

Consider the requirements of formal publication, including standards for writing, editing and style, for a range of archaeological project outputs

Introduction:

The requirements of formal publication are in a constant, though often gradual state of change. The drivers of this change are wider trends and developments throughout the archaeological discipline, as when the quantity, type or form of archaeological data changes, so must the form in which it is published. This essay will examine the developments and drivers that led to the current requirements of formal publication and discuss how these may be changing and what the effects on future publication may be.

The term formal publication can be interpreted in a number of ways, but for the purposes of this essay it is defined as archaeological reports or articles with named author(s) and a publication specific identifier such as a DOI, ISBN or Oasis ID.

History of publication:

The way that archaeology is published has changed significantly over the last century. At the turn of the 20th century, archaeology as a discipline was conducted and disseminated very differently from how it is today. Published archaeology often focused on exploration and excavation of “exotic” locations and given that this was one of the main draws for readers, publications would often include details of the archaeologist’s travel experience. These publications would more generally describe the countries that the archaeologist had visited, and the books that they wrote served as a type of tourist guide. The travel literature angle of these publications made them very popular books with the wider public (Thornton 2018). Over the course of the 20th century the discipline became more centred on the scientific principles, a trend particularly driven by the processual movement in archaeology. In addition, the growth of development-led archaeology increased the number of archaeological excavations within the UK itself, putting pressure on the pace of publication and creating a backlog. In response to this, archaeological figures such as Cunliffe (1983) proposed a publication pipeline starting with site reports, production of archives, then journal articles, then mainstream media, to enable the archaeology discipline to deal with the increased volume of data (Richards 2004; Wilkins 2020). These two factors encouraged a more rigorous process of publication, which was conducted in a more scientific manner (Hodder 1989; Thomas 1991). However, as archaeological publication became more scientific it also lost some of the public appeal it had in the early 20th century and its readership became more academic and professional.

In terms of style 19th century archaeological reporting placed the author at the centre of the writing. It used personal pronouns and would refer to specific experiences and the people who were on site. This could include aspects such as weather conditions, disagreements, the excavation process and the author’s thoughts. This allowed the reader to understand how the author arrived at their interpretations. The writing style leads the reader through that process, which would often create a more engaging text and allowed the reader to understand where the author’s interpretations came from, both in terms of data collection, and the people involved in creating them (Hodder 1989). This style of writing changed drastically through the 20th century with the discipline benefiting more from public funding and wanting to meet the metrics of scientific disciplines in order to justify this public spending. The archaeologist could no longer rely on individual privilege and individual experience and needed to consider the wider archaeological framework. It was no longer possible for a hobbyist landowner to excavate their own property and write up their findings in the way they saw fit. Instead, archaeology was done for a very defined purpose by an organisation under the scrutiny of the state or public institutions, with the express purpose of disseminating

the information in a codified way. As rescue archaeology and development-led archaeology grew dramatically in the latter 20th century, commercial archaeology became the dominant form of excavation in the UK (Hodder 1989; Thomas 1991).

The new style of writing focused on presenting facts in an objective sense; it removes any notion of an individual from the report and presents information in its most objective form. The interpretive comments are located in very specific sections of reports as to note that this is the author's opinion on the data as opposed to the data itself. It becomes very important to be able to distinguish between these two facets. Hodder (1989) suggests that while this process was necessary in order to give the discipline scientific merit and justify state spending, it created uninteresting reports that were read by very few people. He notes that they often lack the ability to fully contextualise the data as the published methodology is largely divorced from this data, lacking earlier publications detailed descriptions of how the authors arrived at their conclusions (Hodder 1989). These criticisms largely still apply to the standard practice of report writing today, however it could be argued that this is specific to reports that are produced for grey literature library as opposed to those site reports that are produced for journal papers (Bradley 2006; Cattermole 2017).

Cunliffe (1990) refers to the situation at the time as a "publishing crisis", presenting a negative view of the state of publishing. Thatcherism created the polluter must pay policies and the increasing amount of development grew the volume of archaeology being generated faster than archaeologists were able to publish it (Cunliffe 1990; Thomas 1991). Publishing processes were created in the 1960s when archaeology was conducted mostly by volunteers or small groups working on research sites, often for a single season. This was no longer how most archaeology was carried out and it created the aforementioned backlog in publication (Cunliffe 1990). Cunliffe (1990) also highlights that it was unclear whose responsibility it was to pay for these publications and if this differed between state funded and privately funded projects. The guidance in question (PPG16) did not define the term "publish" leaving minimum requirements open to interpretation and allowing some to deem interim reports sufficient publication and did not place any financial burden on developers (Cunliffe 1990; Darvill et al. 2019). The lack of financial obligations or incentives made any backlog in publication difficult to tackle. Thomas (1991) responds to Cunliffe's (1990) argument by agreeing with his framing of the issues of publication in archaeology, but challenging whether there was truly a need to publish every site. For most sites, the information that Cunliffe (1990) argues should be published is already contained in the site report. Thomas (1991) argues that publishing these development funded projects would create very repetitive publications that don't contribute to wider archaeological knowledge, instead proposing that data from less significant sites is simply archived. The issue with this approach is that private companies trying to undercut each other might deem every project "insignificant" and not worth taking the extra step of publication. This decision would today be considered the responsibility of a county archaeologist and a version of Thomas' model does exist today. The creation of Oasis and the ADS grey literature library and their associated unique identifiers allows interim reports or site reports to be accessed by researchers without full publication, meeting the concerns Cunliffe was highlighting in 1990. In regards to who pays for post-excavation and publication costs, this is now supposed to be planned in at the project design stage (Skeates and Frieman 2019; ClfA 2020).

Modern standards:

Standards of publication are not identical across journals and different individuals and organisations may have different internal house styles that they usually adhere to. The following section discusses common principles frequently seen in guidance for publication.

Today's publications can be available in print, digitally or both, which has impacts on their requirements. However, even digital resources often conform to the requirements of print publication. This is largely because print publications have more restrictions and adhering to this tighter set of guidelines will enable the publication to be shared both in print and digitally.

The disparity between the two formats of publication is most noticeable when it comes to figures and images. The following is an excerpt from the guidance given to those publishing through in Journal of Archaeological Research (2023):

- "Colour art is free of charge for online publication.
- If black and white will be shown in the print version, make sure that the main information will still be visible. Many colours are not distinguishable from one another when converted to black and white. A simple way to check this is to make a xerographic copy to see if the necessary distinctions between the different colours are still apparent.
- If the figures will be printed in black and white, do not refer to colour in the captions."

It's advised that all publications should include sufficient figures, images, tables and graphs to fully support the arguments made in the text. Archaeology as a science is incredibly visual, without sufficient images the reinterpretation of the archaeology in the report would be difficult. In a similar vein to the issue discussed above in regards to colour images there are many other requirements of illustrations that may differ depending on if they are being produced for print or for online publication. For example, can the illustration be interactive? What size canvas does the figure conform to? Can the illustration be viewed in 3D? (ClfA 2020)

Publication should make it clear who the authorship of the publication is and where multiple authors have contributed to a publication this should be stated. In archaeology this is particularly in regards to specialists, where their reports have been integrated into synthesised interpretation. It's also important that the publication provides a well-rounded summary of the site including summaries from finds data and environmental data. It should be supported by adequate data to allow for the reinterpretation of the site (Skeates & Frieman, 2019). It is important that the article does not mislead as to the nature, significance or findings of the site (ClfA 2020; Journal of Archaeological Research 2023). Publications should be produced as soon as possible on the completion of a project with the EAA advising that this period not exceed 10 years from excavation closure to final publication (Skeates and Frieman 2019).

Possible futures of publication:

Technological advances over the last two decades have enabled a wider range of data to be shareable as part of the publication process and improved the ways in which this can be disseminated. Archaeologists are no longer limited to publishing in books in black and white and to viewing 3D complex sites on 2D pages (Champion and Rahaman 2019). Even though this technology has been available for a long time it's not been commercially available at the scale needed for publishing (particularly in regards to private business) until recently. Publishing budgets can be tight and fully utilising the possibilities of digital publishing can mean taking on additional or greater publication costs. The skills within the archaeology industry have also not been sufficient to utilise these technologies to their full potential. However, this is changing and now it is very common for archaeologists to be well acquainted with programs such as QGIS or ArcGIS. There are now also more accepted publication routes that utilise these technologies and while the current publication

process still bears many ties to its historical limitations, the use of these technologies is becoming more commonplace. Publishing in online only journals allows the inclusion of media such as videos, 3D models and digital elevation models, which allow readers to view the site in a more accurate and easier to interpret manner (Earley-Spadoni 2017; e.g. Internet Archaeology; Kämpinge Interactive report). Without the limitation of 2D and black and white there is less need to codify lines and symbols in order to get across information about the 3D elements of the site, making the data more universally accessible. Programs such as Arc stories allow GIS data to be viewed alongside interpretive text. This takes readers on a journey through the map while still giving them freedom to explore the data around them (e.g. Wessex Archaeology 2021). When done digitally this can be viewed in colour and layers can be turned on and off allowing large amounts of data to be included without this being overwhelming and unreadable. Reading reports/articles online is now the preferred method of using information for many researchers as it avoids the need to travel to archives and libraries and often allows access to those not associated with universities.

The advantages of digital publishing go beyond just being able to visualise sites in 3D even though many digital publications centre around a GIS. With digital publishing one can make their publications available to far more audiences as they can be set up in such a way that the reader chooses how they interact with the publication instead of it being linear prose to be read in its entirety (Derudas et al. 2021). Even now most readers do not read an article or report in its entirety and instead stick to the sections that interest them - especially as they are often written as very technical documents (Cattermole 2017). In future articles may be designed to incorporate this practice or even so that readers can choose the level of complexity that they wish to consume. For each individual point there could be three different levels (Opitz 2018):

1. An overview that summarises the data but in a way that includes interpretive comments and summarises what the authors thinks the site is.
2. For points the reader is more interested in they can select to read more on that specific point and includes specific detail that's informing these interpretations, such as specialist findings and allows for more technical language .
3. The underlying data associated with a point or interpretation so the reader can conduct their own analysis.

This would mean that the report would still have all the key information that is required but it would also be truly available to the wider public (Opitz 2018; Derudas et al. 2021). Public availability goes beyond simply having access to the publication and includes having the text available in a style and format that is interesting and understandable for a non-technical audience.

With digital publication the author can attach additional documents and data (Opitz 2018) that wasn't possible when you were limited to publishing in purely print as there is no way that your archive could be stored with the printed document. Even though now most projects generate digital archives and reports and articles are published digitally there's been a slow shift to realising that there's no reason for these two outputs need to be separate. It carries on from the earlier point of choosing the level in which one can interact with a report, some may wish not to read to the report in granular detail but specialists and professionals may want to interrogate the interpretive claims by viewing the data.

Another possible future for publishing is centred around open access, some have argued that the archaeological discipline would benefit from more open access publishing (Kansa 2012). Currently there are a many limiting factors that may result in this process taking a long time or never becoming the norm. The key barrier to open access publishing is that this would require an overhaul of how archaeology is funded. There is a line of thought that suggests if we can afford the cost of excavation then we should be

able to pay for the much more limited costs of publishing, however this is not something funders view as their responsibility to pay for and it would require a significant shift in mindset and politics for this to be the case. This could be made more feasible by rethinking the meaning of “publication”. There is an idea of “data sharing as publishing” which would reduce costs while at the same time increasing the incentives for open access data structures (Eric and Kansa 2013). Potentially a mixed model which retains some of the formalised aspects of publication in regards to guidelines and professional knowledge, while incorporating the dissemination and public feedback cycles of open data would be the most successful (Kansa et al. 2014). Such a radical change is likely to only come much later in the archaeological discipline’s digital transformation however.

It is possible that the idea of a final and singular publication brings with it inherent issues, driving a mindset things are published and can then be walked away from. Authors tend to only share data when it is in the state that they think is acceptable for people to see and then release it in a single publication, ending their contribution. There is another option referred to as “push” where the idea is that one’s research will be constantly being reused and that data can go through different version controls to updated for example in regards to developments in controlled vocabulary. This would make the dataset more fluid and allow it to adapt to changes in practice over time. This would allow for greater collaboration between researchers and between datasets as these would be able to change and respond to each other in a dialogue. There also needs to be consideration of publishing data specifically for reuse and whilst it's difficult to know what future researchers may need in order to reuse, there should be more of an editorial process around depositing data (Kansa et al. 2014). This is already present in a limited sense for journal articles where academic peers review the underlying data in an attempt to highlight issues. This links to the previous argument that if datasets are published alongside journal articles then these datasets need to go through a much more similar peer review process and be edited in a similar way to the journal article so that they are as re-usable as possible. Additionally it needs to be ensured that authors are supplying appropriate documentation such as data papers and appropriate metadata with the dataset to make that reuse possible (Kansa and Kansa 2021). This should change how researchers are able to actually reuse what is published. If primary data was available and researchers were provided with all the necessary information to interpret the data together with the dataset this would make it ultimately much more reusable and allow for collaborative processes found in other scientific communities.

Conclusion:

Over time archaeological publications have moved from popular books recounting the travels and experiences of globetrotting archaeologists, to primarily scientific and academic literature for a professional audience. This change has been driven by wider academic trends attempting to make archaeology more scientific, but also by the realities of the funding model for archaeology in the UK and the need to deal with an explosion in the volume of archaeology generated in latter 20th century. Publication standards today are still based on the requirements and limitations of the formative period of the late 20th century and are only slowly adapting to the possibilities of the digital era. As archaeology makes this transition archaeological publication is likely to incorporate much more experiential facets, such as interactive models, and may even change fundamentally to be much more open and data-driven.

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