced flooring to support the added weight.

Compact stacks increase storage efficiency, but shelving by size can triple storage capacity.[89] Of course, such an arrangement would bring added costs. Self-service may be limited with users unfamiliar with the scheme having difficulty navigating it. Consequently, students or staff members would have to be designated to retrieve books. Moreover, material that must be retrieved becomes increasingly less convenient, and the principle of least effort may cause a user to "satisfice" with whatever material is more immediately accessible. These effects do not serve to promote or improve access to the collection, however they may cause freed up library space to better serve user needs.

Yet, the benefits to adopting an organization method for print materials that is more efficient are clear. Minimizing the print collection's footprint will alleviate some of the pressures that

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[87] *See* John Palfrey, *Cornerstone of Law Libraries for an Era of Digital-Plus*, 102 L. LIBR. J. 171, 176 (2010) (noting the persistent and valuable, but changed, role that print materials will play in law libraries for the foreseeable future).

[88] Bridegam, *supra* note 57, at 8 (2001).

[89] *Id.*

collection growth space and other management issues impose upon library space. Moreover, if an efficient arrangement and a closed stacks approach is adopted, library security becomes less of an issue. This would create opportunities for libraries whose physical designs allows them to integrate into the law school or adopt a no-walls design.[90]

Every academic law library will have to weigh the costs and benefits that moving towards a more efficient collection arrangement will entail. Moreover, each library will have to consider what types of solutions are possible given the resources available. However, in those cases where a library determines that abandoning, at least in part, LC Class K for a more space-efficient arrangement, makes sense given its particular situation, the space saved should create more library space that can be turned into user-centric space while still promoting browsing and serendipitous discovery.[91]

A. *Virtual browsing*

Accepting that the serendipitous discovery and observation of relationships between seemingly disparate materials that browsing allows is a research strategy worth enabling, virtual browsing may be a viable alternative if subject access is limited. Using a vibrant virtual browsing tool would allow libraries to store a print collection in an efficient arrangement while preserving the benefits of browseability.[92] The basic idea of providing users with a virtual method of browsing materials as they appear on the shelf in call number order is not new.[93] However, questions persist as to the effect that virtual browsing has on researchers' habits. Namely, while virtual browsing may expose users to print materials, it is unclear to what extent users will leave the virtual environment to seek out and obtain potentially relevant print materials. It should be noted that browsing in an electronic environment has been maligned as difficult or ineffective.[94] Nevertheless, as users become increasingly comfortable using electronic search tools and techniques and as technology increases the potential applications of virtual browsing it seems poised to serve as a viable research strategy. Thus, it is worth discussing how user research behavior changes in an electronic medium versus when using print.

1. The user's conception of the collection in a virtual environment

A prominent benefit of browsing in a virtual environment is that the library is able to convey a fuller picture of its collection. That is, print and electronic materials can be collocated. One

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[90] See generally, Patricia A. Cervenka, *Library Without Walls—A Year Later*, 21 TRENDS L. LIBR. MGMT. & TECH. 31 (2011), for a discussion of how a library can integrate itself into the law school's physical space by removing walls that traditionally separated the library.

[91] *See* Whiteman, *supra* note 81, at 37 ("[E]ach law library must tailor its collection to its own situation.").

[92] *See* Adam Chandler & Jim LeBlanc, *Exploring the Potential of a Virtual Undergraduate Library Collection Based on the Hierarchical Interface to LC Classification*, 50 LIBR. RESOURCES & TECH. SERV. 157, 158 (2005) ("[I]nstitutions can benefit from studying ways to create print collections without regard for physical contiguity . . . .").

[93] *See, e.g.*, Lynema et al., *supra* note 79, at 220 (discussing a 1996 study of experimental graphical OPAC interfaces).

[94] *See* Stefan H. Krieger & Katrina Fischer Kuh, *Accessing the Law: An Empirical Study Exploring the Influence of Legal Research Medium*, 16 VAND. J. ENT. & TECH. L. 757, 782 (2014).

effect of libraries' shift towards hybrid collections of print and electronic materials is the creation of gaps in the collection, such as having only a partial run of a serial. Additionally, a hybrid collection may mask information, creating the appearance of a collection gap, when in fact the information is simply misplaced.[95] While virtual browsing will not solve all of these problems (such as when a false collection gap appears due to incomplete or inaccurate metadata),[96] it provides the user with the best and fullest representation of a library's collection.

Researchers of general library user behavior noted that in describing how a user perceived what materials comprise the library's collection, whether an item was "instantly" or "readily available" was a determinative factor.[97] Research also established that user perception of a library's collection determined that every user utilized the library catalog to determine what materials were in the library collection.[98] It is likely that most users turn to the catalog to determine the contents of a law library's collection, and it is undeniable that the catalog is a primary access point to most academic law library collections. The opportunity to more fully represent the scope of the collection through virtual collocation of physical and digital items should be seized.

Relying on a virtual representation of a collection as an exclusive or primary access point to the collection presents challenges. Namely, users increasingly expect immediate access to information when using digital search tools.[99] In the context of library catalogs, digital materials cause "the distinction between a record and the content it refers to [be] . . . diminished."[100] Thus, users may deem print materials that are virtually collocated with digital materials as outside of the library's collection because of the lag in obtaining the print materials. This raises the persistent benefit of browsing physical items on the shelf over using a catalog: for print materials a catalog record generally does not replicate the amount and ways of accessing information that physically examining a print item offers.[101]

Libraries should use detailed catalog entries to demonstrate that the library has a high level of control over items in its collection. Ideally, this will mitigate the possibility that users will deem print materials that either are in closed stacks or stored offsite, in other words, items that are not immediately available, as outside of the collection. Even if the user will experience a delay in accessing the item, the library should demonstrate characteristics of control over the item other

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[95] Lisa M. Covi & Melissa H. Cragin, *Reconfiguring Control in Library Collection Development: A Conceptual Framework for Assessing the Shift Toward Electronic Collections*, 55 J. AM. SOC'Y INFO. SCI. & TECH. 312, 316 (2004).

[96] *Id.*

[97] Hur-Li Lee, *The Concept of Collection from the User's Perspective*, 75 LIBR. Q. 67, 72 (2005) [hereinafter Lee, *Concept of Collection*]; *see also* Hur-Li Lee, *What is a Collection?*, 51 J. AM. SOC'Y INFO. SCI. 1106, 1110 (2000) (suggesting the librarians use levels of control to identify a collection while users use levels of access) [hereinafter Lee, *What is a Collection?*].

[98] Lee, *Concept of Collection*, *supra* note 91, at 73.

[99] Anne Christensen, *Next-generation Catalogues: What Do Users Think?*, *in* CATALOGUE 2.0: THE FUTURE OF THE LIBRARY CATALOGUE 1, 10 (Sally Chambers ed., 2013) ("The reason why library catalogues are perceived as inadequate in comparison to Google seems to have much to do with delivery. Google provides users not only with search results, but also with full text. This paradigm shapes our users' expectations . . . .").

[100] Lynema et al., *supra* note 79, at 220.

[101] *See* Dabagh, *supra* note 3, at 384 ("[T]he catalog is rather bare of information of some types. It cannot show all the details, so that often more can be learned by examining the books on the shelves than by examining the cards in the catalog. Also, use of the catalog is much less convenient than direct examination of the books.").

than immediate accessibility.[102] To the extent that tables of contents, abstracts, or full text can be made available in the catalog entry, users are more likely to see the item represented in the record as a usable, accessible part of the collection.[103] The catalog record should provide information about the items location, availability, and provenance.[104] The catalog should demonstrate that the item was curated and chosen to serve the needs of the users.[105] This information will demonstrate that the material was deemed worthy of acquisition and inclusion within the catalog and may lessen the effects of grouping immediately accessible items with items accessible only through some effort and delay.

2. The convenience catastrophe and the principle of least effort

Any library that chooses to limit access to its print collection and rely principally on a catalog representation of its print holdings will confront the above-mentioned problems and the entwined problems of the convenience catastrophe and the principle of least effort. Roy Tennant termed the convenience catastrophe to describe users' preference for content contained in digital collections over content that is maintained in print collections.[106] Part of this preference can be attributed to visibility and, as mentioned, perception of what constitutes the library's collection. That is, a sparse catalog description of a print item may not even register in the user's consciousness as a viable resource when contrasted with full text digital content that can be immediately accessed.[107]

The convenience catastrophe implicates the principle of least effort. That principle provides that "most researchers (even 'serious' scholars) will tend to choose easily available information sources, even when they are objectively of low quality, and, further, will tend to be satisfied with whatever can be found easily in preference to pursuing higher-quality sources whose use would require a greater expenditure of effort."[108] Operating under the premise that not all print material is available digitally[109] and that valuable information is contained in those print-only items,[110] libraries should consider how to promote access to those materials.

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[102] Lee, *Concept of Collection*, *supra* note 91, at 73.

[103] *See* Lynema et al., *supra* note 79, at 231.

[104] Karen M. Wickett et al., *Are Collections Sets?*, 48 PROCEEDINGS AM. SOC'Y INFO. SCI. & TECH. 1, 2 (2011).

[105] Lee, *Concept of Collection*, *supra* note 91, at 76.

[106] Roy Tennant, *The Convenience Catastrophe*, 126 LIBR. J. 39, 39 (2001).

[107] *See* Levrault, *supra* note 36, at 27 ("We must provide more information online about what our print collections hold, so that potential users of our holdings can more easily discover the treasures they contain. . . . The path of least resistance will then hopefully lead a student to the best resources available regardless of format.").

[108] Mann, *supra* note 35, at 91.

[109] Writing in 1999, Penny Hazelton found that the only 13% of the University of Washington School of Law's collection was duplicated digitally. *How Much of Your Print Collection is Really on WESTLAW or LEXIS-NEXIS?*, 18 LEGAL REF. SERV. Q. 3 (1999). Asking the same question in 2010, Elizabeth Breakstone found that 45% of the University of Oregon School of Law's collection was duplicated in digital format. *Now How Much of Your Collection is Available Online? An Analysis of the Overlap of Print and Digital Holdings at the Unviersity of Oregon Law Library*, 29 LEGAL REF. SERV. Q. 255 (2010). *See also* Jennifer Mart-Rice, *Converting the Future of Public Academic Law Libraries*, 39 COLLECTION MGMT. 177, 185 (2014) (discussing Hazelton and Breakstone's work and duplication of print materials in digital collections generally).

[110] Palfrey, *supra* note 87, at 176.

This is not to say that simply because some valuable information may be located in print only that a library should pursue increased access to print materials at the expense of other library services. Rather, if in light of user needs or external pressures a library chooses to abandon open, browseable stacks or even subject-arrangement, a library must ensure that convenient and efficient methods of reviewing and accessing the print collection are available. Print materials, even if contained in browseable stacks, will for many users never be as accessible as digital materials. Despite these practical limitations librarians should strive to maximize the availability of print materials and increase user access.[111] The goal is to minimize the additional burden and to maximize the attractiveness of the information to the user. Descriptive catalog records and any other contextual information that can be conveyed about the print item may signal to the user that the print material can best answer their research needs, even if it is not the most convenient material.

3. Virtual browse tools

There are a variety of virtual browse tools that have been developed and are currently implemented or are in beta. These virtual browse tools use various visualization schemes to replicate or augment how materials would appear on the shelf. The goal is to create a search tool that can provide the type of serendipitous discovery that physical items shelved pursuant to subject arrangement permit.

Several Online Public Access Catalogs ("OPAC") provide virtual browse functions. LibraryThing, SearchWorks, VuFind, Koha, and Biblio all offer some variation on a virtual browse feature.[112] Typically, this feature provides a roll of scrollable cover images representing the classification arrangement of the items as they would appear on the shelf. Early research on virtual browsing indicated that users responded positively to the familiar visual metaphor of books on the shelf.[113]

Harvard Library Innovation Lab developed the open-source application StackLife, formerly called ShelfLife, which allows users explore the physical items in a library in innovative ways.[114] StackLife, using the visual metaphor of book spines on a shelf, allows users to access and manipulate the collection in distinct ways. For instance, users can see the entirety of Harvard Libraries collection, which is physically separated in 73 libraries, on one virtual shelf.[115] Using StackLife users can create their own links between works. Users can see books that led other users to a particular title, users can connect titles and share those connections with others, and users can view "heatmaps."[116] Heatmaps "indicate the relevance of . . . works to the Harvard community . . . . based on data that includes how often a work has been check out and by which types of members, how often it is put on reserve, how often someone recalls it from loan, etc."[117]

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[111] Lee, *Concept of Collection*, *supra* note 91, at 77.

[112] *See* Lynema et al., *supra* note 79, at 224.

[113] *Id.* at 219.

[114] For a discussion of StackLife in its iteration as ShelfLife, see Christensen, *supra* note 93, at 9.

[115] *Stacklife*, HARVARD LIBRARY INNOVATION LAB, http://librarylab.law.harvard.edu/blog/shelflife-alpha/ (last visited May 11, 2015).

[116] *Id.*

[117] *Id.*

Through these various connection displays StackLife promotes the serendipitous discovery and relationship observation that subject classification allows, with the added benefit that users can personalize and influence the representation of those relationships.[118]

Virtual browsing tools try to promote the same benefits that physical browsing permits. By incorporating browsing strategy with the catalog, which most people use to access the collection, a virtual browse feature may serve to make browsing more convenient, require less effort, and be more accessible to more users. Virtual browsing can represent the entirety of a library's collection, including physical items that are collocated pursuant to the classification scheme but not adjacently shelved due to physical constraints. As libraries' collections become increasingly hybrid, exposing users to print materials alongside electronic materials will highlight the possible value that print materials may provide.

B. How Virtual Browsing and Electronic Research Affects Information Gathering

From the pattern and relationship-identifying behavior that browsing promotes, to developing a conception of the collection and the materials it contains, virtual browsing shapes users' perceptions of the collection. Librarians should be cognizant of the way that the presentation of the collection may potentially shape users' interaction with the collection and with the law generally.[119]

One key aspect of virtual browsing is that it also "obscures the difference between a record that represents an object and the object itself."[120] A common goal of OPAC and catalog design is to allow users to seamlessly discover and access digital materials. That is, to limit sign-in requirements and other digital gateways a user must pass through in order to access the digital full text. This seamlessness further serves to blur in the user's mind the line between a catalog record and an item itself.[121]

The goal of seamlessness between a library's catalog records and its digital materials is about increasing access and convenience. However, that benefit serves to highlight the difference between digital materials and print materials. Even extensive catalog descriptions that include abstracts or tables of contents, will not equal the convenient access that digital full text offers. According to the principle of least effort, access to print materials will suffer as a result of this distinction between print and digital. This is not to suggest that obstacles to digital materials should be increased in order to level the playing field between digital and print. Rather, libraries should promote and deploy their print collection in other ways; some suggestions to do so will be provided below.

While law students may learn and practice various research strategies in law school, the bulk of their legal research will be performed using LexisNexis's or Westlaw's electronic legal databases. Consequently, law students will access the majority of the information that they use

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[118] *Id.*

[119] *See* Krieger & Fischer Kuh, *supra* note 88, at 760 & n.9 (collecting literature on the effect electronic research may have on a user's understanding and practice of the law).

[120] Lynema et al., *supra* note 79, at 220; *see also* Lee, *What is a Collection?*, *supra* note 91, at 1110 ("The distinction between a collection and a document has become questionable due to the transient nature of electronic resources.").

[121] Lynema et al., *supra* note 79, at 220.

through keyword searching.[122] F. Allan Hanson has argued that "the form, organization, access, and transmission of legal information . . . integrally participated in the formation of 'the law' as a distinct realm . . . ."[123] Hanson claimed that the classification and organization of search tools designed to work with print-based materials "convey an image of the law as taxonomically structured in terms of a relatively few general principles."[124] The ubiquity of keyword searching diminishes the prominence of general legal principles and encourages researchers to eschew overarching principles in favor of factual corollaries.[125] LC Class K identified, or created a representation of, a structure of the law that was generally accepted as logical and useful. Working with Class K and the structure that it created, researchers were forced into using those relationships, while being influenced by the principles and subject areas that drove the organization of the materials. According to Hanson, the rise of keyword searching and the focus on similarity of fact rather than similarity of principle causes classification schemes to look artificial and contrived.[126] He then questioned "whether the law has any intrinsic organization at all."[127]

While there may be no easy answer to Hanson's question, the notion that the law's structure, at least so far as it has been represented in LC Class K, is simply one of many possible constructs and organizations should encourage libraries to modify the arrangement of their materials and not feel bound to the arrangement Class K dictates.[128] Barbara Bintliff, writing in 1996, recognized the West Digest system as an organization of U.S. law. West's Digest system organized the law into seven overarching categories comprised of several hundred subtopics. Although the digest system is concerned with organizing case law, which as contained in reporters is distinct from the monograph materials that are this paper's focus, it was hugely influential. Bintliff argued, "[t]he digest's organization follows the same pattern as our legal reasoning process, and has almost come to be the physical manifestation of 'thinking like a lawyer.'"[129] Certainly, Bintliff's observation that legal research and analysis "are becoming less

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[122] *See* Julie M. Jones, *Not Just Key Numbers and Keywords Anymore: How User Interface Design Affects Legal Research*, 101 L. LIBR. J. 1, 12, 29 (2009) (noting that LexisNexis and Westlaw are designed to discourage browsing to locate information within their databases); *see also* Krieger & Fischer Kuh, *supra* note 88 at 783 (noting that in a study of electronic researchers browsing was used less than print researchers).

[123] Hanson, *supra* note 14, at 572.

[124] *Id*. at 584.

[125] *Id*.

[126] *Id*.; *see also* Barbara Bintliff, *From Creativity to Computerese: Thinking Like a Lawyer in the Computer Age*, 88 L. LIBR. J. 338, 339 (1996) (arguing that computer-based legal research was emphasizing facts than identifying the law).

[127] Hanson, *supra* note 14, at 584.

[128] Hanson expounded:

[A]ccessing and processing information electronically enables people to organize that information according to their own purposes rather than having to accept it in some preestablished form. . . . In this circumstance it becomes increasingly improbable to think that the information in question has some permanent, intrinsic organization. . . . In the same way, categories of worldview built on some particular classification of information become less cogent when that classification is recognized as one of many possible alternatives."

Id. at 599.

[129] Bintliff, *supra* note 118, at 339.

rule-oriented, less structured, and more dependent on the chance that the fact-matching of a computer search will also return the right rules," has become more true.[130]

CONCLUSION

It is impossible to develop a perfect classification scheme that always promotes effective and systematic browsing. However, when print was the primary research tool any classification and corresponding arrangement, no matter how imperfect, allowed for the serendipitous discovery of relationships among materials. Browsing has always been a supplement to an effective search strategy. Yet, as more and more research is done electronically, browsing is infrequently employed.

The academic law library environment may have reached a point where the promotion of browsing versus the cost of the maintaining a browseable arrangement of print materials is not worthwhile. A library that is facing physical plant changes may find that the nature of that change imposes too high of a burden on maintaining its collection in an open, browseable form. Any library faced with such change should analyze whether a more efficient arrangement, one that through the abandonment of subject arrangement allowed the library to store more materials in less space, would allow the library to better serve the contemporary needs of more of its users. The suggestions described above indicate how such an arrangement might be realized that recognizes the benefits of browsing and seeks to substitute or replace them as best as possible, while also maximizing any space-saving outcomes that a new arrangement produced.

Given the pressures driving the change in legal reasoning from principles to facts, and the potential effects this may have on the practice of law, it may seem as though obscuring LC Class K's organization of the law by abandoning Class K shelf arrangement, would hasten the decline of principle-based legal research. However, if library users are not browsing and engaging with materials arranged pursuant to Class K, academic law libraries seemingly have nothing to lose in experimenting with alternative book arrangements. By creating subject-specific nooks, as Peoples suggested, libraries may emphasize the overarching principles that organize the law. Because these nooks are customizable, inter-disciplinary materials or content that would otherwise be separated due to Class K can be collocated. This flexibility is akin to the freedom that virtual browsing and electronic searching bestows on users, while creating a tangible expression of the law and its principles. Holding a flexible view on the classification and arrangement of law materials is not new; Frederick C. Hicks of Yale Law School Library described the creation of Yale Law Library's classification scheme:

> Nobody can look at the classification scheme in the way that one looks at a landscape, and no one should try to. I am getting at the point that, even though you have a logical scheme in which the main classes follow each other in something like a logical order, you usually do not arrange those classes in your library according to that logical scheme. You disrupt the arrangement because it is convenient to do so. Observing that over a good many years, in getting up our little classification scheme we thought it desirable not to be hampered in

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[130] *Id.* at 350.

creating our classification by this though of unity or logical relation to each other, and thus we have proceeded in that way and up to the present we have not run into any unsurmountable difficulty.[131]

As an example of viewing the arrangement of legal materials as malleable, the University of Texas School of Law's Tarlton Law Library recently revamped a popular reading room for students. The library chose to group together the materials that students used most frequently: recent editions of study aids, previous law school exams, law school success strategy guides, and practice tips for new attorneys.[132] Tarlton Law Library contemplated "arranging the books according to a number of different criteria—books for 1Ls together, all books in a series together, major subjects together, etc.—but decided to maintain LC Classification to maintain consistency within the library's collection and to make reshelving easier . . . ."[133] By locating materials that would otherwise be physically separated throughout the collection and the library to a distinct space, Tarlton Law Library created new context for these materials. Students had the opportunity to see them as important tools that the library specifically chose to highlight. There is no reason such a program would not work with other subject areas, like those Peoples mentioned, tax, clinics, LLM programs, and other institutional interests.

Libraries should not expend resources maintaining Class K shelf arrangement solely because of the view that history or tradition has established that arrangement as the correct way to arrange materials. The uniformity of arrangement that Class K introduced, which due to space constraints and other collection divisions never resembled the ideal landscape that Hicks referred to, is a relatively recent innovation and its effectiveness and utility should be evaluated when collection movement or reorganization is considered. Despite having designed an elaborate classification scheme for his roughly 6,700 volumes, Thomas Jefferson viewed his scheme "not as a rigid system but as a flexible model adaptable to the exigencies of time and circumstance."[134] Academic law libraries should embrace Jefferson's view of classification and arrangement as a tool that may be honed innumerable different ways to suit the needs of the institution or its users.

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[131] Frederick C. Hicks, *Proceedings: Thirty-second Annual Meeting*, 30 L. LIBR. J. 402, 405 (1937)

[132] Kasia Solon Cristobal & Joseph Noel, *A Room of Their Own: Creating a Student-centered Resource Room*, 19 AALL SPECTRUM 20, 21 (March 2015).

[133] *Id.*

[134] Jefferson & Wilson, *supra* note 26, at 1-2.