

New Variables of Archaeological Interpretations

An Early Twenty-First Century Approach

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Abstract

Though archaeology has developed amazingly, it has not been able to develop to the extent of being a fool-proof science. Its dating devices and tools still old fashioned almost dully succumb when it comes to dating of Pre-historical artifacts and antiquities. On the otherhand, its interpretations of the past have been challengeable on the basis of modern archaeological approaches in making pertinent meaning out of contexts. This article explores avenues open before archaeological science.

Glossory

Acheulian sites, Archaeological cultures, Cahokia, High-spatio-temporal-resolution, Pythagorean-Plato cosmology,

Excavation, habitually looks as if, to the general public the central and unquestionably the most fascinating characteristic of archaeology; However, fieldwork and excavation symbolize only a part of the archaeologist's labor. "The other part is the interpretation in cultural and historical contexts of the facts established—by chance, by fieldwork, and by digging—about the material remains of man's past. This task of interpretation has five main aspects."(Encyclopedia Britanica,2012:2)Archaeological interpretation has always been subjective. "It is believed that to regard archaeology as some how constituting the only legitimate scientific approach to the past needed re-examination and possibly even rejection. A narrow parochial approach to the past needed re-examination and possibly even rejection." (Ucko P.J.1994(a): ix) A narrow unsophisticated approach to the past which simply assumes that a linear chronology based on a confirmable set of "... 'meaningful','absolute' dates is the only way o tackle the recording of, and the only way to comprehend the past completely ignores the complexity of many literate and of many non-literate civilizations', and cultures."(Ucko P.J.&Rosenfield A,1972:12)Despite, the world level archaeologists understand the concept such as the past "precise ly on those features of archaeological enquiry and method which archaeologists all too often take for granted without questioning the related assumptions." (Ucko P.J. 1994(b): xi) By grasping the elasticity and diversity of past human endeavor all over the world directs attention back to those questions that are at the very foundation of archaeologi cal interpretation. " How can static material culture

objects be equated with dynamic human cultures? How can we define and recognize the styles of human activity, as well as their possible implications?" (Ucko P.J.1995:18)

In general, endeavors to provide climate variability a proper role in influencing the size, placement, social forms, and cultural practices of past populations are often plagued by low temporal resolution and uneven spatial representation of proxies for climate variability and the available samples of the archaeological record itself. "The Cahokia (Cahokia Discovery,1600: Science Views) example demonstrates that even when these conditions are adequately met, two important problems remain: linking proxies for climate change to variability in resources most important to human populations, and constructing a dynamic causal framework linking variability in resources to ecosystem processes, on the one hand, and—on the other hand—to variability in demography, settlement behaviors, and social organization across the micro and macrolevels." (Kohler T.A. 2016:14483) It is especially simple in reality to show that the way in which "...people conduct their lives varies from time to time and from place to place and as we have seen this variation is important to archaeological interpretation. However from simple truism archaeologists have elaborated a complex and unsatisfactory explanatory edifice based on idea of archaeological culture, which has in general served to confuse rather than enlighten. "(Rouse, 1972: Introduction) To triumph over this confusion, Stephen Shennan proposes a five point formula: (i) As life of people in different parts of the world varies to a larger or smaller extent, the material remains of those ways of life also will differ;(ii) "These pattern of spatial variation have been classified by archaeologists as 'archaeological cultures'. A culture must be distinguished by a plurality of well-defined diagnostic types that are frequently and entirely associated with one another, and when pointed on a map, exhibit a recognizable distribution pattern."(Childe Gorden, 1956: 123)

Break-Through in Paleoenvironmental Studies: High Utility of Pythagorean-Plato Cosmology

Assessing the implications of paleo-climatic and paleoenvironmental data "at uneven temporal and spatial scales that would have directly intersected with human decision-making and activity is a fundamental archaeological challenge. It is possible by presenting a spatial and temporal downscaling method that can provide quantitative high-spatio-temporal-resolution estimates of the local consequences of climatic change. Using a case study in Provence in France, it has been demonstrated that a centennial-scale Mediterranean-wide model of Holocene climate, in conjunction with modern geospatial and climate data, can be utilised to generate explicit and solidly-grounded monthly estimates of temperature, precipitation, and cloudiness at landscape scales and with annual resolution, enabling consideration of climate variability at human scales and meeting the data requirements of socio-ecological models focused on human activity." (Daniel Contreras et al, 2018:54) For example "...to study the marine environment's effect on the deterioration of archaeological buildings in Alexandria, we have to study the environmental effects all the year like: relative humidity, air temperature variations, rain, wind directions and

erosion, underground water, sea levels rise, air pollution and tides, from these studies we can make a vision about the deterioration phenomena causes in the case study.”(Rabea Radi, 2017:14) However, there are obstacles.” The oscillations with the planetary frequencies are especially noticeable in the temperature trend and also in concentrations of a number of impurity gases. Currently, it is possible to say that there is no physical mechanism that could explain these mid frequency oscillations in atmospheric processes. This compels us to turn to Pythagorean-Plato cosmology.”(A.N.Safronov, 2016:19)

Historical archaeology has been emerging incomparably to the point where it has become highly impracticable to stay fully up to date with the vast literature. “ The increase in graduate-level courses and programmes, the greater number of professional jobs outside the academy, and the regularity of historic-site examinations in cultural resource management archaeology have combined to push the field in diverse directions. When I first entered the field in 1971, historical archaeologists could read just about everything its practitioners had to offer, except perhaps the most obscure and unpublished papers and reports.”(Charles E.O.,2009:112) In this respect, historical archaeology “ invites, perhaps requires constant critical review.” (Fairclough 2007: 19) In straightforward way “how does a historical archaeology of the modern world hold in the same frame attention to the ‘small things forgotten’ of everyday life and particular individuals and the global system of distribution characteristic of modernity?” (Hall and Silliman 2006: 8). Put another way, how archaeologists shall have interest in the globalized world while excavating isolated sites? Referring to the regular white clay smoking pipe as an case in point, Hall and Silliman note that“...while these ubiquitous archaeological finds may have been manufactured in Amsterdam in the 17th century, archaeologists discover them throughout the world in New York, Brazil, South Africa, Southeast Asia, and everywhere else that Dutch traders plied their wares. This similarity of finds across widely diverse environments is difficult to ignore, and so a major task facing historical archaeology today is ‘not to shift focus on an exclusively larger scale, but to grasp the relationship between the small-scale’ and the ‘wider processes of transformation, and the colonial experience’ (Johnson 2006 : 318)

Post-modern Thought in Historical Archaeology: Promotion of Individualised and Social Studies

The post-modern thought in historical archaeology has made it advantageous to reflect in terms of “individualism and agency has had significant implications for the study of social class” (Wurst 2006: 193–194). As archaeologists have been constantly moving towards a standpoint that“... privileges choice and free participation, they have found it difficult to problematize class, and in fact have tended to perceive it—as well as ethnicity, race, and gender—as personally exhibited traits rather than as sets of social relations” (Wilkie 2000:Introduction) In this backdrop, “ 2018 has been declared the European Year of Cultural Heritage. It aims to highlight the social and educational value of heritage, its contribution to jobs and growth, and its role in raising the

profile of the EU in the world.” They are as below (Annual Proceedings of 24th Meeting of the EAA, 2018: Preface):

- encourage approaches to cultural heritage that are people-centred, also inclusive, forward-looking, more integrated, sustainable and cross-sectoral;
- promote innovative models of participatory governance and management of cultural heritage, involving all stakeholders, including public authorities, the cultural heritage sector, private actors and civil society organisations;
- promote debate, research and the exchange of good practices on the quality of conservation, safeguarding, innovative reuse and enhancement of cultural heritage, and on contemporary interventions in the historical environment;
- promote solutions which make cultural heritage accessible to all, including via digital means, by removing social, cultural and physical barriers, taking into account people with special needs;
- highlight and enhance the positive contribution of cultural heritage to society and the economy through research and innovation, including by strengthening the evidence base for such a contribution at Union level;
- encourage synergies between cultural heritage and environment policies by integrating cultural heritage into environmental, architectural and planning policies, and by promoting energy-efficiency
- encourage regional and local development strategies that tap into the potential of cultural heritage, including through the promotion of sustainable tourism;
- support the development of specialised skills and improve knowledge management and knowledge transfer in the cultural heritage sector, taking into account the implications of the digital shift;
- promote cultural heritage as a source of inspiration for contemporary creation and innovation, and highlight the potential for cross-fertilisation and stronger interaction between the cultural heritage sector and other cultural and creative sectors;
- raise awareness of the importance of Europe's cultural heritage through education and lifelong learning, in particular by focusing on children, young and elderly people, local communities and hard-to-reach groups;
- highlight the potential of cooperation in matters of cultural heritage for developing stronger ties within the Union and with countries outside the Union and for encouraging intercultural dialogue, post-conflict reconciliation and conflict prevention;
- promote research and innovation in relation to cultural heritage, facilitate the uptake and exploitation of research results by all stakeholders, in particular all the public authorities and the private sector, and facilitate the dissemination of research results to a broader audience;
- encourage synergies between the Union and the Member States, including by strengthening initiatives to prevent the illicit trafficking of cultural goods; and

- highlight, during 2018, significant events that have a symbolic importance for Europe's history and cultural heritage

The potentiality of isotope analysis has fundamentally been explored in archaeological sciences to date "...objects, attribute their provenance and depict ancient human dietary habits. However, the potential of this technique for provenance studies of ancient ceramics has barely been explored, due to the fact that the ceramic process often involves the selection of different raw materials and, consequently, different sources of radiogenic isotopes. The results of this pioneering approach clearly show that the synthetic mixtures used for the ceramic replicas plot exactly on the theoretical mixing curve between the clay and volcanic temper end-members. On the other hand, technological processes employed during pottery manufacturing such as firing and levigation induce no significant variations in Sr and Nd isotope ratios. Isotope characterisation represents an effective fingerprint of pottery that strictly depends on the geochemical affinity of the raw materials, thus providing a better discrimination among different ceramic productions."(Emily V. Johnson et.al, 2018:51) In cognitive archeology, theories of cognition are used to present interpretation of archeological evidence. This process endows with useful response on the theories themselves. "...The attempt to accommodate archeological data helps shape ideas about how human cognition has evolved and thus by extension how the modern form functions. But the implications that archeology has for cognitive science particularly relate to traditional proposals from the field involving modular decomposition, symbolic thought and the mediating role of language. There is a need to make a connection with more recent approaches, which more strongly emphasize information, probabilistic reasoning and exploitation of embodiment. Proposals from cognitive archeology, in which evolution of cognition is seen to involve a transition to symbolic thought need to be realigned with theories from cognitive science that no longer give symbolic reasoning a central role" (Thornton, July 2012: 2036) Odissa of Indian sub-continent is a befitting illustration in this context where isotope analysis has been sufficiently applied to explore Mesolithic culture. "...The Mesolithic culture is most prolific and widely distributed prehistoric cultural period in Indian sub-continent. It has been found in a wide variety of geographical situations and ecological habitats. This period generally indicates adaptation to the post-glacial Holocene environment. It is characterized by the technological hallmark of tiny stone elements suggesting a forgoing economy with emphasis on small-scale hunting, fishing and plant gathering. This culture existed between 10,000-2,000 B.C. chronologically, it clearly precedes the Neolithic. Mesolithic adaptation continued well in to the Holocene in parts of South Asia. (Behra P.K. 1992:57) Orissa in this context "... possesses a marked physical and cultural individuality. It has revealed evidence of cultural continuity from the remote past to the Historic period." (Sudam Deep, 2017:23) During the Late Pleistocene and Early Holocene period, "the Indian Subcontinent was marked by semi-arid climatic conditions and was comparatively drier. This time period is marked by the innovation and appearance of a new generation of stone tools and technology popularly known as Microliths. This new type of stone tool technology was necessitated by their subsistence pattern and growing needs of tools that

were tiny, with an effective sharp cutting edge, durable, easy to carry, and multipurpose. This technology survived for more than 50,000 years covering the Upper Palaeolithic and Mesolithic periods. The recent dates from Mehtakheri in Madhya Pradesh" (Mishra et al.2009) and Jwalapuram in Andhra Pradesh (Clarkson et al. 2009) Typological study of the lithic assemblages in India "...has been chosen by several Prehistorians since Foote's typological work" (Foote 1916: The Foote Collections). The contributions of eminent scholars like Paterson (De Terra and Paterson 1939), Sankalia (Sankalia 1964), Jayaswal (Jayaswal 1978, 1979, 1982) built a strong foundation for Stone Age techno-typological studies in India. "Previous studies suggest the classification and nomenclature of stone tools on the basis of their shapes, the medium on which they were made, and some times on the basis of preparation technique However, as the stone tools represent the daily activities of Early Man it is now pertinent to classify these tools on the basis of their functions to understand primitive life."(Chatterjee Gargee, 2017:40) Infact mainly " two general developmental stages have so far been identified in the Indian Acheulian (Shipton et al. 2014). Nevertheless, this inference is based on the comparison of lithic assemblages found in widely separated geographical zones. "...The Acheulian record from the Hunsgi and Baichbal valleys has some additional features. This record clearly shows that the Acheulian phase, far from being one of stasis, not only spanned a vast stretch of time but underwent three developmental stages" (Paddayya 2008:66-67). The evidence is three-fold: sedimentary stratigraphy, typotechnological features, and also absolute dates. "...The early and middle Acheulian sites occur on bedrock, travertine or kankar conglomerates, while the late Acheulian sites occur in the overlying brown silt. Trench I assemblage from Isampur belongs to the early phase and has an ESR date of 1.27 million years" (Paddayya et al. 2002:641-657). There have been three uranium-thorium series dates for Sadab and Teggihalli (both bedrock sites represent the middle Acheulian) which of the order of 3,00,000 years. The evolved pattern of Acheulian stage is symbolized by the assemblage from Mudnur X occurring in the upper part of three metres thick brown silt. This developed stage is cautiously dated between 2,00,000 and 70,000 years.

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major flood in the oxbow lake system adjacent to Cahokia. Satisfying as it is in many ways, this comparison of Cahokian archaeological and paleoenvironmental data also demonstrates the difficulty of our task. Is even the relatively high temporal exactitude in this case sufficient to draw convincing causal links between climatic events and settlement changes? How much did changing Palmer Drought Severity Index affect production of maize and other food items in the area around Cahokia, including the likely flows of tribute into the main center? What precise problems were created by the large-scale land clearance documented by pollen spectra in this area between AD 900AD and 1200AD, and in precisely what ways would the AD 1200 flood have affected Cahokian polity? How extensive were these floods, and to what extent did they result from forest reduction? Such uncertainties cause some specialists to highlight various social processes, such as the contribution of factionalism and discord brought on by very high levels of immigration, in Cahokia's decline.

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