

UK-US Collaboration for Digital Scholarship in Cultural Institutions

18 - 19th September 2019
Washington D.C (US)

WORKSHOP REPORT & RECOMMENDATIONS

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UK Research
and Innovation



NATIONAL
ENDOWMENT
FOR THE
HUMANITIES



‘We are a diverse collection of international cultural and research organisations, but today we share a single goal to stimulate new and enhanced opportunities for collective transatlantic research [...] Our institutions collectively help society to understand, address and solve the challenges of the twenty-first century [...] We recognise by coming here today, that by collaboration we can transform the ways culture and heritage can be experienced by global audiences through opening new research frontiers and advancing collection-based research methods for our time.’

John Davis

Provost/Under Secretary for Museums and Research, Smithsonian

Opening address to UK-US Collaboration for Digital Scholarship
in Cultural Institutions Workshop, 18 September 2019

1 Summary

With strategic and sustained support, the UK-US community of cultural organisations and digital scholars has the talent, energy, professionalism and collegiality to undertake world-leading research (genuinely novel, raising standards of collaborative scholarship) that can work at scale, have reach, be transformative, and ensure legacy and genuine impact on our society.

To these ends, workshop participants highlighted the need to:

1. recognise the **consensus** in our respective communities about the long-term value of enhanced transatlantic collaboration in this field, predicated upon the world-leading scholarship based in the UK and US, the presence of the world's most prestigious cultural institutions, a successful history of collaboration traceable over 50 years, and a common set of current challenges;
[See Section 6](#)
2. seize this opportunity to build upon the momentum created by the workshop, and commit to a clearly defined set of challenges and long-term **roadmap** of future collaboration and funding that will achieve best practice, pool expertise and deliver a lasting impact on digital scholarship in cultural institutions, securing their enduring value as drivers of societal, economic and intellectual well-being in both countries;
[See Section 3](#)
3. devise **funding mechanisms** that bridge the arts and sciences, present a mixed-economy of opportunities, support workforce development, drive sector mobility, and offer opportunities for a diverse range of cultural institutions of all sizes;
[See Section 7](#)
4. ensure that any call within this collaboration recognises (and expects applicants to recognise and projects to reflect) that we are at a point where the scale, drivers, direction and context of **digital change** has significantly shifted within our subject, our sector and our society;
[See Section 3](#)
5. recognise the need for all research supported by this collaboration to commit to a **values-driven** approach that centres ethics, promotes equity, values expertise, encourages expansiveness and permits experimentation.
[See Section 4](#)

Specifically on the proposed thematic areas, it is recommended that:

6. any given piece of research supported by this collaboration can connect to more than one of the six thematic areas, but the **themes** on 'Contemporary Challenges' and 'Leadership and Digital Skills' are cross-cutting, with an expectation that all projects submitted to this programme will address both of these areas in some way, to some extent.
[See Sections 4 & 5](#)

2 Approach

Co-sponsored by the Arts and Humanities Research Council (AHRC) of the UK, the Engineering and Physical Sciences Research Council of the UK (EPSRC), the National Endowment for the Humanities of the US (NEH), the National Science Foundation of the US (NSF), Library of Congress, and Smithsonian Institution, the workshop took place from 18-19 September at the National Museum of African American History and Culture and Library of Congress, Washington DC. The event assembled around 80 leading academics and cultural institution professionals from both countries.

Discussions focused on the exploration of six key themes: Machine learning and AI; crowdsourcing and models of co-creation; developing enhanced information on museum / cultural institution visitors; the automatic creation and interrogation of all document types and unlocking of new data; the use of digital tools and methods in addressing contemporary challenges; and leadership and skills development in digital scholarship. Key recommendations arising from these discussions and proposed refinements of the themes are presented in section 5.

This workshop aimed to:

- *convene* leading **experts** from academia, museums and other cultural institutions in the UK and US in order to foster a world-leading, transatlantic community in the field;
- *explore* the key contemporary **challenges and opportunities** facing museums and cultural institutions and the role of digital scholarship in addressing them;
- *identify* the priority **thematic areas** to be considered by the partners and that might be embedded within future collaborative activity / funding calls;
- *identify* the most appropriate **mechanisms** for building new UK-US collaborations in the field and the support required from the partners to realise the opportunities for heightened collaboration.

The organising partners agreed to take an overarching ‘Design Thinking’ approach to the narrative and logic of the workshop - a method (used, it should be noted, increasingly today in museums and cultural organisations) that supports expansive thinking, whilst keeping participants to task and always with the aim (and user needs) as its principal focus. It is a process – ideally suited to this context – that encourages collaborative working within a group of diverse people, and that allows for imaginative, rapid and iterative ideation.

Consequently, the workshop worked to:

- **understand** contexts: working through the briefing documents, engaging with the high-level context presentations of the UK and US partners;
- **define** challenges: identifying the specific needs and challenges with the help of the workshop moderators; and through a series of ‘Lightning Talks’ from academics and practitioners from both the US and UK;

- **ideate** responses: generating a series of amendments, challenges and enhancements to the initial set of proposed thematic research areas; and imagining a number of possible funding calls and mechanisms that could be used to support collaborative research and drive best practice in these areas;
- **test and share** its insights: checking back and reporting to the whole group on the ideas generated, rehearsing and scrutinising each proposition in the round.

3 Parameters

Under the concept of 'Change', the workshop framed and understood its task within a series of four key identifiers:

The Speed of Change. That there is an accelerating curve of rapid technological development – as well as growing professional awareness about the need to respond to these quickly-changing conditions. Institutions' online collections have grown to hundreds of thousands of images, offering scholars and the public alike a heretofore-unimaginable amount of material. Meanwhile, industry has produced new ways of consuming and experiencing digital objects, guided by commercial interests and algorithms in equal proportion. This raises questions for professionals in cultural institutions, not least on how they can use advances in data science for their own ends.

The Driver of Change. That ten (or more) years ago the motive and focus of our digital scholarship was typically on identifying and understanding the technology – on learning how to use the tools, and agreeing the standards. That in the last decade this same scholarship has tended to focus more on the value and usefulness of our digital assets and provision. Yet today, instead, we now look towards (and indeed expect) research in this area to be socially aware and to have an impact on our society. This 'digital purposefulness' has an impact on the theoretical frameworks that inform our work, as well as on the types of thought leaders who may take it forward.

The Direction of Change. That we understand digital scholarship can both accelerate our current practices – and offer us novel ways of working. The combination of large-scale digital cultural heritage collections and data science methods can enable more 'close' reading and looking, enabling traditional scholarship on much broader scale. However, at the same time, pairing holds the possibility of 'macroscopic' analysis, considering millions of objects simultaneously via algorithms and applied maths. This has consequences for how scholars and museum professionals might want artfully to combine these two potential directions into new hybrid approaches.

The Context of Change. That we recognise our scholarship today takes place within cultural organisations that are increasingly more mature in the use of digital. This has consequences not just for the research questions we set, and the expertise we can draw upon from within and without these organisations, but also the ambition, scale and scope we might have for our work.

The workshop supported the overarching aim to deliver a transformational impact on digital scholarship in museums and cultural institutions in the UK and US by:

- *transforming* the ways in which culture and heritage can be experienced by global audiences;
- *developing* new directions for organisational leadership and new forms of curatorial practice;
- *opening* new research frontiers and questions; and
- *advancing* collections-based research methods for the twenty-first century.

The workshop also supported the proposal to support a broad range of collaborative activity, to:

- *build* capability and capacity through the innovative application of digital methods and research in cultural organisations;
- *facilitate* new cross-disciplinary projects;
- *pioneer* new approaches to audience engagement and experience; and
- *support* dialogue and outreach about the value and impact of digitisation and digital collections.

4 Principles

Five connecting principles (our '5-Es') recurred across all discussions.

Ethics: that the rights and welfare of all participants (staff and audiences) supported by this collaboration are acknowledged, understood and actively reflected upon, and that this collaborative research confronts and articulates questions of privacy and ownership – some of which are new, difficult or still emerging.

Equity: that this collaborative research is inherently inclusive, both with its staff and its users, that it engages with inequalities (of access and representation) that exist already in this research landscape and public provision, and that it is scholarship that actively develops ways of building a fairer environment of opportunity for everyone.

Expertise: that this research is distinguished by how it values expertise, that this expertise is shared, that it is seen in different places (inside and outside of these cultural organisations and academic institutions), that new forms of expertise are recognised, and traditional models and forms of expertise may need to be challenged.

Expansiveness: that this work is for all institutions, and aims to have as wide a reach as possible across the sectors in the US and UK, that this is research that involves (and is relevant to) institutions of all sizes, of all governance and subject, and in all locations.

Experimentation: that research in this area (in alignment to, and inspired by, the creativity of the organisations that drive this sector) is allowed to be imaginative and playful, that it can carry a risk, and that it might fail.

Whilst the six proposed themes were endorsed in general terms by the workshop, it was recommended that – in light of the context of change ([see Section 3](#)) – any proposed project should not see these areas as separate tracks or silos. Instead, a piece of research might connect to more than one of these areas.

Furthermore, with such fluidity and evolution in the field, the partners and communities should be willing to add to and adapt these themes and (responsively) present new priorities, research areas and challenges.

Additionally, two of the themes (on 'Contemporary Challenges' and 'Leadership and Digital Skills') should be crosscutting, with an expectation that all projects submitted to this programme would address these themes in some way.

5 Themes

Machine learning and AI

Initially proposed as:

the potential of artificial intelligence technologies for changing the way digital collections are organised and approached, how visitor-facing experiences are conceptualised and delivered, and how business processes are designed and harnessed within the organisation, but also the computational, data privacy and ethical challenges associated with these innovations.

This theme should:

- recognise the long history of this subject in these sectors;
- recognise that there is no single silver bullet solution as might sometimes be promised;
- recognise issues of ethics, research integrity, reproducibility, bias;
- recognise the need for useable tools and innovative problem solving;
- recognise that much can be gained by sharing content, methods, expertise, and practice, and building on existing investments and communities.

Recommended revised theme:

Machine learning and AI:

the varied potential of artificial intelligence technologies (and their long history of development within these sectors) for changing the way digital collections are organised and approached; the need for useable tools and innovative problem solving; how visitor-facing experiences are conceptualised and delivered; how business processes are designed and harnessed within the organisation; the computational challenges as well as the issues of data privacy, ethics, research integrity, reproducibility and bias associated with these innovations; and the value of sharing content, methods, expertise, and practice, and building on existing investments and communities.

Crowdsourcing and models of co-creation

Initially proposed as:

the role played by digital tools and methods to create new (accessible, equitable) approaches to community engagement, to enhance public access across multiple channels, and to engage marginalised and disenfranchised communities, giving audiences agency in every case whilst preserving the integrity of the collections, developing new models of ownership and authorship, balancing enablement and transparency with safety and accuracy.

This theme should:

- allow for the inclusion of hybrid physical-online projects, as well as the linking to other themes;
- be aware not to present false dichotomies in its description;
- recognise that crowdsourcing and co-creation are not just projects that are done for others – but that they can also change the organisation;
- propose sub-themes and approaches around: collecting, digesting and sharing best practice; challenges to organisational practice; maximising the value of existing platforms; innovating in response to technical and audience changes; focusing on audiences;
- be retitled as ‘Digitally-Enabled Participation’.

Recommended revised theme:

Digitally Enabled Participation:

the role played by digital tools as well as the physical-online projects, to create new, accessible, equitable approaches to community engagement; enhancing public access across multiple channels, and engaging marginalised and disenfranchised communities; developing new models of ownership and authorship; enabling audience agency; ensuring transparency and safety; collecting, digesting and sharing best practice; challenging organisational practice; maximising the value of existing platforms; and innovating in response to changes in technology and audience.

Developing enhanced information on museum / cultural institution visitors

Initially proposed as:

how Big Data might enable new ecologies of connected datasets (inside and outside of the organisation) to evidence the experience and needs of visitors, how wearable technology, motion tracking, GSR (and other new or emerging technologies) open up richer ways of monitoring and understanding the visitor journey, how next generation web and mobile analytics might reach to reflect the full extent of online usage and activity, but also the processes required to sustain these new approaches, and the forms of consent and responsibility required.

This theme should:

- recognise that there is not one type of data;
- encourage consideration of what technologies are being used by cultural organisations to gather information about visitors, and how data is informing practice;
- present a key focal point on the transparency and the ethics of data collection in the museum, particularly the intent of data collection and questions of who it is serving;
- recognise the implications of these new techniques and these new forms of data on the workforce, on training, and on knowledge sharing.

Recommended revised theme:

Developing enhanced information on museum and cultural institution visitors:

how new ecologies of connected datasets (inside and outside of the organisation) might evidence the experience and needs of visitors; how new and emerging technologies open up richer ways of monitoring and understanding the visitor journey; how next generation analytics might reach to reflect the full extent of online usage and activity; consideration of what technologies are being used by cultural organisations to gather information about visitors, and how data is informing practice; what the implications of these new techniques and these new forms of data might be on the workforce, on training, and on knowledge sharing; and what processes might be required to sustain all of these new approaches, particularly the forms of consent responsibility required and the ethics of data collection in the museum – including its intent and the question of who it is serving.

The automatic creation and interrogation of all document types and unlocking of new data

Initially proposed as:

including the role of optical character recognition, text extraction and parsing; linking data from digitised records to create richer research data and allow research with collections-as-data at scale through methods such as geo-location and network analysis; the annotation of resources; social networking analysis; and the interrogation of all media types including complex fields such as sound.

This theme should:

- question where tools 'live' and when they should 'retire', and consideration of central repository of available tools;
- pose whether the tools and methods used should be 'off the shelf' or specific and bespoke, and how users might have access to (and the potential to input on) the development of these tools;
- encourage transparency in methodology (algorithms/data interrogation methods), to ensure higher confidence in data outputs;
- encourage guidelines and/or best practices for increasing interoperability between data creation and interrogation, and understanding of what the baseline is to produce trusted data reliably;
- encourage the creation of a community around these challenges, supporting joined up work that builds upon and sustains components of an effective method - rather than re-creating something.

Recommended revised theme:

The automatic creation and interrogation of all document types and unlocking of new data:

including the role of optical character recognition, text extraction and parsing; linking data from digitised records to create richer research data and allow research with collections-as-data at scale through methods such as geo-location and network analysis; the interrogation of all media types including complex fields such as sound; questioning where tools 'live' and when they should 'retire'; whether the tools and methods used should be 'off the shelf' or specific and bespoke, and how users might have access to (and the potential to input on) the development of these tools; the value of transparency in methodology (in algorithms/data interrogation methods) to ensure higher confidence in data outputs; the role of guidelines and best practices for increasing interoperability between data creation and interrogation, and understanding of what the baseline is to produce trusted data reliably; and the potential for a community around these challenges, supporting joined up work that builds upon and sustains components of effective methods.

The use of digital tools and methods in addressing contemporary challenges

Initially proposed as:

how the content and assumptions behind digital collections might be decolonised, how to mobilise digital resources and collections within climate change discourse and action, how to use digital technology purposefully to meet the social role of the museum / cultural organisation, how to design digital services and programmes that are responsive to demographic shifts within the population, how to identify the role that digital collections and communication can have in evidencing and staging social justice activity, and how to leverage integrated systems and collections content to combat cultural object trafficking.

This theme should:

- encourage consideration of how to sustain relationships and develop co-research and co-production with marginalised groups;
- recognise that collections remain steeped in colonial gathering;
- propose sub-themes and approaches around: mechanisms for delivering on commitments to equality and diversity; responsive tools/methods to understand and adapt to demographic and environmental conditions; co-operative models for working with communities (such as social justice, decolonising collections, repatriation, and co-production); methods to combat cultural object trafficking; improved understanding of digital audiences;
- be re-titled as: 'Contemporary challenges addressed by digital tools and methods';
- be reflected in all the themes for this round (and future rounds) of funding.

Recommended revised theme:

Contemporary challenges addressed by digital tools and methods:

addressing the digital affordances of the social role of cultural organisations in relation to tools, methods and processes that open the use and re-use of collections; collaborating to create, enact or implement ethical frameworks to address inequalities revealed by digital collections or people's digital engagement with cultural organisations; consideration of how to sustain relationships and develop co-research and co-production with marginalised groups, recognising that collections remain steeped in colonial gathering; considering mechanisms for delivering on commitments to equality and diversity, responsive tools/methods to understand and adapt to demographic and environmental conditions, co-operative models for working with communities, and methods to combat cultural object trafficking.

Leadership and skills development in digital scholarship

Initially proposed as:

including how to build digital capability and confidence in museums and cultural organisations, how to support organisational leaders (including distributed and collaborative models of leadership) to lead digital change, how to harness digital knowledge capital within an organisation, within professional networks and within the sector as whole, and how to build a critical mass of transatlantic research excellence and intellectual leaders in digital scholarship, developing the next generation of digital humanities and digital heritage scholars.

This theme should:

- separate out its sub-themes on 'leadership and skills development' from 'digital scholarship', with the latter (and its focus on building a critical mass of digital humanities and digital heritage scholars now and in the future) being embedded within the aims of the partnership as a whole;
- question how to support leaders of digital transformation in their organisations, and the conditions that can be created in an organisation to develop digital confidence and capacity – from the top of the organisation down;
- question how to approach the challenge of recruitment and retention of museum technologists, and how to create career pathways for technologists working in museums;
- encourage how to address a lack of consistency in the use of new technologies and the skills required to work with them;
- be re-titled to 'Leadership and Digital Skills Development';
- be reflected in all the themes for this round (and future rounds) of funding.

Recommended revised theme:

Leadership and Digital Skills Development:

including how to build digital capability in museums and cultural organisations; how to create the conditions in an organisation to develop digital confidence and capacity; how to support leaders of digital transformation in their organisations; how to harness digital knowledge capital within an organisation, within professional networks and within the sector as whole; how to approach the challenge of recruitment and retention of museum technologists; how to create career pathways for technologists working in museums; and how to address a lack of consistency in the use of new technologies and the skills required to work with them.

6 Conditions

In terms of identifying the **case for this partnership**, it is recognised that the UK and US are:

- home to the world's most prestigious cultural institutions;
- world-leading in digital scholarship;
- building on a successful history of collaboration in the field, traceable over 50 years;
- engaged with a common set of current challenges regarding:
 - constrained budgets and limited access to funding
 - concerns around privacy and the ethics of data
 - risks of technology-driven visitor experiences
 - the role of cultural institutions as centres of civic responsibility
 - audience expectations of media and connectivity in public spaces
 - larger societal shifts (including issues of social justice and equity)
 - the changing nature of museum work (including new staffing models).

And yet, there are enduring **barriers** to successful collaboration to be overcome between the UK and US related to:

- whose law comes first;
- differences in employment rules;
- contract issues;
- tasks are allocated by country (making the flow of ideas difficult);
- a need for a common language around 'digital';
- whether the value of future grants might be too small to achieve what needs to be achieved;

and

- the risk that this collaboration may appear to assume that the Global North has 'all the answers'.

7 Mechanisms

In light of these conditions and looking ahead, UK-US collaboration for digital scholarship in cultural institutions should be distinguished by the way it will:

- **bridge the arts and sciences** (supporting investigations that combine the technological with the cultural and sociological, that sit across traditional funding council and foundation portfolios, genuinely bringing together a community of ‘digital’ and ‘humanities’);
- **present a mixed-economy of funding opportunities** (providing smaller grants on the one hand for fast and nimble experimentation and partnership development, whilst also recognising the transformative potential of larger grants, as well as the importance of large-scale ‘marquee’ initiatives where funds might be devolved to multi-partner consortia to manage over an extended period of time an agreed programme of inclusive and transformative work);
- **enable shared application processes** (encouraging transatlantic teams to submit a single application to calls supported by multiple funders, reducing bureaucracy and risks such as ‘double jeopardy’ in the review process);
- **fund workforce development** (embedding into all projects support for training, mentoring, professional development of both academic and cultural institution staff of all levels, including mid-career support);
- **drive sector mobility** (providing fellowships, travel bursaries, secondment schemes that will allow talent and insights to be exchanged across borders, amongst cultural institutions and between the academy and the profession);
- **support reviewer education** (developing the capability and capacity within the subject’s community of practitioners and academics to understand the distinctly multi-disciplinary, public-facing, and changing nature of this research);
- **offer opportunities for all institutions** (recognising that this scholarly endeavour reaches across our sectors, and that the striking diversity of the profession and industry is – in research, development and innovation terms – one of its enduring strengths and potentials).

- Successful UK-US collaboration will need to: **ACKNOWLEDGE** – understand and harness the mature UK-US networks that are already in place, but recognise that it will take substantive and sustained investment for these largely informal or fixed-terms partnerships and associations to work at scale, to reach their full potential, and to make real impact;
- **COMMIT** – make a clear and a long-term commitment to this community of scholars and practitioners, by working with them on a transparent roadmap of future funding and themes, that allows appropriate time for partnership building and forward planning;
- **GROW** – maintain the momentum reached by this dynamic workshop and unprecedented gathering of digital scholars and practitioners – *the connections it made, the energy it built, the attention it drew* – to now support more relationship building, with the ‘Partnership Development Grants’ and subsequent calls like it.

8 Agenda

Wednesday, 18 September

National Museum of African American History and Culture,
Smithsonian Institution

09:00 - 09:05 **Welcome**
John Davis, Provost / Under Secretary for Museums and Research,
Smithsonian

UNDERSTANDING CONTEXTS

09:05 - 09:25 **Introduction to the collaboration & aims of the workshop**
Adam Walker, Head of International Partnerships and Engagement,
Arts and Humanities Research Council of the UK

09:25 - 09:35 **Introduction from the moderators**

- Professor Ross Parry, Deputy Pro-Vice-Chancellor (Digital),
University of Leicester – UK
- Dr Peter Leonard, Director, Digital Humanities Lab,
Yale University – US

DEFINING CHALLENGES

09:35 - 10:35 **'Lightning talks' part 1** (Peter Leonard, Facilitator)

- Machine learning and AI
- Automatic creation and interrogation of all document types &
unlocking new data
- The use of digital tools and methods in addressing contemporary
challenges

10:50 - 11:50 **'Lightning talks' part 2** (Ross Parry, Facilitator)

- Crowdsourcing and models of co-creation
- Developing enhanced information on museum / cultural
institution visitors
- Leadership and skills development

11:50 - 13:00 **Networking lunch**

IDEATING RESPONSES

13:00 - 13:50 **Table Talks – Round #1**

14:00 - 14:50 **Table Talks – Round #2**

15:00 - 15:50 **Table Talks – Round #3**

18:00 - 20:00 **Reception:** UK Deputy Head of Mission to USA Residence

Thursday, 19 September

James Madison Memorial Building, Library of Congress

09:25 - 09:30 **Welcome and introduction to second day**

09:30 - 10:30 **'Check-back' part 1**

- Machine learning and AI
- Automatic creation and interrogation of all document types & unlocking new data
- The use of digital tools and methods in addressing contemporary challenges

10:45 - 11:45 **'Check-back' part 2**

- Crowdsourcing and models of co-creation
- Developing enhanced information on museum / cultural institution visitors
- Leadership and skills development

11:45 - 12:00 **Summary & Review** of discussions so far, **set-up** for afternoon session:
Peter Leonard & Ross Parry

12:00 - 12:45 **Lunch**

12:45 - 13:30 Tour of the collections

PROPOSING SOLUTIONS

13:30 - 14:30 **Group discussions:** Building UK-US partnerships for digital scholarship in cultural institutions

14:45 - 15:45 **Feedback from group discussions**

15:45 - 16:00 **Next steps**

16:00 - 16:15 **Group feedback / Q&A**

16:15 Close