



**Archaeology from Home**  
**Connecting Things & Thoughts**  
June 22-27, 2020



# ABSTRACTS



# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020



Every session will be chaired by a special invitee

### ORAL PRESENTATIONS

Day 1: 22.02.2020 (Monday: 15:00-18:00 IST)

#### Theme: Revisiting the past: historiography

##### A Century of Prehistory at Kibbanahalli: Paralleling trends in South Asian Prehistoric Studies

*Akash Srinivas*

[IISER, Mohali, Punjab, India](#)

**Abstract-** Palaeolithic remains were reported from Kibbanahalli for the very first time in 1921. In an almost century of investigations since, interpretations from the Kibbanahalli Palaeolithic Complex form the foundations of our understanding of the Palaeolithic record of South Karnataka. This region lies somewhat centrally to areas to the north, east and south, where detailed Palaeolithic investigations have resulted in firm cultural stratigraphy(s), and, in cases, of chronology(s). However, until recently, fundamental aspects of the Palaeolithic record of this region such as the stratigraphy, and lithic assemblage structure required further considerations. To understand why this situation persists, a detailed inquiry into the nature of research undertaken at Kibbanahalli was carried out. The historiography of research at the site parallel trends is evident in the foundation and development of prehistoric studies in South Asia. In this paper, the directions of historical research undertaken at Kibbanahalli will serve as a mirror to trace the growth and evolution of prehistoric studies, in general, and the study of the South Asian Palaeolithic, in particular – from chance encounters by geologists and other inspired workers, to its present state as a science rooted in multidisciplinary and problem-oriented research.

##### Significance of K.R.U. Todd in Indian Prehistory

*Tejal Ruikar*

[Independent Researcher, Toronto, Canada](#)

**Abstract-** K. R. U Todd (Killingworth Richard Utten Todd) was one of the pioneers who worked on the prehistoric archaeology of India. He was a commander in Royal Indian Navy, and a part of Burma naval operations during Second World War (1942-45). Despite these duties, he pursued his interest in archaeology. He is primarily known for his work on the classic site of Khandivli (Kandivali). He surveyed and collected stone tools from various parts of Bombay and Mysore as well as in present day Pakistan (Pindi Gheb and Karachi). Some of these collections are presently housed in Pitt Rivers Museum. He had also surveyed and excavated Mesolithic and Neolithic sites in Britain. He died in April 1950 at the young age of 45. This presentation explores his life as a commander and prehistorian, and attempt to analyze his work within the context of Indian prehistory. This presentation also attempts to bring to attention, the efforts of archaeologists and researchers that followed in the footsteps on Todd in exploring the region of Bombay. Finally, this presentation also highlights the need to investigate the work of personalities like Todd who contributed to the development of Indian prehistory but received little attention till date.



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### Theme: Hot from the field: Reports on recent field investigations

#### Evaluating the place of Qaru Durugeda Assemblages in the Northern Tanzania Sub-regional Acheulean Industrial Complex

*Penina Emanuel*

University of Dar es Salaam, Dar es Salaam, Tanzania

**Abstract-** Recent field work has discovered a complex of archaeological industries dominated by Acheulean assemblages in the Northern Mbulu Plateau. The site lies roughly between 3.20.00-4.10.00S and 35.00.40.00E. The location is ideal for attempting regional reconstruction of the Acheulean because lying north of the area is the famous Olduvai Gorge, east Lake Manyara basin, north east Peninj and west Mumba Hole all of which have signatures of either proper or post Acheulean assemblages. This paper attempts to consider the assemblages from Qaru Durugeda, one of the areas within the Mbulu plateau and with the richest concentration of Acheulean artifacts for comparison with Acheulean assemblages from nearby sites with the view of suggesting a regional picture of the Acheulean. In doing so, this paper discusses quantitative and qualitative attributes, the raw materials and pattern distribution according to environmental facets.

#### Preliminary Investigations of the Lower Palaeolithic Locality at Jalindri, Rajasthan

*Varun Vyas*

Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India

**Abstract-** Acheulian biface industries comprise of various tool types such as handaxes, cleavers, picks, cores of various types and flakes. Even though there are huge morphological differences noted in these artefacts across sites, there is more scope for detailed typo-technological studies for understanding the making and the use of these artefacts. The primary objective of this paper is to present the Acheulian industry at Jalindri, Rajasthan on the basis of blank type and size, and geological context through the study of over hundreds of Acheulian bifaces. A comparative study with several other Acheulian sites across the Indian subcontinent and a few Old World sites has also been carried out. The preliminary results suggest the handaxes and cleavers from Jalindri are large, ranging from 25 to 30cm which falls in the range of Olduvai Gorge II in Africa and Mudnur in India (Shipton and Petraglia, 2011). It may therefore reflect the early Acheulian cultural affiliation. Further, most of the handaxes were observed to be made on slabs, which is not typical in case of Acheulian assemblages across India (Sharon, 2006; Paddayya, 1991). The paper further presents probable factors leading to the preference of specific blank types in this region. Several statistical tests such as the “t-test” and elongation and refinement analysis have been conducted in order to better understand the cultural aspects of the Acheulian assemblage. Distinctive features of the Acheulian assemblages in the region along with their relative dates are discussed through comparative morphometric studies.

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### **Revisiting South Konkan: Do Large Cutting Tools from Malvan belong to Acheulian/Lower Palaeolithic?**

*Akiyala Imchen*

Deccan College Post Graduate & Research Institute, Pune, Maharashtra, India

**Abstract-** The Konkan coastal tract is one such region located in the Western coastline of Maharashtra, which has been under Palaeolithic investigation by various scholars since 1932 and on the basis of tool typology, they can be traditionally categorized from Lower Palaeolithic to Mesolithic. Despite this significance, there are no absolute dates available to supplement the stone tools which is why the Konkan region is yet to be placed in the Prehistorical timeline with credibility. A major breakthrough was made by Statira Guzder in 1975 when she discovered Palaeolithic sites in and around Malvan town, in south Konkan, Maharashtra. The present work is a part of PhD field exploration conducted during 2018 and 2019 field seasons. The current research will focus on the site of Salel Nangerbhat which yielded large flake assemblages. The lithic assemblage from this site will be compared with the rest of the Lower Palaeolithic sites in Malvan.

### **Examining long-term cultural transition in Wainganga river basin, India**

*Prachi Joshi*

Research Intern at Sharma Centre for Heritage Education, Chennai, Tamil Nadu, India

**Abstract-** The Pleistocene archaeological record of South Asia is important for questions relating to the origin and evolution of Palaeolithic cultures, continuity or change in lithic technologies, and the population dispersals across Asia. This paper presents recent ongoing research into the Palaeolithic archaeology of the Wainganga basin, Central India, focusing here on investigating long term Palaeolithic behavioural strategies reflected in several stratified sites. The study region in the eastern part of Maharashtra is marked by a low relief landscape where the Archaean, Gondwanas, and Deccan Trap constitute the major formations. Recent exploration in the region led to the discovery and study of Palaeolithic sites in different stratigraphic contexts such as, the regolith derived from weathered bedrock, in colluvio-alluvial deposits, and in reworked contexts within river channel. Acheulian sites are in association with sandstones and shales of the Talchir and Kamthi formations of the Gondwana super group. Acheulian hominins were noted to exhibit deliberate choices in raw material selection involving transport of tools/flakes for over 15 km to specific sites where they were used further. This is also indicated by the absence of giant cores and sparsity in waste products at some sites studied indicating that manufacturing activities were non-local. Preferences for cleavers, and use of the Kombewa technologies, amongst other technological choices will be discussed with implications for hominin behaviour. The early Middle Palaeolithic is sparsely represented in this region, they occur in one stratified locality, although later phases marking transitional phases with a Late Palaeolithic are noted. Surface scatters of assemblages represent flake and blade assemblage representing a block of time marking transitional phases between the Middle Palaeolithic and Late Palaeolithic, continuing into a phase where microblade technology was well developed, suggesting a long term occupation on a stable land surfaces, marked by slow rates of regolith formation and erosion. These sites are dominated by blade and flake reduction streams with a shift towards the use of chert and other siliceous raw materials. The paper concludes by discussing issues in interpreting complex regional sequences in India in the context of both stratified and surface sites, raises questions related to transition and change through time in the South Asian context. This work is part of my Ph.D submitted at Deccan College Post Graduate and Research Institute under the guidance of Prof. S. Pappu and Dr. S.B. Ota for their guidance.

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**Day 2: 23.06.2020 (Tuesday: 15:00-18:00 IST)**

**Theme: Hot from the field: Reports on recent field investigations**

### **Doma: a multi-technological Palaeolithic assemblage in Lower Son Valley**

*Shashi Mehara*

IISER, Mohali, Punjab, India

**Abstract-** The Lower Son Valley is generally overlooked despite a lengthy history of archaeological and geological studies in the adjacent Middle Son Valley. However, recent explorations in the former have yielded a large number of Palaeolithic and microlithic sites. This paper provides an initial report on Doma, a newly discovered site with a stratified Palaeolithic sequence within the valley. The site preserves multi-technological phases starting from Late Acheulean (?), Middle Palaeolithic and Upper Palaeolithic (all tentatively assigned based on respective typologies). Preliminary field observations are presented on the sedimentary sequence, archaeological survey, topographical mapping, procurement of raw materials, and the overall technological assessment of Doma. The raw material utilised at the site is primarily chert, derived from exposures of the Semri Group of the Vindhyan Supergroup, which is locally available. The site preserves ~12 meter thick section with colluvial deposits consisting angular and sub-angular clasts at the base and fine sandy silty deposits with calcrete nodules on top. The Quaternary sediments at Doma have also yielded mammalian fossil specimens such as long bone fragments, dental specimens and antler fragments. In terms of typology, the Lower Palaeolithic evidence broadly resembles the Late Acheulean sites dated to 140-120 ka in the nearby Middle Son Valley. Along with the lithics and fossils, the site also preserves a good dateable sedimentary sequence with calcrete, all key proxies to develop a testable model of technological transitions within a palaeoenvironmental framework. This period includes the key transition from archaic Homo to prehistoric Homo sapiens and associated lithic technologies and subsistence patterns.

### **Palaeolithic Investigations in the Lower Ghataprabha basin, Karnataka**

*Malavika Chatterjee*

Deccan College Post Graduate & Research Institute, Pune, Maharashtra, India

**Abstract-** The Ghataprabha basin (Latitudes 15°39' N and 16°30'N and the Longitudes 74° E and 76° E) drained by river Ghataprabha and its tributaries, covers an area of about 7231.15 sq. km spreading over Maharashtra and Karnataka. Numerous Palaeolithic explorations have been conducted by eminent archaeologists in this region especially by R.S. Pappu which resulted in the discovery of 119 sites yielding artefacts of the Lower, Middle and Upper Palaeolithic. Out of these sites, 73 sites of the Middle Palaeolithic were discovered in the lower reaches of the Ghataprabha Basin. However, detailed studies based on the artefacts were not carried out. In the light of three seasons of fieldwork by the author, aided with preliminary data gathered from the re-exploration of a few sites and minor collections made by the author, an effort is made to understand the sites' context as they vary from hill slopes, pediments and river bed sites through surface collections. An effort is also made to understand if the artefacts could be demarcated into two cultures considering they are indistinguishable in terms of stratigraphy. These studies in turn could highlight the elements of regional variability characteristic of this area. Moreover, the explorations revealed the need of salvage archaeology due to dam construction, soil mining and road building activities as well as growing population. Above all, it aims to find the relevance and scope of river valley archaeology in present times.





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### **Acheulean Archaeology in the Sudan, northeast Africa, new investigations from the lower Atbara River**

*Ahmed Nassr*

University of Ha'il, Hail, Saudi Arabia

**Abstract-** Sudan in northeast Africa is located on the path ways of Out of Africa migrations; it is located between two homelands of early hominin types and cultures development, *Homo erectus* (Acheulean tradition) in southeast Africa and *Homo sapiens* (MSA traditions) in North Africa. The location and landscape of Sudan from the Nile valley and Sahara tributaries encourages research to investigate the Stone Age archaeology. Research of the Acheulean in the Sudan is very limited, it is mentioned within the general research of prehistory in the Nile valley. The Acheulean remains were mainly known from surface sites in central and northern Sudan during Arkell surveys 1940-44 and the Combined Prehistoric expedition 1956-64. New research conducted by the author in the eastern desert of Atbara river 2013 - 2016, eastern Sudan revealed high density of Acheulean localities on the Pleistocene depressions banking Atbara river and in the desert. These discoveries developed to joint survey and excavation project EDAR 2017 - 2019. Where stratified Acheulean and MSA dated by OSL to 500 – 60 ka. This presentation aims to highlight the chronology, cultural traits and regional important of the Acheulean archaeology in Sudan from an overview of the research results 1940 – 2010 and the new discoveries from eastern Atbara River.

### **A Stone Age palaeolandscape in South Africa: the lower Sundays River Valley**

*Matt Lotter*

Palaeo-Research Institute, University of Johannesburg, Johannesburg, South Africa

**Abstract-** The Earlier Stone Age sequence of southern Africa is well-documented from a range of sites, however, for the Eastern Cape Province, very few sites dating to this period have been found and sufficiently documented. As a result, very little is known about how this region fits into this greater southern African sequence. In 2011, a new research project was established to address this very issue, having as its main focus area the lower Sundays River Valley along with its associated sequence of dated alluvial terraces. Three key sites were identified and excavations have since been conducted, namely at Penhill Farm, Bernol Farm and Atmar Farm (ranging from 0.65 - 1.37 Ma). Data and new field findings will be presented, and emphasis will be placed upon understanding the typological and technological nature of the assemblages as well as the specific contextual conditions for their preservation. Overall, it will be shown that the lower Sundays River Valley is extremely rich in Earlier Stone Age material and the entire lower valley provides important insights into the understanding of hominin behaviours during the Pleistocene.



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### Stone Age sites in South Rajasthan

*Hansmukh Seth*

*Independent Researcher, Udaipur, Rajasthan, India*

**Abstract-** South Rajasthan is a fertile region for agriculture, and the range of Aravalli's is rich in mineral resources, which is being exploited from the Stone Age until today. After Independence, several scholars such as R.C. Agrawal, V.N. Mishra, Rima Hooja, Vijay Kumar, J. S. Kharakwal and others, have conducted archaeological explorations in Udaipur and in some areas of Dungarpur districts in this region and discovered a number of sites ranging from Chalcolithic to Historic and medieval period. However, a large part of this region remains unexplored. During my Ph.D research, I discovered new sites ranging from Stone Age to medieval period. This paper is based on my survey and findings, related to the Stone Age.

### Prehistoric Explorations in the West Banas Basin, Sirohi District, Rajasthan

*Chintan Thakar*

*Madhav University, Sirohi, Rajasthan, India*

**Abstract** Extensive research in the modern state of Rajasthan has resulted in the discovery of numerous prehistoric sites. However, certain regions have received considerably less attention. This study is concerned with relatively unexplored area comprising the catchment area of the West Banas river basin, as preliminary reports suggested the presence of sites here (e.g. Chandravati, Syava and Arasuri Devi). The region is located in the southwestern part of Rajasthan, comprising an area of around 5136 sq. km. Here, we note predominantly Precambrian pre-gneissic granites superimposed by metamorphic rocks of Delhi Super group. Quaternary deposits are yet to be studied in detail, and this forms one of the aims of this research. In the present surveys, more than 30 sites were discovered which are located in river valleys, and hill slopes. At present, these comprise surface scatters occurring in the context of regolith. The context of artifacts at many sites is regolith which is derived from the weathering of granites. A total of 900 artifacts were collected spanning Acheulian to microlithic cultural phases, and comprising handaxes, scrapers, as well as a prominent component comprising fluted blade cores, and a range of blades and waste products, which are currently under analysis. This analysis will help in preparation of a comprehensive database of prehistoric sites in the study region. The detailed lithic analysis and establishment of the Quaternary stratigraphy of these sites will further help in understanding of the hominin behavior in this region. This region is very important when discussing the range of adaptations of hominins to varying Pleistocene climatic changes, on the fringes of the Thar Desert and hominin adaptations to the same. It will supplement research conducted in the adjacent regions and help in filling in data from hitherto little researched areas in India.



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### Theme: Exploring material cultures: lithics, ceramics and more

#### What is this stone doing among so many bisons? Developing a new research project in Gran Dolina-TD10.2, Atapuerca

*Andion Arteaga-Briebe*

CaSEs Research group - Cultural and Socio-Ecological Dynamics, Universitat Pompeu Fabra, Barcelona, Spain

**Abstract-** The TD10.2 sub-unit at the Gran Dolina site (Atapuerca, Spain) contains an archaeological assemblage with more than 12.000 lithic and 60.000 faunal remains. Based on the zooarchaeological and taphonomic research previously made, this sub-unit (also called “bison bone bed”) was interpreted as a monospecific kill-butcherer site, where the first evidence of communal hunting was documented. Preliminary approach to the lithic remains revealed an Acheulean assemblage with high incidence of small tools and a marked specialization in raw material’s management. This project aims to broaden our knowledge on the occupational dynamics and subsistence strategies of the hominin group(s) responsible for the accumulation of TD10.2, based on the lithic remains and their spatial distribution. Accordingly, three main objectives have been set: 1) To understand the site formation processes and to assess the integrity and resolution of the palimpsest. 2) To characterize the technological assemblage in the context of the European late Acheulean and to identify the technological and functional keys of a kill-butcherer site. 3) To recognize spatial patterns pointing to behavioral and social organization. These objectives are going to be met by means of a multidisciplinary methodological approach, combining archaeostratigraphic deconstruction of the palimpsest, technological study of the lithic assemblages, and the study of refitting and lithic spatial distribution.

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**Day 3: 24.06.2020 (Wednesday: 15:00-18:00 IST)**

**Theme: Exploring material cultures: lithics, ceramics and more**

### **Lithic Perspectives on Mobility and provisioning strategies at the Late Middle Palaeolithic site 'Ein Qashish, Israel**

*Netta Mitki, Ravid Ekshtain, Ariel Malinsky-Buller, Omry Barzilai, Erella Hovers*

The Hebrew University of Jerusalem, Jerusalem, Israel

**Abstract-** Site settings on the prehistoric landscape can be schematically divided into two categories: A spatially constant and delimited locales (i.e. cave/rockshelters), where the physical limits constrain the occupation and often lead to the formation of long stratigraphic sequences; and open-air sites without physical bounds. In the latter case, repeated occupations (if they occur at all) may be located next to one another rather than as stratified deposits. The two types of sites form complementing parts of mobility and provisioning systems. With the discovery of new open-air sites in recent years, additional data on Middle Paleolithic (MP; 250-50ka BP) settlement systems in the Levant has led to a better understanding of the variability in their function and duration. The site of 'Ein Qashish (EQ) in northern Israel adds to our understanding of hominin use of the open landscape. Four late MP (70-50ka BP) archaeological units were defined in EQ, allowing for a study of diachronic patterns of mobility and provisioning. We use lithic analysis to address these issues, focusing on a proxy associated with curation/expedient behaviour, i.e. cores. The analysis revealed that while the composition of the different archaeological units remains similar, differences in technological aspects can be discerned. Following existing models, we interpret such changes as nuanced differences in behavioural choices made by hominins in relation to their provisioning and mobility strategies.

### **Technological traditions at the end of the Middle Palaeolithic in the southern Levant? Point reduction sequences from Amud and Kebara caves, Israel, as a case study**

*Masha Krakovsky*

Israel Antiquity Authority, Jerusalem, Israel

**Abstract-** A model of territorial behavior in the Middle Paleolithic of the Levant proposes that increases in group territoriality, inferred from site and assemblage characteristics on site in the Mediterranean zone of the southern Levant, should be reflected in the formation of archaeologically visible technological traditions. Here I test the model by looking at artifacts from the sites of Amud cave (sub-units B4, B2-B1) and Kebara cave (units XI-X), occupied contemporaneously by Neanderthals. We premise that if similar technological choices were made by the knappers at similar points of the production sequence and these choices are recurrent in several successive occupations of a one site, this might imply existence of a 'traditional' way to produce an artefact at that site. Because triangular Levallois items in the Levantine MP are created exclusively during knapping, they were chosen as the subject of study. For the analysis of intra- and inter-site variation in flake properties I used 3D geometric-morphometric shape analysis, technological attribute analysis and descriptive and inferential statistics. Shape analyses did not detect differences within assemblages or within sites. The attribute analysis and its statistical tests have shown that recurrent nuanced technological procedures were identifiable along the stratigraphic sequences of the sites. Patterns of variation observed in the samples of Kebara Cave represent consistent production procedures through time. At Amud Cave, each sample represents different characteristics. The results are discussed in the context of expectations of the territorial model and of their implications in terms of inter-group connections.



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### **Prehistoric sites in the Kharla River Valley, Western Odisha: A Geo-Archaeological Perspective**

*Avick Biswas*

Vidyasagar University, Kolkata, West Bengal, India

**Abstract-** This paper is a study of cultural antiquities reported from prehistoric sites of the Kharla river valley in Sambalpur district, Kuchinda subdivision, western Odisha. The Kharla river basin, developed within the Precambrian and Proterozoic rocks, has preserved prehistoric sites – mainly microlithic- in a thin (<10 /m) colluvio-alluvial deposits of late Quaternary age. Flake tools/Middle Palaeolithic artifacts have been discovered in ferricretized cobbly pebbly gravel of early Late Pleistocene age. Geomorphic and palaeo-pedological features indicate humid climate during the early Pleistocene and early Holocene. The climate was distinctly dry during the later Late Pleistocene. Easy availability of raw materials like quartzite, chert, chalcedony etc. and availability of water in plunge pools of water falls, even in dry period, have attracted prehistoric hunter gatherers almost throughout the Late Quaternary. The raw material selection and technological analysis of the assemblages have provided clues to understand behavioural pattern of the microlithic using communities and also try to reconstruct environmental condition during that period.

### **Cultural Transmission and Technological Transitions during the Late Paleolithic in Korea**

*Gayoung Park and Ben Marwick*

University of Washington, Seattle, USA

**Abstract-** Archaeologists have applied evolutionary concepts linking material evidence and cultural phenomena to understand human behavior. Evolutionary approaches suggest that technological transitions can occur through changes in social learning processes, and transmission biases are important loci of changes. The onset of the Late Paleolithic period in Korea, represented by the appearance of projectile points and blades, is a key event in understanding modern human dispersal in East Asia. Previous studies mainly focus on possible origin locations of new technologies, but they rarely address the process of change. In this research we use a cultural transmission framework to investigate the social contexts that can give us insights into this emergence of new technology. Our main question is what is the dominant mode of cultural transmission for technological innovation in the Korean Late Palaeolithic. Inspired by Bettinger and Eerkens (1999), we build two models using guided variation and model-based bias. To test the models and understand the transmission process of technology, we use coefficients of variation (CV), correlations, and Principal Component Analysis (PCA). Here we show that the information about the new technology was transmitted via selective combinations of guided variation and model-based bias. We found that some attributes including length and width were transmitted through model-based bias, while other attributes appear to have been more dependent on raw materials or other factors. We anticipate our approach to be applicable to other research about technological change within social and cultural impact.

### **Investigating Raw Material Sources for Neolithic Polished Stone Celts in Eastern India**



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*Paromita Bose*

Research Intern at Sharma Centre for Heritage Education, Chennai, Tamil Nadu, India

**Abstract-** This paper discusses the sources of raw material in the context of Neolithic sites in eastern India, with a specific focus on polished stone celts. Sources preferred for raw material exploitation have significant implications when discussing prehistoric mobility, decision making, choices preferred, and potential networks of exchange. In Eastern India (at present comprising the states of West Bengal, Bihar, Jharkhand and Orissa), prehistoric polished stone tools, from sites ranging from 4210 to 3290 BP, have been reported in profuse quantities from both zones rich in raw material sources and from areas that lack the same. However, details regarding raw materials is sparse, with most studies focusing on tool typologies rather than aspects of technology or sequences of reduction. The author thus initiated the preparation of a comprehensive database of rock types in varied geological formations in eastern India, as also specific raw materials utilized for polished stone celt manufacture at Neolithic sites in this region. This is primarily based on the published sources, as also investigation through GIS of regional geological data and field and museum investigations. A total of 135 thirty-five sites are considered here. Preliminary results suggest that twenty-one different rock types were utilized for celts arising from a range of geological formations in the region. Right from exploitation of the rocks, to final tool production and usage, six different patterns of utilizations were observed. In addition, the distribution pattern of the sites also suggested probable existence of an exchange network between the with rock and no-rock zones either in form of tools or the raw materials. The significance of this study is that it is the first attempt to utilize varied sources to prepare and interpret the nature of rock types used by Neolithic populations in this region that has significant implications for interpreting mobility and perhaps complex social networks. Studies of specific provenance from selected sites is planned.

### **Acknowledgement**

This work was completed as part of the author's Ph.D. dissertation from the Department of Archaeology, University of Calcutta, Kolkata and is planned to be continued at the SCHE, India.

**Keywords:** Eastern India; Prehistory; polished stone tools; exploitation pattern; raw materials.



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### Theme: Palaeolithic to Neolithic

#### **Palaeolithic Archaeology of Kachchh with special reference to Dhaneti, Gujarat, Western India**

*Praveen Kumar*

Maharaja Sayajirao University of Baroda, Vadodara, Gujarat, India

**Abstract-** The Kachchh region is one of the possible routes for Palaeolithic techno-cultural dispersals between Africa and India through Arabia. Yet, very little Palaeolithic research has been carried out in Kachchh. In the Lower Palaeolithic context, a handful of studies from the 1960s onwards have reported some Acheulean artefacts suggesting a meagre presence of Acheulean in the region. However, compared to Lower Palaeolithic, a number of Middle Palaeolithic sites have been reported. Recently a date for Kachchh Middle Palaeolithic has been reported from Sandhav (114 ka) which yielded a tanged piece with Levallois elements which may be linked to modern human presence in this region. A few diminutive bifaces and large flakes associated with the layers below could be related to Acheulean presence. Dhaneti is located in the middle of a shallow basin drained by the Ramaya Vango stream in Bhuj taluka. Here our exploration surveys yielded some Acheulean handaxes and large Acheulean flakes as well as Middle Palaeolithic artefacts. Among the Middle Palaeolithic material we found Nubian-like core and diminutive bifaces. Our collection at Dhaneti seem to indicate a Late Acheulean rather than Middle Palaeolithic occupation. However, in Kachchh we have no evidence of cleavers, and the lack of Acheulean elements in general is an interesting question.

#### **Distinguishing sedimentation layers in slope deposits: a comparative study of the preservation of archaeological layers based on artifact orientations at Moiltyn-am, central Mongolia**

*Daria Marchenko*

Institute of Archaeology and Ethnography of the Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia

**Abstract-** Discovered in 1949, the Moiltyn-am site was the first stratified Paleolithic occurrence found in Mongolia and has subsequently been investigated by three different research teams in the 1960s-1990s and by our own group beginning in 2018. The assemblages of horizons 1, 2 and 3 are considered as belongs to different stages of Upper Paleolithic with mixed materials, and cultural horizons 4-6, which was formed after 40 ka, relate to IUP. Here, I will present information from a study of archaeological deposits to understand the accumulation of cultural horizons at Moiltyn-am. Uncertain sedimentary conditions create difficulties in the cultural attribution of lithic assemblages. At Moiltyn-am, we compared cultural layers within the overall stratigraphic sequence to better understand depositional and post-depositional processes. To achieve this goal, data on artifact orientations for each stratigraphic layer were analyzed and compared. Subsequently, data on lithological divisions collected in 2018-2019 were correlated with stratigraphic units identified and described by previous research conducted at the site. My comparative study revealed significant differences between the site's upper and lower stratigraphic layers. The upper part of the Moiltyn-am stratigraphic sequence is characterized by high isotropic values and the absence of any predominant orientation of stone artifacts. In fact, all indices are close to the range characteristic of natural rock falls. This result, in conjunction with the condition of the artifacts themselves, leads us to conclude that cultural materials in the upper layers were repeatedly redeposited. In the lower layers, artifacts were predominantly oriented parallel with the slope, exhibiting indices closer to those resulting from solifluction.



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Spatially discrete post-depositional disturbances of Layer 4 also affected underlying strata. This distinction between the upper and lower layers was also apparent in previous excavations situated up-slope from our excavation unit, with only slightly differing results. All layers exhibit higher isotropic values and lower indices of elongation, probably reflecting changes occurring in the lower part of the slope deposits. The study revealed that upper cultural layers were formed in similar conditions and cultural materials in them were completely disturbed, explaining the mixed character of its industries. Layer 4 is a result of different process connected with solifluction, which probably doesn't destroy cultural unity of lithic assemblage. Thus, this layer may be considered as independent cultural unit.





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**Day 4: 25.06.2020 (Thursday: 15:00-18:00 IST)**

**Theme: All about Palaeoenvironments: landscapes, plants, animals, and people**

**Palaeoenvironments and Palaeontology of the Atambua Basin, Timor Island, Southeast Asia**

*Ati hidayah, Unggul Prasetyo Wibowo, Ananta Purwoarminta, and Gilbert J. Price*

Bali Institute for Archaeology, Bali, Indonesia

**Abstract-** Pleistocene vertebrate faunas have long been known from the island of Timor but have rarely been studied. In particular, dwarf elephant-like proboscideans such as *Stegodon* were once widespread across the island, including in the Atambua Basin. The aim of this paper is to document such fauna in the basin but within a palaeoenvironmental framework. Our methods included field surveys, excavations, pollen analyses, and U-series dating. Palaeoenvironmental data based on geomorphology and hydrological information demonstrate a transition from marine to fluvial depositional conditions in the basin. Pollen data supports this inference where there is a clear shift from mangrove to terrestrial vegetation types. The palaeoclimate was evidently high in humidity with high-flow floods across the basin after that transition. Fossil vertebrate faunas are restricted to fluvially-derived sandstone units. While lithics were recorded widely across the basin, they come from surface finds only. Direct dating of the vertebrate fossils suggest that they are Middle Pleistocene or older, and thus pre-date the oldest records of humans on the island by >42 thousand years.

**Holocene Vegetation dynamics and human imprints in response to climate change from Central Ganga Plain, India**

*Anjali Trivedi*

Birbal Sahni Institute of Palaeosciences, Lucknow, Uttar Pradesh, India

**Abstract-** The pollen analyses from two sediment profiles (240 cm and 200 cm deep) collected from Bari Lake, Lucknow District and Bilind Khera Lake, Sitapur District lies in the western Uttar Pradesh India, document fluctuations in vegetation, climate with human impact as related to the past 7000 yrs BP. Around 7000 to 6500 yrs BP, the presence of open dry deciduous forests taxa sparingly spread in patches with grassland indicate that the region was under a warm and less-humid climate. The enhancement in mixed deciduous forest taxa together with invasion of moist deciduous taxa suggest the proliferation of the mixed moist deciduous forest due to the onset of a warm and very humid climate around 6500 to 4000 yrs BP. Around 4000 to 3400 yrs BP the presence of dry deciduous forest interspersed in grassland with stretches of herbaceous vegetation support the region was under dry and cool climate most likely due to weak ISM. Between 3400 and 2600 yrs BP the expansion of forests took place with the significant increment of mixed semi dry deciduous forest showing climate were again improved as a result increased ISM. Around 2600 to 1560 yr BP the declining in the forest floristic reflects that the region again witnessed a warm and less-humid climate again. Between 1560 to 700 yrs BP onwards, an increased humid climate is indicated by relatively high percentages of moist deciduous taxa, and aquatics indicating strong ISM corresponding to Medieval Warm Period (MWP). Reduction in the prominent mixed dry deciduous taxa suggests that the forest turned sparse and less varied due to the cool and dry climate, due to the reduced ISM. Cerealia pollen and other associated cultural taxa attendance in complete length of the core recommends the study area was under of cereal-based agrarian practice.

**Rhinoceros Unicornis in India since Prehistoric times**

# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020

Dipannita Das

Deccan College Post Graduate & Research Institute, Pune, Maharashtra, India

**Abstract-** Rhinoceros is one of the oldest land mammal species existing, and is of immense cognitive value to scientists from the view point of its ecological attributes. The great one horned rhinoceros or *Rhinoceros unicornis* Linnaeus 1758, is a mighty animal that immediately brings forth the picture of a landscape of north east India, which is eventually their only home in India today. This animal, in the past enjoyed a wide distribution stretching from Siwaliks in the north to Indus valley in the west, Sumatra in the South East Asia, to the Deccan in the South India. However, owing to human interference in its habitats as well as merciless hunting by poachers their population has shrunk to over one and a half thousand, confined to the evergreen tropical rainforests of north east India, especially in the state of Assam. The antiquity of rhinoceros and its ancestors in India can be traced way back in the fossiliferous beds of Siwaliks in north west India. “*Rhinoceros indicus fossilis*”, the name given to its first fossil finds in the Upper Siwalik beds by Baker and Durand (1836), marks its first report in Indian palaeontology. About a decade later Falconer and Cautley (1847) changed its name to *Rhinoceros sivalensis* that has come to represent all the fossil rhinos in the Siwaliks. Its occurrence in the Narmada valley, Manjra valley, Ghataprabha valley, Kurnool caves (late-mid-Pleistocene to Terminal Pleistocene) and portrayal of rhinoceros hunting in Bhimbetka, their bones found at Langhnaj, several Neolithic and Harappan sites amply demonstrate their uninterrupted physical presence in India. Human association as a predator seen in the rock shelters provides us an interesting evidence of man-animal relationship in prehistoric times, besides food economy. Osteological record of this animal has given a plethora of information with regard to ecology and ancient subsistence strategy. While on one hand, it is accepted as an index of a landscape rich in biodiversity, on the other little attention has been paid on its eco-attributes and behavioural biology as a source of interpretations in archaeological context. Unlike the Pleistocene hippos, which have no exact representatives living in India, rhinos presently living in the north east India are the best source of ready reference material for ecological as well as osteological interpretation or fossil representatives. Fossil rhinos of Siwaliks and Peninsular India are supposed to have a phylogenetic relationship with *Rhinoceros unicornis*. Rhinoceros has retained its original characteristics for millions of years and can provide paleontologists with a deeper insight in to the process of evolution. Rhino is also an indicator species of the wetland ecosystem, which is one of the most complex ecosystem of the world. Studying it in relation to its habitat can enable faunal specialists not only to understand the components of the wetland ecosystem and interpret its occurrence against the backdrop of contemporary geomorphology, but also the mysterious working of nature herself. Hence an evolutionary, ecological and subsistence perspective of rhinoceros in Indian archaeology with special reference to ecology of living rhinos is proposed in present research. The proposed study intends to have a review of its palaeontology, its contributions in ancient human populations (though mostly as a prey species) and detailed actualistic ecological study in Kaziranga National Park. Firsthand data on the rhino behavioural biology and diet gathered from within India will be a native source material for analogy as well as palaeological interpretations for future researchers of rhinoceros.





# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020



### **Late Pleistocene and Holocene Bird Remains from Creag Nan Uamh, Scotland**

*Chloe Stringer*

University of Sheffield, South Yorkshire, England

**Abstract-** The Creag nan Uamh ‘Bone caves’, located in Assynt, Scotland, contain a faunal assemblage dating from the Late Pleistocene to the Holocene. While theories of human presence at the site during the Late Glacial period have since been refuted, Creag nan Uamh remains significant due to the completeness of its Late Pleistocene faunal assemblage. Despite this, however, previous analyses of the material have been incomplete, failing to include the bird remains excavated from the Late Pleistocene layers. This research aims to gain a better understanding of the ecosystem that existed at the cave over time through a detailed analysis of its avifaunal remains. The material, today housed at the National Museum of Scotland, was recorded and analysed using modern comparative collections. Analysis of morphological and biometric data enabled specimens to be identified into taxonomic groups. An understanding of which taxa were present at the site over time allows for an understanding of what resources were available in the area. Furthermore, by using the modern habitats of these species, an understanding of the environment surrounding the cave over time was established. This study found that, in comparison with previous environmental analyses made without the avifaunal material, the bird species provided a more detailed view of the Late Pleistocene environment. It is hoped that the results of this research can be used as a comparison to any future Late Pleistocene and Holocene assemblages found in Scotland.

### **Refitted Bone, Food Lumps and Terracotta Cakes: thinking through the complex creation of a midden pit at Kadabakele**

*Jennifer Bates, Kelly Wilcox Black, Kathleen Morrison*

University of Pennsylvania, Philadelphia, USA

**Abstract-** The South Indian Iron Age (1200 BCE-300 BCE) is a period of increasingly intensive agricultural strategies. Despite the important nature of this transitional period between the Neolithic and paddy rice dominated Early Historic periods, much of the discussion concerning food practices throughout the South Indian Iron Age has been limited to a presentation of broad stroke similarities and differences between the periods that precede and follow it. Less attention has been paid to investigating and amplifying the diversity of food practices evident within the South Indian Iron Age itself. In part, this problem stems from a lack of studies that explicitly combine and think through faunal and archaeobotanical datasets as part of their interpretative framework. This paper is a first step in reconstructing a comprehensive and holistic understanding of the diversity of food practices in the South Indian Iron Age through a focused analysis of faunal and archaeobotanical remains from an enigmatic pit feature (Feature 40) from the site Kadabakele. Using Feature 40 as a snapshot example, we explore how the combined analysis of faunal and archaeobotanical remains provides an opportunity to think through the different processes by which plant and animal remains were incorporated into the archaeological assemblage and how they can aid in our interpretation of how features at the site were used and what activities took place. In doing so we can begin to move beyond simple species lists towards a more complex archaeological interpretations of human food choices and practices in the South Indian Iron Age.

### **Pollen studies to understand past landuse and landcover changes**

# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020

*Navya Reghu*

French Institute of Pondicherry, Puducherry, India

**Abstract-** Palynology, the study of pollen and spores, has its utility mainly in ‘Tracing the Vegetation History’, which has a great value in Paleoecology, Archaeology and Palaeoanthropology (Moore *et al.*, 1991). Pollen grains are produced in the flowers and are meant for the reproduction of plants, encasing the male gametophyte. Pollen grains are produced in large numbers in the flower and are deposited on the female reproductive organ. This whole process is called as Pollination. Pollen grains disperse by various mechanisms in order to assure fertilisation. Once dispersed by wind, insects and other animals, they eventually settle down in the soil and stay buried in the ground for several years. The pollen grains which dispersed from the flowers will get deposited on the surface soil, pond, lake, river, archeological mounds and sites etc. They possess morphological characters that are specific to a “pollen morphotype”; frequently, this morphotype corresponds to a particular genus or a species of the plant.

Pollen preserved in peats, lakes, alluvial deposits, estuaries, marine environments and glacial ice have been recovered and serve as the principal source of information for paleoclimatic reconstruction. This is due to their resilience to many environmental conditions and their production in large numbers. Modern vegetation communities can be considered as analogs of past vegetation. The pollen assemblages of the present can be considered to be analogs of the past, during the Quaternary period. The first work on the interpretation of fossil pollen records and its significance to quaternary paleoecology was published by von Post in 1917 (Jarzen and Nichols, 1996) using pollen percentages. This approach includes identification and tabulation of different pollen grains recovered from the vertical section of the sample retrieved from the lake or peat and the presentation of the pollen percentages in diagram. This method became very popular all over the world.

Palynology plays a major role in understanding the past land-cover and land-use changes since they reflect the vegetation, local and regional, at the time of pollen deposition which can indirectly yield information about past climatic conditions. The inspiration for my present paper is the works on archeological sites at the French Institute of Pondicherry using palynology (Guinet 1966) and the recent phytolith-based studies at a megalithic burial site (Premathilake *et al.*, 2017) and a Paleolithic site (Premathilake *et al.*, 2017). In this paper, the first one after submission of my PhD Thesis entitled “Pollen based estimates of Holocene vegetation in southern India: An LRA (Landcover Reconstruction Algorithm) approach”, I will present the ways in which my work can potentially be applied in archeological contexts; though this approach is new in the tropics, where it is well developed its main application is in validating past Anthropogenic Land-Cover Changes, (ALCC models, Gaillard *et al.*, 2010) This quantitative landcover modeling approach developed by Sugita (2007a and b) provides information critical to advance our knowledge of human interactions with the climate system. Though pollen grains are better preserved in peat lands rather than in the drier archeological contexts of many parts of India, I am confident that with some methodological adaptations pollen grains can prove their relevance in Indian Archeology too.

### **Prediction of Archaeological Potential Site Location in Middle and Lower Part of Mayurakshi River Basin**

*Sukumar Hazra*

Visva Bharati, Santiniketan, West Bengal, India



# Archaeology from Home

## Connecting Things & Thoughts

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**Abstract-** The prediction of archaeological site is an essential tools for decision making process. The present study investigates the Archaeological potential site in the middle and lower part of Mayurakshi river basin using Logistic Regression (LR) modeling techniques. For this analysis one dependent variable (Archaeological site) and eight independent variable such as slope, aspect, curvature, proximity to water bodies, soil, proximity to modern settlement, geology and elevation were used. The spatial database prepared in GIS environment based on 222 sample point. Dataset were divided into two parts such as training dataset (70%) and testing dataset (30%). Training dataset used to prepare model and spatial map of Archaeological potentiality were generated in GIS environment based on LR result. The prepared map were validated using dataset using receiver operating curve (ROC) area under curve (AUC) method. The AUC value of model is 0.880 which reflects excellent accuracy of the model. The archaeological potential map classified into five classes such as very high, high, moderate, low and very low .

**Keywords:** Archaeology, Predictive model, Mayurakshi River, Logistic regression, Birbhum, Murshidabad.

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# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020



Day 5: 26.06.202 (Friday: 15:00-18:00 IST)

### Theme: Palaeolithic to Neolithic

#### Palaeolithic Cultural Transitions and Lithic Variability in the Middle Godavari Basin, Telangana, India

*Mokshada Salunke*

Trivandrum International School, Thiruvananthapuram, Kerala, India

**Abstract-** The present paper looks at the Middle Godavari basin, South India, particularly focusing on the Middle Palaeolithic (MP) and Late Palaeolithic (LP), with at present, sparse evidence of the Acheulian. Regional archaeological investigations are important in establishing local chronological and evolutionary sequences that potentially aid in situating India in the context of global debates on population migrations. The region was previously investigated by Thakur Raja Ram Singh (1979a, 1979b, 1984). Three seasons of exploration conducted by the author re-examined 20 sites with a total of 2,657 artefacts analysed. Acheulian assemblages were noted at one site, stratigraphically underlying the MP. Artefacts are on quartzite cobbles procured off-site from around a radius of 2-3 sq. km. The MP occupation (n=7) occurs in varied contexts over the landscape and are seen associated with loose gravel and sands (palaeo-strath terrace), on weathered bedrock capped by red soil and in context of calcareous cone. They are concentrated in the Gondwana Exposures in proximity to potential raw material sources. The MP assemblage is marked by use of prepared core technology with the presence of Levallois, discoidal and other flake cores, as also a proliferation of small flake tools. At the LP sites (n=12) located in the Gondwana Exposures, artefacts are in context of gravel and of regolith derived from underlying weathered bedrock, and those located in the Deccan Trap region are found in association with black soil and with regolith derived from basalt and granite bedrock. There is an observed shift to siliceous raw material such as chert and chalcedony. The LP assemblages are dominated by flake as well as different types of blade reduction strategies. In case of MP assemblage, bifaces continue as seen on other sites in India and elsewhere. The continuity of a few Levallois cores into the LP also suggests continuity in some technological strategies further implying its regional development. Although not dated yet, there is a potential of stratified sites that can be useful for future studies. We note that this study has brought to light an important region in South India with new data on distribution of sites, stratigraphic contexts and geomorphology, nature of lithic assemblage, their reduction sequences and changes within them through time.

This work formed part of my doctoral research submitted at Deccan College Post Graduate and Research Institute under the guidance of Prof. S. Pappu and Dr. Kumar Akhilesh for their guidance.



# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020



### **Prehistory in Son valley (Madhya Pradesh, India)**

*Anant Shrivastava*

Banaras Hindu University, Varanasi, India

**Abstract-** Many prehistoric sites have been found in India, in reference to which the Son valley is very important for us. The cultural sequence in the Son valley includes the Paleolithic, Mesolithic and Neolithic. My focus is centralized on only the Paleolithic of the Son valley. We note that prehistoric communities settled here in Middle Pleistocene and artifacts are found in several alluvial deposits at sites like Patpara, Rampura, Baghor, Khuteli, Khetauhi and most important deposit is Sihaval (all sites are situated in Sidhi district). Sihaval is a Lower Paleolithic site, Patpara is a Middle Paleolithic, Baghor and Khetaunhi are Upper Paleolithic sites.

### **Prehistoric subsistence strategies and settlement patterns in Misimagre, West Garo hills, Meghalaya**

*Gangotri Bhuyan*

North-eastern Hill University, Shillong, Meghalaya, India

**Abstract-** Subsistence is an important concept in the study of the human culture as it represents the base of all human behaviour, whereas the study of settlement patterns helps to understand how a particular society uses the available resources in its region. Palaeolithic hunter-gatherers evolved into the Neolithic food producers i.e., their subsistence strategy shifted from food gathering to food producing, so did their settlement patterns. Researchers have long been amazed by the knowledge the hunter-gatherers have about the environment including extremely detailed information about the flora and fauna, the geography and the subsistence alternatives. As such the only evidences of the prehistoric practices are found in the shape of the material culture and the organic and inorganic remnants. Environment thus is an important factor which conditions the habitat in a given geographical area or it may be referred to as the major determinant in human cultural pattern, which includes subsistence strategies, settlement patterns, oral traditions, etc. There are innumerable sites discovered, and details of evidences listed from the region of Garo Hills. However, the region, including most of northeast India, has been found to be most unfavorable for ecofactual and other organic evidences. This paper therefore will discuss the archaeological significance of one of the sites in West Garo Hills viz., Misimagre and an ethno-archaeological attempt to reconstruct past subsistence strategies and settlement patterns of the site based on archaeological and ethnographic data.

# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020



### Theme: Multidisciplinary approaches in Archaeology

#### Primate Archaeology: revisiting our past by exploring the present

*Jayashree Mazumder*

IISER Mohali, Punjab, India

**Abstract-** Primate archaeology is a form of time travel, in which we can witness living non-human primates perform tool-use, that helps us to link and understand how our common ancestors could have evolved since time. In this particular field, we can not only study the behaviour of the living primates but can also explore the ‘tools’ they use and how cultures are created. There are 600+ living primates, but to study archaeology through the lens of a non-human primate, we are restricted to only five species, which are- gorillas, chimpanzees (which also includes the bonobos, i.e. dwarf chimpanzee), orangutan, capuchins and long-tailed macaques. A thorough study of animal tool-use behaviour has enabled us to understand the site formation process, culture and causes for cultural differentiation. Studying primates cultural and tool-use behaviour is a new addition to the branch of archaeology, and it anthropogenically expresses animal behaviour, which helps in relating primate behaviour with human evolution. Studying animal tool culture has also raised a few issues like defining what a tool is, what is tool-use, characteristics of tool, etc. Even when types of tools differ between human and non-humans, there are certain activities which seem to be similar (spear, hammer and anvil). As we see archaeology has seen the emergence of similar culture across the globe, in living non-human primates also we see the same phenomenon. My talk will be dedicated to understanding what primate archaeology could be and also its importance to the study of human evolution.

#### Is Archaeology Really a Subfield of Anthropology or an Individual Field in Itself?

*Umesh Lokhande and S. Shimray*

St. Xavier's College, University of Mumbai, Mumbai, India

**Abstract-** Worldwide, archaeology is considered as a sub-field of anthropology. We are well aware that archaeology seeks to collect and study the objects found in excavations, the field archaeology itself has various sub-fields such as maritime Archaeology, ethnoarchaeology and Zooarchaeology but is the field of archaeology is really a sub-field of anthropology? Archaeology collects data which is being used by anthropologists and historians. Both history and anthropology are fields that are considered different from each other but utilize the data collected under archaeology. We can take example of mathematics; it is useful in economics, in fact in scientific fields, at some extent, such as physics uses mathematics, but mathematics is recognized as an individual field then why is archaeology not considered as an individual field? If we take a look over anthropology, it is the scientific study of humans, human behavior, societies in the past and present. Whereas archaeology excavates the hidden part related humans, but the field archaeology has its own theoretical approaches. Therefore, the present presentation deals with if archaeology a sub-field of anthropology or an individual field. It studies methodological, theoretical and practical approaches that signifies archaeology as an individual field, also the present paper has given identification of archaeology as an individual field in itself.

# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020

### Theme: Genetics in Archaeology

#### **Rice domestication in Manipur Valley: Issues with biomolecular archaeology and ethohistory**

*Robinson Huidrom and Mayanglambam ManiBabu*

Manipur University, Imphal, Manipur, India

**Abstract-** Reconstructing the genesis of human exploitation of ancient plants or animals is one of the main themes in biomolecular archaeology. Obviously, genetic analysis of ancient and living DNA of variant rice species from different parts of the globe reveals the centres of origin and spread of agriculture in the past. In the valley of Manipur, a few works outlined the existence of two living species of wild rice (*O. rufipogon* – Wainu chara and *O. nivara* - murshi) in their respective ecological niches. There are also arguments of having close affinity between wild rice and the local cultivators, and that the two varieties of Asian wild rice (*O. rufipogon* and *O. nivara*) is the progenitor of the contemporary Asian rice (*O. sativa*). Ethnohistory of the present inhabitants in the wetland margins in the valley of Manipur reveals the anthropogenic manipulation of the wetland environment in terms of exploitation of varieties of plant resources including wild rice as part of subsistence strategies since their initial settlement. Development of myriad strategies and appliances toward manipulation of wild rice also reveals the prolonged nature of subsistence practices related with wild variety of cereal. The present study attempts to highlight the possibilities of the origin of rice domestication (the local cultivars) from the wild rice species in the valley of Manipur by taking into account with both biomolecular and ethnohistorical evidences.

### Theme: Exploring material cultures: lithics, ceramics and more

#### **Kot Diji Culture in Trans Salt Range Zone, Northern Punjab, Pakistan**

*Arslan Butt*

Taxila Institute of Asian Civilizations Quaid-i-Azam University, Islamabad, Pakistan

**Abstract-** The trans salt range zone of Northern Punjab has few sites with the remains of early Harappan Kot Diji Culture i.e. Sarai Khola, Khanda, Pind nowsheri etc. Recently TIAC has discovered another Kot Diji Culture site in district Rawalpindi at village Mohra along Chakbeli Khan road. The site is in the form of irregular mounds. As a result of trial excavations, no regular stratigraphy has been found. On the basis of these finds, a status of temporary or transit site was assigned to site. A reconsideration of pottery collection from Mohra site has shown that the pottery has variety of utilitarian forms like other Kot Dijian sites.

#### **Recent exploration in North Gujarat, a special reference to Bhali Bhai no Timbo, a Chalcolithic Site in Kunwar Village, Patan District, Gujarat**

*Muhammed Fasal K, Ananthu V. Dev, Rajesh S. V. and Abhayan G.S.*

University of Kerala, Thiruvananthapuram, Kerala, India

**Abstract-** Bhali Bhai no Timbo (N 23°32'26.45" E 071°36'31") is a Chalcolithic site located in Kunwar Village, Patan District, Gujarat. The site measuring approximately 1.5 hectare has been subjected to exploration during 2018 by department of Archaeology, University of Kerala. Exploration at the site revealed Sorath and Late Sorath Harappan Ceramics, Anarta Pottery, Lustrous Red Ware, terracotta beads and faience bead. One Anarta miniature pot containing 1274 shell beads and 82 Carnelian beads was an important discovery from the site. The present paper deals with the Brief description of explored material from the site.

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# Archaeology from Home Connecting Things & Thoughts

June 22-27, 2020



**Day 6: 27.06.2020 (Saturday: 15:30-18:30 IST)**

## **Theme: Rock Art**

### **Digital approaches to rock art: Recent studies in Pego da Rainha (Portugal) and Cueva del Bercialejo (Spain)**

*Sujitha . A. Pillai and Dr. Sara Garcês*

University of Ferrara, Ferrara, Italy

**Abstract-** This paper aims to study two rock art sites in Western Iberian Peninsula: Pego da Rainha (Mação, Portugal) and Cueva del Bercialejo (Badajoz, Spain) with a systematic and updated approach using digital technology. One of the main aims for choosing these sites is the presence of Post-Paleolithic art, which is ascertained as the 'Schematic Art'. Though these sites have been studied previously, digital means have not been manifested for the approach. The previous studies were conceived a long time ago, merely by observation of the researcher and were considered to be more subjective as there were not many digital applications available today. The work includes using digital technology for the recording techniques on-field and off-field for these paintings. As these sites contain paintings, it encompasses the use of digital photography accompanied by a software known as DStretch®, which is a plugin for Image J-an application. The images are then processed in the lab with the use of Adobe Photoshop® to create digital decals and therefore create accurate 2D representations of the panels. The work also includes obtaining 3D models with software Agisoft Metashape® for representation and studying bigger panels and for evaluation of conservation issues. The application has resulted in new figures in both the sites adding to the rock art trove of the Pre-Schematic Art and Schematic Art in the Western Iberian Peninsula. Also, in one of the sites of Cueva del Bercialejo, the presence of newly identified zoomorphs has fortified the developing nomenclature of 'Pre-Schematic art', which, according to some authors, preceded the Schematic Rock Art. Moreover, the presence of newly identified zoomorphs at Cueva del Bercialejo site has fortified the developing nomenclature of 'Pre-Schematic art', which, according to some authors, preceded the Schematic Rock Art. Sampling was also carried out for studying the composition of pigments used for paintings and the U-Th series dating will be attempted to obtain direct dating of Schematic Rock Art in the Iberia Peninsula.



# Archaeology from Home

## Connecting Things & Thoughts

June 22-27, 2020



### A Study of Rock Art in Sonbhadra region

*Swtantra Singh*

Benaras Hindu University, Varanasi, Uttar Pradesh, India

**Abstract-** Rock art represents one of the earliest forms of artistic creativity of early man that dates back to thousands of years reported from almost every part of the world. It is not just simply a line illustration, those are made in the form of pictographs or petroglyphs on stone. It is the principal evidence of the artist in cultural history before the development of writing traditions. It reveals aspects of the imaginative and emotional life of man. Other archaeological material evidence have their own limits. The study of rock art help to trace the daily activities of early populations. Rock art represents successive stages of human development from the Stone Age to present day. Each painted canvas has been produced by generations of painters belonging to different cultural stages of subsistence economy right from the hunting-gathering to food-producing stages. It is one of the most important sources of understanding the social, cultural and religious life of early man. The rock art of Sonbhadra region covered a long duration of time from the Mesolithic period to the present time. Present paper is based on the recent field work. In this paper selected shelters and panels of paintings are used for understanding the early life of prehistoric man in Sonbhadra region.

### Theme: Exploring material cultures: lithics, ceramics and more

#### Test Excavation at Sangpuyimti: An Ao Naga Ancestral Site

*Chuba Toshi*

Nagaland University, Lumami, Nagaland, India

**Abstract-** The Nagas inhabit the present State of Nagaland within the Union of India, with its capital at Kohima. Nagaland comprises of 16 major recognized tribes with its rich cultural and ethnic diversity. The Aos, in particular are a major Naga tribe, who occupy the present Mokokchung district of Nagaland. The origin myth of the Aos informs that its ancestors emerged from Longtrok or 'six stones' located at Chungliymti (first Ao Naga settlement site) on the south bank of Dikhu River. The oral tradition suggest that the Aos lived at Chungliymti for several centuries and later migrated to Aonglenden (located presently at Ungma village, Mokokchung district), which was followed by further dispersal. The interesting fact about the Sangpu settlers is, these group of people started their migration prior to Aos migration from Chungliymti and took different migratory route before settling down at Sangpuyimti. The test excavation at Sangpuyimti was carried out to have better understanding about the factors leading to Sangpu settlers to abandon the site, to collect charcoal samples for dating to inter-link the dispersal of Ao Nagas from Chungliymti, to track their migratory route and to give credence to oral sources, which acts as an important tool in the archaeological studies of pre-literate tribal societies. Two test trenches were opened and the excavation unraveled cultural remains such as postholes, modified stones, sharpening stones and ceramics with designs and wares similar to Chungliymti. Necklace beads, spindle whorl, cobbles, small adze of spilite, etc. were collected on surface survey. The excavation gave empirical results for future prospects.



# Archaeology from Home

## Connecting Things & Thoughts

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### **Pottery Manufacturing Technique of Wui, Nagaland: Survival and Continuity**

*Yabangri Changkiri*

Nagaland University, Lumami, Nagaland, India

**Abstract-** In this fast growing modern society where better and cheaper materials are available, traditional pottery manufacturing technique still survives and is practiced in Wui, a Khiamniungan village located on the eastern corner of Tuensang district of Nagaland. Oral traditions and recent excavated potsherds along with the present day pottery production provides ample evidences of traditional technique of pottery production and other aspects related with it. It is an attempt to understand the Wui traditional pottery manufacturing process, its continuity and draw its significance on socio-economic organization.

### **Megalithic traditions in Benreu: A Zeme naga village**

*Keyilam Lungalang*

Nagaland University, Lumami, Nagaland, India

**Abstract-** The paper attempts to bring out the megalithic culture of the Zeme Naga, a sub-tribe of Zeliangrong from Northeastern states of Nagaland. The survey was carried out in Benreu village under Peren district, to document the different types of monuments such as menhirs, dolmens, cairns and other miscellaneous remains which have different functions like commemorative, village founding stones, village gates and ceremonial. Some of the monuments are finely hewn whereas some are roughly dressed and the stone vary in size some of which are around 11 feet long, 6 feet wide and 1.3 feet thick according to the status of the family. The feasting process and the rituals which includes the animals for the feast, rice beer and the human resources associated with the erection of the monuments was also looked upon and the construction of those monuments indicates the surplus socio-economic structure of the community. It is quite interesting to find the megaliths being erected in a prominent location around the village vicinity or on the way to the field where it is widely visible which helps us understand the symbolics of landscape and the role of social memory in choice of site location of the stone monuments as it is one of the most important object for transmitting social memory. The tradition of erecting monuments have been an important tradition among the Zemes in the past and is still in practice though with lesser rituals and in smaller scale.



# Archaeology from Home

## Connecting Things & Thoughts

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### Theme: Multidisciplinary approaches in Archaeology

#### A Study of Body Positions and Postures from the Deccan Chalcolithic sites of Inamgaon, Kaothe and Nevasa

*Shreemoyee Chakraborty*

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**Abstract-** In the socio-anthropological realm, burial studies have always been significant sources to study the mental processes of both prehistoric societies and contemporary ones. Similarly, body positioning or placement is equally important in the arena of funerary studies. This is because the arrangement of the body along with the funerary items (when present) gives an insight into what a particular group of people thought about the buried individual. In other words, it is a representation of a buried individual according to society. In the Indian context, this kind of work is very limited. Moreover, by reconstructing the body position and posture from the specific skeletal placement one can attempt to reconstruct the moment of death, which will in turn provide crucial information about the prevailing funerary practices of that time. From the point of view of public archaeology, the study of burial postures would help people visualize how a dead person was laid in the burial which would, in turn, help in relating to the dead person which is not possible for them by looking at the skeletal remains alone. Apart from this, body position studies can reveal how the various socio-anthropological concepts like status, power, gender, adulthood, etc. were approached by the people in the past as these concepts may not have been viewed in the same manner by the past people or attached to the same principles with which people see these concepts today.



# Archaeology from Home

## Connecting Things & Thoughts

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### **Modern Reuse of Ringstones: A case study from Bargarh, Eastern, India.**

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**Abstract-** The phenomenon of reuse of artefacts has a deep- trajectory, displaying multi-fold behavioural patterns in communities in the past. In the South Asian context, while reuse of artefacts is wide-spread, continuing until the present, few studies have specifically focused on reuse of archaeological artefacts, in particular as related to pre-and protohistory. This study aims at addressing issues related to reuse specifically in the context of prehistory, and specifically related to recycling of ringstones, as observed in the eastern part of India in the Bargarh district, Odisha. Ringstones are used by some agro-pastoral communities today, in cattle rituals for medicinal purposes, and is associated with specific myths related to “flying snakes”. Surveys conducted (n=295 households, 10 villages) led to the documentation of 25 ring-stones from 8 villages, with the remaining villages lacking reuse but having an awareness of their perceived uses. Ringstones were collected by these groups from potentially Neolithic sites in the vicinity, their origin was attributed to be natural and not part of a cultural heritage, and they were utilized in a completely different context. In the study region, two surface sites (Dekhulia and Kumbho) were noted in areas from where ringstones were reported to have been recovered. The relationship between ancient and contemporary recycling is important as in terms of understanding both past and present behaviour with shifting significance of aspects of material culture. In case of Bargarh, traditional values of ringstone reuse is only applicable in the modern use directly associated with a new attributed meaning to the ringstone, passed down through an oral tradition. This paper examines issues related to both the properties of ringstones (dimensions, raw material, and morphology) as also the present ritualized context of their reuse. It has great significance when examining long-term trajectories of reuse of artefacts through time, implications for examining behaviour and understanding issues related to the importance for conservation by examining aspects of how the past was and is being perceived.

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