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The Data Creation Practices of Archaeologists in the Field

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This paper presents findings from an ethnographic study of archaeologists' data creation and recording practices while working in the field during the course of an archaeological excavation. This research is part of the European Research Council (ERC) funded project CApturing Paradata for documenTing data creation and Use for the REsearch of the future (CAPTURE).

Building on the author's previous work (Olsson, 2016; Olsson et. al, 2024), the study aims to understand the information practices by which archaeologists make sense of what they find (both structures and artefacts) during the course of an excavation and the various recording practices they adopt. In doing so, it makes use of two contrasting case studies: a small commercial archaeology excavation in central Sweden, and a large, university-affiliated, on-going excavation of a massive Neolithic ritual site, the Ness of Brodgar on Orkney, during the course of the excavation team's 20th and final season digging at the site.

In archaeology, as in any empirically-based field, a key starting point for data creation is the recognition of a potential source of evidence. In field archaeological, this evidence is largely physical, although their size may range from geological features to tiny pollen samples. As in my previous research (Olsson, 2016), these identification practices – the key decision point at which a site or artefact is identified as potentially archaeologically significant – was overwhelmingly grounded in the personal expertise of the excavation team members. This reliance on personal expertise is not simply a matter of expedience. Artefacts excavated in the field are often fragmentary or decayed, bearing little resemblance to reference samples in museums and archaeological repositories.

As in my previous study (Olsson, 2016), archaeologists and finds experts were observed using a range of multi-sensory embodied information practices (Olsson & Lloyd, 2017; Lloyd & Olsson, 2019) in their work identifying and interpreting finds. Also, as in my previous study (Olsson, 2016), at both sites less experienced team members, such as students and volunteers were actively mentored by more experienced members of the excavation team.

At both excavations, the senior archaeologists (site directors, trench leaders, finds specialists) were not only very experienced but had worked together for many years. This allowed both groups to operate as very effective communities of practice (Brown & Duguid, 1991), with team members able to use their knowledge of their colleagues' expertise and research interests to quickly gain an expert opinion of a find or feature they were unsure about. Less experienced team members would consult the experienced archaeologists they were working with to advise them as to who had appropriate expertise to assist them. At the Ness, a high-profile excavation of recognised international importance, this informal network of expertise sharing stretched beyond the excavation team itself, with the site director and

senior finds specialists able to reach out to various Neolithic archaeology experts for their opinion about important finds.

The data recording practices at the two sites were quite different. The Swedish commercial archaeologists had embraced the affordances of new technologies. They used a Swedish-developed app on their phones and tablets to log the details of their trenches and finds as they worked, and their data was uploaded to secure cloud storage in real time. Although initially sceptical of the new technology, the team had quickly recognised its advantages in terms of streamlining the recording workload for a small team with limited time and resources.

At the Ness of Brodgar, by contrast, the excavation team were still using essentially the same paper-based recording practices of find sheets, finds registers and trench maps the author had studied a decade ago (Olsson, 2016). It is important to recognise, however, that this was a conscious, well thought out decision by the site directors, not a case of Luddism. 2024 was the 20th and final excavation season at the site and the directors recognised the value of maintaining consistent recording practices across the project from beginning to end. The creation of a digital repository for the large amount of disparate data collected is a key feature of the post-excavation phase of the project.

The decision to stick with paper-based data recording practices does have disadvantages, most notably in the amount of extra work required for the dig team to fill in the various forms etc. and for the finds specialists to add them to the finds registers. However, this might be considered to be less of an issue in the context of a large academic excavation with its greater number of archaeologists, students and volunteers. Furthermore, the author frequently observed more senior team members using completing the forms correctly as a useful teaching aid in familiarising students and volunteers in correct recording practices. In addition, the author also observed several instances of the forms and hand-written labels on finds bags having an unexpected consequence in terms of improved data quality. These written materials as a matter of routine passed through multiple hands as they were entered into finds registers by trench supervisors and finds specialists. In being checked by there more experienced excavation team members, they noticed and were able to rectify recording errors that would have gone unnoticed in the streamlined digital approach used on the commercial site.

One of the key findings of the earlier interview-based phase of the CAPTURE project (Olsson et.al., 2024) was the extent to which participants regarded the lack of data about how the archaeological data in online repositories can be difficult to interpret because of its lack of contextual data – paradata (data about data-related practices or processes) – about

such important issues as how GPS coordinates were determined, who identified/classified a particular artefact and on what basis etc. One of the key aims of the CAPTURE project is to understand how this issue might be addressed.

In the case of the Ness of Brodgar, the author's analysis suggests that much of the contextual paradata the earlier participants asked for has already been created through the excavations online Dig Diary and its extensive social media presence on Instagram, Facebook etc. Throughout its twenty dig seasons, the Ness of Brodgar has been entirely dependent on public donations for its funding, with the majority of these donations coming from outside the UK. The Ness team have therefore developed a very sophisticated online strategy, using social media to keep the public (donors and potential donors) informed about their work, including daily updates through the Dig Diary and social media. Serendipitously, these posts often focus on exactly the kinds of contextual details our previous participants asked for, while at the same time making their work accessible to a general audience.

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