Archaeology and open data: a step towards decolonization

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Abstract

Archaeological data are not a single unified entity as archaeological reports include a wide variety of different types of primary data, usually recovered during excavation (i.e. quantitative and qualitative). The reality of archaeological data is complex and multifaceted: firstly, archaeology is a multidisciplinary endeavor and as such it includes a variety of different data types (i.e. geochemical, osteological, spatial, climatic data). Secondly, the increase use of digital technologies in excavation helps to create primary data that make the archaeological records progressively more accurate, and theoretically accessible (Kansa and Whitcher-Kansa 2013). Unfortunately, this is not always the case as primary data are often not disseminated through reports or scholarly publications (Kansa and Whitcher-Kansa 2013;Kintight et al. 2014; Marchetti et al. 2018). While archaeology *per se* is the collection of fragmentary information from material culture, which often entails putting together incomplete records to interpret past societies, the main goal of archaeologists is to try, and answer research questions based on this information. Thus, any type of primary data becomes increasingly important to understand and solve, at least partially, this complex puzzle. This latter aspect makes the sharing of primary data of utmost importance within the scholarly environment, but in most cases what it is shared in publications and/or reports is just the interpretation of the evidence and not the raw data by itself (Kintight et al. 2014; Marchetti et al. 2018). In the past, this may have been partially due to the difficulties in creating repositories for multidisciplinary primary data or presenting them in one singular platform, but digital technologies have addressed partially these issues (Kansa 2012; Gidding et al. 2013; Lorenzonand Nelson-Vijoen 2016). Simply put, as archaeological research questions are answered by a combination of records based on the collaboration of different specialists, interdisciplinary repositories that can guarantee long-term preservation as well as immediate publishing are a positive asset for the discipline that should be promote and encourage as they sponsor both open data and open access (Lorenzon and Nelson-Vijoen 2016).

A secondary issue that is part of decision-making process of data publishing regards ownership of data. Does the data belong to the archaeologists? Does it belong to the country where the excavation is located? Or to the local community nearby the excavation location? Or the financial sponsor of the excavation? As in Europe most national funding bodies as well as European grants are financed by public money, that should guarantee open access to the primary data as part of public interest and transparency policies (Marchetti et al. 2018). Legally though the questions regarding ownership of data can have multiple answers depending on the legislation of different countries. Morally and ethnically, I argue archaeological data should belong to everyone as a source of public information about our shared past. This is why open data, and therefore open access publishing, are key instruments to

achieve a real open science. Furthermore in the current political climate, where academics are finally realizing the importance of decolonizing archaeology, open access policies also allow wider access to these resources by scholars from developing countries as well as local and indigenous communities with no additional cost. These ethnical questions are pivotal points in the process of analyzing and publishing data from archaeological research and can impact their long-term preservation (Kansa, Whitcher-Kansa and Watrall 2011; Lorenzon and Nelson-Vijoen 2016). Data preservation (i.e. storage security, durability and longevity) is of essential significance not only to promote open science, but to guarantee accessibility for future generations of scholars.

This paper rises questions regarding the relationship between archaeological practices and publication of primary data, focusing on the ways open data can be a key determinant in the decolonization of archaeology and presenting possible solutions to address and determine policy practices in developing an interoperable system for archaeological, and more generally humanity research.

References

Gidding, A., Levy, T. E., and DeFanti, T. A. (2014). ArchaeoSTOR: The development and utilization of a web-based database for the field and lab. *Near Eastern Archaeology*, *77*(3), 198-202.

Kansa, E. C. (2012). Openness and archaeology's information ecosystem. *World Archaeology* 44: 498–520.

Kansa, E. C., and Whitcher-Kansa, S. (2013). We all know that a 14 is a sheep: Data publication and professionalism in archaeological communication. *Journal of Eastern Mediterranean Archaeology & Heritage Studies*1: 88–97.

Kansa, E. C., Whitcher-Kansa, S., and Watrall, E. (eds.) (2011). Archaeology 2.0: New Approaches to Communication and Collaboration, Cotsen Digital Archaeology Series 1, Cotsen Institute of Archaeology Press, Los Angeles. Available at: http://escholarship.org/uc/item/1r6137tb.

Kintigh, K. W., Altschul, J. H., Kinzig, A. P., Limp, W. F., Michener, W. K., Sabloff, J. A., Hackett, E. J., Kohler, T. A. Ludäscher, B., and Lynch, C. A. (2015). Cultural dynamics, deep time, and data: Planning cyberinfrastructure investments for archaeology. *Advances in Archaeological Practice* 3(1): 1–15.

Lorenzon, M. and C. Nelson-Vijoen. (2016). "Interdisciplinary methods of data recording, management and preservation", In S. Campana, R. Scopigno, G. Capenitiero and M. Cirillo (eds) *CAA2015 "Keep the revolution going" Proceedings of the 43rd Computer Applications and Quantitative Methods in Archaeology:* 187-90.Archaeopress: Oxford

Marchetti, N., Angelini, I., Artioli, G. et al.(2018). NEARCHOS. Networked Archaeological Open Science: Advances in Archaeology Through Field Analytics and Scientific Community Sharing". In *Journal Archaeolical Research* 26 (4): 447-469.