alj

46/2 2021

Digital dimensions revisited

Stephen Bury

What happened after the *Art history in digital dimensions* report of 2017? To what extent have the recommendations been implemented? Has digital art history itself changed in this period? Are the challenges and recommendations outlined in the report still pertinent? What is the role of or is there a role in digital art history for the art librarian in an academic or museum setting?

Art history in digital dimensions[1] is the report of the proceedings of the three-day symposium, funded by the Getty Foundation and the Samuel Kress Foundation, and held in October 2016 at The Phillips Collection, Washington D.C. and the University of Maryland, College Park. The symposium brought together funders, academics, conservators, cultural heritage professionals, publishers, librarians and information scientists to address core issues and concerns relating to digital art history. The report was put together by the Digital Art History Lab at the Frick Art Reference Library, and edited by Ellen Prokop. Although only two years old at this stage the Frick Digital Art History Lab had achieved a reputation that had led not only to the invitation of art library staff to the symposium but with it being trusted with the compilation of the report.

The issues addressed were sustainability, diversity, valuing translators, training and audience. At the end funding, cost and the definition of digital art history were briefly discussed. Indeed, the term 'digital art history' (or its acronym, DAH) remains contentious. Is the computational manipulation of data to answer art historical questions a distinct field in itself, or is just a methodology of art history? It has been argued that a cadre of digital art historians is necessary in this early phase for esprit de corps, the sharing of approaches, and the rapid development of new techniques and methods.

The first core challenge is sustainability from maintaining the long-term footprint of a project to its reproducibility, not only in the sense that others could recreate the results but also that it could be transferred to future technological platforms. The report made six recommendations in this area, beginning with the implementation of a data management plan at the inception of a project. Although many funders such as the Arts and Humanities Research Council in the UK or the National Endowment for the Humanities have some guidelines, they are very generic. And this recommendation has not really been followed up since 2017. A series of questions – e.g. can it be archived? - could have been developed to make the DAH researcher at least aware of the major issues. Related to data management is the call for project documentation, which would also make the third recommendation to develop models for migration or retirement. The fourth and fifth recommendations – to establish a registry that lists and notes the status of DAH projects and the promotion of partnerships with libraries and archives – have begun with the creation of a wireframe prototype of the Digital Art History Directory (DAHD), an initiative of ARLIS/NA, using the Humanities Commons' open access platform[2]. It would also help in providing information to assist in the preservation and archiving of projects. The long-term business model for the DAHD is not clear at this moment.

Diversity is the next challenge, made much more palpable by the Black Lives Matter 2020 initiative after the George Floyd and other killings. Art history does have serious problems to address: many are focused on Western art and assume their audience is of a certain ethnic group, class or level of education; their staff are mostly poorly paid historically on the assumption that these were jobs for women or children from rich families, and perpetuated today with unpaid

1. The report is available at https://www.kressfoundation.org/news/art-history-in-digital-dimensions-report

2. Digital Art History Directory press release https://dahd.hcommons.org/

Copyright © The Author(s), 2021. Published by Cambridge University Press on behalf of ARLIS
doi:10.1017/alj.2021.3
https://doi.org/10.1017/alj.2021.3 Published online by Cambridge University Press

internships. The recommendations from the symposium today seem underwhelming, overtaken by events. They include the digital sharing of personal resources on non-Western subjects; the establishment of a group to investigate how access to digital art history resources can be improved in areas where the digital infrastructure is minimal; the signaling that art historians, curators and librarians are interested in diversity in staffing, collections, projects and audience. A 2020 initiative of the Association of Research Institutions in Art History (ARIAH) was to develop a collective paid virtual internship program for twenty students – in two cohorts - from diverse backgrounds. In a way the pandemic lockdowns and the suspension of internships made it easier to be more diverse – there was no need to pay for travel, lodging and living expenses in a strange town or city. It was noticeable that in the second cohort where the Frick Art Reference Library hosted a week long virtual workshop on provenance research, where each student had to choose and research an art object that interested them, there was great interest in our session on how digital art history was transforming provenance research, and some used our open source ARIES tool.

Valuing translators was the third challenge. Translators were defined as the person able to mediate between the art historian and the computer scientist. The recommendations included setting up a digital art history program or department with a proper reward structure and the recognition of all contributors; and the training of art historians to become collaborators, listening and sharing more. There has been some progress here with the establishment of digital humanities centres at Yale and Pittsburgh universities and the Cultural Science Lab at Edith O'Donnell Institute of Art History at the University of Texas, Dallas, and the Wired Lab for Digital Art History & Visual Culture at Duke University. And it is becoming recognized that art librarians can play this role of translators with the ability to move across departmental boundaries.

The first meeting of the Frick Art Reference Library's Digital Art History Lab (DAHL) took place on October 7 2014 after a meeting with Jim Coddington, then Head of Conservation at the Museum of Modern Art (MOMA) and Jonathan Hay, an East Asian Art History specialist at the Institute of Fine Arts (IFA), New York University, and both founder members of the New York Area Computational Art History Group. The remit of DAHL has changed over time: initially, it concentrated on raising awareness of the potential of digital art history; and there were pop-up workshops at the IFA, MOMA and the Metropolitan Museum of Art aimed at graduate students, curators and conservation staff. Some of these described projects we were already embarked on such as computer vision or, ARIES, Art Image Exploration Space, recently described in this journal[3]. 2018–20 saw an emphasis on programming, some relevant to The Frick Collection, such as watermark identification in Rembrandt's etchings or canvas matches in Vermeer. After a major restructuring of the Library staffing in July 2020, establishing four Clusters – Access, Content, Preservation and Archives – we established cross-cluster groups with leads: one of these is Digital art History. Our strategy now is to encourage the digital exploitation of our assets – 1.2M photographs of artworks, 8.5 Tb of web archives, etc. – to answer art historical questions; helping art historians in this, and collaborating with computing, engineering, statistics university departments and technological companies to do this effectively.

From the beginning DAHL has tried to bring art historians and technologists together. The first attempt – a sort of digital art history dating session – was the 2018 symposium *Searching through seeing: optimizing computer vision for the arts*. We decided that we should try and do this biennially, and working with the Museum of Modern Art we hosted a virtual version, *Technological revolutions in art history*, 2020–1, which tried to contextualize art history within different technological paradigms over time, whilst introducing art historians to digital art history and other projects that might inspire them. The Frick has also worked closely with engineering and computer departments – the New York University Tandon School of Engineering, Cornell University School of Engineering, University of Pennsylvania Schools of Engineering and Stanford University's Computer Science Department. These partnerships have allowed us access to technologies and expertise, which has been invaluable in developing the Frick's digital art history initiatives. One example is our application of Artificial Intelligence (AI) to metadata production and enhancement to our photoarchive. Partnering with members of Stanford University's Statistics Department and Cornell University's Department of Operations Research and Information Engineering on a pilot project that employs recent advances in AI and machine

3. Deutch, S. (2021). "Art Image Exploration Space (ARIES): a response to the image needs of art library patrons." *Art Libraries Journal*, 46 (1), 7–12. Doi:10.1017/alj.2020.31

https://doi.org/10.1017/alj.2021.3 Published online by Cambridge University Press

learning to develop a logarithm that will apply a local classification system based on visual elements to these digitized images. For the pilot, the Stanford/Cornell team focused on a dataset of American paintings and drawings and applied ResNet152, a popular deep neural network architecture, to produce these automatic image classifiers. After a promising pilot it is being expanded to a larger dataset.[4] A lesson learnt is the valuing and sharing of a library's or museum's digital assets: if the pandemic had any good side it is probably this.

And collaboration is no longer just national. In December 2020, the National Endowment for the Arts (NEH) and the Arts and Humanities Research Council (AHRC) announced a series of grants for teams in the USA and UK to develop digital tools and methodologies used by museums, libraries and archives in order to reach global audiences. The Frick Digital Art History Lab is a member of AEOLIAN (Artificial intelligence for cultural organizations), led by Glen Worthy of the University of Illinois and Lise Jaillant of Loughborough University, which will look at making born-digital collections more accessible; analyze these collection using innovative methods; and identify synergies and collaborative avenues between US and UK cultural institutions. These projects will increase international collaboration in what is a global undertaking.

Training is the fourth challenge, with some overlap with the valuing translators one. The report recommends the integration of digital art history in the curriculum and the establishment of baseline competencies. There has been important progress. In 2019 New York University undergraduate art history had a course, Digital tools for art history, designed by Pepe Karmel and Deena Engel, where students were taught data entry, Photoshop, how to use virtual image repositories, how to interpret scans, three dimensional modeling as well as Zotero, etc. Assignments included transcribing data from Donald Gordon's *Modern art exhibitions 1900–1916* (1974) in Google Sheets and then performing SQLite queries; creating and then editing a photograph of an artwork with Photoshop, and using SketchUp to create a virtual exhibition. It is noteworthy that this module involved collaboration internally with library and IT departments, but also externally with guest lecturers and outside visits. Its development also benefitted by the involvement of the New York Computational Art History Group.

Other training recommendations include the creation of an online space to share educational and training materials; the encouragement of art-historical periodicals to cover teaching digital art history; the mobilization of professional institutions to advocate for digital art history; the encouragement – financially or otherwise – of graduate students and junior scholars to explore digital art history; and mentorship.

Whilst some progress has been made – in the USA the College Art Association (CAA), ARLIS/NY and the Visual Resources Association (VRA) have digital art history special groups and host sessions at their conferences – and there is now a Digital Art History Society (with a blog that sometimes addresses digital art history teaching and training), and an International Journal for Digital Art History - there is little co-ordination, some duplication, and some gaps. The New York City Digital Humanities group has usefully sponsored a graduate student award, a good precedent.

The final main challenge addressed is audience, although this was partly addressed in the second challenge, diversity. The recommendations include the need to practice thoughtful identification of the audiences to be reached by building in an assessment audience needs, expectations and views into the design of projects and their interfaces: there are effective digital tools to do this, and digital art historians should be at the first to exploit them – but so few still do. Again, there is probably a role for the art librarian here.

Is digital art history making an impact on the discipline of art history? Perhaps we should look at insurgent sub-disciplines in other disciplines: econometrics, the use of statistical data to analyze and understand economic data, and its relationship with mainstream economic history or even just history. Robert Fogel's study of *Railroads and American economic growth* (1964) challenged the assumption that railroads were the determining factor in the rapid growth of wealth in 19th century America; likewise his more controversial study of the economics of slavery co-authored by Stanley Engerman, *Time on the cross* (1974), argued that the Southern plantation economy was robust and that it needed political, social and religious interventions to end slavery. When digital art

4. Prokop, E. (2021). "The Role of AI in the Digital Photoarchive." *Art Documentation* 40, 1; Prokop, E. (2021). "Artificial Intelligence and Discovering the Digitized Photoarchive" in Jaillant, L. and V. Stobo, *Archives, Access and AI: Working with Born-Digital and Digitized Archival Collections* (Bielefeld: transcript Verlag)

https://doi.org/10.1017/alj.2021.3 Published online by Cambridge University Press

history can create and sustain significant debate in art history, then digital art history will have come of age.

Stephen Bury
Andrew W. Mellon Chief Librarian
Frick Art Reference Library
10 East 71st Street
New York 10021
New York
USA
Email: bury@frick.org

https://doi.org/10.1017/alj.2021.3 Published online by Cambridge University Press