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digitalHERITAGE 2018 3rd International Congress & Expo - January 2019

DigitalHERITAGE 2018

New Realities: Authenticity & Automation in the Digital Age

3rd International Congress & Expo

26-30 October 2018, San Francisco, USA

Over the last weekend of October 2018, a group of archivists, researchers, computer scientists, and creative technologists gathered in San Francisco CA for [digitalHERITAGE 2018](#), a 5-day congress encompassing two conferences, an expo, and fifteen special sessions, all focused on digital technologies for documenting, conserving, and sharing tangible and intangible heritage. During that time, speakers covered topics from ethical perspectives and archives practices to virtual reality explorations of historical sites and monuments, to data structures for documenting information.

I was unfortunately unable to make it on time for Friday's sessions, but arrived at the conference on Saturday morning excited to see what was in store.



Dr Michelle Caswell, Dr. Marika Cifor, Elvia Arroyo-Ramírez and Dinah Handel (photo courtesy of [Elvia Arroyo-Ramírez](#))

For me, the conference kicked off with a panel on feminist ethics in digital archives, featuring [Dr. Michelle Caswell](#), [Dr. Marika Cifor](#), [Elvia Arroyo-Ramírez](#), and [Dinah Handel](#). Feminist ethics, as Dr. Caswell explained, is a term that encompasses many streams of thought that focus on critiquing dominant discourses in ethics, focusing on systemic oppression and how this plays out on structural and personal levels. Key to this conversation was the concept of radical empathy, introduced in this panel by Dr. Cifor: empathy is radical if "it critically and consciously shifts existing power relations in favor of those who are marginalized". This places emphasis on

the actions and reactions of empathy: for radical empathy, it is not enough to simply engage in an empathic process and understand the feelings of another, but that feeling must then instigate some action or change that seeks to address the issues of oppression identified in feminist ethics discourses. The rest of the panel focused on discussions around these areas, and how they might play out in digital archives projects and environments: concepts of privacy, consent, trust, and care were all key aspects for the case studies under discussion. The panel ended in a circle discussion about these ideas and how they might play out in the work and lives of the conference attendees, and I left the session with a renewed sense of commitment to the **emotional** aspects of my work. As someone interested in affect from an information systems perspective, it can be difficult to walk the line between being a researcher focused on connections and experiences, and a system designer seeking to maneuver those experiences into an information environment. This panel reminded me of the wonderful and important work being done that focuses on affect and empathy in cultural heritage environments, and it would be amazing if tools that actively supported this work were also available.



Dr. Brewster Kahle's presentation (photo courtesy of Erin Canning)

INTERNET ARCHIVE
WayBackMachine



Following this was the opening ceremony for the conference and the first keynote, given by [Dr. Brewster Kahle](#). Dr. Kahle is an internet activist and the founder of the [Internet Archive](#), which was the topic of his lecture. The Internet Archive is a non-profit digital library that works with more than 500 libraries and universities in this work to create a free online library. Dr. Kahle's talk was interesting in comparison with the panel on feminist ethics: while it operates under the mission statement of "universal access to all knowledge", the focus of it is on digitizing as much as possible and not on questions of prioritization of work and content or what populations are being given this "universal access" as a result of this approach, and therefore, does not appear to actively tackle some of the systemic aspects brought up in the ethics discussion. When asked about how the Internet Archive prioritizes what gets digitized, Dr. Kahle answered that it is a first-come-first-served approach. While this certainly serves the Internet Archive's goal for size and speed, it might not address persistent issues regarding the diversity of what has historically been made available, nor concerns about what barriers might prevent some institutions from participating. The Internet Archive does amazing work, and the [Wayback Machine](#) has been instrumental in archiving the web, but seeing these sessions back-to-back brought to mind questions that may not have

otherwise been present – something that I appreciate as an opportunity to think about something from a new light.



In the afternoon, I opted for something completely different: a number of short presentations on digital interpretation initiatives in museums and other cultural spaces. These rapid-fire presentations covered a wide range of projects that were, frankly, really cool – from a VR project where users could colour in a virtual 3D model of “[Little L](#)”, the small dinosaur [Leaellynasaura amicagraphica](#), as well as feel 3D-printed analogues of dinosaur skin, to co-created making experiences in a church to explore engagement with intangible heritage, to a museum multisensory digital project that involved using a token object to scan and virtually collect tokens for different Greek gods, that would then be read by machine to print out user-specific fortunes based on the selections made during the museum visit. These sessions complemented the longer presentations by balancing theory and concept with examples of projects currently being undertaken in a wide variety of institutions.

Sunday started off with the second keynote of the conference: [Prof. Sarah Kenderdine](#) took the audience through several visitor-facing digital museum experiences. This keynote captured the sense of wonder and optimism present in many discussions about cultural heritage and immersive technologies: we the audience were treated to descriptions, images, and videos of the kinds of virtual experiences that most of us can only dream of creating. Prof. Kenderdine detailed how immersive virtual experiences can complement many different kinds of heritage experiences.

The conference focus then moved from the very large to the very small with [Dr. Brian Fisher](#)'s presentation on digitizing ant species. Dr. Fisher's goals were reminiscent of Dr. Kahle: while the Internet Archive is interested in universal access to all knowledge, Dr. Fisher is interested in universal access to all ants – digitally speaking, of course. Dr. Fisher's description of the difficulty of matching specimens to museum collections was familiar to many museum technology professionals facing the issue of how to provide meaningful access to collections to international audiences, and the case study of ants provided a lens through which to view the nuances of the challenges.



EMOTIVE

Storytelling for cultural heritage

This was followed by a talk on 3D scanning by Sergey Sukhovey, cofounder of [Artec3D](#), and plenary discussion on digital futures, which I had to leave early in order to set up for the session I was involved in: the [EU EMOTIVE](#) Special Session on **Emotions** in Digital Cultural Heritage. This session intended to investigate how we design and evaluate **emot**ionally engaging applications and tools in cultural heritage settings.

This session involved six speakers: [Sarah May](#), who discussed measuring and designing for a range of meaningful **emot**ions at the Museum of Science, Boston; [Dr. Maria Economou](#) who presented the case study of [Hunterian Museum's Antonine Wall EMOTIVE](#) app; [Jenny Kidd](#) & [Alison John](#) who described the evaluation process for the affective dimensions of [Traces](#), a site-specific museum app; [Jess Hoare](#), who looked at the use of wearables for **emot**ion detection; and [myself](#), where [I talked about the methods used in an empirical study](#) to gather a data set against which an information system for affective metadata could be validated. May's experiments using technology to determine visitor **emot**ions highlighted some of the humorous areas that can both amuse and frustrate, such as when facial recognition software reports a plant as presenting grumpiness. Hoare also encountered difficulties in widespread use of wearable tech for **emot**ion detection, and came to the same conclusion that I have found when experimenting with wearables for affect detection: while physiological feedback can provide points of correlation, there is no substitution for speaking with visitors and participants to understand what they felt and why.

Dr. Economou and Jenny Kidd & Alison John explored how digital engagements such as narratives told through smartphone apps can support **emot**ional engagement with cultural sites and contents. Both examined the line between fact and fiction in storytelling, and how to use narrative to connect visitors with the facts that support the stories being told. I found this to be a very interesting question: when we tell stories that are, in essence, historical fiction, how should that line between historical knowledge and narrative embellishment be made visible to the user, without negatively impacting the experience? For the Hunterian Museum's Antonine Wall experience, the solution was to present users with a screen following the conclusion of the narrative that offered pathways into the facts behind the story that was told, such as whether or not the main character was real, when and how the Antonine Wall was built, and what life was like for Roman soldiers and local people at that time. The **emot**ional engagement developed during the narrative could then be used to inspire greater interest in the factual history presented by the museum. I think that this challenge of developing and maintaining engagement in a story while balancing fact and fiction is an area ripe for future exploration.

The afternoon was similar to Saturday's with a series of short presentations on digital technology case studies.

Monday, the final day of conference presentations, started with a final keynote presented by [Dr. Vinton Cerf](#), Vice President and Chief Internet Evangelist for Google, on digital preservation. Dr. Cerf concluded his presentation with a question to the audience that inspired conversation: he asked that the audience imagine that they are grad students in the year 3000 tasked with telling the story of the 21st century, and to think about what they would need to do so, and what we could be doing now to support that future. This question brought me right back to the start of my digitalHERITAGE 2018 experience, and questions of ethics in archiving. What is "the story" that is meant in this question? It is impossible to archive and maintain everything, so political decisions are made with what gets preserved to become history, and what gets left behind. Therefore, the question is not just what could we be doing now to support future research on our current time, but what processes need to be in place to make sure that we have the ability to tell stories of others than those in power – what would we need to enact radical empathy in the future as well as the present? Along these lines, a member of the audience asked about how we might preserve a whole variety of important things, such as feelings, perceptions, and other sensory aspects: the smell of a place at a particular time, or the feel of the current political climate? Again, these are loaded questions, where it is essential to not just ask about how to preserve such

a feeling technically, but to ask about whose perceptions and perspectives will be given priority, and how they will be involved in such a process. The conversation ended with Dr. Cerf asserting that we can't preserve everything, but if someone thinks that something is important to preserve, the technology should be available to them to do so. While this is a noble and worthy goal, a mentality of "If you build it, they will come" doesn't acknowledge active and systemic power dynamics that make it easier for some to preserve history and artifacts than others. While the technology should be ideally available to everyone, larger systems of support are still necessary to ensure equal access in reality as well as in name.

The afternoon of this final day was then spent with semantic web and CIDOC. It was a great bookend to the experience, which I felt really encapsulated my interests: starting with feminist ethics, radical empathy, and affect, and ending with CIDOC. This session was divided into three parts: the first focusing on tools for implementation, and the second on CIDOC-CRM for academic research, and the third on the use of semantic data in and for memory institutions.



Part one featured [Annabel Lee Enriquez](#) presenting the [Getty Arches project](#) for cultural heritage data, [Carla Schroer](#) presenting the [Digital Lab Notebook](#) for photogrammetry and imaging data, and [George Bruseker](#) presenting the [3M data mapping tool](#) for creating data mappings to CIDOC-CRM. All three touched on the importance of the user experience in attaining more widespread use of CIDOC-CRM and semantic web. There is a need to build tools that hide some of the complexity of the system to the user, while maintaining support on the backend, just as widely used information management systems hide the complexity of the databases they are built on through user-friendly graphic user interfaces. CIDOC-CRM and the power of the semantic web should be available to users with a range of technical capabilities, and building user-friendly tools is a key step to achieving that goal. The 3M data mapping tool seems to fit well into this desired future, as mapping between data models is complex and not often as simple as a one-to-one translation, especially when moving from an object-centric ontology to an event-centric ontology such as CIDOC-CRM. Tools that ease this mapping process are undeniably necessary for allowing a wider range of users to access the power and potential of the semantic web.

Part two featured [Anais Guillem](#) and [Paola Ronzino](#), both talking about using CIDOC-CRM for building information: Ronzino discussed using the core model along with [CRMarchaeo](#) and [CRMba](#) for building archaeology information modeling, while Guillem interrogated what information needs to be captured in the domain of architecture. Guillem argued that architecture is not just physical built buildings, and thus our models should support an expanded understanding that encompasses the intellectual work and activity work of architecture in addition to the built work.

The final part included [Sheila Carey](#) discussing the plans for a linked open data environment for [Artefacts Canada](#), [Franco Niccolucci](#) on "the good, the bad, and the ugly" of CIDOC-CRM, and George Bruseker & Anais Guillem on a [CIDOC-CRM card game](#) for teaching the concepts and structure of the ontology. While Carey and Niccolucci both examined what they find about CIDOC-CRM to work well and not as well in case example and theory, Bruseker & Guillem looked to the future of CIDOC-CRM and how to teach

more people about how it works. I saw the card game briefly at the CIDOC Conference 2018 (<http://www.cidoc2018.com/>) as a poster presentation, and appreciated hearing more about how the game works and how it came into being. In essence, it is an example of a mapping exercise with the technical aspects taken away, so that the focus is on the concepts. By teaching how to apply the ontology and use the documentation separate from the technical aspects, the card game aims to give new users a sense of comfort and expertise about the ideas before needing to include the technical parts. This game fit well with one of the main takeaways of this session, which was that in order to support wider use of CIDOC-CRM and the semantic web, adoption needs to be as easy as possible. There need to be ways to introduce users to concepts and show them how to use it – and what they will get out of it – as there is already an existing information technology infrastructure in place against which CIDOC-CRM is facing an uphill battle. By supporting education, training, and user-friendly tools, linked data can be a more achievable goals for a larger number of users, both individuals and institutions.

My digitalHERITAGE 2018 experience concluded on Monday night with nice conversations with new friends before heading off to the airport and back to Canada. The conference was a whirlwind weekend that left me excited and optimistic about the work I am involved in: there is a dedicated community of passionate, hardworking people tackling these issues from all sides. Theory, ethics, infrastructure, and user experience were all key elements across the conference, and digitalHERITAGE provided a space for everyone to come together and bring their perspective and expertise about digital heritage to the collective conversation. I can't wait to see what happens next as we all work together towards our shared goals.

Bio:

Erin Canning holds 2 masters from the University of Toronto, a **Master of Information** and a **Master of Museum Studies** programs. Her specialty was **Information Systems Design and User Experience Design**. She is currently the Digital Platform Administrator at the [Aga Khan Museum](#), Toronto, Canada.



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