1. **Tanged Points from the Middle Palaeolithic Context at Torajunga, Bargarh Upland, Odisha, India**  
*Pradeep K. Behera and Neena Thakur*

The transition from Lower to Middle Palaeolithic phase is a hotly debated issue and linked with the emergence of modern humans and their migration. It is often claimed that handaxes were gradually replaced by tanged points during the Middle Palaeolithic/Middle Stone Age period. These points have been widely reported from Northeastern African Middle Stone Age sites by several scholars, where it is known as Aterian Technocomplex, dated to between c. 90 ka and 20 ka BP. Recently, tanged points have also been reported from the Early Middle Palaeolithic context at Attirampakkam dating back to 385±64 ka. Such points have a wider geographical context including the Arabian Peninsula and Eurasia. In our recent investigation at the site of Torajunga in Bargarh Upland (Odisha), tanged points, similar in technomorphological features to Aterian points, were recovered from stratified Early Middle Palaeolithic sedimentary context associated with small-sized handaxes and other artefacts. Though the tanged points recovered from the Torajunga site closely resemble the Aterian points of Northeastern Africa, yet the Aterian industries of the latter zone and other areas are devoid of handaxes and cleavers. The present paper intends to give a preliminary account of our investigation at Torajunga with special reference to the tanged points.

ME-2019-1A01

2. **Evidence of Steel Making at Naikund and its Relationship with Mahurjhari, Borgaon and Khairwada, Maharashtra**  
*Oishi Roy*

The Early Iron Age Megalithic Culture of Vidarbha dated 700 - 555 +/- 100 BCE has brought to light the evidence of earliest iron working especially smelting in India, from a site named Naikund. This is the only site that has reported an iron smelting workshop from the Early Iron Age-Megalithic level. This probably suggests the existence of a centralised production unit. However, to prove the existence of a centralised production unit, a typo-technological analysis of the artefacts recovered coupled with ethnographic survey would be required. The typological analysis of the objects shows a degree of standardisation based on the usage pattern. Wet chemical analysis aids in understanding the chemical composition of the ore utilized. Micro-structural analysis gives us a clear insight to the existing technical knowledge of iron working. Therefore, the comparative analysis of objects from the excavated megalithic sites (Naikund, Mahurjhari, Borgaon and Khairwada), would aid in proving or negating the possibility of a centralised administrative unit, if negated then the possibility of dispersed administrative units and their probable locations.
3. A Study on the Ceramic Sequence in the Megalithic Culture of Kerala
Akinori Uesugi, C.S. Ambily, Ajit Kumar, S.V. Rajesh and G.S. Abhayan

This paper explores the ceramic sequence of the Megalithic pottery in Kerala, especially focusing on their typology and 14C dates from the evidence found at Kuttikol and Niramakulam. Although a dozen Megalithic burials have been excavated in Kerala, absence of a plausible sequence has not yet been established in this region because of a lack of detailed excavation reports, comparative study on the artefacts and 14C dates. Ceramics that are common among burial goods in Megalithic burials are known to be a good chronological marker once their stylistic order is established with help of 14C dates to better understand the origin, dispersal and decline of the Megalithic culture. While few research attempts have been made on this issue in the Megalithic archaeology of Kerala, nonetheless, there do exists several stylistic groups in the Megalithic pottery of the region under study. The ceramic chronological sequence proposed in this paper is hypothetical, but it can be a basis for further examination of ceramic evidence in the Megalithic culture of Kerala.

ME-2019-1A03

4. Beyond the Hinterlands: Preliminary Results from the TwoRains Survey in Northwest India 2018
Ravindra N. Singh, Adam S. Green, Aftab Alam and Cameron A. Petrie

This paper presents the preliminary results of the 2018 season of the TwoRains archaeological survey in Northwest India. Between January and March, the team investigated the location of archaeological sites across approximately 3400 km² of areas in the Sirsa, Fatehabad and Hisar districts of Haryana. A small area in the Mansa District of Punjab was also re-visited. The survey utilised the same methodology as was employed during the 2017 season, adopting a digital workflow that facilitated the extensive, systematic and comprehensive analysis of portions of Northwest India’s archaeological landscape. The data collected consisted of preliminary site locations, which were collected using tablet-based AGPS, and periodisation for each location, which was ascertained by undertaking low intensity systematic surface collections. The aim of the survey was to revisit previously identified sites and improve coverage in critical parts of Northwest India’s landscape, addressing challenges that had been identified in previous seasons by the Land, Water and Settlement project, and to create a dataset that would facilitate the integrated analysis of archaeological landscapes across an extensive area that includes many parts of the Indus Civilisation’s settlement distributions. The survey successfully completed this goal, collecting preliminary information from 148 sites that can offer insights into settlement distributions from the earliest period of Northwest India’s occupation around 3300 BCE up to the present.
5. **Trial Excavation at Phupgaon: An Iron Age settlement, Taluka Chandur Bazar, District Amravati, Maharashtra**
*N. Nihildas, Prasanth Sonone, Bhenu Thakur, Gurudas Shete and Pankaj Goyal*

The trial excavation at the site of Phupgaon was carried out to have a better understanding of the nature of the Iron Age settlement in the Purna River basin. This site is located close to the famous Chalcolithic site of Tuljapur Garhi. The cultural remains unravelled include occupational floors, burnt patches, antiquities like terracotta male torso, beads made of semi-precious stones, and iron and copper objects, etc. The ceramic assemblage comprising of Black-and-Red ware, Red burnished ware, and Black burnished wares are distinct to the Wardha and Wainganga valleys and reveals the possibility of a regional variant of ceramic manufacturing in the Iron Age realm of Vidarbha.

ME-2019-1A05

6. **Wari-Bateshwar and Vikrampura: Successful Case Studies in Archaeobotany, Bangladesh**
*Mizanur Rahman, Charlene Murphy, Alison Weisskopf, Louis Champion, Cristina Castillo and Dorian Q. Fuller*

Archaeological research in Bangladesh is a relatively new discipline with archaeological excavations beginning in the late 20th century. The first Archaeology Department in Bangladesh was established at Jahangirnagar University in 1992. As in other tropical areas, palaeo-environmental research has been slow to be adopted and investigated in Bangladesh. This article uses the excavations of Wari-Bateshwar and Vikrampura as successful case studies of the first systematic environmental archaeological recovery undertaken by a joint Anglo-Bangladesh team led by Mizanur Rahman from the Department of Archaeology, Jahangirnagar University (JU) with collaboration from University College London (UCL), Institute of Archaeology. Contrary to the long-held assumptions regarding the poor preservation and recovery of archaeobotanical remains in tropical conditions flotation, results from Wari-Bateshwar and Vikrampura proved to be successful. The recovered archaeobotanical remains suggest that the inhabitants at these sites likely practised rice and millet agriculture in permanent settlements, and importantly, further demonstrate that environmental sampling is worthwhile even in the tropical conditions found in Bangladesh.

ME-2019-1A06

7. **Archaeobotanical Investigations at Agiabir, District Mirzapur, Uttar Pradesh**
*Satish S. Naik, B.C. Deotare and Vibha Tripathi*
Investigations of archaeobotanical remains at Agiabir (Mirzapur District, Uttar Pradesh) brought to light an advanced agriculture-based subsistence economy of various periods from the Chalcolithic, Pre-Northern Black Polished Ware with Iron Age, Northern Black Polished Ware, Sunga-Kushana, and Gupta period. This study is based on the analysis of nineteen samples of carbonized and semi-carbonized seeds and fruits of cultivated and wild plants along with a bulk of wood charcoal pieces. People at Agiabir subsisted on starch-rich cereals such as rice \((Oryza sativa\ L.)\) and barley \((Hordeum vulgare)\) supplemented with protein-rich pulses like lentil \((Lens culinaris\ Medik.)\), horse-gram \((Macrotyloma uniflorum)\), field pea \((Pisum arvense)\), moth-bean \((Vigna aconitifolia)\), black-gram \((Vigna mungo)\), green-gram \((Vigna radiata)\) and millets like Kodo millet \((Paspalum scrobiculatum)\), Barnyard millet \((Echinochloa crusgalli)\), Foxtail millet \((Setaria cf. glauca)\) and Italian millet \((Setaria italic)\). Besides these, the seed remains of oil-seed crop linseed \((Linum usitatissimum)\); fruit seed of jujube \((Ziziphus nummularia)\) and seeds of semal \((Bombax ceiba)\) have been encountered at the site. Other economically important seeds of wild and weedy plants in association with these crop plants furnish information of crops grown and the ecology of ancient cultural settlements in the parts of the Middle Ganga Basin.


**ME-2019-1A07**

8. **A Preliminary Study of Knobbed Ware from Odisha**

*Sila Tripati, Girish Prabhu, Sunil Kumar Patnaik, Subrata Kumar Acharya, Uma Kanta Mishra, Rudra P. Behera, Gopal Charan Pradhan, Baba Mishra, Dibishada Garnayak, Anam Behera, Saumya Ranjan Sahoo and Sachin Vidydhar Joshi*

Archaeological explorations and excavations across the length and breadth of the Indian subcontinent have revealed several distinct types of pottery which facilitated reconstruction of the past. In archaeology, research on pottery has played a key role in providing information about a period and cultural sequence of a site and its contacts with other regions, whether local or outside. Pottery like Northern Black Polished Ware (NBPW), Rouletted ware (RW) and other early historical period pottery, for instance, Knobbed ware (KW), have played a significant role in the maritime trade of South and Southeast Asia. In comparison with other pottery, distribution and studies on KW are very limited. KW has been recovered from excavations at many sites in Odisha and elsewhere in India. During recent explorations along the Odisha coast, KW sherds have been collected from several sites of Odisha. In this paper, an attempt has been made to understand the distribution of KW in Odisha, its period and role in the maritime trade of Odisha in particular and India in general.

Sila Tripati et al., *Man and Environment* XLIV(1):82-89 [2019].

**ME-2019-1A08**

9. **A Site Catchment Analysis at Semthan, Anantnag District, Jammu and Kashmir**

*Abdul Rashid Lone*

Archaeological explorations and excavations across the length and breadth of the Indian subcontinent have revealed several distinct types of pottery which facilitated reconstruction of the past. In archaeology, research on pottery has played a key role in providing information about a period and cultural sequence of a site and its contacts with other regions, whether local or outside. Pottery like Northern Black Polished Ware (NBPW), Rouletted ware (RW) and other early historical period pottery, for instance, Knobbed ware (KW), have played a significant role in the maritime trade of South and Southeast Asia. In comparison with other pottery, distribution and studies on KW are very limited. KW has been recovered from excavations at many sites in Odisha and elsewhere in India. During recent explorations along the Odisha coast, KW sherds have been collected from several sites of Odisha. In this paper, an attempt has been made to understand the distribution of KW in Odisha, its period and role in the maritime trade of Odisha in particular and India in general.
Semthan is one of the urban centres of Early Historic Kashmir. Antiquities consisting of terracotta figurines, copper, iron and semi-precious materials have been catalogued during the various explorations and excavations conducted at the site. Semthan is the only archaeological site from the Kashmir Valley till date, from where the cultural material pertaining to the Northern Black Polished Ware culture, including the Punch Marked Coins and Indo-Greek remains, was exposed. This paper examines the possible reasons for the location of the site in a particular environmental niche, as also the provenance of the material remains that were found at the site during excavations and explorations, using ‘site catchment analysis.’ This helped in assessing the economic potential of the site, exploitation of natural resources, nature of interaction with the network of satellite settlements located in the catchment area of Semthan and beyond. Archaeological explorations led to the discovery of a number of new settlements of the Early Historic period and the associated material culture.

ME-2019-1A09

10. Rejoinder to the ‘Discovery of an Ostrich Painting in Raisen, Madhya Pradesh’
*S.B. Ota, Niharika Srivastava, Suman Pandey and Debasish Mishra*

Rejoinder: No abstract

ME-2019-1N01