Born digital:
Early career researchers shaping digital art history

Sophie Hatchwell
Fern Insh
Hana Leaper

Abstract:

In October 2017, the authors co-organised an international conference for early career researchers (ECRs) entitled 'Digital Art History: Practice and Potential' (#DAHPP). This ambitious event, held between The Paul Mellon Centre for Studies in British Art and The Courtauld Institute of Art, brought together ECRs working independently and at major institutions in Austria, China, France, Portugal, America, and the United Kingdom, all of whom use digital technologies to support and disseminate research. Through a lens focused by Diane M Zorich's assertion that ECRs are more likely to "think through technology", this article demonstrates how emerging scholars are engaging with digital technology in conjunction with established art-historical methods and theories in an integrated practice. Drawing on digital projects presented at #DAHPP, we reflect on the intellectual, logistical and methodological focal points arising from the event, discussed in four sections: the centrality of digital technology to ECRs' research practices and the need to generate discussion around this in light of the professional challenges we face; the growing prevalence of digital re-constructions as both research tool and vehicle for communicating with a broad audience; digital methods for dealing with data, how this can disrupt bias within conventional art-historical study; and how we address questions of veracity and authenticity.

Key Words: authenticit; collaboration; digital art history; digital reconstruction; early career research; methodology; 3D Modelling; new evaluative practice

contact details: H.M.Leaper@ljmu.ac.uk

In Michelle Millar Fisher and Anne Swartz's 2014 *Visual Resources* article 'Why Digital Art History', the authors identified paradigmatic changes in academia and associated fields during the 1990s-2000s, including the connectivity provided by email, and the transition from analogue to digital images in teaching and lecturing.[1] As the 'born digital' beneficiaries of these developments, our educations and early career posts have been premised on digital experience: for

[1] Michelle Millar Fisher and Anne Swartz, 'Why Digital Art History', *Visual Resources*, 30:2 (2014), 126.

us, art history is inherently digital.[2] Prompted by a previous digital symposium at The Paul Mellon Centre for Studies in British Art, in which Fern spoke about the impetus for launching the Courtauld Institute of Art's Digital Art History Research Group (#DAHRG), we perceived the need for a conference where a cohort of our peers could gather to demonstrate how their digital practice integrates with and enhances analogue methodologies and theories.

'Digital Art History: Practice and Potential' (#DAHPP), held in October 2017, between The Paul Mellon Centre and the Courtauld Institute of Art, brought together researchers working independently and at major institutions in Austria, China, France, Portugal and the United Kingdom, all of whom use digital technologies to support and disseminate research.[3] Our article reflects on the outcomes of this event, demonstrating how emerging scholars "think through technology" in conjunction with using established art-historical approaches in an integrated practice that is spearheading a reconfiguration of research approaches and outcomes.[4] Reflecting on the projects presented at #DAHPP, this article investigates the intellectual, logistical and methodological focal points arising from the event in three sections: the centrality of digital technology to ECRs' research practices and the need to generate discussion around this in light of the professional challenges we face; the growing prevalence of digital re-constructions as both research tool and vehicle for communicating with a broad audience; how digital methods for dealing with data can disrupt bias within conventional art-historical study, and how we address questions of veracity and authenticity.

ECR Research and Digital Technology

As 'born digital' scholars, our primary aim for the conference was to demonstrate and draw attention to the centrality of digital technology to ECRs' processes and the need to generate discussion around this in light of the professional challenges we face. Arranging the conference, all three organisers identified as ECRs, with an interest in digital practice: Sophie as a Teaching Fellow exploring new pedagogical approaches in the field of Digital Education; Hana as an editor of *British Art Studies*, a digital first journal; and Fern who established The Courtauld's Digital Art History Research Group (#DAHRG).

---

[2] The authors' respective higher education routes comprised of undergraduate and postgraduate study in a range of arts and humanities subjects in both England and Scotland: Insh in Art History and Print Culture at The University of Aberdeen and The Courtauld Institute of Art, respectively; Hatchwell in Art History at the University of East London, The Courtauld Institute of Art and the University of Bristol; and Leaper in English Literature, Art History, and Cultural Studies at the Universities of Leeds and Liverpool.

[3] Though American and Asian colleagues contributed to the proceedings, the developments we present and analyse here spring primarily from the conditions fostered in United Kingdom and Western European contexts. We would be keen to continue the conversation with our counterparts from other regions in future.

[4] Diane M Zorich, 'Transitioning to a Digital World: Art History, its Research Centers, and Digital Scholarship', *Journal of Digital Humanities*, 1:2 (2012).

Working in the UK, and specifically England, we have all experienced how the roles of ECRs in the cultural industries are increasingly threatened by widespread budget cuts. With short-term contracts the norm for the early-career art historians, born-digital ECRs are capitalizing on their elevated technical skills to create digital-first research outputs that both further their research, and enhance their employment prospects. For many of us, this has necessitated importing skills from other areas of our lives, and developing techniques independently. With these considerations, we felt motivated to unite as a collective to coordinate #DAHPP to foster a sense of collegiality amongst our peers, but also to test our readiness to move beyond defining our practice as a digital subgenre of art history, to envisioning an emerging scholarly practice that is inherently digital.

All of the speakers invited (a self-selecting group who had responded to a widespread call for papers, rather than an indiscriminate sample) spoke of the centrality of digital technologies within their research practices. Significantly, many went on to relate these explicitly to the professional challenges they faced both generally as art historians, and specifically as ECRs. In our first session Élodie Gössant described finding the means to digitally reconstruct the interiors of a lost Georgian country house, pieced together from fragmented sources and accounts.[5] Using 3D modelling as a research tool allowed her to work remotely with minimal budget whilst engaging in meaningful research towards the completion of her PhD. Shu-Chi Chen showed how contemporary Asian artists are utilising digital practice to reconstruct and respond to fragile masterpieces, and the impact of these strategies on the museum experience.[6] Finally, Sketchfab Cultural Heritage lead, Thomas Flynn detailed the simplicity of using the Sketchfab platform to record and catalogue objects, and outlined its reach and availability as a research tool.[7] Our second session, themed around 'big data' focused on the collaborative possibilities offered by digital work, and ECRs' corresponding receptiveness to working together. Each of the papers given in this session, all by two-person teams, emphasised accessibility and collaboration both as integral to their projects, and as desired outcomes for their projects. Presenters from both panels emphasised that in addition to furthering art historical research, the resources they are creating fulfil the current expectation (often stipulated by funders and employers) for tangible public 'impact'.

Through fostering discussion and transnational exchange between ECRs, we intended this conference to promote sustained and continuous engagement with digital technologies and their art historical applications. While we acknowledged the difficulties posed by current institutional expectations of ECRs and the effect of digital risk-taking on career advancement, we also celebrated the benefits the digital realm offers for publishing, research dissemination, and transnational and

[5] Élodie Gössant, 'Reconstructing a lost country house: the case of Erlestoke Park (Wiltshire)', *#DAHPP* (7 October 2017).

[6] Shu-Chi Chen, 'Revisualising, Reconstructing and Recreating: the Case Study on a Digital Exhibition in the National Palace Museum, Taipei', *#DAHPP* (7 October 2017).

[7] Thomas Flynn, '3D for Cultural; Heritage: An introduction', *#DAHPP* (7 October 2017).

trans-institutional collaborative partnerships, all essential for ECRs in current impact- and collaboration- focused climates.

Research, Re-construction and audience engagement: Reflections on Panel One, Practice

The first session of #DAHPP explored the use of digital tools for research and dissemination. It comprised three papers delineating separate digital reconstruction projects used variously to drive scholarly research, and as vehicles for communicating with broader audiences. Summarising the achievements of each case study, this section places the projects within the wider context of art historical research and public engagement.

The session began with Gössant outlining how she used information from primary sources to reconstruct the decorative interiors of Erlestoke Park, Wiltshire prior to a house sale in 1832. Reconstructing the home of George Watson-Taylor, Esq. MP, a major collector of fine and decorative arts, Gössant's aim was to use *SketchUp* to investigate patronage and display, and her use of 3D modelling became an invaluable tool for research and for learning. Her approach can act as a blueprint for interpretation of the layout of contemporaneous rooms, with the potential for other researchers to refer to this model to help them understand and evaluate how rooms in similar properties looked. Although yet to be integrated into any specific public engagement platform, it would not take much cost or effort to embed a finished model of Erlestoke Park into something that could theoretically open the doors of the lost building to the public. Having built the model on *SketchUp*, the file can be saved in such a way that it could be embedded, for example, into an app or website with VR capabilities, as Fern has previously done with her work on The University of Aberdeen's Discover: Old Aberdeen App.[8] Scholar-led public engagement apps can utilise reconstructions in very different ways, but, by reference to existing examples, readers can easily envision how the model of Erlestoke could be embedded or modified into a similar app, thus sharing Gössant's research with a broader audience.

Shu-Chi Shen's following paper on *Revisualising, Reconstruction and Recreation: The Case Study on a Digital Exhibition in the National Palace Museum* (NPM) presented an example of digital reconstruction for the purposes of audience engagement. New media art commissioned and employed by curators at NPM for two exhibitions, *Landscape Reunited: Huang Gongwang (1269-1354)* and *Dwelling in the Fuchun Mountains* aimed to rejuvenate ancient Chinese artworks and captivate audiences through the use of interactive digital reconstructions. These recreated thirteenth-century scrolls depicting idyllic landscapes in the area around the Fuchun River. By recreating this pastoral paradise on paper in new media, the team at NPM accentuated the aesthetically appealing nuances of the original sources; they refashioned areas that had been damaged by fire; and, animated characters within the artworks: visitors could shout "*hello!*" at

[8] https://studyinaberdeen.wordpress.com/2016/06/24/new-ios-app-discover-old-aberdeen/ [accessed Feb 2018]. Furthermore, for a public engagement app focussed more on the VR experience, refer to The University of St Andrew's Edinburgh 1544: Virtual Time Binoculars.

fishermen working on the river who would politely down their rods and return a friendly wave to the greeting.

The new media productions at NPM are forerunners in a growing trend amongst cultural institutions to take a significant piece, artifact or series from their collections and use it as a basis for an immersive user experience. A recent comparable example includes The Museum of London's use of maps and artifacts to create a well-informed reconstruction of seventeenth-century London navigable within the *Minecraft* game platform, where players and, by extension, museum visitors were able to play the game and by doing so learn how the Great Fire spread through the dense space of seventeenth-century city.[9] By gaining appreciation of the possibilities of digital reconstructions, these ECR art historians have been able to change the way that they, other researchers and new audiences engage with and interpret art, architecture, history and heritage.

The final paper in this session was given by Thomas Flynn (Cultural Heritage Lead) of *Sketchfab*, the 3D model sharing platform. Flynn demonstrated a relatively easy and inexpensive method for ECRs to create and upload reconstructions to the *Sketchfab* platform, explaining how this process has enhanced the activities and reach of various cultural institutions. Flynn demonstrated this by reference to the British Museum's #DigitalPilgrim project which, driven by ECRs and curatorial staff, seeks to introduce the public to the fascinating, but usually hidden world of medieval pilgrim badges. These objects, tiny in size, hidden from view in stores and obscured by the more awe-inspiring iconic objects of the museum's collection have achieved a new lease of life online. Extraordinarily detailed 3D copies can be enlarged, rotated and explored via tap of a screen, and to date, around 8000 viewers have done this since the project began in 2016, evidence of the potential for such technology to facilitate audience engagement with hard-to access collections.

The #DAHPP session on practice revealed the role played by digital reconstruction in its many broad senses in forwarding art-historical research and its dissemination. We contend that, to continue fostering and developing this form of scholarship and engagement, art historians and cultural professionals need to be increasingly prepared to generate this form of content. To this end, our conference began to question how best to support the development of these skills within a Higher Education or a Professional Development context.

Big Data: Reflections on Panel Two, Potential

Our second conference panel addressed the potential of digital technologies for the management of big data as an aid to historical research. Papers in this section discussed the benefits and challenges this issue poses, including the ability to disrupt traditional scholarly bias by revealing new avenues for enquiry; concerns about accessibility of data; and queries about how to structure and manage data in a meaningful way that maintains transparency and a level of

[9] https://www.museumoflondon.org.uk/discover/great-fire-1666, [accessed Feb 2018].

authenticity to the original source. These issues were explored in relation to two current data projects, a database of 'Exhibitions of Modern European Paintings 1905-1915' set up by a team at Vienna University represented by Nirmalie Mulloli and Christina Bartosch, and 'Az Infinitum', a database of Portuguese *Azulejos,* affiliated with the University of Lisbon Faculty of Arts, represented by Rosário Salema de Carvalho and Inês Aguiar. The third duo, art historian Ricarda Borsch and social scientist Adam Knight, provided a reflective response on the use of big data in refashioning how western socities perceive the history of art.[10] The first project aims to collate information on all exhibitions of modern art in Europe between 1905-1915 using a purpose built platform. Structured by categories such as artist, geography and date, the intention is to compare, visualize and trace exhibition trends, as a way to research strategies of modern art promotion. Data here is based on information gleaned from catalogues currently held in hard-copy in archives across Europe. This project has the additional benefit of digitising fragile historical materials.

The second project aims to assist research into *azlejos*, decorative Portuguese tiles, by compiling a database of digital images of tiles, structured by information categories such as pattern, design, and *in situ* location. This database uses the controlled vocabulary of the Iconclass system to aid user searchers.[11] As with the first project, their concern is to facilitate comparison, but also to retain or reflect, as much as possible, the qualities of the original source. As Bartosch and Mulloli asserted in response to de Carvalho and Aguiar's work, this reflects a pervasive interest in pursuing quantitative evidence for art historical argument, evident across both digital and analogue practice.

The ability to compare data sets and to reveal trends in evidence can also lead to lines of scholarly inquiry. For Bartosch and Mulloli, this has enabled them to look at the establishment of *avant gardes* and the social operations of exhibition spaces, and, they argue, further develop preceding scholarship in the field. This resonated with one of the issues addressed by Brosch and Knight: that data sets and management of data by technology can be used to challenge teleology. Brosch and Knight discussed how search algorithms and new search vocabulary might free works of traditional labels and associations, investigating and questioning the role of technology in arranging data. Their paper expanded upon two issues pertinent to all papers in this conference: accessibility and transparency.

Making material accessible online to a wide audience can foster collaboration and exchange on a transnational level. However, realisation is reliant on the useful organisation and presentation of data, an issue raised by Emma Stanford

---

[10] http://exhibitions.univie.ac.at/en/; http://redeazulejo.letras.ulisboa.pt/pesquisa-az/padrao_pesquisa.aspx [accessed Dec 2017]; Ricarda Brosch and Adam Knight, 'The Quantitative Turn: Big Data Ethics in Digital Art History', *#DAHPP* (7 October 2017).

[11] http://www.iconclass.nl/home http://www.getty.edu/research/publications/electronic_publications/intro_controlled_vocab/cultural_objects.pdf [accessed Dec 2017].

in her keynote lecture on the role of digital images in the archive.[12] Stanford discussed the benefits of archive and database digitization as an aide to the study of small detail, however she also stressed that, to be a useful research tool, digital repositories need to respond to two things: the quality of the original source held, and how it is used. This includes the need for any resource to be searchable and navigable, again, responding to how it will be used by researchers. In this case she highlighted the usefulness of emerging systems that standardise reproductions and metadata such as iiif, facilitating cross-referencing and cross-institutional research.[13] Stanford demonstrated how standardisation and interoperability become key issues when developing digital resources, along with the need to consider the longevity of technology, an issue that was also raised by de Carvalho and Aguiar. [14]

In discussing the arrangement of data, papers across the conference raised questions about transparency, and the necessity of acknowledging modes of arrangement and connections to original sources. The rationale for the exclusion or inclusion of data was highlighted as an important issue. Asked what criteria govern the inclusion of data sets in their project, Mulloli and Bartosch explained how they drew on categories listed in the original source, demonstrating how their digital resource is arranged around the sort of information presented in the exhibition catalogues they are researching. Where errors exist in the original, they argued for benefit of including both error and correction in the digital resource. Ultimately, Mulloli suggests, their database follows traditional practice, with that research conducted on the basis of evidence and resulting not in a definitive account, but instead reflecting what is available.

The creators of both database projects stressed the importance of incorporating information about the original source, and in many cases, including bibliographic and archival information as a formal reference for the data set. Researchers argued the need to maintain links to original sources within a digital or digitised resource in order to preserve veracity. Reflecting on this issue, Brosch and Knight argued the importance of challenging the assumption that data presents 'objective truth', recognising the many variables that effect the composition and structuring of data, including the selective principles that govern the structuring and search function of a database.[15] In debate following the session, the creators of the two databases both argued that this issue can be mitigated by maintaining links to original sources. In both cases, digital images of the original source are included along with archival and bibliographic data, with the original sources informing the organisation of the data. The overall consensus was that digital

---

[12] Emma Stanford, 'The Art of Losing: A Wishlist for Responsible Digitization' *#DAHPP* keynote (17 October 2017).

[13] http://iiif.io; https://www.vhmml.org, [accessed Dec 2017].

[14] Concern with standardisation, interoperability and longevity is evident in recent debates about big image data, for example, Harald Klinke, 'Big Image Data within the Big Picture of Art History', *International Journal for Digital Art History,* vol 2 (2016), http://journals.ub.uni-heidelberg.de/index.php/dah/article/view/33527. [accessed Dec 2017].

[15] This debate aligns with recent discussion on digitizing archives, e.g. *Journal of Digital Humanities* special focus section on *Digital Historiography and the Archives*, 3:2 (2014) http://journalofdigitalhumanities.org. [accessed Dec 2017].

resources should acknowledge the original source and provide a clear route back to it, with the original in turn validating the digital information being presented.

The papers in this section figure big data as a research tool, a primary source, as opposed to a research output. They agreed that use of these data sets should be utilised with the same stringent care that governs the use of other primary sources in historical research. Digital data management should be governed by well-considered research questions; it should acknowledge gaps and bias in information; and it should be used to argue on the case of evidence available. Essentially, use of this technology is an example of an integration of digital and analogue art historical practice: a new form of engaging and ordering primary source material, that can open up new questions, and make more evidence available in different ways, but that is still managed by a clear research rational.

Conclusion

The conference pointed towards turbulent change for art history from a generation at the beginning of their careers who embrace new technologies and enjoy, in the main, increasing levels of digital fluency, but face unprecedented competition and intense career pressure. Both elements of this scenario has accelerated developments in art history's research methods, for, collectively, the ECRs partaking in this conference have had to make themselves noticeable in a highly competitive job market. They have achieved this by showing how they can aid the advancement and the development of the field through the application of new technology, and the development of an integrated digital research and engagement practice. The range of papers presented in the conference show this at work, from the creative use of technology to forward research goals seen in the work of Gössant, Mulloli and Bartosch and de Carvalho and Aguiar, to the use of technology to share scholarly work with a wider audience seen in the work of Flynn and Shen, and to the drive to reflect critically on our use of technology, as discussed by Brosch and Knight and Stanford.

Reflecting on the conference, we identified a number of trends across these practices. First, the use of 3D modelling as a means to facilitate research, but also connect and engage with a broader audience. Secondly, an embrace of collaboration, linking researchers and disseminating information transnationally. Thirdly, the potential for databases to make information newly accessible or to unlock new lines of scholarly enquiry, utilising machine learning to generate a more expansive database. Finally, an interest in engaging in meaningful discussion about how to manage the benefits and challenges of our use of technology. Delegates gained an appreciation of how rapidly art historical research methods are developing, but, furthermore, they also gained insight into how they could strategically conduct research to produce impactful digital content, specifically, digital content that is also of high interest to new audiences beyond academia. Discussion of these issues revealed not only how technologies currently being used by ECRs in the field of art history are encouraging practitioners to think about the subject differently, but that we are now also capable of teaching machines to purposefully drive this form of re-thinking.

The conference allowed us to think on a grand scale about the direction of our discipline, exploring and evaluating our integrated digital practices, and speculating on their futures. Reviewing its outcomes and considering its possible legacy, we argue that *#DAHPP* has highlighted a number of issues and provocations crucial to our careers as research professionals, and to the development of the discipline more broadly. First, we contend that as a generation of scholars, we must focus on partnerships with digital service companies and tech companies to help us create reliable research tools that interact and interconnect in ways that will be beneficial for the generation succeeding us. So much time and labour has been spent on the digitisation of art history from the 1980s onwards, but as a subject bound to conventional and institutionalized humanities modes of learning, we need to consider moving away from academic silos and instead connect with those whose digital expertise can allow us to create tools that will not be rendered redundant and incompatible as technology develops. Essentially, we need to think more constructively about collaborative opportunities beyond our own field and beyond academia.

We argue too that art history needs to be taught in different ways in order to sustain a secure future within Higher Education. Learning digital skills like 3D modelling and photogrammetry should be mandatory in undergraduate art history programmes. Firstly, in order to attract born digital students to art history programmes, and secondly to ensure graduates will have skills to take on ambitiously global post-graduate research endeavours, and are prepared for careers in creating interoperable digital content for humanities research and public engagement platforms for museums and galleries

The conference indicated the need for presenters and delegates to take command of the future of our shared-subject, especially through the way we evaluate scholarly output and impact. In particular, we argue there is an urgent need to rethink how digital projects are evaluated. Their differing forms and parameters mean that the traditional peer review system for conventional print publications is not suitable. The rigorous art historical research embedded in all of the papers and endeavours presented at #DAHPP deserves recognition of its merit through means developed specifically for the purpose of gaging and reflecting their precise qualities. We will need to be instrumental in trialling and developing new evaluative practice, alongside our colleagues from different disciplines and are currently working together towards realising this goal.

As we progress through our careers, we will need to continue to advocate widely for an understanding that digital projects are not merely a research offshoot and must not be considered secondary in quality to printed counterparts. Some participants reported that they were expected to produce digital work as a companion to written research, doubling their workloads and devaluing digital-first output. Institutions must be encouraged to a greater understanding of the insights metrics can provide, the reach digitisation can provide for scholarly work, and the value of digital projects to open up the future of art history for professional and audiences.

#DAHPP has not only provided a clear set of concerns for us to take forward, and a network for us to sustain this work, but further determination to shape a fairer, more inclusive, and excitingly innovative future for art history.