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ТРАНСФОРМИРУЯ БИБЛИОТЕКИ ...

TRANSFORMING LIBRARIES ...

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Аннотация. Доклад раскрывает тенденции развития и суть изменений, произошедших в библиотеках Брауновского университета в течение последних 10 лет. Сегодня библиотека является центром притяжения творческих сил, пространством для научной и учебной работы, местом, где предоставляется доступ к знанию, а также обеспечивается поддержка процессов его создания, распространения и сохранения.

Abstract. The report shows the trends of development and the main changes in the libraries of Brown university within last 10 years. Now the library becomes a vital intellectual gathering and working space on campus, a place that both provides access to knowledge and helps facilitate its creation, dissemination, and preservation.

Ключевые слова. Брауновский университет, университетская библиотека, информационное обслуживание.

Keywords. Brown university, academic library, information services.

Brown University is located in Providence, Rhode Island, about 30 minutes by train from Boston and four hours from New York City. The University was founded in 1764 and is the seventh oldest institution of higher education in the US. The student body is comprised of approximately 6,000 undergraduate students, 2,000 graduate students, and 500 medical students. The University employs 700 faculty and 4,000 staff.

Brown is best known for its outstanding education of undergraduate students, including the open curriculum which gives students complete freedom to choose which classes they want to take. There is much evidence to suggest that this liberal approach to education works. Brown has been voted as having the happiest students in the US and most Brown graduates go on to have very successful careers.

The University Library system is comprised of the John Hay Library, John D. Rockefeller Jr. Library, the Sciences Library, Orwig Music Library, the Champlain Medical Library, Annmary Brown Memorial, Collections Annex,

and our ever-expanding Digital Library. The Rockefeller Library is the primary teaching and research library for the humanities, social sciences, and fine arts. This library holds approximately 1.5 million volumes. The Sciences Library houses science, engineering, and mathematics materials. Over the past eight years the print collection in this library has decreased from 550,000 volumes to around 100,000. The reduction of this print collection is due, in large part, to the increasing availability of this same content in electronic form. Additionally, the University has needed additional space on campus for other academic functions and decided to repurpose six of the fourteen floors of the Sciences Library for non-library uses.

The John Hay Library is home to special collections, rare books, manuscripts, and archives, holding over two million items. In addition, the Hay Library offers recently updated research and study spaces, and an expanded exhibition gallery. The Annmary Brown Memorial houses exhibits of European and American paintings from the 17th through the 20th centuries and a sword collection from its founder, General Rush C. Hawkins. The Orwig Music Library, located in the Department of Music, houses around 100,000 music materials in all formats. The Champlain Medical Library, housed in the Medical School, is a library without books or any type of printed materials. Staff provide library services in the form of consultations and specialized searching, and there are comfortable places to study and access the Internet.

The Library Collections Annex is a high density storage facility with a capacity for storing two million volumes. We currently have 1.4 million volumes in storage but still have many over-crowded books stacks in the John Hay and Rockefeller Libraries. The Digital Library, comprised of our online collections, is the fastest growing library and the materials that receive the highest usage. The Library's website (shown here) provides the primary gateway to all of our digital and print collections, as well as library services and staff.

The Library is organized into five main divisions: access services and collection management; research and outreach services; special collections and archives; digital technologies; and the office of the University Librarian and the Library's administrative functions.

This brief overview provides you with some of the Library's basic statistics. Fig.1 shows how the collection budget is allocated in a typical year.

The Brown Library's mission, probably very similar to your missions, is timeless: to serve the instruction and research needs of the University community in spaces that are conducive to learning and creating knowledge. Our mission also includes providing access to scholarly information and preserving materials of historical significance.

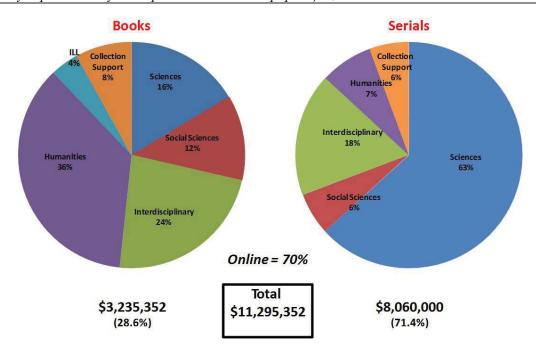


Fig. 1. University library collections expenditures by 2015

For many years the primary focus of libraries has been on building local collections, filling our own shelves with resources just in case they might be needed by someone at some time in the future. Realizing that we cannot buy and cannot keep everything, many libraries have turned their attention to building stronger networks of resource sharing, such as interlibrary loan through OCLC. Brown is also fortunate to be a member of Borrow Direct which offers rapid and reliable services across a combined collection of more than 80 million volumes from the eleven major research libraries of the Ivy League universities (Brown, College, Columbia, Cornell, Dartmouth Harvard, the University Pennsylvania, Princeton, and Yale), in addition to Duke University, Johns Hopkins University, University of Chicago, and the Massachusetts Institute of Technology. Our students and faculty also rely on the availability of open access materials, including items available through Google, Internet Archive, and PubMed which includes citations, abstracts and full-text articles supplied by the US National Library of Medicine.

As we have transformed library spaces from rows of shelving into much-needed user study areas, we have digitized a number of our own collections and created a digital repository for access and preservation. In addition, we have relied on an emerging set of trusted digital archives such as Portico, which is among the largest community-supported digital archives in the world. Portico works with libraries and publishers to preserve e-journals, e-books, and other electronic scholarly content to ensure researchers and students will have access to these resources in the future. Other digital preservation options are now available to libraries, including LOCKSS and CLOCKSS. Libraries use the

LOCKSS technology to preserve their locally subscribed digital collections. Many, but not all publishers have agreed to allow libraries to preserve the e-journals they publish with the LOCKSS software. The idea behind LOCKSS is that many libraries will implement the software and lots of copies of the same titles will be kept safe. CLOCKSS is a global archive that preserves content on behalf of libraries and publishers. Rather than expecting every library to store the content locally, CLOCKSS preserves content in 12 strategically chosen libraries across the globe to optimize the content's safety against political and environmental threats. Libraries in Asia, Europe, and North America have a complete copy of the archive.

A newly developed digital preservation option is DPN (the Digital Preservation Network). DPN claims to be the only large-scale digital preservation service that is built to last beyond the life spans of individuals, technological systems, and organizations. Each one of these services focuses on a slightly different technological approach or range of content to be preserved. And each one is expensive and still somewhat experimental in nature. Yet, it is the collaborative effort among libraries, the will to work together to solve the many issues related to digital preservation that make these early initiatives important pathways to a shared success in the future.

While we struggle to find lasting solutions to digital preservation, libraries are also faced with questions about addressing print preservation. How can we justify retaining print copies of materials that are infrequently used, that have digital reproductions, or that are taking up space needed for new acquisitions and improved study areas for students and researchers? Like many other US universities, Brown has an off-site shelving facility.

Materials in the Annex are searchable in our online catalog (Fig.2) and are delivered to campus libraries at least once per day. Columbia University operates a similar facility called ReCAP which is shared with Princeton University and New York Public Library. ReCAP contains more than eleven million items stored (with a capacity for seventeen million) and adds approximately 300,000 new accessions every year. A major consideration in maintaining print repositories is how many libraries need to keep copies of the same titles. Several cooperatives have emerged that are trying to address this issue of print duplication. ReCAP attempts to prevent duplication of titles, as does the Western Regional Storage Trust (known as "West") located in California, and the Five College Consortium located in Massachusetts. Together, these initiatives are helping libraries transition from the management of independent collections to the management of a shared collection in a single facility where all of the titles are equally accessible to every user in the partner libraries.

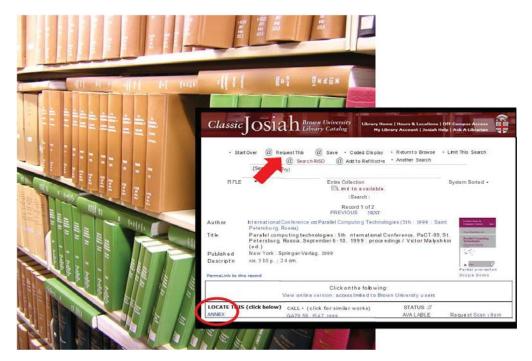


Fig. 2. Online catalogue search.

Brown has recently committed to sharing a librarian with Yale University. Anna Arays will serve as the Librarian for Slavic and East European Studies at Yale and Brown. Anna will select materials for both collections and also provide reference and research consultation for faculty and students on both campuses. While most of her time will be spent at Yale where the collection is much larger, Anna will be at Brown several times per semester and otherwise will connect with Brown via Skype, email, and telephone.

Cooperative arrangements are not new to libraries and neither are some of the challenges that libraries around the world are facing. The ways in which we select, collect, house, organize, disseminate, and preserve materials are in transition. The ways in which we serve, instruct, and inspire library users is changing. In many cases we need new types of skills from our staff and different configurations of library spaces to meet user demands. It is increasingly difficult to plan for an undefined future in a world so fundamentally (and increasingly) redefined by everything digital.

The transition in libraries is being shaped by several major challenges we jointly face. These include the rising costs of print and online materials, new forms of publication, the need to support high-quality physical and digital libraries, questions about ownership and copyright, how to provide security and privacy, the need to improve universal, open access, the need to establish global standards such as description, identity management, and data management, as well as changes in teaching, learning and research.

Students are coming to universities with very different backgrounds than even five years ago. The expectations of incoming students about how and what to learn are very different. It is said that our children will learn less, but achieve more. How can this be possible in an age of unlimited information?

The process of learning in schools and universities has been reframed. We are moving from a teacher-centered to a learner-centered approach; from listeners to active problem-solvers and contributors; from consumers to producers; from an emphasis on theory and history to a focus on practical tools and learning the skills of a profession; from a focus on grades and goals to a focus on processes that can be internalized and applied; from low or moderate expectations from learners to high expectations for the relevancy of what is being learned; from competition with peers to collaboration; from independence to partnerships and interdependence; from the authority of the teacher and textbooks to the authority of peers and the community; from a linear, text-based literacy to a multi-media literacy; from a classroom bound by walls within a university setting to online classes where students and teachers may or may not ever meet in person.

Academic libraries strive to prepare students to succeed both inside and outside the classroom. We assist students in finding and selecting appropriate resources. We help them evaluate the content and think critically about how to introduce information as convincing evidence. Librarians teach students how and when to create proper citations for print and digital resources, how to manage their data in all its forms, as well as how to manage their time. In addition, we offer students the option to have a "personal librarian" assigned to them to build a strong bond of communication and trust.

We partner with others on campus to build an effective and comprehensive environment in which students can succeed in their academic endeavors. Some of the Brown Library's closest collaborators are faculty, information technology, the Writing Center, and the Office of Student Life. Librarians reach out to students and faculty to find new ways to introduce them to collections and become engaged with all forms of scholarly content and to experience cultural activities in the library.

The transfer of knowledge is changing from a passive to a more active approach. Digitization has been a key component in advancing research and the transfer of knowledge, enhancing the ability of students and faculty to integrate, manipulate, organize, and re-use all forms of content. Whereas the Library's engagement in the research process was previously mostly limited to discovery and retrieval, we are now frequently engaged in many, if not all aspects of research. What counts as scholarship, what is considered publishable or of interest to other scholars and the public is being re-thought. New methods for conducting research involve wide scale use of data – across the disciplines.

Fundamental to supporting research services at Brown is the Digital Repository – a place and set of services designed to gather, index, preserve, and make available digital assets of enduring value produced from the academic and research activities at Brown. Through the repository we provide essential services for citing research data and making it available. Through citations, such as the Digital Object Identifier (DOI), researchers benefit from increased collaborations and validation of their work (Fig. 3). The Library can also help researchers archive and cite other digital research products that might not traditionally be included or noted in research. For example, researchers in the Dunn Lab at Brown wanted to archive and publish a dynamic visualization of their research analyses. In this particular example, the team could not find any other repository that would allow them to run the code to display the interactive visualization in the reader's browser. The Library was able to work with the Lab to make this happen and the authors were able to cite the visualization in their publication.

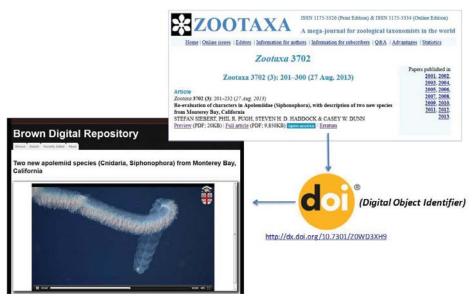


Fig. 3. Minting DOI to Brown digital repository objects

The Library is developing a robust infrastructure for connecting researchers with data, publications, and communities online. These connections are made possible through the Digital Repository, and the use of DOIs as well as persistent, unique digital identifiers for each researcher provided by the ORCID service. The Brown Library has also implemented VIVO which is an open source software and ontology for representing the interests, activities, and accomplishments of faculty at Brown. VIVO, which we have named "Researchers@Brown," enables the discovery of research and scholarship across disciplines at Brown as well as linking to scholars at other institutions that have implemented VIVO. We also make use of the DMP Tool (Data Management

Plan Tool) that was developed by the California Digital Library to help researchers create high-quality data management plans that meet funder requirements.

When possible, the Library also assists faculty in preserving their data. Terry Tullis, Emeritus Professor of Geological Sciences, has collected valuable data on rock deformations and geological processes. His data still has potential to be exploited for further findings, and repurposed and reused for new discoveries. However, the data he collected from his lab instrumentation such as his earthquake simulator, was stored in a format that could not be easily accessed or preserved. The Library is currently working with him to migrate his datasets (from FORTRAN into C++) into preservation-friendly formats that will be accessible via the digital repository.

In addition to repository and data services, the services offered by the Library's Center for Digital Scholarship include visualization, spatial analysis, metadata creation, digital humanities, digitization, specialized workshops, conferences, and assistance with digital publications. The impetus for creating a space in the Library for the practice of digital scholarship began almost eight years ago with the digitization of the Garibaldi panorama. We mounted the Garibaldi images on the Microsoft Surface. Use of the table-sized Surface allowed us to create a research environment that was touch-enabled, interactive, and suitable for multiple users. The Surface accommodated the layering of content, annotation, and the ability to connect to the Digital Repository.

The Surface was the right size for a small group of students or researchers, but what we really needed was a big screen prepared for funding purposes. We were fortunate to receive private funding for the Digital Scholarship Lab which opened in the fall of 2012. The Lab is located in the Rockefeller Library. The placement of the display wall in a room with reconfigurable furniture allows the Lab to be used as both a traditional or experimental teaching space.

The large screen enables extended engagement with large, complex sets of data, such as the organization, analysis, and visualization of rock samples. In Fig.7 we can see a high-resolution scan of an oak tree specimen, collected in 1880, and held by the University's Herbarium for 130 years. Around it we see thumbnail images of other related specimen, and on the right are contemporary pictures of the same species, along with contextual material including a description and history of the tree. The Lab is often used for informal research and development work outside of class, much in the way a science lab might be used.

This spring we opened another space located next to the Lab. This new space is called the Digital Studio and is an open, fluid space for consultation and

production. The area is equipped 3-D modelling equipment, rooms for video and audio production and editing, as well as seminar and consulting spaces.

Many times people ask: what is digital scholarship? How does it differ from traditional scholarship? Is digital scholarship defined by just using digital tools or for creating an online product – such as a PDF, an e-book, or creating a website?

Here is a good example of digital scholarship from Sheila Bonde, Professor of History of Art and Architecture at Brown, who uses traditional excavation techniques along with digital components and a team approach to examining and responding to scholarly questions that grow out of her fieldwork. Professor archaeological Bonde's MonArch (or Archaeology) project gives readers a sense of daily life at the monastery by charting residents' movements and daily schedules. Data representing architectural models, site plans, and artifacts are integrated throughout the website, allowing readers to explore in-depth historical examinations about aspects of monastic life and connect to databases and visualizations that provide different views of the supporting evidence. While such an integrated, layered experience would be almost impossible to reproduce in paper, in a digital platform the navigation is seamless and its visibility lends a sense of reality and of being present in the past – almost as if we are inside the data.

Another example of digital scholarship at Brown is rooted in the traditional scholarship of Italian Studies Professor Evelyn Lincoln who has published 2 books on Italian printmakers and historical artists and their books. The Library has worked with Professor Lincoln on a long-term, collaborative project involving herself, librarians, students, digitalized collections, and the Brown Digital Repository. The goal of this project, entitled "The Theater That Was Rome," is to reunite text and images from specialized books on Roman architecture, decorative arts, and maps from the 16th thru the 18th century. These beautifully designed books were often torn apart and sold as separate entities. In this project, students, Prof. Lincoln and library staff are working together to index individual artists, engravers, and publishers from across the collection. They are enriching the primary sources by adding page-level and image-level metadata to many images, enabling the reconnection of these lost and often unrecognizable treasures.

Students also write short essays that provide historical background on the authors, artists, and books. These essays are part of the Theater that Was Rome website. The Library's Digital Repository provides a structural foundation for the project. The repository's ability to establish links between commonly data and maintain relationships between different works are especially important features that make this project a success.

Building on the success of Brown's work in digital scholarship and its strong digital infrastructure, the Andrew W. Mellon Foundation has recently funded an initiative to support interactive, born-digital monographs in the humanities and humanistic social sciences. In the grant, Brown will address two interrelated and complementary sets of goals. The Library will work with faculty to develop, publish, and preserve their digital scholarship -- not as a publisher or press, itself, but in coordination with established presses. The University will work with faculty committees at both the departmental and campus levels to create guidelines for the evaluation and credentialing of this high quality scholarship that is realized and enhanced through innovative uses of digital media and data. Jointly, we aim to reduce barriers to the creation and acceptance of digital scholarship and ultimately change our local environment by helping prepare our faculty and students for a future in which reading, writing, and thinking digitally will be the norm, not the exception.

Whether research, teaching, and learning is based on revelations from historical documents or from the innovative creation and visualization of sound waves or colorful images, the production of new knowledge lies at the heart of the university's mission and increasingly at the center of the library's expanding role from a place of collecting and consuming content to a place and set of services to create and interact with content in new ways.

The Brown University Library is a vital intellectual gathering and working space on campus, a place that both provides access to knowledge and helps facilitate its creation, dissemination, and preservation. Recognizing that the Library is not just a destination, but also a critical pathway in our students' and faculty's continuous academic journey, we seek to proactively respond to their evolving needs as well as the diverse social, economic, and technological forces in today's world. Even as the transformation of the Library is strongly influenced by external forces, it is also influenced by timely, deliberate, and well-reasoned internal choices. Overall, our goals remain unchanged: to contribute to the success of Brown's students and faculty and to aid the University in achieving its aspirations.