Editorial: Archaeology and information research

Isto Huvila, Marija Dalbello, Costis Dallas, Ixchel M. Faniel and Michael Olsson.

Archaeology intersects with information research both as an empirical domain of investigation and as a perspective to inquire into how people interact with information. This special issue explores an interdisciplinary nexus of information science and archaeology that has been generating practices, fields of knowledge, methodologies, and theorisations in information research. The archaeologies both here and more broadly can be envisioned to include archaeology proper, media archaeology, the archaeology of knowledge and other archaeological approaches, whereas information research includes, library, museum and archival studies, as well as other relevant disciplines. The six articles in this special issue consider the practices of archaeologists and information professionals around data sharing, management, and curation, the archaeological sites as information structures, media archaeology, and the application of archaeological concepts to archival ethnography.

In archaeology, improved understanding of archaeological information work, knowledge creation, and management processes has been acknowledged as being critical in ensuring future reuse of the escalating amounts of data created during archaeological fieldwork. Heritage legislation in a large number of countries worldwide has been a key contributing factor of the increase in archaeological data. Essentially the legislation requires landowners or property developers to fund fieldwork prior to a development project when archaeological remains are found. The development of new digital documentation methods, which have enabled archaeologists to capture increasingly large quantities of diverse data (Zubrow, 2006) is another contributing factor.

The increased awareness of the custodial responsibility to preserve archaeological record for purposes of future research, but also due diligence, led to the emergence of digital archaeological archives such as the Archaeology Data Service in the UK (Richards, 2008), the Digital Archaeological Record and Open Context in the USA (Kansa 2012; Kansa and Kansa 2013; Kintigh and Atschul, 2010), and the ARIADNE consortium in Europe (Niccolucci and Richards, 2013). Moreover, several million archaeological resources are now part of the Europeana digital library through metadata aggregation projects such as CARARE (Hansen and Fernie, 2013).
At the same time, the rise of archaeological curation practices “in the wild” connected with community archaeology, precarious and non-institutional archaeological work, and the use of pervasive and mainstreamed digital tools and online services, produce new challenges for the archaeological record (Dallas, 2015). This rising informatisation of archaeological evidence begs important questions regarding the constitution of archaeological data, its significant properties, custodians’ digital curation practices, users’ information behaviour and practices, information work requirements within archaeology, and other issues on which information research may provide meaningful answers.

Finally, similar to multiple areas of humanities and social science research, archaeology has provided inspiration and functioned as a powerful metaphor in critical research in the information field. In this respect many of the metaphorical archaeologies from Foucault’s archaeology of knowledge to media archaeology have potential to inform information research.

From a theoretical and practical perspective, the diversity of the data and the fact that archaeology brings together methodological perspectives ranging from the humanities to the natural sciences, means that it serves as an interesting showcase of the problems, challenges and opportunities related to inter- and multi-disciplinary domains of information practices. Archaeologists and archaeology-related practices can shed light on how people interact with information in a number of everyday and professional pursuits. Examples of prior work includes embodied information practices (Olsson, 2017), documents as boundary objects (Huvila, 2011) and professional knowledge making (Börjesson 2016). Similar to multiple humanities and social science research areas, archaeology also provides inspiration and functions as a powerful metaphor in critical research in the information field. In this respect many of the metaphorical archaeologies from Foucault’s archaeology of knowledge (2002 [1970]) to media archaeology (Parikka, 2015) have the potential to inform information research.

The aim of this special issue is to highlight the interdisciplinary nexus in a series of articles that span the intersection between the archaeologies and the different areas of information research. Huvila, Olsson, Faniel, Dalbello and Dallas (2017) have suggested earlier that it is possible to categorise the earlier research at the nexus of archaeology and information research into three broad categories: 1) management, organisation and retrieval as it relates to archaeological information work, 2) information behaviour and practices of archaeologists, and 3) archaeology of knowledge as a method for studying information science. The articles in this special issue advance work at the nexus of archaeology and information research in several respects. The empirical work on archaeological information practices in the first four articles brings together and advances earlier lines of inquiry, from an archaeological perspective with new insights from information research, and vice versa. The articles show that archaeology is an interesting setting for information research, because it provides a rich context for investigating broader empirical and conceptual issues of information work. Moreover, to understand the complexities of archaeological information work is essential for improving it, especially in the context of data creation, management, curation, and reuse. The last two articles in this issue highlight the empirical possibilities offered by the metaphorical archaeologies that have been explored infrequently and often in a relatively narrow sense in the earlier literature.

Sarah Buchanan investigates archaeological curation and notes that it can be best described as being an assemblage of practices rather than a continuum. She underlines that there is need for closer professional collaboration to bridge obvious gaps in how different information workers understand and work with different types of information and data. The lack of consistency creates problems both for the documentation and the documented artefacts. Buchanan’s work informs archaeology proper and work with archaeological collections in repositories and museums. It also provides an interesting case study of the problems of cross-contextual information work. Here archaeology functions as a fruitful context of inquiry because of its assumed temporal and contextual longevity and stability -- which in fact, may not be in full accordance with the realities of the everyday work with archaeological materials.

Elisabeth Yakel, Ixchel M. Faniel and Zachary J. Maiorana present an in-depth case study that follows
collaborative data sharing, curation and reuse practices among eleven zooarchaeologists and two curators. Findings show how the different phases of the archaeological data lifecycle are intimately intertwined. The authors focus on two frequently occurring factors, data inconsistencies that arise during data production and data selection decisions. These factors best demonstrate the interconnectivity between lifecycle phases, showing how vicious and virtuous circles are created and carried forward as well as how vicious circles can be curtailed through curatorial intervention or compensated for during reuse. The study highlights the fragility of archaeological information processes recently found in other studies of archaeological work practices (Buchanan 2016; Huvila 2018) as well as ways that the processes can be strengthened through curation and reuse.

Justin P. Williams and Rachel D. Williams examine the potential of collaboration around data management between archaeologists and information professionals. They use the case of a notable Paleoindian artefact, the Clovis spear point, to demonstrate the need for comparative work and inferences concerning spear technology as well as re-contextualisation and its dependence on data sharing. In building their argument to support the implementation of open data in archaeology and the participation of information professionals in that process, they surveyed archaeologists regarding their data creation, storage, and reuse habits. The survey presents archaeologists’ information and data management practices across different work contexts and their perceptions and identification of tasks and areas where information professionals can intervene. This study tackles a central concern at the nexus of archaeology and information research and practice.

Isto Huvila investigates the interplay of two digital and non-digital work infrastructures and how their co-existence at an archaeological excavation influences how students learn to navigate each. Drawing on participatory observation the study shows how simultaneously teaching digital and non-digital documentation methods to archaeology students support and conflict with each other. The findings show that the overlapping infrastructures make both documentation methods visible, which in some instances is less effective for students, but in other instances is reinforcing. Interestingly, the more established, non-digital infrastructure functioned in a potentially important role as an infrastructural stalwart, an infrastructure that stabilised the digital infrastructure.

James A. Hodges demonstrates a methodology for studying data patterns in an existing archive of born-digital artefacts. His historical case study focuses on celebrity-psychologist Timothy Leary’s published software archive. He shows the method and benefits of comparing multiple versions (i.e., editions)—archaeologically and bibliographically. Broadly interpreting bibliographic analysis and extending earlier ideas of bibliographical archeology, originally used to reconstruct preservation patterns of serials (Dalbello-Lovric, 1999), or software (Kirschenbaum, 2002; 2008), he problematizes the core issue of bibliography as accounting for and interpreting versions, states, and textual fixity. He shows how conceptualisations, developed in the context of print culture and paper archives, can be used in the context of ever-expanding archives of electronic documents by treating the documents as archaeological artefacts. This study contributes to the field of media archaeology (Ernst, 2015; Parikka, 2015) as well as the theorisations and pragmatics of handling the born-digital and non-digital cultures in information studies (Dallas 2016; Huvila 2011).

Marija Dalbello introduces archival drifting (drawing on the situationist practice of dérive) as an entry point for micro-readings of archival objects and archival art in several conceptual cases. She draws on the similarity of archives and archeological digs. Her approach engages two existing traditions—one building on the historians’ literature on the archives and their critical and sensory reading against the grain (Burton, 2005; Farge, 2013; Stoler, 2009) and the other from affective-sensorial strategies and the interpretation of archaeological objects (Ahmed, 2015; Hamilakis, 2013; Knudsen and Stage, 2015). She demonstrates that archival immersion as an information practice involves sensory and affective responses supporting critical interpretive work. While focusing on migration archives, her approach may be extended to the reading of other types of community archives that, like archaeological digs, are spatial structures within which documentary forms can be opened to cultural readings that challenge normative interpretations (Denzin & Giardina 2016).
As a whole, this collection of articles provides an initial glimpse to further examine the intersection of archaeology and information research. There is much more left to be explored at the nexus of these two fields that deal with not only information structures and material artefacts concerning heritage and archives studies, but also a wider field of information embodiment and documentary practices and work practices related to data creation, management, curation, and reuse. Working on this special issue it became apparent that archaeology provides both a fruitful lens and a fascinating empirical context for information research. Work that brings together the archaeology and information fields has the capability to inform archaeological practices and knowledge work, but also to provide insights into broader issues of information practices that are not specific to archaeology such as critical and phenomenological approaches in archival studies and media history. We have also shown some productive theorisations that emerge when these two fields are conceptualized together. As a multi-faceted and multi-perspective area of inquiry, archaeology comes close to many areas of human endeavour, and, by its complexity and kaleidoscopic nature provides an interesting context to study what happens when they are brought together. This collection shows that archaeology can undoubtedly function as an inspiring and useful perspective for studying informational contexts and phenomena.

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