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CONFERENCE PROCEEDINGS, DIGITAL DILEMMA 2018

Digital Dilemma 2018

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Abstract: In October 2018 a one-day conference was held at the UCL Institute of Archaeology focussing on the 'Digital Dilemma' in biological archaeology —specifically human remains research where the use of digitisation methods have increased exponentially over the last decade while comparatively little discussion of the ethical and legal considerations of these data has taken place. Papers presented at Digital Dilemma 2018 explored the use of digital data in human remains research, discussing both the benefits provided by these data, areas of ethical or methodological concern and suggestions for future research. This paper and the following conference proceedings will discuss this research demonstrating the importance that this Digital Dilemma in archaeology continues to be discussed and considered in future research.

Keywords: Human remains, skeletons, conference, ethics, photographs, 3D scans, digital data, digital presentation.

Introduction

In archaeology and anthropology, digital visual technologies are an extremely valuable medium for human remains research, outreach and education. With the development and increased availability of digitising methods and technologies, the use of these data is increasing exponentially and has been incorporated in a wide range of research topics. Despite this digital expansion, there has been remarkably little discussion regarding the ethics and use of these data forms. Instead digitisations are frequently suggested as a solution for all of our research challenges as they are seen as both similar enough to act as a replacement, and, simultaneously, sufficiently separate and removed from the original physical remains that they may effectively bypass any ethical considerations in human remains research. In addition to the ethical dilemma, there is also a methodological dilemma with the use of these data in archaeological research. Many new methods papers are being published. However, there is a lack of standardisation or consistency in the methods employed in

digitisation and analysis such as 3D geometric morphometric studies, thus limiting the potential of this research for future comparative studies. In order to further investigate these dilemmas and perspectives on digital data of human remains in archaeology and anthropology, a conference organised by the authors was held at UCL on the 8th October 2018. This paper will first provide a brief overview of the Digital Dilemma. A review of the presentations at Digital Dilemma 2018 will then be discussed. Finally, areas for future research and discussion resulting from published literature and conference papers will be detailed.

The Digital Dilemma

The Digital Dilemma as presented by this conference relates to disparity between the exponential growth of digital methods in recording, sharing, analysing and presenting images of human remains and the relative lack of discussion of the ethical and legal understanding regarding how these images and data may be used, who owns them or even if ownership is appropriate along with the future sustainability and suitability of these data.

The lack of understanding regarding the ethics and use of digitisations of human remains is apparent in that these digitisations are often thought to be both similar enough to be used as a replacement of human remains and different enough to be exempt from the ethical considerations (Hirst et al. 2018). In archaeology and anthropology there have been numerous cases in recent years where the disparity between the expansion of digitising equipment and studies, and the ethical and methodological considerations of these digitisations have become increasingly apparent. For instance, Nefertiti's bust was allegedly scanned whilst on display at the Neues Museum in Berlin, Germany. The origin of these scans has since been called into question but meanwhile, the scans were made available online and multiple 3D printed replicas produced leading to the bust being displayed at museums in Egypt for the first time. No legal action was taken against the artists who claimed to have scanned and disseminated 3D scans of the bust as this was on display and not under copyright. The lack of legislation makes the production and dissemination of such digitisations a legal and ethical grey area (Speed 2016; Voon 2016).

In cases of repatriation, the lack of discussion and transparency regarding the use of 3D digitisations can be particularly harmful as seen in cases such as the 3D scanning of pillars from Beijing's Summer Palace after the repatriation request was approved but prior to physically returning the pillars (Mendoza 2014).

This lack of understanding regarding the legal and ethical use of 3D digitisations is in no means restricted to the fields of archaeology and anthropology. For instance, the lack of legal guidance regarding 3D digitisations is apparent in the case of a 3D photogrammetry model of Michelangelo's *Moses* sculpture in the grounds of Augustana College Campus, Sioux Falls, USA (Bogle 2015a; Bogle 2015b; Weinberg 2015). While the statue was not under copyright, located in a public place and with no legislation preventing the online publication of these photographs of 3D digitisation (Weinberg 2015), legal action was attempted against the individual who created and published the 3D model. Although later it was determined that there was no legal basis for this action, this was only after considerable time and the creator of the scan sought legal counsel.

In addition to these ethical concerns there are technological and analytical concerns over the rapid growth of digitisation in archaeology and anthropology. While frequently stated as a way to preserve archaeological material in case of damage or to allow research on digital instead of physical remains to minimise handling, there have been relatively few steps taken to consider the question of longer term storage, access or sharing of the digital data (Hirst, White & Smith 2018). Digitisation in itself is not digital conservation or preservation and the time and financial requirements of digital conservation are frequently underestimated, especially if projects fail to acquire sufficient funding to ensure longevity of these data and data silos. While third party digital databases are available, there is a risk that if used without consistency, standardisation and transparency in the digitisation process, as well as the lack of supplemental data, this will limit the potential for future comparative studies. These aspects of the Digital Dilemma and more were discussed by presenters, a brief review of these papers is provided in the following section.

Research Presented

The research presented at Digital Dilemma ranged widely and discussed the benefits, as well as the multiple ethical and practical difficulties associated with the expansion of digital data. Public perceptions and experiences of these data were also considered.

The benefits provided by 3D digitisation methods were discussed by Willson et al. (2018) and Villa et al. (2018). Willson et al. (2018) described the advances in Digitised Diseases, an online resource that provides 3D visualisations of palaeopathological conditions, considering both the advantages provided by this resource for students and researchers but also the ethical and legal considerations of a born-digital resource that includes visualisation of human remains protected under the human tissue act. As well as the discussion of digital data of human skeletal material, Villa et al. (2018) reviewed the role of 3D digital documentation of mummified individuals from Llullaillaco on the border of Argentina and Chile, detailing benefits of 3D digital imaging for both curational and research purposes of human remains that need to be kept in strict climate conditions.

The value of digital resources in both repatriation archives and investigating cultural property archives was discussed by Morton (2018) and Damien and Shawn (2018). Morton (2018) discussed the agency of digital data of repatriated human remains, and the relationship of these data to the physical repatriated remains, the ethical implications of this and the need for continued discussion and reviews of human remains and repatriation policies. While Damien and Shawn (2018) presented both the value of data mining on social media in investigating illicit cultural property trade, but also the ethical implications associated with data mining and the limitations associated with anonymising these data. Ulguim (2018) also discussed the potential of digital data in both outreach and research highlighting the potential to re-use and share digitisations. Their paper also presented a review of ethical guidelines for sharing of digital data in bioarchaeology, which revealed the lack of specificity and focus of such guidelines when not developed specifically for digital bioarchaeological data. The authors identified the need for the development of ethical decision-making

frameworks in order to support the potential of these digitisations in areas of bioarchaeological and bioanthropological research and outreach.

While there are numerous benefits associated with the digitisation of human remains, several papers also discussed the limitations of these data. Campanacho and O'Mahoney (2018) discussed the technological and methodological limitations associated with 3D digital collections, principally the lack of transparency regarding the digitisation process and the accuracy of these digitisations, which therefore limits potential for future research. Limitations in the sharing and use of 3D digitisations in bioarchaeology were also discussed by O'Mahoney (2018), who focussed on the technological and financial constraints in creating digital archives in bioarchaeology that leads to the hoarding of 3D data and dying data.

Social media and public perceptions of these data was the focus of multiple papers presented at Digital Dilemma. Crouch (2018) discussed the 'meme-ification' of archaeological human remains on social media. This explored the reaction of the public to pictures and news articles of human remains in archaeology and the propensity towards humour and the creation of a social narrative for these human remains. The presentation utilised recent examples such as the illustration from the Regio V area of Pompei of an individual who appeared to have been crushed by falling masonry while attempting to flee the eruption of Mount Vesuvius and dubbed the 'unluckiest man in history'. This paper highlighted the tendency to create a comedic and sensationalist narrative for these individuals on social media and a general lack of respect for these individuals as people, highlighting the caution that needs to be taken in the publishing of pictures of human remains on the Internet. Media content and digital images of human remains were also discussed by Redfern and Thompson (2019) in relation to the Roman Dead exhibit at the Museum of London. The authors explained the difficulties experienced with balancing visitor expectation with museum policies regarding the taking and publishing of photographic data of human remains on display and the continued need to maintain an open, balanced access to the human remains exhibits.

Public perception of digitisation of human remains was also considered by Campanacho and Alves Cordoso (2018), who presented the results of a survey of Portuguese residents indicating that just under half of the individuals surveyed considered digitisations and replicas of human remains to have the same ethical considerations of human remains. The majority of participants expressed a willingness for their own or loved ones' skeletal remains to be scanned after their death, indicating that considering digitisations as holding similar ethical considerations to physical remains did not necessarily indicate individuals were opposed to the creation and use of these digitisations.

In addition to the podium presentations, a number of physical and digital poster presentations were presented at Digital Dilemma 2018 that discussed a range of topics, including the use of different forms of 2D and 3D digital data of human remains: digital microscopy (Filpek et al.), histology (Aris) CT scans (Eriksson), photographs (Bryson), spatial data of cemetery excavation illustrations (Welty), as well as 3D printing of human remains (Villa and Lynnerup and Evelyn Wright). Different uses of digitisations were also explored such as the use of 3D digitisations in a virtual morphology lab (Torress-Tamayo et al.) and modern data in forensic investigations (Carew and Robles). Social media in bioarchaeology was explored in a digital poster that incorporated live voting on perspectives of images of human remains in social media (Siek). Perspectives on 2D and 3D digitisations of human remains were also explored with regards to both the public as well as researchers, collection managers and curators (Hirst et al.; Hirst and Smith). Additionally, other forms of digitised data were discussed including digitised hospital records (Anderson) and the Research Matchmaker, a digital database that matches researchers with understudied skeletal collections (Field et al.). Abstracts for both podium and poster papers presented at Digital Dilemma 2018 are available at: https://digitaldilemmaucl.files.wordpress.com/2018/09/digital-dilemma-programme5.pdf

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