

The Cultural Heritage Collaborative:

Shared Mission, Expertise, and Spaces for Natural History and Library Collections

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This chapter describes the broad set of collaborations that have existed for nearly a decade between the University Libraries and the Natural History Museum at the University of Colorado, Boulder. This collaborative partnership focuses on areas of collection management, access, user engagement, and programming as well as joint-use facility development. Continued program, accessibility, stewardship, and shared facility development will build on the sturdy foundations of shared opportunities and challenges that have defined current high levels of collaborations between these two CU-Boulder campus units.

Introduction

Founded in 1902, the University of Colorado Museum of Natural History,¹ with nearly five million objects, is the largest repository of natural history objects in the Rocky Mountain Region and one of the oldest. Eight scientific disciplines across biology, geology, and anthropology are represented in the museum, and tenure-track faculty in the museum have their tenure homes in one of these three departments. The museum also offers a master's degree in museum and field studies.

The Museum of Natural History finds itself, in the context of collections, deeply engaged in the activities of relatively new initiatives funded by the Advancing Digitization of Biodiversity Collections (ADBC) program of the National Science Foundation,² capturing high-resolution images of label data and specimens across nearly the entire diversity of our collections as well as documentation of other associated materials such as field notes and photographs. This democratization of the collections has created new awareness of the specimens, spawned new collaborations with a diversity of other collection institutions (small colleges, native communities), and led to increased demand for the real objects in the current climate of “alternative facts and truths.” In part, the increased use of specimens has been realized by an explosion in the need for access to the DNA of objects for use in a wide range of scientific studies, from changes in distributional ranges of species over the Anthropocene to reconstruction of the phylogenetic relationships and evolutionary history of specific species to large-scale taxonomic lineages, local, regional continental, and worldwide.

Digitized images and data from the label information have then been leveraged for a wide range of exhibitions and other programming, within and outside the museum. The Museum of Natural History has produced collections-based exhibitions and offered programs in the traditional museum venue on the CU-Boulder campus as well as the main library and at least six other buildings on campus in addition to venues in Boulder, in libraries, museums, and community centers, and even elementary schools across Colorado, the Rocky Mountain region, and nationally. The collections also provide additional training opportunities for students aspiring to become collection professionals.

The Libraries of the University of Colorado Boulder³ represent the largest research library collection in the Rocky Mountain region. From our start in 1877 in a single room, the University Libraries have grown to encompass six physical facilities at CU Boulder that maintain a vast collection of academic resources. In addition to serving as a repository of knowledge, the University Libraries provide engaging learning experiences and seamless services that empower people to discover and integrate reliable information in new ways. The collections that have the most overlap with the Natural History Museum are a majority of the primary source materials included in the Archives as well as the Special Collections of the University Libraries. These materials are all kindred to the wealth

of scientific-related research and papers of professors at the university, many of whom were leaders in developing the Museum of Natural History into the organization that it has become today.

The Archives contain more than 1,500 distinct collections and 50,000 linear feet of materials, including manuscripts, correspondence, files, diaries, photographs, posters, newspapers, and published works. Established in 1917, the Archives hold internationally renowned manuscripts, photographs, records, and media collections relating to Colorado and the Rocky Mountain West. Special Collections houses rare works and contemporary artworks that support teaching and research in the arts, humanities, and sciences. The collections include rare books, medieval manuscripts, contemporary artists' books, and a signature photobook and photography collection. Signature collections associated with natural history include the Roger G. Barry Glaciology collection, the Walter Orr Roberts Papers (founding director of the National Center for Atmospheric Research), the papers of Theodore Dru Alison Cockerell, and Western Americana.

As the flagship university of a multi-campus system in the State of Colorado, the University of Colorado Boulder⁴ is the only Association of American Universities (AAU) member in the Rocky Mountain region. CU Boulder hosts a student body of 34,500 in addition to 9,000 faculty and staff. CU Boulder is home to numerous award-winning faculty across the academic spectrum, including five Nobel Laureates in the sciences. CU Boulder is a public institution in a state with the fifth-lowest government funding for higher education⁵ and a publicly elected (and therefore unusually political) governing board. As a result, the university functions in a particularly resource-limited environment for an institution of its size and scope. Perhaps not coincidentally, the university values collaboration, rewards interdisciplinary work, and encourages partnerships to reduce duplication of effort. For the libraries and museums, in environments where none of us has sufficient resources to gather all of the expertise we would like, we are motivated to work together and use the scaffolding of one another's excellence to build our own goals and programs. Our institutional culture of collaboration and commitment to excellence to the best of our abilities drives us to proactively connect with one another in ways that are mutually beneficial.

Programming and Advancement of Missions

Many of the collaborations between the University Libraries and Natural History Museum at the University of Colorado have revolved around digitization efforts related to archival documents, individual objects in the Special Collections of the University Libraries, joint programs and exhibitions, and emergency response issues for areas of preservation.⁶

One illustrative example of these collaborations has focused on the archives and collections of Theodore Dru Alison Cockerell,⁷ an entomologist and one of the founders of the natural history museum. Cockerell was an avid naturalist, scientist, and communicator/teacher, and he contributed many thousands of specimens to the collections and published more than 2,000 articles and species descriptions. Holdings related to Cockerell in both the museums and the libraries represented a meaningful opportunity to bring attention to his contributions to the university as well as to his early scientific work, which forms the foundations of the Natural History Museum as we know it today. Various of the fossil specimens that Cockerell collected are held in the museum, and the libraries hold many of his photographs, slides, correspondence, and research notes. Collaborative endeavors between the museum and libraries created rich opportunities to unify specimens and documentation held in our two collections for the purposes of both exhibition and study.

Cockerell's work in the study of bees is a particular use case that has helped shape a key opportunity for library/museum collaboration. At a time when scientists are observing worrisome trends in bee populations worldwide, this unique set of museum and library collections has provided the Natural History Museum and University Libraries the opportunity to bring together digitized versions of Cockerell's movies of bees, his extensive collection of the bees from around Colorado, digitized images of his entomological and fossil collections, as well as his educational materials. The result of this collaboration was a series of lectures on the topic, which drew attendance from both the campus community as well as the surrounding public community. In addition, the two organizations built an extensive project developing, implementing, and promoting a citizen science project on the diversity and distributions of bees in Boulder County. That project involved hundreds of families, community gardens, and local open space parks and recreational areas. This use case highlights the ways that libraries and museums can leverage public programs, educational outreach, management, and biodiversity societal issues that are critical to our future as cultural heritage organizations to expand the use, awareness, and engagement of their related collections.⁸ Additional collaborative projects have focused on the importance of the Florissant fossil beds as well as mutation in sunflowers. In addition to his papers and collections, Cockerell was a promoter of science in Boulder schools and in the community, as well as nationally, and many of his educational resources have also been the focus of collaborative work between the libraries and Natural History Museum. In 2019, some of the first natural history films ever made in the 1930s and 1940s (by Cockerell) were digitized, a joint project among the University Libraries, Museum of Natural History, and Film Studies faculty.⁹

Collaborative Expertise for Collection Stewardship

Knowledge is shared among the experts in the University Libraries and the Museum in a number of practical ways. First, a graduate program of study in museum and field studies is offered at the University of Colorado Boulder. Within the program, students can pursue a wide variety of professional interests, identified by academic discipline, including anthropology, geology, and biology, as well as art and art history, all of which have formal ties with academic units on the Boulder campus as well as through the History and Geography Departments and the libraries, where academic ties have been through individual faculty members. In the case of the libraries, at least four library faculty have served as the primary advisor for museum and field studies students, and others have served formally on committees and informally as content advisors. Many student projects and theses have been, naturally, collection-focused, drawing on library faculty expertise in archives, digital organization of data, and data accessibility. Other theses and projects completed by museum and field studies students have found their way into the library as programming and exhibitions within the library spaces.

The University of Colorado campus holds a variety of collections beyond those in the libraries or natural history museum. Other collections organizations on campus include a vibrant Art Museum and the Heritage Center, where archives, news articles, and memorabilia related to the Boulder campus are housed and presented to the public. Staff from all of these areas come together regularly to discuss topics that affect cultural heritage collections of all kinds. Initially, these regular meetings began as informal group discussions for individuals in separate collections responsible for the physical environment. Slowly, the group grew to include collections managers from the cultural heritage institutions but also safety officers, insurance experts, and other campus organizations whose expertise is required in the event of emergencies involving collections. For example, the safety officer was added when a museum visitor took a sword out of a display and began threatening other museum guests with it, bringing into clearer focus the need for safety planning in exhibits. They discuss, review, and address best practices, challenges/opportunities related to existing, newly established, or prospective rules/regulations, as well as funding opportunities, collection security, emergency response, and care methodologies. The group found these connections so valuable that they formalized their membership and structure to ensure that the group continues regardless of the individuals in the different roles and departments.¹⁰ These meetings have led to important shared understandings and campus-wide policies and procedures for emergency response, collaborative programming, and grant proposals. They have also provided an excellent opportunity for the

individuals involved to share their expertise with other departments on campus, allowing everyone to better plan and prepare for collection emergencies.

These efforts came to helpful fruition when the group provided emergency teamwork and help after floods in two natural history museums on campus and when an antiquated heating system burst and forced hundreds of gallons of near-boiling propylene glycol-based solution into the herbarium of the museum. Policies and procedures developed by this active and engaged community of collections professionals were deployed, and a team of collections-based responders from across the campus, as well as Facilities Management, were able to address health and safety issues related to the heat and content of the propylene-glycol solution as well as clean-up and recovery in the collections affected. The ongoing collaboration of the collection stewards ahead of these emergencies led to a far more effective response to the emergency, and in particular, the response was much more sensitive to the nature of cultural heritage collections than it might have been without the collaborative planning across these groups.

Individual faculty, as well as collections staff, in the libraries and museum, have collaborated and become engaged in supporting and directing student activities. Through these extensive collaborations, it has become clear that many activities of the two units have a great deal of common ground. For example, the types and scales of digital projects (the museum has over 5 million natural history objects; the library holds over 7.5 million volumes and is the largest library collection in the Rocky Mountain region), and, increasingly, as advocates for “real, verifiable facts” as opposed to “alternative facts,” as touchstones and resources for a wide range of on- and off-campus users (see below). These faculty, staff, and students are also exploring how the domains of natural science, archives, and computational methods can open up the tremendous resources stewarded by these two units to help answer pressing questions related to conservation biology and species discovery¹¹ as well as reveal these collections to new sets of users and help them be applied to new sets of questions being posed by today’s and subsequent students, classes, teaching and research faculties, as well as off-campus users. It has been through the activities of individual faculty and staff, as well as more formalized, facilitated activities driven by an interest in shared facilities, that we have come to realize the broad and deep set of common purpose, interests, opportunities, and challenges.

Shared Facilities and Addressing the Accessibility-Stewardship Paradox

A common challenge for museums and libraries relating to communication and advocacy with university administrations is the notion that our institutions are warehouses for published or finished works that are read and perhaps commonly held in other institutions or objects (or species) for which we have, or could get,

many duplicates. “Why do we have so many insects in our collections?” and “If we want them, can’t we just go outside and get them?” are common questions. Libraries and museums are conceived of as serving the same purpose as warehouses for big box stores: a place to keep stuff until you need it, and when you need it, move it somewhere else; put simply—supply chain management. This perception and the issues around it are based on the need for large amounts of secure storage space that can preserve the museum and library collections. The issues faced by collections-based units do indeed relate to space and appropriate facilities for the storage of the objects which we steward for—in our cases, the citizens of Colorado in perpetuity. Cultural heritage institutions like ours have likely done ourselves a disservice by couching facilities needs stridently in terms of storage and not emphasizing enough the high levels of engagement, proximity, and activity that occur in the collections by students, faculty, staff, and community members in the pursuit of our common mission of education and intellectual discovery.

The fundamental value to society of preserving and conserving our collections is unserved if those collections are never accessed, studied, or used to contribute to the greater understanding of society, nature, and the world around us. And we are still working on strategies to introduce, provide access, and better facilitate the use of these collections for instruction and utilization in ways that provide access, encourage new views and uses of the collections, and maintain or elevate levels of stewardship for the collections. While the digitization of collections is sometimes seen as a panacea for addressing the stewardship-accessibility paradox, our own data, from both the libraries and museum, suggest that digital access to resources, rather than eliminating the need for holding and preservation of the physical object, in fact drives *increased* demand for access to the primary source materials.

The two institutions have undertaken comprehensive program reviews as part of a standard campus practice at CU Boulder. This led to one of our first detailed collaborative assessments of library and museum space requirements. Detailed follow-up work by both internal and external specialists suggests that the wide-ranging types of collections at the library and Museum of Natural History require new facilities to meet acceptable professional levels of stewardship and care. Joint staff meetings were organized to discuss challenges and needs, examine workflows, suggest shared resources, and define physical needs and attributes of a true shared museum/library facility. We envision a facility that would further extend and preserve the mission of both of these important Rocky Mountain cultural heritage institutions but also extend the missions of both units to serve our broad and diverse audiences and users. The next phase of planning will look more closely at workflows and possible adjacencies of spaces, allowing for preliminary design work to begin. Due to financial constraints, a joint facility may have to be phased, requiring other types of design considerations.

Gaining support for such a new facility within the realm of a state higher education institution for the CU Boulder urban campus, both from a sponsor standpoint as well as from a campus footprint standpoint, has been challenging, despite decades-old recognition and subsequent validation of pressing issues, whether they be from faculty, staff, and students from within the units or external reviewers or experts. The juxtaposition of viewpoints of creating “storage” for these units within precious campus real estate in both established and developing campus settings, along with evolving campus priorities (central good units such as libraries and museums versus units with renewable revenue streams) and needs (aging infrastructure with annual discoveries of concern), and/or donor-driven interests. These also occur in a financial context in which state funding for higher education is exceptionally low and has been on a continual decline since 1980 with expectations of zero funding by 2022.¹²

Conclusions and Future Expectations

In recent years, comprehensive surveys of library and museum collections have led to a vision for a new joint-use facility. This facility would further extend and preserve the mission of both of these important Rocky Mountain cultural heritage institutions. Such an endeavor will require deep collaboration between the museum and the libraries both from a collection standpoint as well as a service and delivery standpoint as we look to tie the facility and its preservation capabilities for collections to an immersive space that transcends both museums and libraries and offers a bridge to knowledge encompassing both of these unique collections.

The Cockerell collections held in the museum and library continue to uncover additional opportunities for collaboration on research and joint public programming highlighting nature films taken by Cockerell that have never been shown publicly. Future plans include deep-dive retreats among museum and library staff in order to uncover more of these joint programming opportunities that will continue to drive research visits to our physical and online facilities—all while both organizations continue to support research, scientific workflows, and educational missions of the two cultural heritage institutions.

Endnotes

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