
The University of California Shared Print program, the Committee on Institutional Cooperation Shared Print Repository, and the Triangle Research Libraries Network Collaborative Print Retention Program are studied in order to ascertain current print serial retention practices among academic libraries in the United States. Using a comparative case study design, document analysis and descriptive statistics are examined to reveal the processes of different programs, as well as their local contexts. Cross-case analysis revealed several trends: retention of print journals often builds upon existing consortial mechanisms to gather, describe, preserve, and provide access services, subsequently relieving library budgets as well as space. In the emerging electronic world, these programs are seeking a solution to the problem of print serials by collaborating to retain limited copies—always ensuring some form of basic access, and never closing the door to them completely.

Headings:

Serial publications
Subscriptions to serial publications
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Cooperative collection development in libraries
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COLLABORATIVE PRINT SERIAL RETENTION:
A MULTIPLE CASE STUDY OF ACADEMIC LIBRARY PROJECTS IN THE
UNITED STATES

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Introduction:

The Fundamental Issue:

Several projects among American academic libraries have been implemented to collaboratively retain print serials. Print serials are progressively cumulating into an unavoidable predicament: with increasing preferences for electronic resources, print material is used less and takes up space. These factors also cost money, and therefore unnecessarily stretch already-tight library budgets. Additionally, both print and electronic serials prices are high and only increasing. Faced with these realities, it may seem logical for academic libraries in the United States to simply discontinue the acquisition and maintenance of print serials. However, a number of factors make the basic abandonment of print serials an inadequate solution. Serials in print format therefore still have a place in library collections; they simply must be re-framed in a new context. Collaborative print retention is being investigated as an answer to these concerns: libraries can avoid the unnecessary duplication of print serials and still retain access through resource sharing. As collaborative print retention is a relatively recent phenomenon, standard best practices have yet to fully emerge. Exact policies and procedures vary among projects—as well as continue to evolve within them—as lessons are continually learned about the possibilities of collaborative print serial retention. An examination of the trends currently found amongst major projects will facilitate greater understanding of their accomplishments as well as challenges; along with the values, priorities, and overall mindsets of American
academic libraries attempting to establish an efficient approach to successfully re-conceptualize serials.

*The Research Question:*

The question this study will address is:

How do American academic libraries collaborate to retain print serials?
Literature Review:

**Literature on Factors which have Fed into Decisions to Collaboratively Retain Print:**

Research has shown the problem of print serials has manifested itself through the accumulation of several important factors:

*Decreasing Use of Print Serials:*

The existence of a sizeable proportion of unused material is a reality academic libraries have been dealing with for a long time—along with awareness of the duplication of this material throughout other libraries (Buckland 40). Academic libraries are increasingly serving patrons who not only prefer, but often essentially require or demand serials in electronic format. The convenience of electronic resource access undoubtedly in large part drives this preference: a user can simply download an article immediately on to their home computer and does not have to move to the library from his or her personal location (Watson 47). Studies have demonstrated that preference for electronic versions of library resources is also due to their advanced functionality (Liew, Foo, and Chennupat 304; McDonald 22). A 10 year study in a University of South Carolina library showed an 85 percent drop in print journal use—including titles without electronic counterparts (Rosati 107). Other studies have shown it is common for students to choose resources based on the availability of electronic full-text (Tenopir 617). It is not unusual for patrons to completely disregard non-electronic resources (Alan and Butkovich 32). University faculty are a part of this trend, as well: a series of surveys taken every 3 years by Ithaka
S+R demonstrates a growing number of faculty members prefer electronic serials over print formats (Housewright 194).

*Resource Pricing and Academic Library Budgets:*

A study measuring trends in journal prices over 6 years indicated significant increases for the majority of major publishers (White and Creaser 13). A 4-year study by the Association of Research Libraries reported an over 30 percent increase in electronic journal subscriptions along with a corresponding decrease in those for print (Prabha 12). Furthermore, ARL Statistics indicate that serial expenditures have increased by over 400 percent between 1986 and 2011 (see Figure 1), and that average electronic serial expenditures have increased by over 2 thousand percent between 1994 and 2011 (see Figure 2) (“Electronic Resources and Materials Expenditures in ARL University Libraries”; “Monograph and Serial Costs in ARL Libraries”).

Print serials in particular take up an immense and an ever-increasing amount of shelf space, which also necessitates costs of processing and maintenance (Rose-Wiles 223). The average amount of shelf space available for journals is constantly decreasing (Primary Research Group 31, 90). A Drexel University study reported that, though maintaining electronic collections was more expensive, the actual cost-per-use of print journals was more than double that of electronic; and that bound print serials in particular involved a great deal of space costs (Montgomery and King). Space issues result in an even greater impetus for academic libraries to cancel print journals in favor of digital, as they do not want precious funds going towards maintaining low-use resources (Henderson and Bosch 39; Burnette 8).
Figure 1: Monograph and Serial Costs in ARL Libraries, 1986-2011. (Monograph and Serial Costs)
Transitions in Academic Library Organization and Procedures:

These realities are naturally also influencing the basic organizational models and procedures of academic libraries. Staffing and workflow practices are being progressively modified to manage electronic resources as well as adapt to tight library budgets. Grand Valley State University Library cites technological advances as the main catalyst behind its new organizational structure: the periodicals department was essentially eliminated as the library decided to significantly decrease its print serial holdings (Schoofs 17-18). This reorganization also entailed the expansion of the Electronic Resources Management department. Similarly, by eliminating certain print-oriented activities and re-focusing staff time towards online journals, the University of Nevada was able to redirect efforts to emphasize more heavily-used resources (Anderson and Zink 68, 70). Its librarians argue that emerging technological changes have made it necessary to question assumptions.
about supposedly fundamental academic library activities—assumptions that are ultimately informed by a now long-gone, print-dominated world (62).

Librarians from the University of Kansas recently implemented more flexible staffing arrangements to properly accommodate workflows for both print and electronic formats; including changes in the process of hiring, training, and assessing (Miller 150). The Dartmouth College Library decided to “reinvent” its activities as a response to the new tasks required by electronic resources and simultaneous staff reductions (McHugo, Magenau and Langendorfer 270). This also involved an intentional reduction in many activities previously devoted to print (272). The University of South Florida Tampa Library attempted several staffing and workflow changes in order to accommodate for the increasingly electronic format of the serials collection (Borchert 71). This includes hiring more staff members with specific skills in electronic resources management, along with reductions in the Serials department and in print serial tasks (73).

Shifting away from print and towards electronic serials affects the entire organization of the academic library (Leibowitz 255). However, it is important to remain aware that this transition currently is still very much incomplete—which certainly shows in library organization. A 2010 survey of academic library evolution towards electronic serials indicates that, overall, tasks devoted to print serials are indeed increasingly reduced; with corresponding shifts in various jobs and responsibilities (Glasser 140). Nevertheless, it also indicates that the majority of print serials positions have not been eliminated, and that a small percentage of remaining employees are involved in electronic serials tasks: the survey asks, “in the midst of this transition, are libraries adapting to change rather than planning for change?” (143). Indeed, librarians are presently exploring
cost-effective organizational structures and practices that can still manage to sustain print serials (Andrade et al. 29). Therefore academic libraries are currently still trying to hold on to print serials management while recognizing the emergent needs related to electronic resources.

*Print Serials Still Have a Role:*

There still remain several factors indicating print serials still offer value to an academic library collection. First of all, though not common, print material is still valued for its “artifactual purposes” (Atkinson 8). Furthermore, patrons with a genuine preference for print over electronic formats do still exist—and a library intending to take into account the range of user preferences must consider this, as well. Though Housewright’s study did confirm increasing preferences for digital resources, it also reported that very few faculty members wanted print replaced by entirely electronic collections (194). Certain academic disciplines feel the push towards digital resources much stronger than others; the hard sciences felt the shift much earlier and stronger than the humanities (Horava 325; Rowse 28; Tenopir and Wolverton 163). Additionally, the inclusion of print serials is necessitated by the reality of certain material being unavailable electronically (Atkinson 8).

Another major factor impeding academic libraries from collectively embracing electronic over print serials is the combination of problems currently facing electronic resources themselves. Most importantly, these involve issues of access versus ownership along with digital preservation. The concepts of access and ownership are one and the same concerning print material; the advent of electronic subscriptions has brought a divide between them. Electronic serials are generally not bought and owned in the
traditional sense, but are acquired through licenses. The library does not own the material it is paying for—it is simply allowed to use it to whatever extent the license dictates (Gregory 146). When an electronic journal subscription is cancelled, all of the previously paid-for issues will generally also be lost, as well (Watson 46). Acquiring perpetual access rights often involves complex license negotiations and additional payments libraries can ill-afford (Watson 48). In general, licensing agreements for electronic journals have been described as “roadblocks” to sustainable pricing (Anderson).

Furthermore, the prospect of accessing the cancelled material through interlibrary loan is also nullified: most license agreements prohibit the sharing of electronic content between institutions (Gregory 63).

As more academic libraries choose to save money by cancelling print subscriptions to focus on electronic, they risk the loss of this content through more than just ownership issues: access can be lost through publisher mergers, journal title trade, and even the event of a publisher going out of business. It is also not uncommon for vendors to discontinue titles without giving notice to the subscribing libraries (Herring 46). These risks have “highlighted libraries’ concern for perpetual access and the archiving of content regardless of providers’ business decisions” (Kirchner 69). Digital preservation itself is not only costly, but still has yet to emerge with standard practices that can be uniformly applied and endure technological changes (Watson 49-50). As a result, retaining a print copy of a serial can provide a certain amount of stability currently lacking in electronic format.
Summary, Conclusions and Final Thoughts:

In 2006, Kaplan, Steinberg, and Doucette examined current practices and opinions of print journal retention in academic libraries. Nearly 95 percent of these libraries indicated that access instead of ownership will become increasingly important in collection development policies, and over 87 percent intend to retain print serial back runs—despite acknowledgement that demand is steadily decreasing, that libraries place decreasing priority on their maintenance, and that physical space previously meant for these collections is being reassigned (390). The authors argue that usage statistics and patron demand do not completely justify these libraries’ desire to continue retaining runs of print journal titles: it is understood that they have not quite entered a pure digital age in which the only desired serials are those reliably available electronically (387). It is concluded that “the tide is slowly shifting away from maintaining large, costly retrospective collections toward the concept of access instead of ownership with a fresh approach to the library as a place” (Kaplan, Steinberg, and Doucette 392). This shift towards a new concept of access should also involve a corresponding fresh concept for the access to print serials.

Due to these realities, it appears that print serials still indeed have a role to play; albeit more limited in nature, and certainly in a context that is increasingly informed by electronic resources. The current environment therefore remains a hybrid of the 2 formats: “Print has become an element of a broader spectrum of resources, both owned and licensed, both hosted and accessed remotely, some of which may be purchased, some of which may be available for free, but for which the library nevertheless takes on managerial responsibility for its users” (Rowse 24, 28). It is important for continued
research to determine what this broad spectrum entails for the new role of print serials as they are collaboratively retained amongst academic libraries.
Literature on Collaborative Print Retention of Serials:

Due to the relative newness of collaborative print retention, few studies have comprehensively documented current practices of multiple projects—especially focusing on the retention of serials amongst American academic libraries. Many informative contributions to the literature are valuable for ascertaining methodologies and approaches, as well as important historical background, but still remain inadequate for examining current activities due to their age. The first major contribution to the basic literature on collaborative print retention began in 2000 with the Center for Research Libraries’ announcement and description of its decision to retain paper copies of journals digitally available from JSTOR. The article declares “it is important to the scholarly community that there be reputable regional depositories for the paper versions of these journals,” and proceeds to briefly outline the CRL’s choices regarding the project: titles would be retained according to subject category, and there would be explicitly scheduled deposits, requests for deposits, as well as policies governing how member libraries would request copies of these titles (“CRL Begins JSTOR Deposit Program” 3). Though these descriptions are very brief, this article ratified the important components of collaborative serial print retention, including the need for projects to make explicit decisions regarding selection criteria, as well as policies for retention and access.

Furthering its leadership role in the following years, CRL publications and Task Force Reports identified the need for a national print resources system and described the necessary framework for practices governing the retention of low-use print material (Atkinson 2; “Towards a National Hard Copy Strategy”). Most importantly, they outline a vision for the ideal characteristics of a collaborative print retention program: it must
focus on the preservation of last-copy material, material should be incrementally added, it must rely on willing participation from member libraries, its policies must be fair or keep in line with those already-existing throughout member libraries, responsibility for retained material must be evenly distributed, and it must be financially sustainable (“Towards a National Hard Copy Strategy” 4).

In 2003 a working group from the CRL used a survey to assess the state of 89 global cooperative collection development projects, indicating that 10 percent of respondents were in the process of implementing cooperative print archives, while 16 percent claimed to be working towards this goal (Haar 187). Only one-third of collaborations involved print material, and, of these, 65 percent dealt with serials (Haar 184, 187). The survey’s results also indicate that just over half of the programs operate under a formal agreement, and that the basic coordination of cooperatively collecting print material is a major roadblock in itself (Haar 188). The study also reports that 75 percent involve financial self-support, 28 percent receive support from governmental entities, and 23 percent through grants (Haar 187). The study does not explicitly look at collaborative print retention for these statistics, instead describing consortia that cooperatively build their print collections in some capacity. These statistics are also quite broad for a researcher intending to look at exact funding or policy agreement specifications.

The CRL’s prominent role in collaborative print serial retention remains one largely characterized by facilitating the national or global exchange of reports and updates. Indeed, its 2003 conference on print resource preservation charts out an agenda with the goals of improving national information exchange or self-reporting, activity
coordination, and a risk management framework (“Preserving America’s Print Resources” 2). The 2011 update on cooperative print archiving describes the CRL’s efforts towards fulfilling “the need for information and tools to support decision-making on what to maintain, preserve, and even withdraw,” (Reilly, “CRL Update”). This includes the development of the Print Archives Preservation Registry, which is a database with basic information about 31 major print archiving projects, including their selection criteria, holdings, retention period, and ownership policies (“Print Archives”). The CRL also hosts the Print Archiving Community Forum, which maintains information from libraries of all types and locations on the cooperative print retention. The documents released semi-annually from this Forum mainly consist of descriptive paragraphs on print retention projects from various library types as well as various kinds of print material, including monographs and serials (“Shared Print Community Discussions”).

Though the broadness of the Forum limits any available information on American academic libraries’ activities with serials, it still provides valuable information on these current practices. In 2013, a report was released that described current news or activities from the Association of Southeastern Research Libraries Cooperative Journal Retention Program, the Committee on Institutional Cooperation Shared Print Repository, the Five Colleges Library Depository Program, the Florida Academic Repository, the University of California Shared Print, the Western Regional Storage Trust, and the Washington Research Library Consortium. This includes any new agreements or changes to existing policies, changes in the number of titles or volumes of retained print material, as well as any developments concerning where this material is stored (“Updates from Print Archives at ALA Midwinter 2013”). While these updates are very important to ascertain
up-to-date information, they do not quite in themselves form a comprehensive understanding of current practices nor of the background circumstances that feed into them.

Literature suggests that a case study remains a valuable, fundamental method in assessing the contemporary activities of a limited group of organizations, as it utilizes why and how questions to provide comprehensive exploration of each unit’s complexities (Choemprayong and Wildemuth 52). The current practice of collaborative print serial retention projects as explored with a case study is relatively rare. Therefore the present study hopes to build onto this currently-limited body of literature on the topic. In a rare 2005 case study of the print retention policies amongst 4 institutions, Scott Seaman examined the Preservation and Access Service Center for Colorado Academic Libraries, or PASCAL. Using document analysis, archival records, along with a measure of historical research, he describes the reasoning behind and the current functions of the program: starting in the 1990s, each library had pressures concerning physical space due to the conflict between shelving needed for serials and the increasing demands for seating or study spaces (22). After discovering the costs of individually leasing additional space, they eventually came together to collectively form a centralized model to provide permanent storage of last-copy, low-use journals (24). Pleased with the formation of a cost-effective solution, the Colorado legislature agreed to fund the endeavor (21).

Seaman examines the challenges found in the entire process of negotiating a retention policy that would provide member libraries with a sense of security and preserving control over their own collection development. It was agreed that the very definition of low usage would be at the personal discretion of each contributing
institution. Additionally, many librarians had reservations regarding accreditation standards and the potential loss of official ownership status after placing material in an off-site, collaborative collection (23). Furthermore, though all had initially agreed upon aiming to avoid duplication, the lone ARL-member library had reservations about circulating irreplaceable last copies—as this could go against their ARL-mandated duty to preserve the scholarly record (25). A solution was found in separating the policies concerning monographs and serials: to assuage the fear that last-copy items could one day be simply withdrawn by the library with official ownership, it was agreed that serials would be permanently added to the cooperative collection and could never be simply removed in this manner. As a compromise, a long-term loan policy was implemented which would give any member library the opportunity to request certain material.

Seaman’s account of these factors and considerations effectively provides a solid understanding of the project. He also very briefly compares these practices to other print retention projects in order to highlight the potential advantages in PASCAL’s decision to manage stored collections collaboratively (21). However, the lack of depth in these descriptions undercuts a proper understanding of the advantages and disadvantages found between these differing projects. A multiple case study approach in which different projects are examined and compared with equal depth would enable deeper understanding of collaborative print retention.

Maskell, Souther and Oldenburg employed a survey to conduct a 2010 case study describing library directors’ views of collaborative print repositories within a consortium of 20 Canadian academic libraries (245). Despite not focusing on American institutions, it remains a significant contribution to the literature on cooperative print retention,
especially in light of its case study approach. The survey mainly focused on these directors’ ideas, as well as concerns, on the current needs for or the level of priority placed on print serial retention: over half of the directors reported the need for a solution to increasingly serious space needs, while every single institution indicated that any future print retention had to be implemented in consideration of their already-constrained budgets, as well as the availability of the same material in digital format (246). The majority expressed concerns regarding the operations, decision-making and communication process between each institution (247). Approximately half of the directors preferred the idea of a central model, while the remaining respondents were more receptive to distributing retained material throughout member libraries. These results provide interesting perspective, yet do not deliver the comparable potency and precision found in a case study analysis of actually established, active programs—hindering true comprehension of collaborative print retention practices.

A 2009 Online Computer Library Center research study sought to isolate any emerging core policies of successful collaborative print retention programs by reviewing publicly available policy documents (Malpas 5). Only 1 major policy document was selected and analyzed from each of the 18 programs, 11 of which involve consortia composed solely of academic libraries, and 13 of which involve institutions based solely in the United States (Malpas 18). The documents varied immensely in terms of length and content; some were simple single-page summaries while others were hundreds of pages of exhaustive descriptions (Malpas 6). The study did not specifically focus on print serials, as over 70 percent of the studied policies applied to both monographs and serials (Malpas 9).
The study identified major common policy components it concludes can mitigate the difficulties of negotiating shared print agreements: firstly, libraries must unequivocally affirm the security of any shared print material—without this, they are less likely to participate in the first place and even less likely to continue to properly contribute (Malpas 5). Though the exact retention time period varied between consortial agreements, it is the very existence of this explicit retention commitment that is apparently necessary (Malpas 12). A second required policy element is the assurance of each individual library’s autonomy regarding the ownership of their material: the study argues this can be found in the existence of a clause that would allow libraries to rescind any contributed print material (Malpas 5). Another major policy requirement is the agreed-upon definitions of relevant terms such as duplication, withdrawal, and the replacement of lost items (Malpas 12). The final policy requirement is the explicit guarantee of access to a collaborative print collection (Malpas 6). Much like the first requirement, this policy would provide a measure of security for libraries seeking to remove print material without completely erasing the possibly of their access, should it ever arise.

The study maintains that, by properly acknowledging this “changing value of library print resources in the current information environment,” along with formulating and building-upon these core policies, collaborative print retention programs can enable a transformation on library operations: “Research institutions have a unique opportunity to refashion the collections economy by formalizing regional and supra-regional agreements for shared management of print resources, thereby releasing library resources for redeployment in locally specific, value-generating roles” (Malpas 13). There is immense
value in the information uncovered from this study’s method of examining policy
documents from active collaborative print retention programs. However, there is a strong
measure of uncertainty found in the combination of studying just 1 document from
institutions in such large, widespread, and dissimilar consortia. When seeking more
specific understanding of common collaborative print practices amongst academic
libraries in the United States in particular, more narrowly focused research is needed.

Malpas continued her contribution to the literature with a 2011 OCLC Research
Report which emphasized the preponderance of digitization as a driving force for
collaborative print retention. As Paul Genoni maintains, though the specific cases studied
include shared digital repositories, this study remains significant because they are framed
as an accelerating force in the movement of print counterparts to repositories: for about 1
year, data was collected on the holdings of the HathiTrust Digital Library in order to
compare it with the print-focused Research Collections Access and Preservation
consortium, or ReCAP, the NYU Bobst library, as well as over one-hundred Association
of Research Libraries members (Genoni 59; Malpas 12, 14). The results indicate that
nearly 20 percent of the ReCAP holdings overlapped, with the rate of overlap doubling
over the course of the study (33-34). Almost one-third of the NYU holdings overlapped
with HathiTrust’s, with a growth rate of over 55 percent (45). Malpas determines that the
cost of preserving print material for ReCAP is approximately one-fifth of NYU; if the
latter was to join with the former, it would also regain 13 thousand linear feet of shelf
space (58). The results also indicate that the rate of duplication between HathiTrust and
the ARL libraries was over 30 percent (62). Malpas concludes by suggesting that more
academic libraries shift their organizational models and print collection management
strategies: there are many operational gains to be found through forming new policies which effectively externalize print-related activities to a shared venture (9, 14).

A prominent 2001 report from the Council on Library and Information Resources examined the practices of preserving and maintaining access to research material by conducting case studies of 5 highly-differing projects. They include the Five Colleges Library Depository Program, along with the Library of Congress’ restoration of The Emperor Jones, JSTOR’s journal archiving program, a project dedicated to preserving audio folklore collections, and The Rossetti Archive’s efforts to preserve born-digital material (Nichols and Smith iv). These case studies do not intend to collectively provide information on the retention of serial or even print material; they instead are presented to facilitate information on the state of preservation or retention of information resources (Nichols and Smith v). However, there is value to be found in the description and analysis of the Five Colleges project: the case study uses self-reported documentation from Five College Librarians Council to describe the issues that led to the consortium’s implementation of a cooperative print retention program, including space shortages and financial troubles. It is largely based on a then-prominent report by Willis E. Bridegam, who later went on to produce another updated report on the Five Colleges project in 2004 (Genoni 54). None of the colleges’ governing bodies would approve funding to accommodate for their growing print collections on site (Nichols and Smith 56). It describes the chosen centralized depository facility for last-copy print items, along with the decision to transfer ownership of most contributed material to the consortium—along with the compromise of separately shelving the contributed material of the lone public university, which was required by law to retain ownership of its collection. Most
significantly among the materials moved to the depository were electronically-available print journals.

The case study makes mention of the challenges involved in organizational needs—such as the staffing needs for weekends or holidays—and how the consortium solved these problems by pooling their resources and thus finding greater flexibility (Nichols and Smith 57). Also described is the establishment of a Collection Management Committee, which was given the responsibility to make recommendations to the consortium’s Librarians’ Council concerning which material to be retained and print serial subscription cancellations. The case study successfully highlights current collaborative print retention practices along with the important historical components that go into them. Because it is employed as a comparison with such different projects, however, it is not as detailed nor does it provide the level of insight that would be found in a multiple case study of similar programs.

In 2003, the Council on Library and Information Resources built on its previous work by conducting a significant investigation of 8 American shared print repositories, 7 of which are composed of material purely from academic libraries. Because it focuses on the repositories themselves, it is inherently limited to practices concerning centralized models of collaborative print retention. It is also less inclined to look at the retention project as a whole, as its focus is on the physical facilities that house retained material. This study uses self-reported policy documents, reports, news updates, as well as journal articles describing the activities of these individual institutions. Instead of separating this investigation into separate case studies by individual project, the report simply has 3 sections where it compares and contrasts the projects’ general characteristics, their policy
decisions, and their basic organizational or funding models. It describes the similar space and funding issues that fed into nearly every project: after being inundated with request for funding for new buildings, the governing authorities of each consortia would push the collaborative repositories as a response (Reilly and DesRosiers 6). This remains true regardless of whether it was the result of a member institution’s renovations, such as in the Triangle Research Libraries Network, or those with urban campuses that did not have the land to expand, like those the University of California Shared Print program and the Research Collections Access and Preservation Consortium.

The report subsumes the financial sources for the repositories’ development and operational costs under 3 main headings: state-funded projects such as the University of California and the Southwest Ohio Regional Depository; consortial-funded projects such as the Five Colleges of Ohio and the Research Collections Access and Preservation Consortium; and those projects funded by a single institution, such as Duke’s contribution to the Triangle Research Libraries Network. Also described are the repositories’ respective physical capacities—ranging from hundreds of thousands of volumes to well into the millions—along with the number of staff members each houses, which ranges from less than 5 to over 30 (Reilly and DesRosiers 7). The report provides detailed descriptions of the facilities’ physical organization, storage density and efficiency, as well as item retrieval technologies (Reilly and DesRosiers 7).

The report becomes much more general when examining the selection and management policies of the repositories, most of which favor permanently retaining low-use, last-copy journals with faculty approval (Reilly and DesRosiers 13-15). Exceptions to this policy are not specifically stated, just broadly described as usually due to rapid
increase in requests for stored material. Similarly, the ownership policies are very broadly outlined morph into an argument maintaining that it is the issue of control, as opposed to official ownership, that determines the efficiency of these efforts (Reilly and DesRosiers 17). The organizational models are placed under the same 3 headings as the first financial section; along with the possibility of a hybrid model between state, consortia, and single institutions. The report maintains that, regardless of the model, most policies are governed by some kind of advisory board—whether it is state-level authorities, consortial governing boards, a consortial member library, or a lone institution (Reilly and DesRosiers 17-25).

The study concludes that a print repository’s success is more likely to result from a state or consortial organizational model; it is important to have an administration and policies that “level the playing field”—such as a requirement for unanimity among all participants in decision-making (Reilly and DesRosiers 23, 35). Ideally, this includes cooperating libraries being of the same approximate size, with similar governing structure and funding, along with using formal, explicit policy agreements (Reilly and DesRosiers 36). Reilly and DesRosiers also outline the programs’ backgrounds and conclude that a history of cooperation will greatly increase the chance of a print repository’s success: “Through such activities the colleges have established a pattern of interdependence and a high level of trust that support the building of truly cooperative repositories where the merging of collection control and management regimes can flourish” (35).

The journal Library Management released a special issue dedicated to collaborative print retention in 2005. It includes accounts of various print retention experiences from libraries around the world, but most relevant to American academic
libraries are the 2 articles authored by Lizanne Payne and Bernard F. Reilly, respectively. Among other print-related initiatives, Reilly notes the CRL’s continued commitment to collaborative print journal collection development amongst academic libraries: this includes work with Michigan State University, the University of Illinois, and Yale to establish “in-place,” or distributed retention of JSTOR serials (Reilly, “Preserving American Print Resources” 105). Also mentioned are Harvard and the University of California’s practices based on the concepts of dark or dim archives—which retain print serials that are not fully accessible to patrons. These descriptions are very brief and fall in line with the CRL’s effort to simply communicate information amongst the academic library community.

In “Depositories and Repositories: Changing Models of Library Storage in the USA,” Payne uses a literature review to observe the increasing prevalence of shared library storage facilities, citing their numbers as essentially equal to that of individually-operated facilities (10). Much like Reilly and DesRosiers’ study, she focuses on the actual centralized storage facilities and not necessarily on the projects overseeing them that could also include activities concerning distributed shared collection management. Payne describes the storage models and services provided by these facilities; most following the Harvard model by using high-density 30-foot stacks, material organized by size in open-top trays and retrieved by staff in a mechanical lift (11).

Payne observes the 5 most important services usually provided by successful facilities: most importantly, they must maintain long-term environmental control, along with providing efficient processing and shelving, proper upkeep, as well as either on-site patron access or mechanisms for physical or electronic item request and delivery (11-12).
She outlines the often differing policy and operational models for shared academic library storage facilities: while the Washington Research Library Consortium combines their catalog holdings and physically merges their stored print collections, the Research Collections and Preservation Consortium separates their items by ownership, including their online catalogs (12). The issue of ownership is significant here, as Payne argues that it separates the definitions for the terms repository and depository. She maintains a facility can only be deemed a repository when ownership is transferred to it or shared between participating libraries; this will successfully allow these libraries to build last-copy shared collections with no duplication. What she calls “‘de facto’ repositories” are those cooperations that keep ownership of contributed material, but enforce policy agreements to retain no duplicates with guaranteed mutual access (13).

Payne argues that in order to transform depositories to repositories, libraries must enact official policies to ensure factors such as the commitment to perpetual access, as well as the coordinated deposits of complete, unduplicated serial runs (14). This also includes the potentially expensive challenge of sharing inventories between libraries’ catalogs. Though it is not explicitly deemed a repository, she finds an example in the University of California’s initiative to retain Elsevier print journals at its Southern Regional Library Facility. Payne concludes that, just as individual libraries should not feel the burden to preserve large print collections, shared storage facilities should not maintain duplicate items: in an ideal world, centralized repositories could support a massive print archive network—ironically effectively forming a distributed print archive (15).
In the 2012 *Collection Management* special issue *Shared Print Repositories*, a significant article by Robert H. Kieft and Lizanne Payne analyzes reports, documents, and white papers of 16 collaborative print retention projects in the United States, including 13 academic library consortia (141). They provide a useful formal definition for collaborative print retention programs—especially as contrasted with the simple use of a shared storage facility: whether using centralized or distributed locations, libraries must enact a formal shared print agreement that specifies retention time periods, along with agreed-upon definitions for ownership, costs, environmental control, selection criteria, cataloging, and access (142). The study finds that nearly all current shared print programs are dedicated to serials, rely on distributed models, avoid using communal funding, and prefer long-term over permanent retention periods (143). Selection criteria for retained print serials are most often based on publisher, along with access to electronic versions (142).

Building on Reilly and DesRosiers’ findings, the study also finds that nearly all projects currently remain relatively separate because they are based on already-established academic library consortia. For the same reason, most print archival methods are light, or easily-accessible: access and delivery mechanisms remain the same used for previous resource-sharing practices (143). Kieft and Payne maintain that these regional networks will soon expand, citing an OCLC project currently developing metadata standards to facilitate the shared cataloging and analysis of print collections; also described are programs recently initiated by the Association of Southeastern Research Libraries and the Committee on Institutional Cooperation (144-145). It is also predicted that cost-sharing arrangements will become increasingly prevalent, as in the cases of both
CIC and the Western Regional Storage Trust requiring member fees to support maintenance, staffing, and shared collections analysis (145). Kieft and Payne also conclude that, as these programs expand and demand for print serials diminishes, these light shared print archives will become increasingly darker, or less accessible (139).

The importance of acknowledging this growing environment is furthered with Samuel Demas and Mary E. Miller’s analysis of collection management plans. They state “academic libraries will act in unison as networks of shared responsibility for storage and access to print…Local and collective collection management will take place at the intersections of these elements using an ever-evolving, intricate set of interrelated rules, guidelines, partnerships, and agreements” (169). They therefore argue that the most successful shared print programs involve individual libraries with compatible formal collection development policies; these form a structure on which to build collaborative collections (171). 7 main elements of a policy are posited: collection management goals and strategy; description of processes to support collection analysis and decision-marking; accessible bibliographic records; criteria for material location decisions, such as off-site or in open stacks; guidelines for weeding; standards for disposal; and guidelines for outreach and communication (175-176).

Susanne K. Clement’s Collection Management article provides an enlightening overview of collaborative print retention’s evolution amongst academic libraries. She analyzes significant organizational models, focusing on the Orbis-Cascade Alliance Distributed Print program’s prototypical challenges in retaining complete runs of journal titles from 2 publishers: responsibilities for each title were communicated through memoranda of understanding, along with circulation policies and required physical
conditions. Also described is ReCAP’s system of giving management responsibility to 1 member library, yet sharing a budget and other policies—though Clement argues that “true radical collaboration will not occur until the participating libraries decide to de-duplicate their holdings” (159). Clement also gives a significant, up-to-date account of the Western Regional Storage Trust, or WEST, print journal repository program. She describes its recent developments and current practices using the program’s website documents and self-reported information through various articles: its operational structure is based on explicit formal agreements that chart out standards and priorities for material selection, validation, retention, holdings disclosure as well as access (163). Also emphasized is the business model which declares the governance structure and membership terms, including how membership fees are determined by a library’s collection size as well as the various additional services it may require. Clement also makes sure to note the results from a data analysis and its implications for WEST libraries’ storage space (164).

Also valuable is Clement’s report of current directions and major issues facing collaborative print development, the latter of which are placed under the headings trust, data, and user attitudes. She argues the issue of trust is compounded with shared print agreements because libraries are trusting one another to retain last-copy items they have de-accessioned: they must achieve “formalized trust” through agreed-upon policies that are valid and enforceable (160). Academic libraries also need data to support decisions concerning what and how to retain material; a prominent example is Ithaka S+R’s development of an electronic tool that receives an information input, and then generates an output of journal titles that are already being retained by other institutions (161).
Clement also maintains user attitudes must be factored in to decisions regarding which print material to de-accession (162).

The remaining articles in this *Collection Management* special issue each focus entirely on studies of individual current print retention projects. Most notably, these include an account of the 2011 development of the Association of Southeastern Research Libraries, or ASERL, distributed print journal retention program. Before its official policies could be drafted, there were initial apprehensions that had to be resolved: members were concerned about the possibility of certain libraries de-accessioning their journals and repeating the benefits of the program without ever contributing to it themselves. The eventual resolution was simply the acceptance of this risk (Bruxvoort, Burger, and Sutton 227). There were other concerns about costs and compensation as well as access priorities; it was eventually agreed that each participating library would be responsible for its own storage costs, and that access would be based upon already-existing loan networks. A governance committee composed of representatives from each institution helped formalize procedures.

ASERL maintains it intentionally formulated a short, simply-phrased agreement with policies that “tended to fall on the side of inclusion and flexibility in order to maximize participation” (Bruxvoort, Burger, and Sutton 228). Corresponding with Reilly and DesRosiers’ as well as Kieft and Payne’s predictions, it was concluded that the consortium’s history had built up a level of trust that made a certain measure of risk and ambiguity acceptable. This includes flexibility in rules governing housing arrangements, material verification, selection criteria resting on each library’s local needs or interests, along with a 25 year retention period with an opt-out clause. Flexibility is also notably
found in the program’s decision to allow duplicates (Bruxvoort, Burger, and Sutton 229-230). Records of retained material are stored in a master spreadsheet that requests certain categories of information, such as location, circulation status, and risk level (Bruxvoort, Burger, and Sutton 231). The authors also make sure to note that the policy agreement explicitly charts out planned program reviews in order to ensure that its practices remain beneficial (Bruxvoort, Burger, and Sutton 234).

In another noteworthy article, David J. Gregory and Karen Lawson report the results of a 2011 pilot project for collaborative print retention between Iowa State University, the University of Iowa, and the University of Wisconsin-Madison. Like most other studies of individual programs, they begin with a historical overview of each institution’s storage and cost issues that motivated the project (189). Echoing Payne’s tradition, the study also found it wanted its formal policy to differentiate between the definitions of specific terms: trying to avoid the implications of the word archive, the official objective became “‘sharing a single copy in a working research collection’ (versus preserving an archival copy)” (190). The study outlines the key steps in making policy decisions, many of which are common practices such as selecting journals with secure access to electronic counterparts. There are also more unique policies specifying shared cataloging using MARC 583 levels, as well as requiring each library hold responsibility for a specific percentage of the material (194-195). The project also makes specific mention of gathering input from stakeholders: once it became clear there were marked differences in opinion—such as willingness to de-accession certain digitally-available items—a survey of sorts was distributed to rank journal titles (193). Similar to ASERL, it was also concluded that the final formal policy agreement would be flexible
and accommodate different demands (189). Through its efforts, the program reports freeing well over 1 thousand linear feet of shelf space (189). Despite this—and corresponding to Demas and Miller’s argument—the pilot project’s developers maintain its primary value was in the development of a formal policy that formed an infrastructure to support any future collaborative print retention endeavors (190).

The issue of shared cataloging of collaboratively retained print journals is significantly explored in Kay Downey’s account of the Northeastern Ohio Cooperative Regional Library Depository’s efforts in 2011. Instead of viewing the program as a whole, the report emphasizes how it affected the manner in which member libraries approached collective management practices (322). They found that the depository’s workflow and service were hampered by the lack of a shared catalog: with no way to efficiently analyze the inventory, sound de-duplication decisions could not be made, resulting in an unnecessary use of storage space (323). It is noted that the shared catalog’s development was made possible by the presence of staff with the necessary expertise, as well as motivated stakeholders, along with the commonly-found history of good consortial cooperation (325). The most important challenges included collecting and transferring bibliographic data to the new shared catalog, developing uniform record format as well as policies requiring timely holdings updates or allowing exceptions (326-327). The issue of ownership is concluded as a lingering future roadblock to shared print cataloging; the authors suggest bibliographic records with explicit identifiers (331). Though this entire process of embracing de-duplication might resonate with Payne’s theory concerning transforming depositories into repositories, the report makes no use of the latter term.
Accordingly, collaborative print retention has a strong impact on academic library technical services departments: in the New England Technical Services Librarians Spring 2011 Conference, it was reported that local cataloging and metadata operations are increasingly being taken to the network level to accommodate for print resource sharing—such as the case of WorldCat Local by the University of California (Rathemacher, Cerbo, and Li 227). Additionally, as print collections are re-located, technical services staff are sometimes transferred from the physical library, as well. The library director for the University of Massachusetts Amherst argued that “the cloud catalog will be the next big leap in technical services. There is no reason for individual libraries to have their own isolated catalogs, which are too costly and labor-intensive to maintain,” (Rathemacher, Cerbo, and Li 231).

The remaining challenges currently blocking such efforts were highlighted with the experiences of the Five Colleges Consortium: despite maintaining a prominent shared print retention program, what are vaguely described as “organizational and human resource issues” are currently preventing the consolidation of technical services for print material into a centralized department (Rathemacher, Cerbo, and Li 231). There are also potential roadblocks found in cataloging as well as reference staff members themselves: many maintain that a shift away from local control will take away the valuable work they do that is specific to their unique institutions. Another librarian argued that, along with technical services, virtually all library departments—including the director—need to formulate position descriptions acknowledging new skill sets that will be conducive to collaboration and effectively “minimize duplication of effort” between different staff
(Rathemacher, Cerbo, and Li 232). This includes the ability to interpret statistics and therefore make informed decisions.

Deborah A. Carver argues that the “emergence of print repositories as a shared resource will have a huge impact on access services”: the staff’s new roles will include important decision-making—such as what material is to be retained—as well as the responsibility of managing print retention agreements (80). This also means it will be less common for duties to emphasize the maintenance of local print collections (81). Not only this, but further expertise will be required in the procedures involved in collaboration, such as forming policies and agreements (83). Academic library staff jobs will require new expertise and skills that correspond to these emerging needs; this includes taking responsibility for space management considerations which will naturally result from collaborative print retention (82). Staff will also need proficiency in assessment techniques, such as gathering statistics on the use of print and digital collections.

A 2012 report on the Maryland Shared Distributed Journal Collections Project describes the efforts library staff were forced to put forth, including an initial weeding project of 300 thousand serial volumes (Snead 185). The project depended upon the skill sets of volunteers from the consortium’s member libraries, as the proper framework to provide funding and administration was not in place (Snead 186). Official representatives and committees were established, eventually formulating selection criteria, a service model, and a management scheme. The role for material selection is assigned to collection development librarians, and the next greatest responsibility is maintained as that placed on the interlibrary loan staff, while technical services is charged with updating
local catalog records with a suggested practice of adding specific notes to each record (Snead 188).

In 2013, *Library Management* published another prominent shared print-themed special issue covering the International Federation of Library Associations and Institutions 2012 Satellite meeting, titled *Kuopio: International Conference on Repository Libraries*. The most pertinent papers include 4 case studies. Bernard F. Reilly’s case study of the Center for Research Libraries is mostly a historical overview of the organization’s contributions to the whole of collaborative print retention efforts; its main value is found in its conclusions that library consortia’s collection development strategies must not completely focus on current demand, but also factor in print material when preserving primary source material (Reilly, “The Future of Cooperative Collections” 350-351). Though they do not focus on American institutions, articles on the United Kingdom Research Reserve, the Australian CARM2 print repository, and the CONZUL storage project in New Zealand all stand as significant recent examples of case studies examining collaborative serial print retention amongst academic libraries.

These studies utilize methodologies that mostly consist of analyzing each project’s history and self-generated documentation or reports. The results reveal common threads throughout each case, including specific data on shelf space shortages, financial constraints, growing demands for electronic journals, and a history of successful collaboration (Jilovsky 282; Renwick 337; Yang 310). The differences in operational models reflect the different contexts, histories, and collections: for instance, CONZUL found a suitable approach by outsourcing its material to distributed commercial storage facilities and taking away official ownership from the universities (Renwick 339). The
UK Research Reserve prefers to use the more traditional distributed model, spreading out its material through its member libraries (Yang 311). This also builds on a previous notable case study, using a similar descriptive approach, which reported the UK Research Reserve intends to be national in scope—with corresponding policies that require 3 copies of each item to be safely retained somewhere throughout the large network (Wright and Crawford 211). By gathering together recent research from the major supporters of collaborative print retention, this special issue remains a noteworthy contribution in the literature on the topic of current practices (Genoni 56).

**Summary, Conclusions and Final Thoughts:**

While the current body of literature on collaborative print retention in itself is moderately-sized and growing, literature narrowed to case study research on serial retention amongst academic libraries in the United States is much smaller. The age of much of the literature makes it difficult to make conclusions about current practices, especially in light of the still-evolving nature of the concept itself. Nevertheless, one can conclude that collaborative print retention projects are usually formed on pre-existing consortia, generally focus on retaining a single last copy of a low-use print item, and can use centralized and distributed models. Formal documents, agreements, and official policies are always established; usually charting out the program’s goals, selection criteria, retention periods, holdings disclosure, material accessibility, as well as assorted roles and responsibilities.

Most projects also retain last copies of print only with electronic counterparts. Organization and staff duties do shift in accordance with print retention programs—usually involving less focus on local collections—though the extent seems to vary.
Significant storage and financial savings are usually always reported through these programs. Challenges are usually found in basic organization or administration, funding, and material ownership status. Differences between projects are often based on local needs or concerns, though these vary wildly and seem to be changing with time. There are even discrepancies found in how different programs choose to define certain basic terminology that their policies are predicated on, such as the terms repository and depository (Genoni 51). For now, similar conclusions can be drawn from the literature about collaborative serial print retention programs in American academic libraries. However, there remain holes in the current body of literature for case studies on current practices of multiple programs. The present study intends to help fill in this gap and add to the currently-limited research.

Literature has shown various approaches have been used to actually study collaborative print retention programs. There are numerous self-reported journal articles describing a particular organization’s efforts, generally its history, decision-making process, and formal policies. These reports provide valuable information, but do not provide a comprehensive picture of the whole of the case itself. The most articulate presentations of research about comprehensive, up-to-date practices—especially when studying comparatively—can be found through the case studies. Most of the case studies utilize a methodology that includes document analysis and archival records or descriptive statistics. These work well to provide a historical overview of the decisions and circumstances leading into the program’s establishment; the program’s structure and practices as they exist today; along with any future plans or goals. The most coherent multiple case studies also organized their research by individual program; this allows an
articulate presentation of each project in itself, and therefore a better comparative analysis, as well.
Methodology:

*Research Design: Multiple Case Study*

This is a multiple case study that will examine 3 collaborative print serial retention programs amongst American academic libraries: the University of California Shared Print program, the Committee on Institutional Cooperation Shared Print Repository, and the Triangle Research Libraries Network Collaborative Print Retention program. Also called comparative case studies, multiple case studies have the ability to intensively study an organization and then compare it with a limited set of other cases. Given the research question driving this study, which asks how American academic libraries collaborate to retain print serials, it seems appropriate to use a design that is “ideal when a ‘how’ or ‘why’ question is being asked about a contemporary set of events over which the researcher has no control” (Gray qtd. in Choemprayong and Wildemuth 52). Literature presents many options for case study research design: they can most often be exploratory, confirmatory, descriptive or evaluative (Choemprayong and Wildemuth 52-53; Mills, Durepos and Wiebe “Comparative Case Study”). As the present study aims to comprehensively describe certain aspects of these print retention projects, it is descriptive research. Accordingly, it can also be classified as instrumental because it seeks to understand a particular question or problem (Hancock and Algozzine 36; Simons 21; Stake 8). Additionally, it must be acknowledged that case study research has an inherent weakness in its lack of generalizability: this is moderately offset by the
comparative case study method because more than 1 case is being researched (Babbie 311).

This study uses non-probability purposive sampling to select cases that could be comparable, but also with contexts supplying enough diversity to facilitate contrasts in a cross-case analysis (Choemprayong and Wildemuth 54, 58). Using what Yin calls replication logic, it was important to carefully select cases to allow the anticipation of similar or contrasting results across the multiple cases (54). Similarly, Stake maintains multicase studies must select cases that will remain bound together by the same program or concept while still providing enough contextual diversity to show how the program performs in different environments (23). Accordingly, this study selected 3 programs that had very important similarities: they are all projects that focus on the collaborative print retention of serials amongst academic libraries in the United States. There are important similarities to be found in the conditions that informed their print retention projects, as well as in their procedures. There are also important differences found in their pre-existing affiliations with one another as well as organizational structures. These differing environments show important distinctions between their respective decision-making processes, including retention periods and centralized or distributed models.

**Mixed Methods Approach:**

This study utilizes both qualitative and quantitative methods to gather data. Document analysis is used to gather qualitative information about the cases: this not only denotes formal policy documents, but also any other text written or produced about the site (Simons 63; Yin 103). This includes any documents the programs provide about their history, current organization and practices; such as formal policies, agreements,
memoranda, written reports of events, administrative documents, as well as journal or media articles. This study also gathers quantitative data in the form of descriptive statistics, also referred to by Yin as archival records (Simons 34; Yin 105-106). This includes quantitative data on shelf space, library service or organizational records, costs, funding, journal runs or titles, and public use files, such as United States Census or other government statistical data. Much of this is based on existing statistics—or the process of conducting a new examination of already-gathered data—which helps to deepen the study with vital information that initially motivated collaboration print retention, as well as data describing the results. This is particularly true when conducting a case study, which benefits from existing statistics that can in the very least provide important contextual information (Babbie 342). The use of relevant quantitative data is critical here because it is required to describe and explain the processes involved in each case study (Yin 133). These descriptive statistics do not require the use of probability sampling, and will simply be gathered from the same purposive sampling methods as the document analysis.

The use of both qualitative and quantitative data in a case study enhances its methodology’s validity (Choemprayong and Wildemuth 52; Simons 127). It forces what Yin calls “counterpart analyses,” or confirmation that the research is uncovering a stronger formation of evidence (Yin 63). This also helps to minimize bias that could potentially be found in just 1 method (Simons 132). Each method will extend and deepen understanding of the cases: qualitative and quantitative data address different parts of the puzzle in answering the research question (Simons 34, 130). Though it remains that most traditional issues of validity and reliability are not as applicable to the qualitative aspects
of case studies, qualitative data must still be credible or authentic (Simons 128). Therefore the sources from which this study’s qualitative data are gathered are official and trustworthy: most are primary documents along with a small measure of credible secondary information (Mills, Durepos and Wiebe “Document Analysis”). Additionally, though the study of existing statistics is inherently limited to data that already exist, potential validity problems are solved through logical reasoning and replication (Babbie 345). Similar techniques will help minimize any problems of reliability, along with the basic analysis of how the existing data was first gathered (Babbie 346).

Operational Definitions:

This study is based on certain operational definitions for relevant terms or units of analysis (Yin 52). It is important to clearly delineate what this study will brand a serial, as even the basic definition of a serial is frequently freely interchanged with that of periodical, journal, and magazine. In this study, a serial publication is distinguished from a monograph as any item that is regularly issued over a period of time (Johnson 387). Though this can include a multitude of items, the case studies mainly deal with scholarly journals. Additionally, though the aforementioned literature involves some distinction, the terms collaborative and cooperative are used interchangeably to describe activities between libraries. Indeed, this study does not intend to research the potentially distinct and evolving definitions found amongst relevant library terms, such as repository or depository (Genoni 51). Therefore these phrases will be used interchangeably, as well.
Case Studies: Results and Analysis

The University of California Shared Print Program:

Basic Facts about the UC Library System:

The University of California is a public university system comprised of 10 campuses: Berkeley, Davis, Irvine, Los Angeles, Merced, Riverside, San Diego, San Francisco, Santa Barbara, and Santa Cruz (“UC Campuses”). The corresponding 10 campus library system, composed of 100 individual libraries, currently holds the distinction of being the largest singular academic library system in the world: it manages 38 million print items and approximately 626,707 serial titles, with 2,400 library staff (“About UC Libraries”; “Facts and Figures”). The library system serves the university’s approximately 234 thousand students, 207 thousand faculty and staff, along with the potential users in its over 50 thousand retirees as well as over 1.6 million alumni (“UC Campuses”). Potential external library users are also found in the communities surrounding each institution: according to the 2010 United States Census, the cities of each institution have a combined total population of nearly 7 million (United States Census Bureau). While the UC Library System’s annual usage statistics report 2.7 million checked out print items, it also indicates 33 million electronic article downloads as well as 14 million electronic database searches (“Facts and Figures”).
History of Collaboration and Development of Shared Print Pilot Project:

The University of California Library System’s Shared Print program was an early pioneering initiative in American academic library collaborative print serial retention. Beginning in the 1970s, the UC Library System demonstrates a significant history emphasizing several kinds of collaborative collection development and maintenance initiatives: this includes 2 shared Regional Library Facilities, located at the Berkeley and Los Angeles campuses, along with the Melvyl union catalog, which displays the entire system’s holdings as part of a single collection—therefore also facilitating interlibrary lending (Schottlaender 13-14). From their very inception, the high-density Regional Library Facilities were given an explicit non-duplication policy, charged with cost-effectively managing library collections and space, while simultaneously providing equal access to materials (“Persistent Deposits” 1).

Significant to the UC Library System’s history of cooperation is its formation of committees, groups, and advisory structures. In 1997, the California Digital Library (CDL) was created to acknowledge the Library System’s growing need for digital access to information. The CDL’s work also included several significant mechanisms for collaboration between UC System libraries, including shared cataloging, as well as promoting co-investment and the sharing of materials or services (“About CDL”). The CDL soon formed the Joint Steering Committee on Shared Collections (JSC) to advise on collection development, sustainable budgets, and co-investment models (“JSC”). In 1998, the UC Library System formed 2 significant groups: the Systemwide Library and Scholarly Information Advisory Committee (SLASIAC) and the Systemwide Operations and Planning Advisory Group (SOPAG) (“Fall Assembly”).
The SLASIAC—composed of university administration, staff, faculty, and librarians—was established as a powerful governing committee to develop strategies and priorities for long-term, often collaborative initiatives amongst the entire UC Library System as well as the CDL (“SLASIAC Charge”; “SLASIAC Roster”). The SOPAG is composed of staff from each campus library, the CDL, as well as a representative from the University’s Librarians Association: this group is charged with developing action plans to report to the Council of University Librarians, as well as appointing task forces to conduct research and help formulate specific goals for system-wide resource sharing initiatives—including the Regional Storage Facilities (“Berkeley Representation”; “SOPAG”). The SOPAG soon appointed the Collection Development Committee, charging it with advising on collection development issues; coordinating any related system-wide activities with the CDL and JSC; coordinating UC bibliographer groups; and arranging for system-wide funding for shared resource activities (“CDC”). The CDC is composed of representatives from the exact same areas as its parent group—with the later addition of 1 representative from the Shared Print program.

In early 2000, the SLASIAC made official acknowledgement of the growing budgetary pressures on the UC Library System: student enrollment was rapidly rising, issues with library space and infrastructures needed solutions, and collection development activities increasingly required the integration of print and digital resources (“Resolution A” 1). Studies indicated that for every singular use of a print serial, there was an average of 16 uses of the digital version—but also that print format still remained wanted and needed in some form by patrons (Schottlaender et al. vi-vii). The SLASIAC, along with the CDC, declared it necessary to re-interpret the traditional roles found
through the Library System’s mission to archive, preserve, and provide access to its collections (“Resolution B” 1; “Report of the Working Group” 1). It was decided that these roles have evolving definitions, and a series of formal resolutions called for a new approach to managing UC Library collections—most notably including an initiative to securely archive low-use, duplicate print copies of journals also available in digital formats. It is explicitly stated that this initiative was also motivated by uncertainties regarding the implementation of reliable digital archives (“Resolution A” 1).

The SLASIAC also appointed a Standing Committee, often called the Collection Management Planning Group (CMPG), to advise on strategic planning for collection management (“Resolution B” 2). The CMPG consisted of librarians from each UC System library, along with a steering committee with librarians, collection development officers, faculty members, and staff from the Library Planning Office (Schottlaender 15). These committees identified major issues that needed to be addressed for a print retention project: these include the potentially complicated logistics of assembling a truly complete, quality archive of print journals from several campuses, any associated costs, preservation, governance, item ownership status, as well as the constant evolution of preferred library research methods and digital archiving practices (“Resolution B” 2). The committees decided that flexibility would therefore have to be an essential component of a pilot project. In October of 2002, official recommendations for a pilot project were made, and the program formally began in May of 2003 under the authority of the CDC with funding from the CDL (Barnhart et al. 3).

The pilot project elected to create a prospective—as opposed to retrospective—collection of print journals based on publisher category, and only 2 publishers were
selected in this early experiment: a total of 971 journal titles from Elsevier and the Association for Computing Machinery (“Report of the Working Group” 2, 4). It was decided that, in order to utilize the already-existing Regional Library Facilities infrastructure, centralized model would be followed: not only did they already have the environmental, preservation, and security measures in place, but the aforementioned Melvyl-based bibliographic access framework would continue to allow patrons to receive delivery of requested items within 48 hours (Peters 20; Schottlaender 15). All of the UC System libraries cancelled various local subscriptions, relying on the electronic versions along with the option of the archival print copy if necessary (“Report of the Working Group” 1). These decisions were voluntary, and made based on local conditions or needs (“Report of the Task Force on Collaborative Strategies”). Official ownership of contributed material remained with the original library; but there was also a new, CDC-managed shared governance structure which made decisions through consensus (Barnhart et al. 5). Policies dictated that retained print copies were gathered and sent to technical services units at either Los Angeles or San Diego for processing. They were then transferred to the Los Angeles Southern Regional Library Facility for permanent retention (Barnhart et al. 3).

Additional measures were added to standard processing procedures, including using archival boxes and envelopes for print retention material (“Report of the Working Group” 2). To promote equal access, it was decided there would be a new collection name—UC Libraries Collection, or location code UCL—which was created in the Melvyl catalog to represent the retained print items. Policies explicitly required a catalog record to have a standardized note describing a title as part of this new collection, as well
as information about use restrictions. The retained print collection was deemed a “hybrid dim archive”: it would be closed-stack and focus on preservation, yet still provide access through requests from UC libraries—but also forbade loaning outside the system (Barnhart et al. 3; “Preservation Types”). Journal articles were able to be photocopied, faxed, and desktop-delivered to patrons; they were also allowed to be physically used in the Facility reading room, as well as circulated for in-building use only (“Report of the Working Group” 1).

Though print subscriptions were being cancelled, UC librarians maintained that they could identify publisher subscription packages that effectively contained financial incentives for print retention: their contract with Elsevier charged a premium to receive both electronic and print versions of a serial; the contract also allowed electronic subscriptions to be placed as a substitute for print (“Report of the Task Force on Collaborative Strategies”). Contracts with Kluwer offered a large discount on electronic subscriptions to previously unsubscribed journals. Additionally, the CDL was charged with negotiating with publishers in order to secure the acquisition of complete electronic back files. The CDL also negotiated with the Association for Computing Machinery to receive a print version of every electronic serial subscription. The project also maintained there is potential publisher value in retained collections: if a publisher does not, for whatever reason, maintain complete back files of their publications, they may eventually demonstrate interest in such a complete collection (Stambaugh 22). It was also concluded that “post-cancellation access permissions to the electronic back file” should be established in order to lessen publisher contract-related risks (Stambaugh 20).
Results of the Pilot Project and the Evolution of Shared Print:

Upon analysis in 2004, this pilot project showed significant monetary savings through the cancellation of print serial subscriptions, their processing, and maintenance. Just from the cancellation of annual Elsevier subscriptions, the library system reported it had saved a total of $1,869,469 (Barnhart et al. 5). Additionally, annual demand for retained print serials was low with only 201 requests—requests that were most often made because the digital version had incomplete content (Schottlaender et al. 51). Formal assessment of the pilot project also reported issues that needed to be addressed before it could continue or scale up: it was recommended that staff wholly dedicated to Shared Print processing be implemented in order to put these tasks at a separate, high-priority level (Barnhart et al. 4). The potential need for a steady funding source was also highlighted in the pilot’s assessment: not only would an increase in staff require more funding, but UCLA previously had to use its own funds after contractual and policy restrictions made it difficult to properly use the CDL funds (Barnhart et al. 8).

Another serious issue was identified concerning replacing damaged or lost items. Traditionally, the Southern Regional Library Facility simply notified the owning library to repair these items; however with the new Shared Print collection program—which lacked a proper corresponding policy for lost and damaged material—it became uncertain who to notify, and how repairs or replacements should be funded (Barnhart et al. 14-15). Additionally, the Southern Regional Library Facility had a previously-existing policy specifying annual deposit quotas for all UC System libraries. Trying to avoid any potential deterrents, the Facility agreed to not count deposits that were made as part of the pilot project. The assessment team strongly recommended that a more permanent,
ongoing shared print program would have to formulate corresponding policies properly adjusting the official quotas for each library (Barnhart et al. 11).

Policies continued to manifest and evolve as the Shared Print program pushed forward into new phases of development, becoming more formalized and extensive. More explicit policies were enacted requiring serials to be examined for damage, and instructions for conservation or reacquisition (“Developing a Planning Framework, Version 1.3” 26). A small amount of replacement funding was set aside, corresponding to the expected low usage rates of retained print serials (Barnhart et al. 19). Despite the aforementioned worries, the funding model managed to remain relatively stable as it was built upon pre-existing stable models funded by the state university systems (Li, Nyun and Urrizola 11; Reilly and DesRosiers 20). Funding for UC system-wide services includes a combination of voluntary co-investment by different campuses, reallocation of existing funds, fees from external users, taxes on other campus funds, seeking out diverse revenue sources, and the obtainment of additional central funding (Systemwide Library and Scholarly Information Advisory Committee” C-6). Specifically, the funding model to sustainably support the Repository relies on contributions from each campus; it is also understood that the cost reductions resulting from the Shared Print program itself will compensate for any needed funding (“Heads of Technical Services Minutes” 1).

As the desire for more shared print collections grew, the Berkeley Northern Regional Library Facility was added to accommodate the corresponding material growth (“Resolution H” 3). The program began retaining serials from 5 more publishers in 2004: this consists of a total of 967 journal titles; published by the British Medical Journal’s BMJ Publishing Group, Kluwer, Nature Academic, SPIE, and Wiley (“Developing a
Planning Framework, Version 1.3” 3). By 2005, 8 more publishers with over 1,038 journal titles were added: the American Institute of Physics, the American Geophysical Union, Blackwell Publishing, the Institute of Physics, the Optical Society of America, Sage Publications, Springer, and the Massachusetts Medical Society’s New England Journal of Medicine (‘‘Active Shared Print Agreements’’; ‘‘Developing a Planning Framework, Version 1.6” 3). The year 2005 also marked the beginning of a new retrospective collection of print serials that are available online: UC Libraries began withdrawing, de-duplicating, and consolidating print journals they already held (‘‘Developing a Planning Framework, Version 1.6” 5). This material consisted of 353 digitally available JSTOR titles. Interestingly, JSTOR also agreed to digitize material identified by UC as missing from JSTOR Digital (‘‘Developing a Planning Framework, Version 1.6’’ 6).

Beginning in 2005, the UC Shared Print program discussions involved a noteworthy initiative to retain retrospective print serials that are not also available in digital format. This is significant because the previous initiatives were informed by the availability and preference for the digital versions of retained print serials. This new retrospective collection, however, was simply aiming to help libraries withdraw extant print journals and therefore reap the benefits in the reduced preservation, shelf-space, and access requirements (‘‘Developing a Planning Framework, Version 1.8’’ 6). The lack of a digital counterpart to these serials was not seen as a large risk or concern because they were expected to be very low-use. Furthermore, encouraged by the aforementioned JSTOR digitization, UC held a small measure of hope that this could eventually result in the subsequent digitization of the material (‘‘Developing a Planning Framework, Version
1.8” 7). Journal publishers initially proposed for this collection were the Institute of
Electrical and Electronics Engineers (IEEE) and Core Science journals (“Systemwide
Strategic Directions” A-1). However, by the time this retrospective collection actually
began in 2008, the only contributed items were from the IEEE, consisting of slightly over
100 journal titles (Heyer-Gray et al. 1,9).

In 2006, the prospective print serials collection added journals published by the
American Association of Cancer Research and the American Psychological Association,
with 5 and 65 titles added, respectively (“Developing a Planning Framework, Version
1.8” 4; “New Resources Available”). In 2008, the prospective print serials collection
added approximately 26 journal titles published by Taylor & Francis and the Company of
Biologists (“Active Shared Print Agreements”; Schottlaender et al. 9). Additionally, this
time period also saw the establishment of the official Shared Print policy document on
Regional Library Facilities deposits as it exists today. The document re-iterates the
Facilities’ goals of being shared, secure, environmentally-controlled, and holding
valuable, but infrequently-used materials that cannot fit in campus libraries (“Persistent
Deposits” 1). It affirms a non-duplication policy prohibiting a campus from depositing an
item previously deposited by another campus library; naturally, this policy is enforced in
order to maximize use of storage space and funding. It offers libraries the options of
either retaining the item in their local collections, or relying on the Facility’s copy and
discarding their own.

The operating policies also require any deposits to be permanent; exceptions to
this rule allow a library to recall an item that has sudden growing local demand, or after
an expansion of facilities. The document observes that, faced with the possibility of
losing access to an item, many libraries have elected to keep locally holding duplicated items—which significantly hinders cost-effective print serial collection management (“Persistent Deposits” 2). As a result, the document officially enacts a new policy designating all deposits as “persistent,” with guaranteed access regardless of their physical location: if a library recalls an item, they are still obligated to loan it out using the exact same policies as the Regional Library Facility (“Persistent Deposits” 3). Despite the fact that libraries cannot recall in the same manner, policies still designate them as the owner of all their deposits. Additionally, libraries were given a 9 month window to withdraw items they did not want to be persistent.

Soon after, the final official policy document regarding replacements of persistent deposits was enacted. When deposits are lost, missing, or damaged, either the patron or depositing library must “make a good faith effort to repair or replace the item” (“Guidelines for Replacement of Persistent Deposits” 2). The policies also dictate that any replacement items must be brought to the attention of a designated library employee using a specialized form (“Guidelines for Replacement of Persistent Deposits” 3). Furthermore, the cataloging record of a lost or missing item must be updated by the relevant Shared Print Managing Library for shared print in place collections, or the Regional Library Facility for deposits in storage (“Guidelines for Replacement of Persistent Deposits” 4).

In 2009, the CDL added another dimension to the Shared Print project and submitted a proposal to the Andrew W. Mellon Foundation to form a collaborative, distributed retrospective print journal repository program (“Shared Print Discussion Meeting”). The new program, called the Western Regional Storage Trust, involves a
distributed model of shared print serials amongst libraries from colleges, universities, and various consortia in the western region of the United States (“About WEST”). Because this particular dimension of the UC Shared Print program is intended for the development of a network-level shared print archive, it is slightly beyond the scope of the present case study’s focus—though still remains worthy of mention due to its demonstration of the program’s continued development (“WEST”). Indeed, starting in March of 2012, the UC Shared Print program began also using a distributed model for its own individual retained serial collections: this allowed for the expansion of the prospective shared print collection (“Updates from Print Archives”). This newer initiative, often referred to as a shared print in-place program, extended the same uniform access and cataloging policies from the already-existing UC Shared Print projects—including the persistence policy (“Shared Print in Place Policies”).

**Current Practices:**

As evidenced by the endnotes of the official deposit statistics, annual deposit quotas for the Regional Library Facilities were indeed altered to not count material contributed to the Shared Print Collection (“UC Berkeley Deposits”). The UC Shared Print program’s title and publisher holdings gradually underwent shifts that eliminated a small number of serials, but overall steadily increased the size of the collection. Currently, the UC Shared Print program officially actively retains a total of 1,255 serial titles from 18 publishing bodies (“Active Shared Print Agreements”; “Current Fully Validated Titles”; “Print Archives Preservation Registry”). The Print Archives and Preservation Registry lists a greater number of titles, but they are not from the official sources listed by the UC Shared Print program document, and are therefore excluded
from this total. Springer, Kluwer, and Nature Academic have been apparently dropped as they are not listed on the current official Active Shared Print Agreements document, though Springer and Kluwer—which merged in 2003—are listed as inactive, having been stopped in 2010 (“Inactive Shared Print Agreements”; Morlon). According to the Print Archives and Preservation Registry, the UC Shared Print still retains 133 journal titles from Springer-Kluwer, bringing the grand total to 1,388 titles (see Figure 3).

The University of California Libraries Shared Print Collections

<table>
<thead>
<tr>
<th>PUBLISHER</th>
<th>RETENTION PERIOD</th>
<th>COLLECTION TYPE</th>
<th>ELECTRONIC AVAILABILITY</th>
<th>NUMBER OF TITLES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACTIVE AGREEMENTS</strong></td>
<td></td>
<td></td>
<td></td>
<td>1,255</td>
</tr>
<tr>
<td>American Association of Cancer Research</td>
<td>2006 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>American Geophysical Union</td>
<td>2005 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>American Institute of Physics</td>
<td>2005 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>American Psychological Association</td>
<td>2006 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Association for Computing Machinery</td>
<td>2003 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Blackwell Publishing</td>
<td>2005 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>BMJ Publishing Group, British Medical Journal</td>
<td>2004 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Company of Biologists</td>
<td>2008 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Elsevier</td>
<td>2003 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Institute of Electrical and Electronics Engineers</td>
<td>2008 - Present</td>
<td>Retrospective</td>
<td>Not available</td>
<td></td>
</tr>
<tr>
<td>Institute of Physics</td>
<td>2005 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
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<td>2005 - Present</td>
<td>Retrospective</td>
<td>Available</td>
<td></td>
</tr>
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<td>2005 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
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<td>Sage Publications</td>
<td>2005 - Present</td>
<td>Prospective</td>
<td>Available</td>
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<td>SPIE</td>
<td>2004 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Taylor &amp; Francis</td>
<td>2008 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>The Massachusetts Medical Society, New England Journal of Medicine</td>
<td>2005 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td>Wiley</td>
<td>2004 - Present</td>
<td>Prospective</td>
<td>Available</td>
<td></td>
</tr>
<tr>
<td><strong>INACTIVE AGREEMENTS</strong></td>
<td></td>
<td></td>
<td></td>
<td>133</td>
</tr>
<tr>
<td><strong>Total</strong>:</td>
<td></td>
<td></td>
<td></td>
<td>1,388</td>
</tr>
</tbody>
</table>

Figure 3: The UC Libraries Shared Print Collections, 2013 (Adapted from Agreements and MOUs and the CRL PAPR)
The UC Shared Print program currently lists 4 official goals and objectives: to collaboratively develop more comprehensive research collections using prospective acquisition methods; to re-allocate library collections to properly correspond with the current demands for existing and retrospective collections; to achieve system-wide space savings and cost avoidances; and to preserve the scholarly printed record at the lowest possible unit cost (“Shared Print”). The collection development process for UC Shared Print remains collaborative: guided by the current Goals and Objectives, UC System librarians formulate and submit proposals for shared print collections. A designated Shared Print Manager assists with the development of these proposals, along with developing models and plans for any new activities or initiatives. The Shared Print Manager also reviews proposals and presents them to the CDC; the latter subsequently reviews and approves proposals (“Shared Print: Models, Policy & Process”).

The University of California Library System’s Shared Print program is built upon an organization model that emphasizes collaborative initiatives. Indeed, because all of the collaborating libraries in question are a part of the same university system—especially one with these pre-existing support structures for things like pooling resources, managing funding, and agreeing upon official policies—the mechanics for undertaking this project and continuing to build upon it appear to be relatively simple or straightforward. Concerning collaborative print serial retention in particular, this is especially true in light of the UC Library System’s assimilation of digital and print issues throughout its groups, committees, and general goals: these shared print-oriented objectives are articulated right along with the library system’s goals concerning digital initiatives. Every single major group or committee that is involved in digital initiatives—such as the CDL, the CDC, the
SLASIA, and the SOPAG—are also heavily involved in shared print activities. This effectively shows the University of California’s recognition of the value in treating collaborative print retention and advances in electronic resources as counterparts. Because of this deep collaborative integration, the UC Shared Print program was able to form as one of the earliest initiatives of its kind, and to systematically build onto itself into its current form, well-supporting both centralized and distributed models.

However, a vision of library collaboration that involves very deep, interconnected relationships is one that many individual libraries may not be comfortable with. When describing the changing role of the library in the wake of the digital environment, a report from the University of California explicitly states: “the increasing role of digital information and of shared university-wide collections and services threatens to blur the distinctiveness of each campus’s library program…The challenge is to maintain and further strengthen the individuality of the campus libraries in the face of increasing economic and technological forces that lead to greater homogenization” (“Systemwide Strategic Directions” 7). Any reluctance from libraries to invest in deep collaborations for print serial retention should not be taken as a sign of its futility. On the contrary, the University of California Shared Print Manager, Emily Stambaugh, argues for its substantial value—but maintains efforts must be continually strengthened to properly address current challenges: these most relevantly include library organization and collection development policies (Stambaugh 18). Indeed, the UC Shared Print program generates periodical reports that identify procedure adjustments, along with planned evaluations of the project’s effectiveness (“Persistent Deposits”).
The Committee on Institutional Cooperation Shared Print Repository:

Basic Facts about the Committee on Institutional Cooperation:

The Committee on Institutional Cooperation, or CIC, is a consortium composed of 15 American universities: the University of Chicago, the University of Illinois Urbana-Champaign, Indiana University, the University of Iowa, the University of Maryland College Park, the University of Michigan, Michigan State University, the University of Minnesota, the University of Nebraska-Lincoln, Northwestern University, Ohio State University, Pennsylvania State University, Purdue University, Rutgers University, and the University of Wisconsin-Madison (“CIC Member Universities”). The majority of these institutions are public, with the University of Chicago and Northwestern University as the only private schools.

Collectively, CIC member libraries manage nearly 90 million volumes, over 900 thousand total serials, with approximately 6 thousand staff (“About the University Library”; “About”; American Library Association; Association of Research Libraries (Table 19); “IUB Libraries”; “Libraries”; “Library Facts” (Michigan); “Library Facts” (Northwestern); “Penn State”; “Statistical Highlights”). In total, the print collections occupy approximately 10 million linear feet, or 2 thousand miles of shelving—which annually cost 200 million dollars to maintain (Sandler et al. 238-239). The consortium has a combined total of over 400 thousand students, as well as over 40 thousand faculty and staff (“2013 CIC University Data”; Committee on Institutional Cooperation 2). The members also have a combined total of over 5 million living alumni (“About Indiana”; “Alumni Records”; “Finding”; “Illinois”; “Living Alumni”; “MSU Facts”; Nachbar 11; “NAADA”; “Our Supporters”; “Press Room”; “Purdue”; “University of Minnesota”);
Woodhouse; Yoe). Potential library users also include the schools’ surrounding communities, with a combined population total of over 6 million (United States Census Bureau).

*History of CIC Library Collaboration and Seeds of Shared Print:*

The Committee on Institutional Cooperation—one of the earliest American consortia of higher education—was founded in 1958 as an academic counterpart to the already-existing Big Ten Conference for athletics (“History of CIC”). For nearly 20 years prior, the member universities’ presidents had frequently met to discuss numerous issues in higher education, such as library centers, academic policies and practices, state influence upon university management, proposed cooperative educational initiatives, and accrediting practices (Wells 2). CIC’s formation and early development was notably circumspect: the member institutions wanted to explore how to pool their resources, but explicitly did not want to form a cumbersome bureaucracy and risk sacrificing their individuality (Wells 3). Therefore a head committee with representatives from each school was formed to make non-binding, voluntary decisions on cooperative initiatives. Over time, member institutions used this freedom to form very strong bonds and gradually build up a sense of mutual trust—no school ever reluctantly entered into a collaborative venture. Since its inception, CIC has thus been characterized as an academic consortium informed by flexibility in administration, individual autonomy, and voluntary cooperation. Its basic guiding principles also explicitly maintain that inter-institutional cooperation is the key to true large-scale progress, as “no single institution can or should attempt to be all things to all people” (Shauglinessy 74).
In 1969, the library dimension of CIC officially opened as each institution’s library directors and staff began to deliberate on the escalating costs of scholarly material and the potential solutions to be found in cooperative collection development. Over the proceeding decades, CIC libraries collaborated on numerous projects for preservation, shared cataloging, and interlibrary loan (Shauglinessy 75). In 1994, CIC established the Center for Library Initiatives, or CLI, a formal organization focusing entirely on library projects (Shauglinessy 76). The CLI has 3 main objectives: to optimize access to consortium-wide library resources, to maximize savings regarding costs, time, and space, along with supporting a collaborative environment for library staff (“Center for Library Initiatives”).

The CLI set up an organizational structure with policies as well as different roles or responsibilities to facilitate efficient communication and cooperative collection development. The organization’s committees and groups are divided into the categories of executive leadership, program management or task forces, as well as what are deemed peer groups. The CLI’s executive leadership role is filled by a group of library directors from each member university (“CIC Committees & Groups”). The library directors assemble program management or task forces to manage a particular project or program, most relevantly including the Library Implementation Team on Federal Documents Digitization, as well as the Google Project Managers, who manage a partnership with Google to digitize CIC print material. Peer groups are self-organized groups of individuals amongst CIC institutions who have similar jobs and share ideas, expertise, or coordinate best practices. Many of these peer groups are derived from virtually every single extant library department, such as Library Preservation Officers and Library
Access Services, as well as official Collection Development Officers and Electronic Resource Officers.

The CLI has used these groups to face various challenges, such as the rising cost of electronic resources: each CIC member library appoints an Electronic Resources Officer to serve as the official point of contact for consortial licensing; the Electronic Resource Officers are informed by reports from various other task forces, and promptly communicate with the CLI Directors regarding which libraries choose to participate in the licensing agreements and the agreed-upon standards for acceptable pricing (Shaughlinessy 78). Immense cost-savings continue to be realized through this procedural method. Indeed, the CLI saw the inevitable direction of pricing, as well as preferred library resource formats, and placed early heavy emphasis on projects for digital material—especially electronic serials (Allen and Gosling). In order to properly reflect the emerging environment, Collection Development Officers and Electronic Resource Officers were soon merged into 1 group (“CIC Library Group Reports”). CIC libraries began increasingly cancelling subscriptions to print serials that were also available electronically (Peters 20). Nevertheless, concerns remained about reliable electronic archiving, and the potential need for cooperative retention of print material (Dannelly et al.).

By 1996, the CLI was becoming increasingly aware of the need for more extensive and well-communicated collaborative management of print journals in specific. A study of serial cancellations indicated that, amongst CIC member libraries, there was an unacceptably low overlap rate of 4.3 percent—therefore libraries were limiting the breadth of shared journal collections by cancelling unique titles and holding onto
duplicates (Chrzastowski and Schmidt 351). A strategic objective was soon formulated which aimed to develop a shared serials management system to more effectively communicate serial holdings and cancellation data; along with an electronic tool capable of searching multiple CIC libraries’ catalogs (Allen and Gosling; “Strategic Directions for 1998”). CIC began furthering the development of a Virtual Electronic Library, which links the catalogs of CIC libraries and provides an interface for patrons to make requests. Additionally, in 1997, CIC entered into an agreement to facilitate the delivery of interlibrary loan materials, providing delivery within 48 hours (“Lanter Delivery System Agreement”).

By 1998, CIC had entered into an agreement with the OCLC for a new software system to manage interlibrary lending with automated patron authentication, processing and tracking of requests, and disclosing the physical location, call number, and availability of an item (“CIC and OCLC Transform Interlibrary Loan”). These initiatives further strengthened the organizational infrastructure the CLI felt was needed to properly support systematic cooperative collection development (“CIC CDO Cooperative Collection Project”). CLI leaders maintained that CIC libraries would not just have to continually find new communication strategies, they would essentially have to remodel strategies for service and cooperative collection management—departing from the “traditional model of institutional self-sufficiency (even though that was never fully realized)” (Allen and Gosling).

By 2000, increasingly unable to ignore reality, the CLI began explicitly formulating a solution to the growing problem of print serials. CIC libraries had dwindling physical space, which was restricting virtually every type of advancement
under consideration (Sandler et al. 248). They were also faced with the task of stretching limited budgets to cover an increasing body of both print and digital material (Allen “Consortia” 88). Library administrators recognized the shift towards electronic material, but maintained that their users continued to desire a hybrid environment with proper access to both formats (Allen “What Administrators” 40-41). Moreover, a survey of CIC faculty indicated that while official guidelines for tenure did take into account digital scholarship, there were still concerns about issues with electronic archiving, prestige, access, and even intellectual property (Estabrook 11-12). The CLI promptly called for a rejection or re-consideration of antiquated, “bigger is better” models of academic library evaluation: they argued collection-building models should acknowledge that ownership is being transitioned to the concept of access (Allen “Consortia” 86). For print material, this meant that CIC libraries must continue to find new strategies to decrease the gap between what is locally available to users and what is available throughout the consortium (Allen “Consortia” 88). The flexibility and personal autonomy characteristic of CIC activity would of course continue; but it was argued the libraries must evolve towards being even more interdependent and mutually reliant (Allen “Consortia” 90).

*Shared Print Pilot Projects:*

In 2000, a Format Duplication Task Force was formed by Collection Development and Electronic Resources Officers (Peters 18). This Task Force was charged with developing policies to retain 1 print copy of digitally available journals throughout the CIC consortium. In late 2001, the Task Force produced an official proposal for a collaborative print retention project, with partial justification placed on the unreliable state of electronic archiving (Peters 20; “Report to the CIC Members”). At the
same time, they maintained that electronic access “opens the door for archiving print in shared print repositories” (Zeter and Drewes 265). They reasoned that print retention would allow libraries to spend less of their budget on subscribing to and maintaining print serials, and also accelerate towards consortial electronic journal license agreements (Clennon, Shelburne, and Teper 87). It was also held that publishers—whether due to financial reasons or otherwise—were not showing sufficient initiative for preserving the print version of a serial, and that it might be necessary for CIC to create its own print archive. CIC libraries would be able to securely cancel or de-accession print journals; resulting in savings in subscription costs, space, and staff time. This proposal was sent to the numerous official CLI groups that would be involved in such a project, including the Library Directors, Interlibrary Loan Directors, Public Services Directors, Preservation Officers, and Technical Services Directors (Peters 18).

By 2002, after taking the time to communicate and receive input from library stakeholders, a pilot project was underway to retain 175 prospective print serial title runs published by Academic Press IDEAL using a distributed, light archival model (Peters 20; “Print Retention Project Phase I”). Contributions were made from all CIC member libraries, with contributions ranging from 8 to 21 titles; the access options consisted of interlibrary loaning and regular on-site access (Clennon, Shelburne, and Teper 88-89). In order to encourage participation, the pilot project intentionally avoided the security and environmental controls a dark archive would require. Instead, policies were put into place that simply required monitoring the retained material for damage or loss. Additionally, the pilot’s retention period was set at 5 years with ownership staying with the contributing library in order to avoid the hesitation that might result from such a
permanent deaccession. Communications regarding which library would retain certain titles were conducted through email messages with attached spreadsheets. In order to prevent accidental cancellation of non-duplicated titles, each library also made special notations in their catalogs. The only official documentation to formalize participation in this project consisted of a basic signed memorandum of agreement. Keeping in line with CIC’s foundation of flexibility, policies were quite limited and allowed a good measure of autonomy amongst participating institutions—they were “declarative rather than prescriptive” (Peters 20).

This early cautious, explorative print retention experiment was soon further encouraged by ever-more glaring shifts in expenditures: studies showed that, while CIC libraries’ serials expenditures in 1990 were at 38 million, by 2003 they had risen to 93 million—30 percent of which was spent on the publishers Elsevier, Springer, and Wiley (Allen “All Hype” 61). In 2004, CIC went on to include 1,467 prospective journal titles published by Wiley and Springer, the latter of which also included Kluwer titles due to a merger (“CIC Libraries Pilot Cooperative Program”). These titles were also electronically subscribed to by every single CIC library (Cleennon, Shelburne, and Teper 89). A new task force was formed—composed of representatives from collection development, interlibrary loan, preservation, and technical services groups—to formulate comprehensive guidance on processing and use procedures. Another memorandum of understanding was signed to enact official procedures, which changed from the first project in several significant ways. This time, a dim, centralized model was used to store the Springer journals at a storage facility owned by the University of Illinois, while the Wiley journals were placed in Indiana University’s own off-site facility. These facilities
are closed-stack and high-density, with environmental controls as well as security measures.

This initiative was also essentially developed as a joint project between CIC and these publishing houses: the parties agreed that CIC libraries would purchase complete runs of print serials; publishers would send these titles to CIC storage facilities (Clennon, Shelburne, and Teper 87). CIC library directors and collection development staff make sure to participate in conversations with various publishers to ascertain their receptivity to the project. They selected publishers with which they felt they had very good working relationships, along with ongoing electronic serial licenses—print retention was added in as a new counterpart to the electronic access (Clennon, Shelburne, and Teper 89). Indeed, the selected publishers would continue to demonstrate interest in CIC’s assembled archive of their print journals.

The other non-hosting institutions contributed funds for the 2 universities’ additional expenses; all participating institutions shared the cost of each single print subscription. Ownership of the retained print material was also transferred to the consortium. More particular policies were enacted to ensure the general security and quality of the retained items: acquisitions staff were made responsible for collating and checking in material; preservation staff were also told to double-check this material before binding (Clennon, Shelburne, and Teper 90). Patron access to retained material was made through a special request form, which then delivered an item to the specified library for in-building use only. Once the user returned an item, staff were required to assess it for damage. It was correctly predicted that requests for retained serials would be low: 2005 and 2006 only involved 313 requests filled through photocopy or the electronic
version of the item. It took 14 months for a singular interlibrary loan request of an actual physical item to be placed. Furthermore, this project resulted in significant cost savings for the participating libraries: in 2005, just 2 CIC libraries saved 41,247 dollars from the cancellation of print subscriptions alone. This initial project also revealed the vital importance of making accurate catalog notes for holdings: without a more domineering formal management policy, notations were not always properly made, which resulted in the occasional cancellation of a serial that was originally agreed to be retained (Clennon, Shelburne, and Teper 91).

The print retention task force was also simultaneously charged with preparing a proposal for a retrospective print archive of Wiley and Springer journals. The already-held print serial runs were available electronically and therefore anticipated to have low usage rates; their deaccession would result in significant savings in shelf space and maintenance. Indeed, CIC libraries found they would save nearly 700 linear feet of shelf space purely through the storage of Wiley chemistry backfiles (Clennon, Shelburne, and Teper 90). However, difficulties emerged with the process of gathering data about each library’s holdings, locations, and physical conditions. Further issues were found in the idea of indicating new statuses of retrospective collections in various bibliographic tools, as well as ownership. The deaccession of large retrospective print runs was also seen as a potential problem in terms of the impact on ARL library statistics. Balking at these difficult, time-consuming issues, the task force advised the Directors to focus more on prospective print serial retention activities.

Throughout the subsequent 4 years, CIC continued to build on this print retention project with minor shifts and changes. The CLI characterizes this period as a time for
“exploring paths to create shared print capability across CIC libraries” ("Activities"). This includes changes in interlibrary loan practices, such as a reduction in cost and the resulting increase in requests, along with changes in service through existing ILLiad systems, material retrieval procedures, streamlining workflows, and re-training staff (Coopey 171). Preservation Officers also spent this time period reviewing the goals and overall procedures for collaborative initiatives, hoping to formulate a more formal future plan ("CIC Preservation"). It was reasoned that 2 major preservation goals would be accomplished with prospective print retention: the potential last, “end of an era” published print journals would be securely captured, and a print archive would also essentially be a security blanket for libraries’ investigating how to reliably preserve electronic material (Clennon, Shelburne, and Teper 91). By 2007, the retention project had added 33 Wiley and Springer titles, bringing the total to 1,500 (Payne “Library Storage” 17). Additionally, they eventually elected to keep all of the titles from this prospective print collection in 1 centralized storage facility, operated by the University of Illinois (Payne “Library Storage” 18). An official Report on Collaboration for 2006-2009 reported library savings had risen to 11 million, along with a purchasing, non-content savings of 14 million (Kaufman 62).

The CLI also found that many publishers began managing print retention-related subscription services through a different fulfillment process—which had an impact on the timeliness of any received serials (Clennon, Shelburne, and Teper 91). Another issue was found in the potential movement of titles between publishers: if a publisher CIC has an agreement with decides to sell a particular serial title, it would be subsequently lost from the retained print collection. Furthermore, the license agreements for electronic journals
do not specify or automatically include certain titles—which could eventually cause a discrepancy between the title lists for the retained print archive and the electronic serials. It was concluded from this that additional agreements with more publishers would be required for a proper comprehensive print archive. This prospect is stated optimistically, as the CLI maintains that print serial retention is part of “the responsible transition from print to electronic access at research libraries,” before going on to state, “With a growing number of titles available only in electronic formats, both libraries and publishers face a new set of technical challenges in maintaining information over the long term, as well as providing immediate access when print copy is no longer an easy backup” (Clennon, Shelburne, and Teper 91).

In 2010, Indiana University began to take part in an OCLC project intending to establish best practices for shared print metadata standards in WorldCat (“OCLC Print Archives” 1). This subsequently allowed the entire CIC library system to develop higher quality, standardized practices for cataloging any serials contributed to its shared print collection: it learned to define separate OCLC Institution Symbols to identify print archived titles, where to correctly enter holdings-level data, and to use the 583 record field to describe specific characteristics of the print archives actions (“OCLC Print Archives” 6-7). During a 2010 CRL Print Archives Network Meeting, the CLI Director indicated that he saw the possibility for certain institutions to require financial incentives for providing or hosting potentially uncompensated resources for other libraries (“Meeting with Consortium Partners” 3).

Later on that year, the 2010 ALA Print Archive Meeting reported that CIC had recently formulated proposals with directions and options for a new official shared print
storage project (“Meeting Summaries” 1-2). This included a more comprehensive analysis comparing the costs of central and distributed models. CIC libraries wanted to make sure they were aware of all of the ramifications and possibilities involved in each model in order to make the best decision. However, they openly admitted their struggle with formulating estimates of future costs and returns, due to the number of potential environmental factors along with overall general uncertainty about the future: it was eventually concluded that they would just have to make final decisions with “less than complete or perfect information” about factors like future user demand or storage facilities (Sandler et al. 243-244). It was also reported that CIC had developed a workflow to officially announce when certain items had been completely digitized and therefore securely available electronically: it was reasoned that this would trigger more local decisions for print retention.

Current CIC Shared Print Repository program:

In June of 2011, the CLI announced the start of a new Shared Print Repository initiative for its lesser-used, electronically accessible journals. By July, CIC libraries formally signed an agreement to store these serials at Indiana University’s newly-built, high-density Auxiliary Library Facility, which has a total capacity of more than 6 million volumes (“CIC Universities to Co-invest”). Though it was initially reported that only 10 of the member libraries would participate, later documentation indicates all 15 institutions eventually became involved (“July 2013” 1). The program asserts 5 official goals: to relieve libraries of maintaining low-usage material, to collect and securely preserve this material, to provide efficient access methods, to realize significant cost advantages resulting from collaboration, and to eventually integrate into a national
cooperative print network ("Goals"). The final goal is essentially beyond the scope of the present case study’s focus, but still remains noteworthy because the SPR’s policies and procedures are explicitly intended to position itself to network with other print retention programs (Sandler et al. 241).

The organizational structure of the project consists of a Governing Board, a Steering Committee, and 3 Working Groups (“Working Groups”). The SPR Governing Board, composed of CIC Library Directors, makes final decisions about the project’s overall direction, including approving policies, fees, system development, and service strategies. Directly beneath the Board is the Steering Committee, which oversees the SPR’s general progress and activities. It is comprised of a subset of CIC Library Directors, along with the chairs of the Working Groups. These Groups report information to the Committee on various topics: the Working Group on Public and Access services formulates guidelines for access, such as policies for scanning or loans of physical items, along with policies for lost or damaged material. The Working Group on Technical Services is charged with defining a basic cataloging standard for SPR items, and investigating how to use these records to facilitate discovery across different libraries. The Working Group on Collections develops a method for selecting retained print material, and then uses this to generate a list of candidate serial titles.

The SPR program is governed by policies written in a memorandum of understanding. Selection of retained print serials is based on publisher category, with the following criteria: the item should have low usage, adequate electronic access or a usage rate low enough to justify retaining 1 print copy, significant redundancy amongst CIC libraries, as well as significant holdings at its original host library—which will ensure it
is economical to retain (Sandler et al. 251). This formal commitment also charts out a retention period of 25 years. It was decided that a shorter retention period would not meet the sought-after requisite level of security. However, faced with member libraries’ desires to review their commitments and contributed material, policies also require annual discussions, as well formal assessments to be conducted every 5 years (Sandler et al. 249-250). Official policies do not transfer actual legal ownership of the print serials to the consortium; instead it is given “administrative control” which effectively allows it to manage material largely according to its own procedures (Sandler et al. 255). This technicality was written in because most CIC universities are public institutions, as well as residing in different states with corresponding laws, and are therefore unable to surrender ownership of state property.

A centralized model was chosen because of serious reservations regarding a distributed approach: the consortium’s various libraries held uneven standards for preservation and quality; any formal assessment of retained material would be scattered and therefore difficult; and ensuring uniformity for record keeping, systems, or general work processes was seen as problematic (Sandler et al. 245). It was agreed that each institution would ship their selected material to Indiana University’s Auxiliary Library Facility. Though the Facility is owned by Indiana University, the SPR project uses a collective governance structure made up of all CIC libraries (Sandler et al. 243). Shipping costs are covered centrally by CIC, though each institution is responsible for the costs associated with preparing this material for things like use or circulation (Sandler et al. 249). Consistent with CIC previous iterations of shared print, each institution also pays required fees to fairly compensate the host Facility’s storage (Sandler et al. 243). Each
library has also formally committed 25 thousand dollars annually for the first 5 years of the project, and then 2,500 throughout the following 20 years—totaling 1.75 million dollars over 25 years. Other costs for project coordination, collection analysis, and system development are centrally covered. Together, all of these commitments also provide the necessary expenditures for a centralized collection to maintain facility space, as well as staff support (Sandler et al. 246).

SPR policies also include official guidelines and processing protocols from the Working Group on Technical Services. The main, most salient points from these guidelines include that, prior to assembling serials for shipment, libraries must conduct a completeness and condition review at the issue-level—though later documentation changes the rule to the volume-level (Charbonneau et al. 1; “July 2013” 2). They must also avoid wrapping their shipments in certain material that is against the Storage Facility’s fire code and insurance regulations. Additionally, shipped material must be officially verified through the addition of a new SPR barcode on each item. The protocols recommend the removal of any original barcodes in order to avoid potential confusion. However, due to the aforementioned issues of legal ownership, certain libraries’ original barcodes must be kept: these libraries must be able to trace and establish their official, legally-owned collections (Sandler et al. 255). The guidelines also articulate an official format for bibliographic records and standards; OCLC local holdings data must be properly reported to ensure efficient user access. It is also strongly suggested that the SPR participate in the OCLC Print Archives initiative, and accordingly contribute information to a larger record of print repository activity.
The SPR Journals Resource Lending Policy articulates official rules regarding borrowing, lending, loss, damages, and fees. Much like the technical services recommendations, many of these are consistent with or informed by previous formulations of CIC print retention procedures. If a user wants a particular article from a serial, they will be given an electronic document delivery unless they specifically ask for the physical copy; print volumes can circulate to CIC libraries, but only for in-library use (“Journals Resource Lending Policy” 1). Using the same already-existing CIC interlibrary loan policies, either format is required to be ready for shipment or electronic delivery within 24 hours. Similarly, CIC does not charge lending or shipping fees. There is an additional rule stating that these physical serials have a 12 week borrowing period with optional 4 week renewals. When serial volumes are unreturned or otherwise lost, they must be replaced, and the host library will be charged a minimum of 300 dollars along with a 75 dollar processing fee. Official procedures for identifying or locating missing items are reported to still be under consideration (“Updates from Print Archives at ALA Midwinter 2013”). Though the Auxiliary Library Facility does not generally allow user access, the SPR makes sure to designate itself as an “active circulating repository, not a dark archive” (“ALF FAQs”; “July 2013” 1).

The SPR project’s initial priority is to retain complete runs of Elsevier, Wiley and Springer serials, which total to approximately 150 thousand volumes. Despite CIC’s relatively long history with print retention experiments, the SPR program continues to seemingly view itself as embryonic: its official projected timetable describes 2011 and 2012 as “Planning” and “Testing” respectively, with 2013 finally marking the actual beginning of material collection (“Activities”). Indeed, the CLI maintains that all of its
previous unhurried shared print activities are what allowed it to gradually develop thoughtful, functional, quality guidelines. The 2011 planning year simply consisted of the basic agreement to proceed with the program, the use of a centralized model, along with the establishment of an organizational structure and working groups to provide guidance. The 2012 testing year involved the decisions regarding the very first implementation set—consisting only of Elsevier serials—along with Ohio State University’s agreement to be the second depositing library after Indiana. It was not until the spring of 2013 that actual collection and ingest began; over 12 thousand Elsevier volumes were shipped from Ohio to Indiana’s Storage Facility—along with the first upload of catalog records.

Currently, the CIC SPR retains approximately 67,500 Elsevier serial volumes: 56 thousand were deposited by Indiana University, the remaining 11,500 are from Ohio State University (“July 3013” 1). SPR documentation does not describe its holdings in terms of title numbers or even specific journal titles in themselves; it prefers to simply provide holdings numbers in terms of volumes. The University of Michigan has agreed to be the third depositing library for Elsevier print serials, though no further specific data has been provided. The SPR has also announced that analysis is currently underway on CIC Springer and Wiley holdings, showing cautious but gradual progress towards implementing its initial 150 thousand volume goal. The SPR’s long-term goal, however, is to reach 250 thousand Elsevier, Wiley, and Springer volumes by 2016 (“Holdings”). Furthermore, after achieving its goals regarding these 3 publishers, the SPR has stated it wants to begin retaining more print serials, particularly in the STEM disciplines (Sandler et al. 251). The project’s principles and operating assumptions also continue to assert that the attainment of secure electronic access should trigger libraries’ consideration of the
print version’s addition to the SPR (Sandler et al. 242). Additionally, though many SPR administrators initially saw the centralized print collection as a starting point for a project that could grow and eventually add on a distributed component, there are currently no affirmed future plans for this endeavor (Sandler et al. 247).
The Triangle Research Libraries Network Collaborative Print Retention

Basic Facts about the Triangle Research Libraries Network:

The Triangle Research Libraries Network, or TRLN, is a consortium composed of 4 North Carolina universities’ libraries: Duke University, North Carolina Central University, North Carolina State University, and the University of North Carolina at Chapel Hill. 3 of these institutions are public, with Duke as the sole private university. Collectively, TRLN libraries manage over 18 million volumes, over 32 thousand serials, and employ over 1 thousand staff (Association of Research Libraries (Table 4, Table 19); “James E. Shepard”). The TRLN member universities have a total of over 86 thousand students, nearly 10 thousand faculty, and over 50 thousand staff members (“Facts 2012-2013”; “Facts and Figures” (UNC); “NC State University at a Glance”; “Quick Facts About Duke”). The institutions also have over 400 thousand total living alumni (“Alumni & Friends”; “Alumni Records FAQs”; “Career Network”; “NC State University at a Glance”). The consortium’s potential external library users also include the surrounding communities in the cities of Chapel Hill, Durham, and Raleigh, which have a combined total population of nearly 700 thousand (United States Census Bureau).

History of TRLN Collaboration and Serials Issues:

The initial activities that would eventually form the Triangle Research Libraries Network began in 1933 with the first cooperative collection development program between Duke University and the University of North Carolina at Chapel Hill (“TRLN Bibliography”). These institutions began to share bibliographic information, develop interlibrary loan practices, and make collaborative collection development decisions in order to collectively form more comprehensive library collections (Dominguez and
Over the following decades, these practices became more formalized and the consortium saw the additions of North Carolina State University and North Carolina Central University. In the 1980s, TRLN collaborations began gradually intensifying in reaction to limited budgets, as well as increases in both the pricing and basic number of serials available (Dominguez and Swindler 484). Member libraries began to formally agree to take on responsibility for collecting material in various subject areas—always with the understanding that they were not only extending their collections, but also avoiding duplication (Hewitt 144). Therefore they quickly established procedures for constant communication amongst the libraries’ collection development and acquisitions staff: for instance, in order to receive approval for a new serial, a TRLN library was required to have evidence that it would not be duplicating another library’s subscription (Hewitt 146).

The integration of TRLN holdings information was continually emphasized. In 1987, the revised official memorandum of understanding specifically stated the consortium’s main purpose was to network its members’ online catalogs and any other relevant automated library systems to further support resource sharing (“Memorandum of Understanding”). Indeed, through most of its existence, TRLN viewed itself “as largely a technical support operation”: in order to support the identification and delivery of library items, it continued to emphasize developing an integrated online library system and constantly undertook various migrations with commercial software (“Report of the Executive Director 1998-1999” 1). This technological emphasis also acknowledged electronic resources; member libraries began to increasingly collect digital items and explore joint licensing agreements. By 1990, TRLN had begun modifying its
organizational structure to include groups or committees specifically devoted to electronic material (Dominguez and Swindler 484). As the prominence of electronic serials began to rise throughout the decade, TRLN libraries started to consider cancelling print subscriptions in order to save money—but were stopped by the uncertainties regarding technological stability and the prospect of lacking backup print copies (Tuttle 81).

By the 2000s, the basic TRLN organizational structure as it currently exists was progressively set up. A new memorandum of understanding explicitly broadened the traditional goals of cooperative collection development and technical innovation to include new collaborative initiatives: it was reasoned that users needed new strategies to access information in the emerging technologically advanced environment (“Memorandum of Understanding”). Its official stated goals are to increase the amount of available library resources and services; to create new services; to make library information more accessible; to form strategic partnerships; to establish a forum for library cooperation; to seek external funding sources; and to maintain a leadership role among academic library collaboration.

The consortium is headed by a Governing Board, which is composed of Provosts, Chancellors, and Directors of academic affairs as well as libraries from each institution; an Executive Committee, composed of leaders from each member library; and an Advisory Council, composed of various library staff members from each university (“Governance & Councils”). There are also 4 Councils which provide recommendations on collections, human resources, services, and technology; Councils are composed of representatives from the relevant library departments of each institution. TRLN also
enacts Committees to coordinate various consortial activities such as communications, document delivery services, and electronic resources. By 2003, all of these groups were compiling statistics and usage data on the crisis in journal publishing: facing immense serial price increases, restricted budgets, and increasing preferences for electronic format, TRLN openly looked for ways to manage this crisis (“Annual Report of the Triangle Research Libraries Network 2003-2004” 1). This included sponsoring development events with experts on various topics, including a presentation on the University of California System’s cooperative print and electronic collections—particularly its shared print archive (“Annual Report of the Triangle Research Libraries Network 2003-2004” 3). While a study indicated TRLN was achieving its non-duplication goals—over 70 percent of collective library holdings were unique to 1 member institution—the consortium felt it was essential to continue to look for strategies for further improvement (“TRLN Collection Analysis Project”).

*Development of Pilot Single Copy Program:*

In 2006, TRLN officially began formulating an initiative for cooperative print serial retention, stating “collaborative archiving—both print and electronic—as a natural companion to cooperative collection development” (“Annual Report: 2006-2007” 2). The consortium also found print and electronic archiving to be natural companions to each other: as soon as TRLN had established secure electronic archival technology, it officially undertook what it called a Single Copy Program to store duplicate format serials. Another important impetus for this initiative was a recent agreement between Duke and UNC for cooperative storage in Duke’s high-density Library Service Center, or LSC, facility. TRLN Directors envisioned these print journals all being stored within in
the LSC, which has a maximum capacity of 15 million volumes ("Library Service Center"). They also estimated that storing items in the LSC would be over 6 times cheaper per volume as compared to main library stacks (Lock and Tillman). The Council of Directors created a Single Copy Task Group to coordinate the new venture composed of representative librarians from Duke and UNC. The Group was charged with storing chemistry and other print science journals from the 2 institutions, along with enacting appropriate policies regarding cataloging and access models ("TRLN Single Copy Task Group").

In 2007, the Single Copy Program formally began building a retrospective print serials collection ("TRLN Single Copy Program"). The official goals were to collectively build long journal runs for permanent retention, and therefore save library space as well as funding. The Task Group decided that ownership would remain with the original institution, but that participating libraries needed the confidence that serials would not be withdrawn at will: contributions were permanent, and all libraries would have to agree to an item’s withdrawal in writing. Policies regarding contributed material selection left choices up to the particular library: a library could propose any serial they desired, but it was still strongly recommended that the item have secure electronic access and low usage. Guidelines also suggested that contributions were complete or near-complete journal runs, both to increase the new archive’s quality and to maximize the space savings of the contributing library. The Task Group set up a queue listing proposed serial titles: they charted out a schedule to review the list on a semi-annual cycle, and make final decisions based on future TRLN Collections Council priorities, such as subject area or publisher. The project was also characterized as opt-in, or with voluntary
participation—keeping in line with the consortium’s general principle stating that any cooperative activity should never require every member library (“TRLN Principles of Cooperation”).

While it was originally envisioned that retained print serials would follow a centralized model and stored in Duke’s LSC, the actual Single Copy policies elected to be “silent or neutral on location”: contributed material could be housed in storage of any participating library—not just the LSC—and it could also simply stay in the library’s stacks (“TRLN Single Copy Program”). Regardless of location, access policies specified that most serials would be physically non-circulating, or in-library use only, though there would be exceptions. If any items were lost or damaged, it was simply mandated that the contributing library to replace or repair them—with no further specifications regarding fees and the like. Policies regarding costs for storage and delivery are similarly general: they simply state that shipment, storage, and preservation costs were to be paid by the contributing library; the already-existing service costs for delivery, scanning, or photocopying would be implemented, as well. It is also important to note that the TRLN Document Delivery Services Committee were frequently consulted throughout this process: they provided guidance on the official policy documentation, along with making sure consortial delivery services correctly worked with the new initiative (“Annual Report: 2007-2008” 7).

Cataloging procedures for retained print were formulated in light of TRLN’s simultaneous developments in this arena, also incidentally involving the Document Delivery Services Committee’s initiatives: 2007 marked the implementation of Search TRLN, an updated, innovative online catalog of the consortium’s combined collection
which provides a user-friendly single search and request interface (“Annual Report: 2007-2008” 1). It was decided that a catalog record would be given an additional note in the 500 field explicitly stating the owning library and that the item was a part of the TRLN Single Copy Archive. Policies dictated that local library catalogs would continue to list contributed material, as well as any discards that were made as a result of another library’s contributions of the same serial: new information would be added to each record to indicate the item’s location and contributing library. While local and consortium-wide catalogs were quickly decided, the Task Force had trouble coming up with a procedure for OCLC WorldCat records, describing their policies as “under discussion” for the entirety of the pilot project (“TRLN Single Copy Program”). By mid-2008, the pilot Single Copy Program had successfully fully processed 43 serial titles, generally from math and science subjects as well as general reference (“Annual Report: 2007-2008” 5).

Continued Development of Print Retention:

In June of 2008, after the initial TRLN pilot experiment with print retention, the Single Copy Task Group was disbanded (“Annual Report: 2007-2008” 5). The Collections Council created a new Single Copy Operations Committee, composed of each member library’s technical and physical processing staff, to continue the development of print retention (“TRLN Single Copy Operations Committee”). The Operations Committee was charged with conducting holdings inventory, updating their own local catalog records, and coordinating any movement of material. A new memorandum of understanding was also drafted to include the remaining members of the consortium, North Carolina Central University and North Carolina State University (“TRLN Single Copy Program Memorandum”). This new official TRLN Single Copy Archive project
operated with essentially identical practices and no notable shifts in procedures—they were just performed on a larger scale. By mid-2009, the Single Copy Archive held 1,600 serial titles, comprising over 50 thousand volumes (“Annual Report 2008-2009” 1). This also reportedly saved TRLN libraries a total of 11 thousand linear feet of space.

Throughout the following year, the Operations Committee continued to concentrate efforts on improving the project’s organization and communication, including the creation of a Steering Committee. Official training materials were developed for collection development librarians in order to formalize uniform procedures throughout the consortium. (“Annual Report 2009-2010” 3). The project also continued to discuss methods and potential improvements regarding cataloging standards for print archives, especially in the context of OCLC WorldCat records (“Meeting Summary” 5).

By 2010, the Committee managed to successfully process 1,954 serial titles, or 73,572 volumes. These journals continued to be generally selected by title category, and mostly came from the sciences subject areas. The retention periods continued to be somewhat vague or general, simply stating they were “indefinite, until determined” (“CRL Print Archives Network Meeting” 15).

Current Collaborative Print Retention Program:

In 2011, the Single Copy Program was officially re-titled as the TRLN Collaborative Print Retention Program; administrators held the new name more accurately reflected the initiative’s overall goals (“Annual Report 2010-2011” 4). The Single Copy Operations Committee consequently became the Collaborative Print Retention Committee, though the basic organization remains the same and it still reports to the Collections Council (“TRLN Collaborative Print Retention Committee”). As the
Program’s main policies document still references the 2008 memorandum, much of the procedures remain similar. It still intends to be a retrospective journal collection. Selection is still based on library-nominated titles, though it is more firmly instructed that selection criteria should involve secure electronic access and low print usage. It also articulates a more formalized procedure that must take place before this: the Collections Council first pinpoints specific subject areas well-suited to de-duplication, and identifies the particular institution that is best suited to take the lead on each subject area; this information is then passed on to the Print Retention Committee (“TRLN Collaborative Print Retention Program Operations” 1). Each member of the Committee promptly confers with his or her local library staff, and only then are the lists of proposed serial titles formulated. These lists are then submitted biannually for the Collections Council’s final approval.

Ownership of contributed journals stays with the original library; policies still require a permanent retention period and continue to allow recall with consortium-wide agreement. Notably, the Program’s policies do not explicitly ban inter-campus duplication: a library may choose to keep a serial that has been contributed to the Archive by another institution if they please—though it is not common practice or really recommended (“TRLN Collaborative Print Retention Program Operations” 2). Uniform cataloging procedures are required to ensure consistency throughout the consortium, including the information on the contributing library and location, as well as the mandatory statement “This item is in the TRLN Collaborative Print Archive. Electronic Access is also available” in the 500 record field (“TRLN Collaborative Print Retention Program Operations” 2).
Policies also dictate that libraries review serial volumes for completeness and damage before contributing to the Collaborative Print Retention Archive. These serials can then be housed in storage facilities or main library stacks (“TRLN Collaborative Print Retention Program Operations” 2). This provides an interesting challenge to the traditional concepts of centralized and distributed models: though centralized storage facilities are used, the Program is identified as using a distributed model and not a combination (“Meeting Summary” 2). Additionally, material must be serviced or managed by the contributing library according to the host site’s already-existing practices. The cost-sharing model is simply based on already-existing consortium funding arrangements; it is also assumed that the distributed nature of the collection will naturally result in generally equitable costs (“CRL Print Archives Network Meeting” 5).

Duke continues to fund the LSC through its central libraries budget, and any other TRLN contributing institutions pay Duke an annual fee for storage services commensurate with the amount of material (Jakubs; Reilly and DesRosiers 25). Similarly, policies on perpetual access and delivery service are simply based on the extant TRLN Interlibrary and Document Delivery Services regulations (“TRLN Collaborative Print Retention Program Operations” 1). Users can receive requests for electronic article delivery or physical loans within 48 hours; fees for lost, damaged, or overdue items are based on the existing policies of member libraries (“Cooperative Library Lending Agreement”; “Quick facts about Search TRLN”).

By mid-2011, 56 more titles, comprising 1,752 volumes, were contributed to the Program (“Annual Report 2010-2011” 4). The TRLN Collections Analysis Feasibility Task Group for Serials was soon formed to create an inventory of the consortium’s
collective print serial holdings; the resultant data was subsequently used as part of a strategy to further expand the Print Archive (“Annual Report 2011-2012” 5). 2 strategies for expanding the Program were identified: first, review of duplicate serials held by Duke and UNC in order to demarcate those best-suited for contribution. The second approach similarly reviews and determine serials held by NCSU and either Duke or UNC—the NSCU titles are promptly contributed to the Print Archive (“TRLN Collections Analysis Feasibility for Serials” 1).

By 2011, the TRLN Program had also contributed its entire Print Retention titles to the Association of Southeastern Research Libraries’ Journal Retention Program—and much of its subsequent document or activities very much focus on this integration (“Annual Report 2010-2011” 5). This development is about a larger, network-level project and therefore beyond the scope of the present case study’s focus; it still remains noteworthy because TRLN declared it would begin exploring adjustments to its own procedures to conform to ASERL’s procedures. However, upon comparison with ASERL’s official agreement, no visible corresponding changes are apparent in TRLN’s policies; this may perhaps be in part due to ASERL’s appointment of a TRLN staff member as the project leader for development of its cooperative print journal retention program (“ASERL Collaborative Journal Retention”; “ASERL Selects Aisha Harvey”). This development is also noteworthy because TRLN’s policies are still explicitly intended to position itself to at least acceptably network into other print retention programs.

By mid-2012, the TRLN Print Retention Archive held over 2,400 serial titles, or nearly 125 thousand volumes (“Annual Report 2011-2012” 4). As of mid-2013, TRLN
reports annual document delivery and direct borrowing services of nearly 37 thousand items, though specific data on Print Retention items is not provided (“Annual Report 2012-2013” 5). Currently, the Print Retention Archive holds a total of 2,536 journal titles, which comprise 127,479 volumes (“Inventory”). The majority of these contributions were made from Duke and UNC libraries, with NSCU contributing a much smaller number of titles. Notably, NCCU is listed as having zero contributions to the Print Retention Program—though, per the TRLN agreement, it can still use the material.

While there is no official data provided on the locations of retained print serials, the Search TRLN catalog strongly indicates that at least 136 titles are currently stored at the LSC, while the rest are scattered throughout various TRLN libraries (“Search TRLN”). Additionally, while much of the currently held serials are from the math and science disciplines, there is a small measure of titles that deal with other subjects, such as the Bulletin of the Philadelphia Museum of Art. The Program maintains it will continue to assess and gather data on its operations by using inventory and cataloging data forms, keeping updated spreadsheets of outstanding and contributed serial titles (“TRLN Collaborative Print Retention Program Operations” 2). It also maintains it will assess proper observance of cataloging requirements through sample test catalog searches; while lending activity will be privately assessed through interlibrary loan systems.
Cross-case Analysis and Discussion:

Upon examination of the 3 cases of academic library collaborative print serial retention programs, several prominent themes and patterns emerge. Firstly, the very basic fundamental corporal organization underlying a print retention program is an important factor to acknowledge: among the 3 programs under analysis, there are also 3 very different institutional contexts. The Committee on Institutional Cooperation Shared Print Repository is based on an academic consortium that deals with distinct universities scattered throughout different states. Therefore its official procedures for material ownership, processing, and general management have to be carried out in accordance with the relevant laws. Even CIC’s basic organizational principles strongly emphasize the individual autonomy of each member, recognizing the variances among them. In contrast, the University of California Shared Print program is enclosed within a singular state university system—there are no state or institutional boundaries to consider when establishing policies and procedures. In an interesting mixture of these situations, the Triangle Research Libraries Network is a consortium of institutions which are not a part of the same university system but are enclosed within the same state. Therefore its policies do partially leave procedural decisions up to the member libraries, but do not have to adjust as comprehensively to state divisions.

On the other hand, both CIC and the UC System—with 15 and 10 member institutions, respectively—are comparatively much larger than the TRLN 3 member consortium. Just the student population of CIC is over 4 times larger than that of TRLN,
while the UC System’s is nearly 3 times as large. CIC manages a library collection of over 90 million total volumes, the UC System has 38 million, while TRLN holds a significantly smaller 18 million. These differences could partially explain the comparatively slow-moving, still-embryonic nature of CIC’s Shared Print Repository program: the successful coordination and evaluation of such a large amount of factors naturally takes a corresponding amount of caution. The geographic distances between each consortium’s members are important to consider, as well: separated at the widest point, the TRLN institutions are 25 miles apart, while the UC System has slightly over 500 miles, and CIC members are 775 miles apart (Beaubien et al. 81; “Maps and Directions”; “Report of the Executive Director 2000-2001” 1). Despite these widely varying sizes and distances, each of these print retention programs guarantees delivery of requests within 48 hours. There are 2 main implications that can be derived from this fact: 48-hour interlibrary lending or document delivery is a basic standard for print retention; and consortia spread out over larger distances have to be able to coordinate and invest that much more into their programs to be successful.

Another significant theme amongst these serial print retention programs is the history of consortial cooperation. Each of the 3 consortia in question have long-established histories of library cooperation, which allows them to build on already-existing successful infrastructures. They all had ongoing habits of collecting data about their activities and efficiently communicated amongst and within their member organizations. A report from the TRLN boasts that “the Single Copy Archive is a success in large part because it capitalizes on long-standing cooperative agreements among the TRLN members. Since the 1930s, TRLN members have worked together to develop
collections in a complementary and strategic fashion and to forge agreements for sharing access to those collections” (“Annual Report 2008-2009” 1). Each of the consortia had an extant catalog that allows users to efficiently search through their collective holdings.

This theme also applies to cost-sharing models for these print retention programs: much of the official documentation does not particularly emphasize cost issues, as the projects are built upon existing consortial procedures. Furthermore, a history of successful cooperation does not just promote the basic establishment of print retention, but also seems to promote its continued advancement. The UC System was able to build upon early collaboration structures and start one of the earliest pioneering initiatives in the country; throughout the next decade, it was given the time to rapidly build upon itself and form into an advanced program that uses both centralized and distributed models to maintain a large corpus of retrospective as well as prospective material. Moreover, the present study indicates that the continued advancement of print retention aims to extend even farther: each of the 3 programs explicitly states a goal of eventually building into a wider, perhaps even national, network of print serial archiving. They each in the very least try to form their goals and strategies so that they may keep the possibility of this expanded networking alive.

There are also several important patterns to be found within the motivations and general practices of these print serial retention programs. Each of the projects explicitly attributes its existence to the growing preponderance of electronic serials, the decreasing use of print counterparts, and issues with shelf or general library space. Furthermore, once the print retention programs are established, the selection criteria always essentially requires the availability of digital counterparts for any retained print material—the latter
of which should also have documented low usage. De-duplication is another major theme throughout these projects: one of the major goals is always to reclaim library space, therefore deaccessioning duplicate print serials is a uniform practice. The TRLN initiative stands out as the only project within this case study that does not strictly forbid duplication. The language in its policy documents regarding the topic of duplication is comparatively more relaxed; this could be partially due to its aforementioned relative small size, as well as perhaps a desire to not alarm any potential participants that do not quite feel comfortable getting rid of their material.

Other important patterns amongst selection criteria for print serial retention include choosing based on particular categories, along with how the choices themselves are made by specific library committees. Selecting retained serials based on publisher category is common, as it is used extensively by both CIC and the UC System—though the latter currently retains material from 18 times as many publishers. TRLN uses a notable different approach by basing its selection on library-nominated serial titles. However, all 3 programs utilize similar organizational structuring: each involves groups or committees composed of representatives from library administration, collection development, technical services, preservation, as well as interlibrary loan and document delivery. All of the policies and procedures enacted are done so based on the recommendations or findings from these groups.

A summary of the current characteristics of each program can be seen in Figure 4. The TRLN Collaborative Print Retention Program uses a distributed model for its serials, the CIC Shared Print Repository uses a centralized storage facility, while the UC Shared Print program has evolved to use a mixture of both. All 3 projects are cultivating
retrospective collections, though the UC System initiative also has a prospective

collection. Both the UC System and CIC select serials based on publisher category, while
the TRLN includes library-nominated serial titles. Permanent retention periods are
established by the UC System as well as TRLN; CIC specifies a retention period of 25
years. These required retention periods are either permanent or relatively long in order to
promote security amongst participating institutions. For similar reasons, all 3 of the
programs allow ownership of contributed material to stay with the original library. The
TRLN Program currently holds 2,536 serial titles or 127,479 volumes; the CIC Shared
Print Repository provides no data on specific titles, but holds 67,500 volumes; the UC
Shared Print program currently holds 1,388 serial titles, with no available official count
of the number of volumes.

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<th>Characteristics of Collaborative Print Serial Retention Programs</th>
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*Figure 4: Characteristics of Collaborative Print Serial Retention Programs, 2013 (Adapted from each institution’s documentation and the CRL PAPR)*
Conclusion:

Using a comparative case study design, this study utilized both document analysis and descriptive statistics to examine the processes of different academic library print serial retention programs, as well as their local contexts. Examination of the University of California Shared Print program, the Committee on Institutional Cooperation Shared Print Repository, and the Triangle Research Libraries Network Collaborative Print Retention Program revealed several significant trends. Retention of print journals often builds upon existing consortial mechanisms to gather, describe, preserve, and provide access services, subsequently relieving library budgets as well as space. By collaborating, these academic libraries establish programs that accomplish goals they would otherwise be unable to individually (Thompson, Peters, and Hulbert 178). Print serials are redeveloped into the concept of a singular, shared collection in which access is made a priority over ownership.

Indeed, together, these policy requirements correspond with the calls for a new concept of access regarding print serials: as H.H. Fussler argues, a sufficient new concept would simply ensure the basic possibility for access to this material, and not an immediate, high level of availability (Fussler qtd. in Buckland 40). In the emerging electronic world, these programs are looking for a solution to the problem of print serials in collaborating to retain them in some fashion—while never closing the door to them completely. Furthermore, these projects are even preparing to expand even more to
communicate and work with one another to discover and standardize best practices ("CIC Universities to Co-invest"). The depth of relationships among and within these consortia is understandably fluctuating along with their specific practices. These programs are still investigating methods to best adapt print serials to the new digital environment: academic libraries are pursuing collaboration as part of “the new normal” for managing serial collections (Henderson and Bosch 36, 39). However, as noted by CIC administrators, the development of shared print collections must still always result in local, individual advantages or savings: “the creation of a shared print archive is not an end in itself but a necessary precursor for local decision making about collection management and the allocation of space resources. In the absence of local action on collection management, the development of a shared print collection would represent an added cost for our libraries; any benefits to accrue coming from the response of the schools to the existence of the program” (Sandler et al. 240). Indeed, despite being one of the oldest projects in the country, CIC’s embryonic status and reluctance to quickly formalize procedures indicate the truly developing nature of collaborative print serial retention.

Ultimately, all 3 of these cases of print serial retention demonstrate a salient pattern: they are actively establishing methods to maintain the necessary infrastructure for print serials, but to re-conceptualize it in a collaborative context (Demas and Miller 169). Much of academic libraries’ transition to the digital age focuses on the need to shift library organization and procedures to operate in a context dominated by electronic resource issues. These impulses are certainly valid and necessary for academic libraries to properly evolve. However, for every shift towards this reality, many institutions have
found it necessary to emphasize collaborative print retention as an essential counterpart to advances in electronic resources and serials.
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