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Transferring Cataloging Legacies into Descriptive Metadata Creation in Digital Projects: Catalogers' Perspective

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With the emergence of digital collections in libraries, museums, and other cultural institutions, catalogers are redefining their roles by participating in digital projects that involve creating, maintaining, and developing nontraditional metadata records. This article will provide a discussion of how catalogers are ensuring that the cataloging legacies of quality control, authority control, and creative cataloging become important components in the creation of descriptive metadata for digital projects.

KEYWORDS *authority control, cataloger, controlled vocabulary, creative cataloging, creativity, digital project, metadata creation, metadata quality, quality control*

In the past decade, one phenomenal change in the landscape of the library community is the emergence of digital collections. Academic, public, and research libraries, as well as museums, public libraries, and other cultural institutions, have been investing a great effort into digitizing, preserving, and revitalizing their “hidden” collections (maps, pamphlets, correspondences, postcards, posters, images, and plates and illustrations in rare books). These local and special materials were brought to the forefront and became visible and accessible to local and global users. Consequently, this phenomenon has had a profound impact on the roles that cataloging librarians play in

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libraries. Catalogers have gradually evolved alongside this revolution and have redefined their roles by participating in digital projects and undertaking the responsibilities of creating, maintaining, and developing nontraditional metadata records.

Boydston and Leysen (2006) considered that “[m]etadata creation is a natural extension of the catalogers’ existing skills, abilities, and knowledge” (p. 4). The knowledge of traditional cataloging rules and standards are prominent in the job descriptions for metadata professionals in the digital environment, and the essentials of traditional cataloging practices have been integrated with the creation of metadata (Han & Hswe, 2010; Lopatin, 2010; Park & Lu, 2009). This article will present a discussion from the catalogers’ perspectives of how cataloging legacies are carried forward and integrated into descriptive metadata creation in digital projects with regard to several aspects of metadata creation: quality control, authority control, and creative cataloging.

QUALITY CONTROL

Metadata Quality

Metadata standards are explained as the structured encoding mechanisms that describe the characteristics of information-bearing objects so that they can be locally organized, managed, and preserved in the Integrated Library Systems (ILS) and globally accessed and retrieved by users from different localities (National Information Standard Organization, 2004; Smiraglia, 2005). In the past decades, with the advancement of information technology, a variety of metadata standards developed outside the library community have been employed in library digital projects. Metadata quality control has become essential in building reliable and efficient digital collections. This is even more critical when metadata records are aggregated from a wide spectrum of libraries and other research/academic institutions. The emerging Semantic Web metadata ecosystem challenges information professionals’ perception of metadata quality in this global-networked environment with its increasing complexity and granularity (Sutton, 2008).

Charles Cutter in *Catalogue of the Library of the Boston Athenaeum, 1807–1871* (1874) stated that problems of quality for bibliographic records came from a lack of well-trained personnel and hasty work. Today, it seems that Cutter’s assertion of quality cataloging practice is echoed in the metadata creation in digital projects. Currier, Barton, O’Beirne, and Ryan (2004) complained that “metadata creation is seen [by some technology and pedagogy experts], as a tedious chore rather than as a complex intellectual skill which is essential for unlocking access to resources” (p. 8). Boydston and Leysen (2006) stated that the emerging metadata records were possibly constructed

by insufficiently trained professionals lacking support and adequate documentation to describe an increasingly complex range of resources. Park and Tosaka (2010) have argued that the mechanisms most commonly adopted to guarantee metadata quality in digital projects are the training of manual quality review, metadata creation guidelines, and metadata generation tools. All of these mechanisms can be seen as remedial actions to implement metadata quality control. However, it is the qualified metadata creators who are the source that can prevent metadata records from being degraded by “missing data, incorrect data, confusing data, and insufficient data” (Dushay & Hillmann, 2003, p. 2–3). The deficiencies of metadata records could be the invisible but substantial risk hindering records from being discovered and accessed by users.

Metadata Quality Measurement

A number of studies regarding metadata quality measurement in digital projects have been actively undertaken in recent years (Guy, Powell, & Day, 2004; Hillmann, 2008; Park & Tosaka, 2010; Statistics Canada, 2002; Stvilia & Gasser, 2008). Park (2009) reviewed the current research and practices published on metadata quality evaluation in the library community and extracted the three most common criteria that have a significant impact on the “degree to which the metadata in question perform the core bibliographic functions of discovery, use, provenance, currency, authentication and administration” (p. 224). Those criteria are completeness, accuracy, and consistency.

Completeness stresses the inclusion of metadata elements in coordination with resource type and metadata guidelines. It does not necessarily mean the adoption of all metadata elements of a specific scheme. Accuracy assures how truthfully and correctly the resource content is described and represented in digital collections. Consistency measures the degree to which the same data values are employed coherently at the semantic and structural levels in the description of resources. Compared with accuracy, metadata records with inconsistency issues don’t have any “wrongness” in them—but “difference.” Yasser (2011) summarized that “different values associated with an element may equally represent a characteristic of the resource, but they may be different enough in recorded form to undermine system functionality” (p. 60). Therefore, the degree to which resources can be effectively discovered and retrieved in digital libraries largely depends on the enforcement of these three criteria in metadata records creation.

Quality Control in the Library Community

Practicing quality control in the process of creating bibliographic and authority records has a long history in the library community. Cutter (1874) addressed two important aspects of the quality issues in bibliographic card

records: accuracy and consistency. In 1901, the Library of Congress (LC) initiated the Cataloging Card Distribution Program (CCDP) and its success afterwards made LC the leader in the establishment and interpretation of cataloging rules and policies. In a few decades, LC records were viewed as quality records with accurately described bibliographic information, consistently applied cataloging rules, and appropriately assigned access points. Aside from quality cataloging, the most prominent contribution that the CCDP brought to the library community was cataloging standardization, which is also one effective approach to achieving interoperable and shareable metadata records with linked data in digital libraries. As Yee (2009) put it,

In a sense, the LC cards were interchangeable parts for libraries. Standardization made it possible for the smallest library in the country to have the same quality of cataloging as the largest research library. In this, the card distribution program was profoundly democratic. Every American citizen who used a public library could benefit from the expertise that went into creating the national bibliography in LC. (p. 74)

LC's card was made obsolete by computer technology and was replaced by the establishment of the Online Computer Library Center (OCLC) in 1977. Millions of worldwide-contributed records in OCLC are downloadable and customizable for local library databases, which eliminates duplicated cataloging efforts and advocates efficiency and effectiveness in cataloging. The Online Data Quality Control Section (ODQCS), as OCLC's department, is mainly responsible for conducting all sorts of quality improvement projects: adding missing data, removing duplicates, and reviewing error reports that are submitted by global catalogers. OCLC did not simply focus on the effort to achieve good bibliographic records, it also devoted itself to bridging the gap between bibliographic records, online catalogs, end users' expectations, and library professional perceptions of data quality for a big and holistic picture in the library community (Davis, 1990; OCLC, 2009).

For individual catalogers, creating error-free, consistent, and comprehensive bibliographic records is one of the fundamental principles guiding their work. Accuracy, consistency, and completeness have also been considered as the indicators of evaluating the effectiveness and success of traditional cataloging. As Bair (2005) stated in the cataloging code of ethics,

To ensure that users find the information they need, catalogers gather and organize information and advise users in their choice of information by providing comprehensive, accurate encoding and access points; knowledgeable application and addition of subject headings and classification schemes; and accurate and complete description and notes. (p. 23)

Catalogers' Roles in Metadata Creation

To see metadata creation as a tiresome and physically repetitive data-entry task is a narrow view of the process. Like traditional cataloging, metadata creation in digital projects is also an intellectual and complex activity that opens the gateway to access information in networked environments through utilizing metacognitive skills, such as identifying and selecting, analyzing and synthesizing, abstracting and summarizing, organizing and classifying, and evaluating and critiquing. As well-trained professionals, catalogers have the skills of creating authentic and truthful descriptions and providing precise access to materials and information based on standards and principles. Besides, catalogers have already learned how to read, comprehend, and interpret comprehensive cataloging rules, such as Anglo-American Cataloging Rules 2 (AACR2), Resource Description and Access (RDA), and Library of Congress Rule Interpretations (LCRI), as well as subject classification schemes like the Library of Congress Subject Headings (LCSH). The capability of understanding complex documentations will give catalogers the advantage of interpreting and executing metadata application guidelines to achieve accuracy, consistency, and completeness in digital projects. DeZelar-Tiedman (2004) pointed out that catalogers can carry on their traditions and play a proactive role in this flashy, “nebulous and constantly changing” (p. 146) digital environment. She listed four credentials that catalogers should take pride in when participating in digital projects: “experience designing and populating databases; understanding of taxonomies and controlled vocabularies; an analytical and detail-oriented nature; and philosophical understanding of the importance of balancing the need for standards with the demands of interoperability” (p. 146).

Catalogers should recognize their expertise and progressively take a leadership role by incorporating the skills of traditional cataloging standards and practices into creating metadata records in digital projects. Through collaboration with other metadata professionals, catalogers may be able to turn metadata creation into a community practice with individual engagement at different professional levels. By so doing, metadata professionals may enhance the departmental awareness of metadata quality and related issues and become involved in establishing benchmarks to identify the common metadata problems occurring in their daily operational work. Catalogers' feedback can be used as a valuable reference source by digital collections managers to gain an overall picture of metadata management, to review and refine the implementation of metadata creation guidelines, and to examine the effectiveness of departmental workflow. Creating good quality metadata records requires an investment of time and effort from catalogers. There are many benefits that can be gained from making this investment by catalogers, too. As a two-way street, “understanding metadata creation can inspire a cataloger to take a look at traditional cataloging workflows with a

different eye” (Fields, 2011, p. 147). However, ultimately this investment will be manifest in the increased resource discoverability by local and global end users.

AUTHORITY CONTROL

Evolution of Authority Control in the Library Community

Authority control—one of the key components of bibliographic control—is achieved by assigning a single and unique heading to represent its variations. If information retrieval in library catalogs can be compared to finding needles in a haystack, authority control functions as strings that can connect information bearing the same characteristics and sharing the same nature. This has been a tradition of the library community for more than a century, while its definition and scope have been evolving for years. In 1994, Arlene G. Taylor brought the significance of authority control out of traditional library practice into the context of the Internet. Borbinha (2004) argued that in digital libraries, authority control is not only about rules and descriptions, but also about the fact of dealing with heterogeneity of genres of information artifacts through partnership between different information agencies. Niu (2013) proposed a revolutionary framework in which authorized name headings should be replaced by using globally unique identifiers either within or outside of the library community. Myntti and Cothran (2013) brought Linked Data into authority control in digital repositories through normalizing the existing headings in accordance with the Library of Congress Names Authority Files (LCNAF).

Issues Concerning Authority Control in Digital Projects

Despite the changing landscape of authority control, its core is still solid and unshakable in library information systems. It is a proven, effective, and practical approach to enhance the recall and precision of information retrieval by creating unique, consistent, and cross-referenced headings to eliminate their variations and ambiguities and bring together the works of the same creator or about the same subject (Gorman, 2004). Without authority control, the challenge of considering all the variations and possibilities of a single term to retrieve the desired information would be borne by the users. Synonymy, homographs, and polysemy of a particular vocabulary are where the creativity and richness of the natural language originate. However, the situation is different in databases. Lack of a syndetic structure of references enabling navigation and an absence of social context in the mechanical information retrieval systems could be the sources of semantic ambiguities and misconceptions (Park, 2005). Without the intelligent application that makes the intuitive connection between user-input search terms and the intellectual

content, the downside will become very apparent: users will have difficulty in locating all the records that are relevant to their search terms.

Even though many cultural institutions involved in digital projects have been awakening to the significance of authority-control mechanisms in software that helps them build digital collections, unfortunately this problem still remains mostly unsolved. Software in digital projects like CONTENTdm has incorporated controlled vocabularies into its system; some software, such as DigiTool, is neither intelligent nor sophisticated enough to handle authority issues. Quite a number of cultural institutions still rely on less sophisticated homegrown software to manage digital projects, which makes the authority control issue even more significant. Vellucci (2000) has already articulated that a friendly, controlled information-operating environment will largely contribute to the success of authority control in the world of metadata. She pointed out that

If the organizational system is designed to implement the controlled vocabulary, uniform access points and syndetic structure created by the authority control process, then authority control can flourish in the metadata environment ... [and] information specialists and catalogers will create metadata for only a small percentage of electronic resources, concentrating primarily on high quality and long-lasting documents. (p. 40)

LeiZeng, Lee, and Hayes (2009) suggested that “[t]he library integrated systems and digital libraries should be synchronized rather than being isolated and separately developed and operated: integrating digital projects to routine work of the libraries, i.e., moving from isolated digital projects to a digital library program” (p. 187). Salo (2009) stressed that the imperfection of software design in authority control and the absence of a batch-editing function made metadata creators’ work very problematic. On the one hand, uncontrolled names in cross-disciplinary institutional repositories provided users confusing and irrelevant information in the displayed name list; on the other hand, corrections had to be made manually, one at a time, when the same errors occurred in multiple records.

Catalogers’ Participation in Authority Control in Digital Projects

Despite the deficiency of software, the application of authority control has been successfully explored in a few digital projects. According to Dragon (2008), the Eastern North Carolina Postcard Collection held by East Carolina University had catalogers actively involved, especially in authority control, in the creation of metadata for a digital project. Catalogers enriched the descriptive metadata supplied by the digital collection staff and overcame the challenges presented by the complexities in the subject analysis of local

images with very narrow subject scopes. By assigning the name and subject headings complying with authority practices, they created a greater potential for those digital objects to be discovered and retrieved together with traditional library materials in next-generation catalogs in which federated searches could be simultaneously executed through multiple databases.

Authority control for unique art, cultural, and historical materials in galleries, museums, and archives requires collaboration among organizers, curators, archivists, and catalogers because catalogers and noncatalogers have different approaches to describing the same object. Baca and O’Keefe (2009) demonstrated this close “cross-community” (p. 59) collaboration in a digital project creating metadata records for Medieval and Renaissance materials at the Morgan Library & Museum. In this collaborative and cross-disciplinary digital project, catalogers learned to understand and respect curators’ approaches to describing museum objects. Curators learned and accepted AACR2 as the standard to construct authoritative and standardized artists’ names and title headings. Curators made very useful recommendations to catalogers creating authority records for artists, collectors, donors, and patrons for submission to the LCNAF. When LCSH did not cover the specific subject scope of Medieval and Renaissance manuscripts, curators and catalogers adopted the Index of Christian Art subject headings for indexing art works and the Art & Architecture Thesaurus for object types and genres. The authority work done through the collective effort of cataloging librarians and museum curators provided users with an enriched, detailed, and specific description of museum objects. Baca and O’Keefe concluded that

the participation of curators can be a critical factor in the description of unique, museum-type objects. This kind of contribution from curators and other subject experts can enhance the intellectual value of records, while helping to cut time and costs for creating high-quality descriptive metadata. . . . Information from non-cataloger subject experts could be routinely captured if there are effective methods for communication and collaboration between catalogers and curators. (2009, p. 60)

In digital collections, authority control greatly relies on existing external authority files, such as LCSH, LCNAF, and the Union List of Artists Names (ULAN). However, narrow subject terms, local events, corporate bodies, and little-known persons may fall outside the parameters of current authority files, which have significant meaning to historians and genealogists. Under such circumstances, homegrown authority lists adhering to authority control practices can be a supplementary solution. Baca (2004) believed that the best strategy to enhance discoverability of the objects was to build the specific thesauri or indexes based on the collection itself. She continued that “a human being who both understands the collections and understands thesaurus construction and authority control has to do the work—that is, a person with

skills, good judgment, experience, and knowledge of the materials being described” (p. 150). The Special Collections and the Bibliographic Services Departments at the University of Southern Mississippi created a local thesaurus, which combined authorized terms from LCSH and unauthorized local subject and name terms for the African-American civil rights movement into a single abbreviated document. It provides a concise subject area keyword list to assist graduate students in the selection of appropriate and consistent headings regardless of their knowledge of the civil rights movement and Mississippi history (Graham & Ross, 2003). The Digital Collection Center at Florida International University Libraries prepared a spreadsheet thesaurus in 2012 for the Coral Gable Memories digital project. The thesaurus contains names of local places of interest—streets, gates, plazas, squares, fountains—their current address, and coordinates derived from the database of the U.S. Board on Geographical Names. In the future, once this digital collection is linked to the Geographical Information System Department virtual project, this thesaurus could possibly be used to target the locations of those places on a virtual map.

The negative aspect of local-housed authority lists is that they could potentially stay isolated and the syndetic function of crossed-reference and hierarchical structure of the authority records not be integrated into the software mechanism. Creating separate authority lists cannot possibly be the entire solution, but it can be a helpful and supplemental approach to assist users’ information retrieval for now. Its potential could be turned into reality when digital library systems become more advanced.

CREATIVE CATALOGING

Creativity in Cataloging

Cataloging has been stereotypically viewed as a profession that requires strict adherence and application of rules, principles, and standards with little or no necessity for creativity. Catalogers are seen as professionals who spend all day behind computers counting pages and measuring books. It is true that cataloging as a profession attracts people who demonstrate a certain personality type, such as being good at operational work and paying attention to details (Williamson, Pemberton, & Lounsbury, 2008). But cataloging as a technique that brings order to chaos never denies nor rejects a cataloger’s creativity nor excludes creativity from a cataloger’s job. There is always some room left among the rules, principles, and standards for catalogers’ creativity to grow.

Cutter (1904) declared that “[c]ataloging is an art, not a science. No rules can take the place of experience and good judgment, but some of the results of experience may be best indicated by rules” (p. 6). Baia and Randall (1998) further elaborated Cutter’s declaration that

creativity assumes that the cataloger knows the rules and understands the principles behind them, carefully develops guidelines for adapting records in the local catalog, and adapts records to achieve better access to the collection. Creative cataloging is not a means simply to express oneself nor does it give license to break the rules arbitrarily. The creative cataloger appreciates the needs of the patron and makes necessary local adjustments to accommodate the requirements or vagaries of the local database. In many cases library administrators need to be educated to understand that in cataloging one size does not fit all. (p. 313)

Both Cutter's and Baia and Randall's assertions have given light to many experienced catalogers' commonly shared feeling that cataloging should "think globally" but "act locally" (Beth, 2006, p. 3). Diao (2013) shared his point of view that cataloging can be local, creative, and personalized. He stated that all of the materials in local libraries cannot be completely covered by cataloging rules; gray or blank areas among rules need a cataloger's judgment to decide what can be best adapted to the local environment and what can best serve users' needs. However, metadata creation in digital projects can be even more local and requires much more creativity from its creators than traditional cataloging. In digital projects, metadata creators are free from the limitation of "the rule of three." Their capacities are not subject to the enframement of the space of 3-by-5 cataloging cards, which, in most cases, have been abandoned but still shape the infrastructure of ILS.

Why Does Metadata Creation Require Creativity?

What makes metadata creation in digital projects different from traditional cataloging? Why does metadata creation in digital projects require even more creativity than traditional cataloging? The answer to these questions is twofold. First, materials in digital projects are unique. In traditional cataloging, catalogers are most likely dealing with monographs and serials. They are publications that already have rich bibliographic information and standardized design and format associated with them. Digital projects handle materials that are unique, special, and rare, such as postcards, images, and manuscripts. These materials used to be "hidden" in the boxes of special collections of academic, research, or cultural institutions, incapable of being accessed and retrieved through the Internet prior to digitization. They may be fragile, incomplete, torn, worn, or damaged by insects and lacking adequate sources of information to transcribe. Therefore, peripheral or marginalized information, such as hand notes, seals, marks, signatures, and even postal stamps, becomes very important to metadata creators. Their judgment, knowledge, and creative research work should be exercised to decode and even interpret the information to create enriched and complete records for users. Second, unique materials require different working

practices. Metadata creation in digital projects is not usually done in a shared, centralized, and collaborative bibliographic utility, such as the OCLC environment, with the involvement of different levels of well-trained professionals from national and global institutions. On the contrary, it is most likely accomplished in a loose, decentralized, and isolated single departmental environment with little help from external metadata professionals. It is safe to say that a great deal of metadata creation in digital projects relies on an individual metadata creator's endeavor to craft the record and also requires original cataloging skills. These cultural and heritage items pertaining to local history are unique and may be rare. If metadata records are not migrated from legacy records already in existence in the bibliographic utilities, they might have to be created from scratch. There is no existing record that has been established by other institutions to consult. This process needs metadata creators to demonstrate the capabilities of being analytical and problem-solving, as well as the frequent exercise of good judgment.

How to Be Creative in Metadata Creation

Because of the reasons discussed, on the one hand, metadata creators should have a very good knowledge of metadata application guidelines, which enables them to create consistent and interoperable records with adherence to metadata standards. On the other hand, metadata creators should act as collaborators to establish communication channels with the concerned specialists, such as curators, local historians, archivists, genealogists, and users. The specialists might be better storytellers of a demolished church in a postcard, or they might "know" who the person is standing next to the founding university president in an image. The expertise of these collaborators in certain subjects or life experiences and memories related to digital resources can be a valuable asset for metadata creators to construct very detailed and customized records that can better fit users' needs, instead of creating brief records with little historical and factual information.

Building digital libraries is a collaborative enterprise. Collaboration with specialists inside and outside of the library is one way of encouraging metadata professionals to engage in creative cataloging in digital projects. Innovative research related to digital items undertaken by metadata creators is another. They should take some time away from their regular cataloging duties and spend it on research that would help them produce resourceful and enhanced metadata records. When metadata creators are describing an image with a rhetorical title "Swimming Pool in the Hotel," a "skeletal" Dublin Core (DC) record can be created containing Title, Publisher, Place, Type, Format, Subjects, and Identifier from what can be seen and obtained from the image. It is an objective and "good enough" DC record. However, a cataloger with a curious mind and some research work will find a

publication titled “Miami in Vintage Postcards” (by Patricia Kennedy, 2000), in which background information can be discovered:

The hotel, painted “Flagler yellow” with green trim, opened in January 1897 for the winter season. It had 350 rooms and 200 baths, a grand ballroom, and a dining room that accommodated over 500 people. . . . The hotel was declared a fire hazard and torn down in June of 1930, marking the end of an era. (p. 31)

This information can be included in the DC Abstract field with an appropriately cited source. By doing so, metadata creators would have gone a step further and researched the image to be described; the record has been personalized by the cataloger’s creativity to better meet users’ expectations.

Creative cataloging means doing users’ work for users, in advance. It means that users’ needs and expectations for information are prioritized in the operational work. In a research institution in which librarians, faculty, research scholars, and graduate students work and study in a small scale but intimate, open, and transparent working environment, these users can no longer be seen as passive information consumers. They can be active participants in reviewing and commenting on bibliographic records from a different perspective or linking data from multiple sources in the scholarly community and on a popular website.

Shiyali Ramamrita Ranganathan (1892–1972), a famous cataloging librarian proposed his “Five laws of library science,” which have been accepted worldwide as the foundation of library science (Kabir, 2003). The fourth law is “save the time of the reader.” This law advocates the use of bibliographical control tools, such as indexing, abstracting, and classifying, to help the library system function efficiently and effectively so that users can locate desired books with less effort. In contemporary libraries, saving users’ time means more precise and relevant results should be achieved by the application of fewer search words in library catalogs. This law also suggests, recognizes, and encourages catalogers, as individual professionals, to create bibliographic records that have “added value” through the cataloger’s willingness to walk extra miles to find information to describe a unique resource prior to users’ searches. Under such circumstances, bibliographic-record creation becomes a way of establishing the best connection between users and library materials that is based on users’ functions and expectations.

Concerns of Creative Cataloging in a Departmental Environment

Creative cataloging can be expensive and difficult to achieve. Production and efficiency are always the top priority of digital-collection centers or technical-services departments, which are traditionally assessed by statistics, not by the intellectual input or creative effort embedded in the records. Creativity from

metadata creators may be discouraged or prohibited by the departmental goals for productivity and efficiency. Therefore, metadata creators should maintain productivity to achieve departmental goals and at the same time engage in clear communication and negotiation with managers or supervisors to gain their support and understanding for a positive working environment. Department heads need to “encourage, value and appreciate the opinions, ideas, and skills of its entire staff” (Oketunji, 2009, p. 17). A positive working environment encourages differences and curiosity but rejects conformity and routine. As Theimer (2012) concluded,

Catalogers need to research creativity, and take the concrete steps in institutionalizing and recognizing it as a core competency for the organization. Just as it is harder for individuals to lose weight without the support of their family, it is hard for a creative individual to thrive without a support environment, but it is not impossible. No matter what environment you find yourself in, creativity is possible on an individual level. The search for better work through creative changes will eventually improve your work. (p. 901)

CONCLUSION

The roles catalogers play in library systems are constantly evolving with the growth of information technologies. The tsunami of digital resources in libraries presents catalogers with challenges and opportunities that can transform their roles through their active involvement in the description, organizing, and discovery of these resources in digital projects. This paper has sought to discuss and analyze the cataloging legacies—quality control, authority control, and creative cataloging—that catalogers can bring forth to provide standardized and customized description of information resources in digital projects. Meanwhile, advancing information technologies and shrinking library budgets put cataloging on the verge of becoming a deprofessionalized occupation. Being a cataloger means to be not only a guardian of principles and standards but also a knowledge organizer, collaborator, researcher, and an innovative and curious-minded lifelong learner.

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