

# Museums and Archaeoinformatics.org

- **Could you reflect on the values of a research infrastructure we propose here to the missions of anthropology or natural history museums? How might we best proceed to attain positive participation from such institutions?**
  - 1. Define museums and their mission
  - 2. Define values of archaeoinformatics.org proposed infrastructure to museums
  - 3. Define specific concerns of museums that may outweigh those values
  - 4. Think out-loud about means of attaining positive participation
  - Emery's point of reference ...

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- Museums are:
  - repositories for collections and collections data (including databases, archives, gray literature, and images/maps, etc.) from multiple projects and multiple researchers over many world areas and over a huge range of time (and therefore research “styles”)
  - generally composed of various stakeholders including administrators, research curators, collection managers/curators, exhibit and outreach experts/curators, educators
  - linked to scientists from other disciplines, educators (universities, K-12, public), in the case of FLMNH informatics initiatives and education
  - underfunded and understaffed

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- Museums state their missions as:
  - Florida Museum of Natural History: dedicated to understanding, preserving and interpreting biological diversity and cultural heritage
  - American Museum of Natural History: to discover, interpret, and disseminate—through scientific research and education—knowledge about human cultures, the natural world, and the universe
  - The Field Museum: the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating art, archaeology, science and history
  - American Association of Museums: *Code of Ethics for Museums* making a unique contribution to the public by collecting, preserving, and interpreting the things of this world
  - 1. Preservation (of collections and now data), 2. Dissemination (access to collections data), 3. Interpretation (for research and education/outreach)

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- The values of the proposed archaeoinformatics infrastructure to museums:
  - 1. Data preservation = distributed data preservation in official repositories – data mirrors; development of standards for data curation
  - 2. Data dissemination (accessibility) = means for providing information about our collection/data holdings for further research; tools for making our databases, documents, and images digitally accessible; flexibility of data/document/image integration at different levels of metadata inclusion and at different scales of analysis
  - 3. Data interpretation (primary interpretations for research and secondary interpretations for outreach and education) = ontologies/ thesauri/ folksonomies for use of multiple datasets from multiple projects for comparative research; also for integration with similar ontologies from the non-archaeological sciences (biology/geology/ecology) and informatics (as a research field and to link to biological distributed database systems) – for research on human environments, conservation biology, climate change, etc.

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- BUT the participation of museums in the archaeoinformatics infrastructure is a balance of values and concerns/realities
  - 1. Data preservation = data safety (intellectual property, security of access to full data); startup costs (to create, authenticate, and serve digital data); sustainability (changing technology, storage media, standards for data preservation, thesauri = constant upgrading/reworking)
  - 2. Data dissemination (accessibility) = access for outreach and education in addition to research access; access to collections status; safeguarding against dissemination of restricted information; control of data
  - 3. Data interpretation = metadata provision for defining variable data quality and utility; tracking history of curation for a link to the physical object (the real primary data) for collections based and secondary research

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- THEREFORE how to encourage museum participation in an archaeoinformatics infrastructure approach?
  - 1. Assistance with data preservation = museums may not be interested in data storage and conservation except as mirrored data [?] so emphasize distributed data systems with potential role as official repositories – provides value of preservation and of collections use; offer a role in standards development for data preservation/curation
  - 2. Assistance with improving data dissemination = give them the tools for improving accessibility, upgrades, and systems support integrated with museum IT; give them access to the developing ontologies/ taxonomies/ standards in an on-going upgrade system; financially support data transfer by integrating museums into multi-institutional grant proposals and encourage immediate heritage data conservation and upload to the data repository(ies)
  - 3. Assistance with data interpretation = collect basic data on collection location, type, scale/quality, and status for immediate distribution to researchers (usually already available)