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An overview of recent digital humanities initiatives in US art libraries

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As producers and mediators of digital resources, art librarians frequently interact with the digital humanities in a broad sense. In the following brief overview of recent DH work undertaken in US art libraries, engagement with digital humanities is evidenced by the development of open access projects, the creation of linked data sets and the innovative sharing of art and archive collections to support digital pedagogy. Related activities of the Art Libraries Society of North America (ARLIS/NA), its Digital Humanities SIG and the ARLIS/NA in the Humanities Commons are also discussed.

Introduction

As producers and mediators of digital resources, art librarians frequently interact with the digital humanities (DH) in a broad sense. New art information professionals are expected to conversant with digital humanities.[1] A proliferation of digital projects created by art and architecture librarians reflects this, as do the position titles of art information professionals, the number of art libraries participating in inter-institutional digital GLAM (Galleries, Libraries, Archives, Museums) initiatives and the publications produced by the Art Libraries Society of North America (ARLIS/NA). The Society's digital humanities initiatives are not exclusive to its special interest group dedicated to digital humanities, the DH SIG, now nearly a decade old.[2] Members of many groups, sections, and divisions across ARLIS/NA spearhead and contribute to DH projects, with the collaborative underpinning of digital humanities supporting inter-institutional engagement and innovation. In the following brief overview of recent DH work undertaken in US art libraries, engagement with digital humanities is evidenced by the development of open access projects, the creation of linked data sets and the innovative sharing of art and archives collections to support digital pedagogy.

1. Megan Lotts, "The art librarian wears many hats: A survey of the skills art librarians need in the twenty-first century," *Art Documentation: Journal of the Art Libraries Society of North America* 39, no. 2 (September 1, 2020): 286–99, https://doi.org/10.1086/711148.

2. The author has served as moderator of the ARLIS/NA Digital Humanities Special Interest Group (DH SIG) since the spring of 2020.

ARLIS/NA in the Humanities Commons

The Humanities Commons is a platform for open information sharing in the Humanities. Based on the open-source Commons in a Box software, the Humanities Commons began as a project of the Modern Language Association (MLA) and is now maintained by Michigan State University.[3] In 2018, the ARLIS/NA Humanities Commons Planning Task Force recommended that the society adopt Humanities Commons as a "network for facilitating communication and collaboration between members of scholarly communities."[4] Subsequently, an Implementation Task Force was formed to develop a branded portal for ARLIS/NA on the Humanities Commons. ARLIS/NA is expected to join the MLA, the Association for Slavic, East European, and Eurasian Studies (ASEEES), the Association for Jewish Studies (AJS) and the College Art Association (CAA), on the platform as a participating organization later this year. A dedicated area for ARLIS/NA members and ARLIS/NA publications will encourage engagement both within and across organizations and disciplines in the Humanities. Two projects,

3. "About Humanities Commons," Humanities Commons, accessed February 10, 2021, https://hcommons.org/about-humanities-commons/.

4. "Humanities commons planning task force final report," March 1, 2019, https://arlisna.org/images/researchreports/ARLISNA_Report_HumanitiesCommonsPlanning_TaskForce2019.pdf. "Featured projects," Art Libraries Society of North America, accessed February 10, 2021, https://www.arlisna.org/organization/featured-projects.

 doi:10.1017/alj.2021.5

https://doi.org/10.1017/alj.2021.5 Published online by Cambridge University Press

A Digital Humanities Bibliography and the Digital Art History Directory, demonstrate the promise of the Commons.

Digital Humanities Bibliography *A Digital Humanities Bibliography* was recently deposited in CORE, the Humanities Commons shared repository. CORE provides a permanent URL with digital object identifier (DOI), subject and keyword tagging and a download count. In three months there were 235 downloads of the DH Bibliography, which includes 1500 citations, organized alphabetically, on topics including but not limited to the arts.[5] Documents in the CORE repository can be affiliated with multiple groups (such as Digital Art History and Digital Humanists) as well as a particular organization (such as the upcoming ARLIS/NA Commons) to improve discoverability. The traditional bibliography, even for a newer topic like Digital Humanities, remains a useful tool, and enjoys a wider audience and persistent access in the shared repository.

5. John Taormina, *et al*, "A digital humanities bibliography," 2019, https://doi.org/10.17613/6E0A-FG72.

Digital Art History Directory (DAHD) In addition to structured, open access to publications, it is possible to develop custom projects on the Humanities Commons. The ARLIS/NA Commons will soon feature the Digital Art History Directory (DAHD), a project led by Michelle Wilson, Samantha Deutch and Roger Lawson and supported by the ARLIS/NA Cataloging Section, Digital Humanities SIG, Web Archiving SIG and Systems Librarian Working Group. The DAHD is a dynamic resource "for discovering, sharing and researching digital art history (DAH) projects. The DAHD is intended to be the largest, most comprehensive and inclusive collection of information on digital art history and to function as a tool and living resource, rather than a static publication."[6] Projects submitted for inclusion, which may range from best practices to data sources to digital projects and bibliographies, will undergo a review process prior to publication. A well-designed, user-friendly interface, along with a locally created taxonomy for project types, and subject and keyword searching make the directory an indispensable resource for discovering digital art history. In the deluge of digital information, this project again underscores the place of traditional library work, such as compiling bibliographies, directories and indices, in the digital age. Here changes in technology do not usurp the bibliographer's role; rather they permit bibliographers to facilitate access to non-traditional resources, often not published commercially and not indexed in subscription databases.

6. "The digital art history directory," The Art Libraries Society of North America," accessed February 10, 2021, https://dahd.hcommons.org/.

Digital Humanities Special Interest Group (DH SIG) in the ARLIS/NA Humanities Commons The flexible platform of the Humanities Commons, which is built on WordPress, hosts initiatives of different scales, ranging from a single document to the interactive directory discussed above, as well as a group organizing space. The DH SIG will begin its transition to the ARLIS/NA Humanities Commons soon after launch by migrating its WordPress website. With shared interests and an informal organizational structure, the DH SIG provides a welcoming place for members exploring digital humanities for the first time, for discovering useful tools and projects and to incubate ideas and collaborations. The DH SIG plans to adopt communication channels available in the Commons including a calendar, social networking features and collaborative document and file sharing. The centralized tools will improve connection between members, streamline the wide variety of communication outlets employed intermittently over the last decade and allow members to publicize their projects on the platform where they are hosted.

Art and architecture data for the digital humanities

Wikidata Pilot Project of the Program for Cooperative Cataloguing (PCC) Another initiative where a wide variety of organizations and librarians in many roles, including art librarians, have come together is Wikidata, the linked data repository behind Wikipedia and other Wikimedia initiatives. The Wikidata Pilot Project of the Program for Cooperative Cataloguing (PCC) explores identity management through Wikidata. Participating libraries meet monthly for training and discussion of Wikidata or linked data topics. Libraries who have joined the PCC Wikidata Pilot with projects focused on art-related linked data include the Frick Art Reference Library, Michigan State University, the National Gallery of Art, the New Mexico State Library, New York University, Northwestern University,

https://doi.org/10.1017/alj.2021.5 Published online by Cambridge University Press

Oklahoma State University, the Philadelphia Museum of Art and the Smithsonian. Linked data will be created on topics including artists, specifically, from Black, Latinx and Native American communities; artists' files; art historians/historiography; works of art, including portraits, manga, and campus public art and architecture; archival and special collections; art materials; exhibitions; and government publications.[7]

Other linked data initiatives It is not necessary to participate in the PCC Wikidata Pilot Project to work with Wikidata or linked data. Vanderbilt University and the Art Institute of Chicago, for example, have developed their own projects to share metadata from art museum collections with Wikidata.[8] Another pilot project exploring bulk transformation of structured data from ContentDM into linked data is OCLC's "Transforming Metadata into Linked Data." The project report confirms the value of linked data for discovery and visualization, but also notes the difficulties of reconciling data without some manual input and the long-term timeline for the shift to linked data.[9] Awareness of these linked data projects is important even for librarians who do not catalogue or otherwise create datasets. Once in Wikidata, this data may be used for visualizations, textual analysis or provide access to public domain images useful to art researchers. There will be opportunities to learn about linked data at the ARLIS/NA 49th Annual Conference, which will feature a presentation on linked data from the Frick Art Reference Library and the National Gallery as well as a workshop for beginners, Wikidata for Art Librarians, hosted by the DH SIG and conducted by Will Kent of the Wikimedia Foundation.

From linked data to public knowledge The rich data available in Wikidata populates network visualizations and informs a variety of other DH projects. Additionally, conversations about representing communities and languages in linked data and the critical approaches necessary to describe them equitably align with interdisciplinary humanities inquiry. DH visualizations provide an avenue for communicating the complex contextuality of these issues to a wider audience.[10]

Wikidata connects data creators with one of the widest audiences available – users of Wikipedia. Names of artists, works of art, exhibitions, and publications, can supplement and support contributions to Wikipedia. For example, the "info boxes" or "knowledge panels" displayed in both Wikipedia and Google searches display data from Wikidata.[11] Adding exhibition histories and citations to Wikidata can help establish artists from marginalized communities as "notable" for inclusion in Wikipedia.[12] ARLIS/NA members have been active as Wikipedia editors, not only in the DH SIG, but across the organization. Recent edit-a-thons for the Art + Feminism Wikipedia group have included the National Museum Women in the Arts Library focusing on women artists of color; *Respect Her Crank: A Go-Go Herstory Wikipedia Edit-a-Thon* from the Smithsonian Libraries; The Walker Art Center editing articles of womxn artists in the Walker's exhibition *Don't let this be easy*, among many others. Additionally, Yale and MIT Libraries held the BIPOC in the Built virtual Wikipedia edit-a-thon, a week-long event to create Wikipedia pages for Black, Indigenous and People of Color (BIPOC) artists, architects and designers. No experience is needed to participate in a Wikipedia edit-a-thon and extensive guidance on organizing a local event is available from Art + Feminism and Wikimedia.[13]

Digitized collections and digital pedagogy

Visual literacy in three dimensions Digital skill building meets visual literacy in *Building Visual Literacy: A Toolkit for Interdisciplinary Teaching from University Art Collections.* Created by Washington and Lee University's University Collection of Art and Art History in partnership with the University Library, these object-based lesson plans "cultivate visual literacy abilities to interpret and evaluate the world around us—important tools for student success in any discipline or career field."[14] *Photogrammetry of Uncle Tom's Cabin Vase,* one of the toolkit lessons, offers a user-friendly overview of this technique for creating a three-dimensional model of a ceramic vase, paired with suggestions for teaching visual literacy in the classroom. Similarly, a Drew University librarian Danielle Reay developed a three-dimensional model to teach visual literacy skills. Using historic documents

7. "Wikidata:WikiProject PCC Wikidata pilot," Wikidata, accessed February 10, 2021, https://www.wikidata.org/wiki/Wikidata:WikiProject_PCC_Wikidata_Pilot.

8. Steve Baskauf, "Loading artwork metadata into Wikidata: Works from the Vanderbilt University Fine Arts Gallery," December 1, 2020, https://doi.org/10.6084/m9.figshare.13313099.v1. Will Kent, "Wikidata at the Art Institute of Chicago," Wikiedu, February 13, 2020. https://wikiedu.org/blog/2020/02/13/wikidata-at-the-art-institute-of-chicago/

9. Greta Bahnemann, *et al,* "Transforming metadata into linked data to improve digital collection discoverability: A CONTENTdm pilot project," 2021, https://doi.org/10.25333/FZCV-0851. "CONTENTdm linked data pilot," accessed February 10, 2021, https://www.oclc.org/research/areas/data-science/linkeddata/contentdm-linked-data-pilot.html.

10. For an introduction to some of these issues, see Devon Murphy, "Knowledge organization systems and information ethics for visual resources," *Visual Resources Association Bulletin* 47, no. 2 (December 20, 2020), https://online.vraweb.org/index.php/vrab/article/view/193, or Stacy Allison Cassin, "Vocabulary as Resistance and Reconciliation," https://drive.google.com/file/d/1M-RJR43vfRhK_rqMr0AZAyt0KSyql0N7/view, February 11, 2021, recording available at here: https://docs.google.com/document/d/1kiNPg49QEsoLP2AyEvaJZCA1Pl7WXuAnaTeB4CYG_r8/edit.

11. "Google knowledge graph," in *Wikipedia*, January 25, 2021, https://en.wikipedia.org/w/index.php?title=Google_Knowledge_Graph&oldid=1002573625. "Infobox," in *Wikipedia*, January 31, 2021, https://en.wikipedia.org/w/index.php?title=Infobox&oldid=1003969870. "Advanced FAQ - Wikipedia notability guidelines," Art + Feminism, 2017, https://www.youtube.com/watch?v=−rP6iEtCJ_M.

12. For an overview of additional benefits of creating art exhibition linked data, see Karly Wildenhaus, "The possibilities of constructing linked data for art exhibition histories," *Art Documentation: Journal of the Art Libraries Society of North America* 38, no. 1

https://doi.org/10.1017/alj.2021.5 Published online by Cambridge University Press

from the university archives, Reay virtually reconstructed a demolished library building for a research skill building exercise for architecture students.[15]

Since over the past months it has not been possible to travel for museum fieldtrips or the site visits integral to the architecture studio, virtual reality may be evolving from interesting technology into technological necessity. A pilot project at the Frances Loeb Library of the Harvard University Graduate School of Design supported virtual site visits for architecture students in two studio courses. Despite the short turnaround time for the project, site documentation, including videos, was collected for reuse in future courses through the library collections portal.[16] In this way, DH enhanced the traditional library role of collection development and efficient access to resources. The University of Calgary developed a virtual reality (VR) artist in residence program for art and architecture students. It is an innovative combination of a badge program and a residency. Students receive training, access to VR equipment and applications and other support needed to deliver a shareable VR project by the end of the residency.[17]

Additionally, several three-dimensional collections have been digitized in two dimensions for the first time. The ARLIS/NA 2020 conference presentation *Reimagining Unique Collections through Digitization* highlighted an 1893 World's Fair panorama captured in glass lantern slides at the University of Kansas, textiles and garments from the School of the Art Institute of Chicago's Textile Resource Center collection, and fiber arts artist files from The Friends of Fiber Art International Artist File Collection of the American Craft Council.[18] The Frances Loeb Library and the Rhode Island School of Design Fleet Library launched Material Order Search, a shared digital library of design materials. Robust search and browse features are built on a custom taxonomy for materials that includes production company, usage, composition, and sensorial properties, for example, "touch - rough" to describe the tactile sensation of a particular texture.[19]

International Image Interoperability Framework (IIIF) Traditional digital collections of visual resources centers and archives are being reimagined as digital humanities projects in increasingly creative ways. The Yale Arts Library brought a traditional art history visual resources collection into more than a thousand dimensions with PixPlot.[20] PixPlot visualizes a complex neural network using common three-dimensional game design techniques. The result is a highly interactive visualization tool that helps users see connections between objects in new ways. Images from the Beinecke Rare Book & Manuscript Library, Yale Center for British Art and the Medical Historical Library have also been visualized in PixPlot.

IIIF (International Image Interoperability Framework) is the image display and sharing technology behind many recent innovative visual digital humanities projects, including PixPlot.[21] Several recent IIIF applications from the Getty Research Center stand out: *12 Sunsets*, the *Research Collections Viewer* and the *Animal Crossing Art Generator*. *12 Sunsets* visualizes more than 60,000 of Ed Ruscha's Sunset Strip photographs. Website visitors maneuver Ruscha's pickup truck along Sunset Boulevard or search by year, time of day, street, tag or keyword to explore the photographs. The *Research Collections Viewer* provides a more traditional archival view of the same collection and several others. The simple interface contains a novel visualization of the collection hierarchy as well as metadata, permissions, the image comparison viewer, and IIIF manifests. The *Animal Crossing Art Generator* takes artworks out of the museum—The Getty or any museum that provides IIIF images—and into a popular game by Nintendo called *Animal Crossing*.[22] Players find a IIIF manifest URL, paste it into a form on the Getty site to generate a QR code, which will download the artwork onto a wall or an easel inside the game.[23]

In addition to the novel applications noted above, IIIF may be used for traditional art historical image comparison within a single collection as well as across institutions. At the Henry E. Huntington Library, Art Museum and Botanical Gardens, Mario Einaudi trains schoolteachers to use ContentDM with IIIF and Mirador to provide dynamic presentations in the classroom. For example, a zoomable map of Chinatown may be contextualized with a detail of a neighborhood as well as historical maps, street views, photographs or objects simultaneously.[24]

(March 1, 2019): 22–34, https://doi.org/10.1086/702890.

13. "Home," Art + Feminism, accessed February 10, 2021, https://artandfeminism.org/. "Meetup/Connecticut/BIPOC-in-the built" in *Wikipedia*, February 11, 2021, https://en.wikipedia.org/wiki/Wikipedia:Meetup/Connecticut/BIPOC-In-The_Built. "How to run an edit-a-thon" in *Wikipedia,* February 14, 2021, https://en.wikipedia.org/wiki/Wikipedia:How_to_run_an_edit-a-thon.

14. "Building visual literacy: A toolkit for interdisciplinary teaching from university art collections," Teaching with UCAH, *accessed February 10, 2021, https://teachingwithucah.academic.wlu.edu/.* "Photogrammetry of Uncle Tom's Cabin vase," Teaching with UCAH, accessed February 10, 2021, https://teachingwithucah.academic.wlu.edu/photogrammetry-of-uncle-toms-cabin-vase/.

15. Danielle Reay, "Visualizing the campus," March 24, 2021: 43rd Annual Association of Architecture School Librarians Conference, https://library.ccny.cuny.edu/c.php?g=1072817&p=7811641.

16. Johanna Kasubowski, "The virtual site visit: From studio to library collections," March 26, 2021: 43rd Annual Association of Architecture School Librarians Conference, https://library.ccny.cuny.edu/c.php?g=1072817&p=7811641.

17. "Virtual reality artist in residence," UCalgary Badges, accessed February 10, 2021, https://badges.ucalgary.ca/badges/126.

18. Andi Back, Andrea Waldren, Melanie Emersen and Beth Goodrich, "Reimagining Unique Collections through Digitization," July 30, 2020: 48th Annual Conference of the Art Libraries Society of North America, https://www.arlisna.org/news/conferences/1005-2020-48th-annual-conference.

19. Material Order. "Material Order," accessed February 10, 2021, https://materialorder.org/.

20. Yale Digital Humanities Lab Team, "PixPlot," accessed February 10, 2021, https://dhlab.yale.edu/projects/pixplot/.

21. "IIIF Frequently Asked Questions (FAQs)," IIIF | International Image Interoperability Framework,

https://doi.org/10.1017/alj.2021.5 Published online by Cambridge University Press

From digitization to digital project

As the foundation of many digital humanities projects, digitized collections are included in this overview of recent digital humanities initiatives alongside innovative approaches to manipulating digitized images in the humanities. Despite established workflows and technological advances that have made digitization efforts and digital exhibitions routine, many barriers remain, and many collections are not yet digitized. The authors of *Reimagining Unique Collections* mention challenges such as communication with vendors; rights clearance; and ongoing server and site maintenance. Digital preservation remains perpetually on the horizon. As Meghan Lyon has observed in her assessment of digitized artists' archives, "challenges include providing access to an intelligibly navigable and publicly engaging platform; maintaining cohesion, context, and credibility; balancing copyright, privacy, and access; and facilitating cross-institutional collaboration."[25]

Many digitization projects are noteworthy simply as unique digital surrogates, and many have overcome significant impediments, often without a budget. In this sense, small-scale projects brought to fruition merit recognition alongside more innovative, programmatic approaches to digital humanities in the arts. During the last year as courses moved online and museum capacities were reduced, many digital projects were created, and this overview covers only a very small percentage of DH work in libraries. Employees and resources were reallocated from other departments to create metadata or transcriptions for digital collections remotely. Even with pandemic delays, it became apparent that a great deal could be accomplished under extraordinary circumstances with a relatively small shift in focus.

Another urgent shift, unrelated to the pandemic, is happening. The Maryland Institute Black Archives (MIBA) or *Blackives* project, by student Deyane Moses, provides some of the clearest evidence that despite the vast number of digital collections, digital humanities projects and digital archives created in art libraries and museums, there are many stories that have not been told.[26] MIBA documents the Black experience at the College from its beginning in 1892, to a 1935 exhibition on lynching, to 1954, when admission was opened up to students of color, through to the present day. In a 2016 conversation with the *LA Review of Books*, Jessica Marie Johnson reflected, "DH has offered people the means and opportunity to create new communities. And this type of community building should not be overlooked; it has literally saved lives as far as I'm concerned. . . .If there isn't a place for this type of work within what we are talking about as digital humanities, then I think we are having a faulty conversation."[27] It is vital for art information professionals who create data from collections, develop state-of-the-art interoperability across systems and press forward with new digital tools, to take the time to look backward, to discover gaps in collections and to support colleagues and communities in efforts to rebuild their own histories through digital humanities.

Conclusion

The digital humanities have enabled art libraries to extend the reach of many traditional functions such as collection building and development, bibliographic instruction, providing access to unique materials and original cataloguing in support of art and architecture fields. Collections now house multimodal representations of architectural sites and digital assets in many dimensions. Instruction covers digital techniques such as photogrammetry and visual literacy not only for art and architecture, but across disciplines. Name authorities are being linked in a truly global database, Wikidata, and bibliographies such as the Digital Art History Directory help patrons sort through an abundance of digital art historical projects in a few clicks. The ARLIS/NA Humanities Commons will provide an opportunity to carry out the professional work of art libraries in a truly collaborative fashion. Upcoming projects from ARLIS/NA members include visualization services; digital privacy; crowdsourcing data; art faculty data and research impact assessment; digital accessibility; digital project preservation; digital publishing and open educational resources (OER); multimodal storytelling; virtual reality artist residencies; and oral histories, to name a few — as art librarians continue to increase engagement with their collections through the digital humanities.

accessed February 10, 2021, https://iiif.io/community/faq/.

22. "12 sunsets: Exploring Ed Ruscha's archive," accessed February 10, 2021, https://12sunsets.getty.edu/map/narrative?mode=no-map&d=0.42256. "Research collections viewer," Getty," accessed February 10, 2021, https://www.getty.edu/research/collections/. "Animal Crossing art generator," Getty," accessed February 10, 2021, https://experiments.getty.edu/ac-art-generator.

23. For an explanation of IIIF manifests, see, "What is a manifest," IIIF, accessed February 10, 2021, https://iiif.io/explainers/using_iiif_resources/#iiif-manifest. For other interesting uses of IIIF, see, "IIIF Week 2020 - Fun with IIIF," https://www.youtube.com/watch?app=desktop&v=QitjH_nFdMk.

24. "2020-03-25 - Community call," Community: Teaching and learning with IIIF, accessed February 10, 2021, https://docs.google.com/document/d/1viF1tgssZSTTiMTPy1sY3iTxgAKfByt1eM9MrCQEfF4/edit.

25. Meghan Lyon, "Digital embodiments of artists' archives: Four approaches to digitized collections and their web-based platforms," *Art Documentation: Journal of the Art Libraries Society of North America* 39, no. 2 (September 1, 2020): 153–163,

26. Deyane Moses, "The Maryland Institute Black Archives," 2018, https://www.miba.online/. Katherine Cowan was scheduled to present Moses' project at the cancelled Visual Resources Association 2020 conference in "How to GLAM in 'Charm City:' Community building between Baltimore and its cultural institutions," https://vra2020.sched.com/event/Vih7.

27. Melissa Dinsman and Jessica Marie Johnson, "The digital in the humanities: An interview with Jessica Marie Johnson," *LA Review of Books,* https://lareviewofbooks.org/article/digital-humanities-interview-jessica-marie-johnson.

https://doi.org/10.1017/alj.2021.5 Published online by Cambridge University Press

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https://doi.org/10.1017/alj.2021.5 Published online by Cambridge University Press