Proposed Digital Media Policies for ASOR Publications

To be submitted for debate by the ASOR Publications Committee

Publication practices need to enable and reward responsible curation of the cultural heritage that a wide range of stakeholders entrust ASOR members to document and interpret. Publication represents an important tool for ASOR to enrich the lives of future generations by communicating the value and significance of the archeological record especially in situations where that record is endangered by war, neglect, appropriation and commoditization. To better serve this need, we must adopt and promote publishing practices that better incentivize the accessibility, persistence, and integrity of archaeological data. By encouraging and supporting fuller and more comprehensive sharing and archiving of primary data and related documentation, we can better align our publication practices with our ethical ideals.

ASOR's uses of digital technologies in publication need to promote more responsible stewardship of the archaeological and historical record. In order to meet this goal, this document outlines good practices in the use of "digital publishing services" that have the support of digital library and other preservation services required to curate scholarly content for the long term. While advancing our ethical conduct, improved publication practices can help archaeologists better meet a broad array of emerging needs in 21st century scholarship:

- *Cultural heritage preservation*: Primary field documentation is largely digital. This documentation needs to be preserved through publication and archiving.
- *Reproducibility*: Researchers often make knowledge claims based on the analysis and interpretation of digital data. These data need to be available to verify and reproduce analytic claims.
- *New research opportunities*: The sharing and preservation of data can open up new avenues for computationally aided investigation.
- *Educational imperatives*: Students need to cultivate "data literacy" and analysis competencies to participate as informed and productive citizens and scholars.
- *Public outreach opportunities*: Digital media can be endlessly repurposed in ways that promote greater public engagement.
- *Intellectual workability and flexibility*: Having data online improves access to and flexibility in working with multiple lines of information.

In order to meet these needs, ASOR needs to adopt digital services specifically designed to meet scholarly preservation, access, and reuse requirements. These services themselves require governance and policies responsive to our community's needs and ethical requirements. General good practices to consider with digital dissemination include the following:

(1) Digital scholarly publishing services should be used to disseminate certain types of common media unsuitable for conventional print publication such as:

(a) *Structured data*: Structured data are typically used for quantification and numeric analysis. The most common form (but not the only form!) of structured data are tabular data. GIS data are another form of structured data.

(b) *Digital media*: Images, videos, software (such as a simulation model), 3D models, and many other kinds of media typically require some form of online dissemination.

(2) Digital scholarly publishing services need to have institutional and technical supports for the long-term curation and preservation of scholarly content. These include:

(a) *Institutional repository support*: Content needs to be archived with dedicated "memory institutions" such as digital libraries or digital repositories. These repositories must have appropriate institutional backing and professional expertise in digital curation. Examples include: tDAR, the Archaeology Data Service (ADS), Zenodo, the California Digital Library, or other university digital libraries.

(b) *Persistent identifiers*: Citations of digital content require long-term, trusted, and institutionally supported forms of identification. Institutionally backed identifiers such as DOIs and ARKs allow content to be reliably identified and retrieved even if the content moves locations. DOIs and ARKs are more reliable than simple URLs for the long term because they are maintained by consortia of memory institutions. For example, a given website may go defunct, but if its content was archived in an institutional repository and identified by persistent identifiers, the content will still be retrievable into the future, long after the original website disappears. (See more: https://ezid.cdlib.org/learn/#01)

(c) *Clear curation policies*: Websites without clear archiving policies (including personal websites, department websites, social media sites or commercial sites like Academia.edu) are not suitable for formal scholarly publishing.

(3) Digital scholarly publishing services play different roles for different disciplinary communities and types of content. In fact, data curation represents a rapidly evolving domain of research in its own right. Researchers need to appropriately use different platforms for different needs. Some examples include:

(a) *Data preservation*: The Archaeology Data Service (ADS), tDAR, and Zenodo all preserve structured data more or less "as-is" within discrete downloadable spreadsheets or databases. These files are citable and described with appropriate metadata but the entities described within these files are not themselves directly citable.

(b) *Data publication*: Open Context, while archiving data in other repositories, instead emphasizes accessibility, visualization, and structured data combined with other media. Open Context is more suitable for much more granular citation of specific records (such as a record describing a specific object or a context) along with associated images, 3D models, etc.

(c) *Standards, typologies, and vocabularies*: Pleiades offers excellent services for editorially-vetted publication of gazetteer data (information about ancient places).

> PeriodO provides an excellent forum for explicitly defining and publishing cultural and historical periods so that these periods can better contextualize data in host of other platforms. Similarly, the Levantine Ceramics Project (LCP) provides an excellent and expert-curated platform for publishing ceramic wares and exemplars of different ceramic types.

> (d) *Synergistic use of platforms*: Because different platforms have different strengths, ideally researchers will use them in combination. For example, a researcher may use the Levantine Ceramics Project (LCP) to publish several ceramic wares and significant exemplars. The same researcher may use Open Context to publish data documenting thousands of examples of these types. The LCP and Open Context can use persistent identifiers to cross reference these related bodies of information, and an ASOR publication that narrates the interpretative and archaeological significance of these ceramics can cite relevant content in both online systems.

(4) Digital scholarly publishing services should support interoperability. "One-size-fits-all" solutions are unlikely because needs and services are diverse and continually evolve. Researchers conducting a study may want to extract sometimes very large bodies of structured data and other content from multiple platforms. Best practices include:

> (a) *Machine readable data (APIs)*: To support such open-ended and largely unanticipated forms of analysis, scholarly services need to provide "machine-readable" access to their collections. This is done with APIs (application program interfaces) which enable software to access a service, automating queries and bulk retrieval of relevant data.

> (b) *Common standards*: Depending on the domain, there are a variety of widely used metadata and other standards that can facilitate interoperability. Scholarly communication services should adopt such standards where appropriate.

(5) Digital scholarly publishing services need to work closely with researchers to ensure that the publication of archaeological data is both consistent with the legal and ethical expectations of the host country and does not endanger existing archaeological sites or the landscapes, objects, or structures of importance to local stakeholders. These services also need to make legal and contractual obligations, including user privacy policies, explicit. For example, US law has a default setting of "all rights reserved" copyright for all expressive content. Explicit legal permissions must be granted to enable any form of interoperability or reuse. The current best practice uses Creative Commons licenses to grant such reuse permissions, ensuring that evidence underlying archaeology's intellectual contributions will remain nonproprietary and part of a public commons available for wider engagement.

ASOR's editors and peer-reviewers should keep these general principles in mind throughout the publication life cycle. Proper curation of digital documentation will be criteria for review and acceptance of publications. ASOR should also communicate these principles and options to the ASOR membership so authors are aware of their obligations and options regarding digital

content. Similarly, ASOR should widely communicate ethical expectations for proper attribution, recognition, and reward for scholars that invest their time and labor in preparing, documenting, disseminating, and archiving rich datasets of primary evidence (see AIA Tenure guidelines[1]). By integrating richer, better contextualized, and more diverse forms of digital documentation into normal publishing practices, ASOR can mitigate many of the "publish or perish" pressures that poorly incentivize the proper stewardship of research data.

Toward a Road Map: Financial and Implementation Strategies

CAP and COP should coordinate implementation strategies so that ASOR affiliated field and publication projects can appropriately plan and budget for digital data curation needs. The COP and CAP committees can start by gathering information from ASOR affiliated projects about their current data curation practices. This will serve the dual purpose of giving ASOR a sense of the data stewardship needs of the membership as well as encouraging ASOR members to consider the longer-term disposition of their data and physical collections.

In addition, ASOR itself needs clear strategies to incrementally navigate financial issues. First, ASOR will need to investigate investment requirements for different approaches to managing data. Though they do not charge for access and reuse, tDAR, ADS, Open Context and others typically charge fees for archiving and publication. ASOR needs to provide under-resourced researchers, particularly junior and independent scholars, with the needed financial support for data management services, especially if ASOR recommends such services as integral to publication practices. Support for data management services can be a benefit of ASOR membership and sustained through institutional memberships, library support, and philanthropy. Some suggested strategies to financially sustain the digital data dissemination and archiving needs of its members over the long-term include:

(1) ASOR can encourage the development of a consortium of university libraries to redirect acquisitions budgets to support digital data dissemination and preservation needs. In doing so, data management costs can be reasonably distributed among "memory institutions" rather than absorbed by ASOR or its members.
(2) ASOR can use "open data" as a selling point in all aspects of ASOR fundraising and development activities. Open data practices can make ASOR proposals in conservation, research, public outreach and education more competitive and appealing to a wider network of granting foundations and donors.
(3) ASOR can explore partnerships to offer fee-based and/or donor subsidized professional development services in working with digital data (such as a "Data Literacy Workshop" or a "Digital Data Fellowship"). Such services can attract additional donor and foundation support, further broadening and diversifying ASOR's network of financial supporters.

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[1] AIA Guidelines for the Evaluation of Digital Technology and Scholarship in Archaeology https://www.archaeological.org/sites/default/files/files/Addendum%20to%20the%20AIA%20Tenure%20and%20Promotion%20Guidelines.pdf

ASOR does not need to solve all the financial questions immediately. Rather, ASOR can begin by exploring options and developing a roadmap with the recognition that while digital data curation involves costs, it can also open up new opportunities for the organization to grow.

Immediate Implementation Steps

1. Use this document as the basis for editorial and peer-review guidelines for ASOR publications.
2. Publish an editorial about ASOR's new digital data publication policies.
3. COP will work with editors to ensure that peer-reviewers consider data curation when reviewing ASOR publications.
4. Coordinate with CAP so that CAP affiliated projects know about recommended publication practices for digital data.
5. Ask CAP to gather information about the current data curation practices of ASOR affiliated projects.
6. Support data publishing in coordination with ASOR's conventional publishing so as to understand workflow and cost requirements as well as impacts.
7. Coordinate with ASOR fundraising and development programs to identify strategies to enhance data curation capacities.