

Man and Environment

ABSTRACTS

Volume XXXVIII, No. 1 (January-June 2013)

Technological Innovations and Socio-Cultural Changes: Archaeological Context of Vindhya-Ganga Plain

Vibha Tripathi

Vibha Tripathi, *Man and Environment* XXXVIII (1): 1-16 [2013]
ME-2013-1A01

Lithic Assemblage from Neolithic Mound of Chogha Khaki Aseman Abad, Central Zagros, Iran

Davoud Davoudi, Rouhollah Nourolahi and Abdolmalek Shanbehzadeh

Chogha Khaki Aseman Abad, Neolithic site in the northeast of Ilam province in Western Iran was excavated in 2012. This article discusses archaeological evidence found during this trial excavation. The archaeological evidence is in form of architectural remains, stone artefacts, bone and fossil remains, and potsherds.

Davoudi *et al.*, *Man and Environment* XXXVIII (1): 17-22 [2013]
ME-2013-1A02

Archaeological Explorations in Charkhi-Dadri-2 Block, District Bhiwani, Haryana

Vivek Dangi and Parveen Kumar

This is a preliminary report of a village-to-village survey conducted in Charkhi-Dadri Block-2 of Bhiwani district, Haryana during August-September 2011. A total of 59 sites were documented. The idea of focusing on this area was to get a better picture for understanding the relationship between the Ganeshwar-Jodhapura culture complex of northern Rajasthan and the expansion of the Harappan civilization in the southwestern fringes of the Ghaggar Plain.

Vivek Dangi and Parveen Kumar, *Man and Environment* XXXVIII (1): 23-31 [2013]
ME-2013-1A03

Recent Excavations at Alamgirpur, Meerut: A Preliminary Report

Ravindra N. Singh, Cameron A. Petrie, P. P. Joglekar, Sayantani Neogi, Carla Lancelotti, Arun K. Pandey and Anubha Pathak

Alamgirpur (29° 00.206'N; 77° 29.057'E) was earlier excavated by Y.D. Sharma in 1959, who confirmed the Harappan affiliation of the site and revealed a four-fold cultural sequence with a break in between each period. However, later he (1989) revised the chronology, and mentioned that Period I had Harappan, Bara and some new but related wares. In view of this complication, a fresh limited excavation was conducted from April to June, 2008, by the Banaras Hindu University with the objectives to reconfirm the cultural sequence on the basis of AMS dates, to study the faunal and floral remains, and to carry out palynological and geoarchaeological studies in order to understand the human response to the changing climatic conditions. However, establishing a chronology for the site was an essential component of this research. The new excavations at Alamgirpur carried out with a multi-disciplinary approach revealed that the first inhabitants of this site used Harappan (with a few Early Harappan and OCP) pottery, simple structures made with mud walls with thatched roofs based on wooden posts. Considering the material remains and the consistent AMS dates, the Harappan presence across the Yamuna River is now unquestionable. The date range of 2600 to 2200 B.C. (calibrated) has been proposed for the earliest level at Alamgirpur. On the basis of recent excavations and geoarchaeological study it has been suggested that there is no stratigraphic gap between Harappan and PGW levels. The study conducted on fuel exploitation, suggests that although the site was located in an open grassland environment where people had access to some wood resource, but forms of fuel other than wood was also exploited. Preliminary archaeobotanical analysis showed the presence of various cereals namely, barley, wheat and rice, and legumes such as vetch, wild/domesticated peas and mung bean, in addition to oil seeds suggesting agriculture-based subsistence economy of Harappa settlers at this site.

R. N. Singh *et al.*, *Man and Environment* XXXVIII (1): 32-54 [2013]
ME-2013-1A04

Excavations at Sisupalgarh 2009: The Northern Gateway and Activity Areas Outside the Rampart

Rabindra Kumar Mohanty, Monica L. Smith and Tilok Thakuria

The previous excavations at Sisupalgarh (2005-2008) were carried out at several locations as well as on the rampart and gateway. This article reports the findings of the last season excavations (2009) carried out on the North-Western Gateway to the earliest levels and also a few more mounds excavated outside the rampart in the north. The findings further revealed that the provision of the gateway was made from the beginning of the layout of the city and stood over the ancient habitation existing prior to the construction of the enclosing fortification. It was maintained, continued to be rebuilt and enlarged using different architectural materials such as brick and stone through the beginning of the Christian era. This gateway opened to the moat with a kind of a stepped platform having an enclosed antechamber behind it. This was probably used for loading and unloading of the commodities moved in and out of the city. The city had suburbs at least on the northern and the western sides beyond the encircling moat. The excavations at the northern suburb has given evidence of mud stupas embellished by laterite slabs probably belonging to the

later part of the 1st millennium B.C. The cultural sequence of occupation in the exterior is similar in nature and chronology to the interior of the rampart

R.K. Mohanty *et al.*, *Man and Environment* XXXVIII (1): 55-65 [2013]
ME-2013-1A05

A Preliminary Report of the Excavations at Pakkākot (2010-2012), Ballia District, Uttar Pradesh

S.R. Dubey, G.K. Lama, A.K. Singh and S.K. Singh

The site Pakkākot is spread over a vast area (4 x 1 km), and its catchment area extends to about 8 km. The site lies between Chhoti Saryu and Budhi River which is a unique geographical feature. This made possible for its inhabitants to have commercial links with other contemporary cities. Archaeological excavations at Pakkākot brought to light a fivefold culture sequence ranging in date from the 5th millennium B.C. (Neolithic) to the 7th century A.D. (Gupta and Post-Gupta periods) without any break. The people of the Neolithic period were the first to settle at Pakkākot. Agriculture was in vogue in this period and cultivating two crops in a year was in practice. In the Chalcolithic period too, the settlement was rural. The beginning of urbanization is witnessed in the second phase of the NBPW period. The site perhaps became a full-fledged urban centre during the Śuṅga-Kuṣāṇa period. A silver female figurine measuring 10.75 cm long and having archaic features was recovered along with a punch-marked coin from the pre-Mauryan level. Beads of semi-precious stones, copper coins and a great number of seal-sealings, fortification walls and bastions also represent the urban character of the site.

S.R. Dubey *et al.*, *Man and Environment* XXXVIII (1): 66-73 [2013]
ME-2013-1A06

Holocene Vegetation and Climate Change in Jammu Region, Based on Pollen Evidence from the Lake Deposits

Anjali Trivedi, M.S. Chauhan and M.A. Malik

Pollen analytical data generated through the analysis of two sediment cores from Mansar and Surinsar lakes, lying in the subtropical belt of Jammu region, have revealed the vegetation succession, contemporary climatic episodes and impact of anthropogenic activities in the region since Early Holocene. The pollen sequence has shown the existence of mixed chirpine-oak forests dominated by *Pinus cf. roxburghii* followed by *Quercus* (*cf. incana*) in the region prior to 9,000 yr BP under a cool and dry climate. The records of pollen of aquatic plants indicate the existence of the lakes during this early part of the Holocene. The mixed chirpine-oak forests were succeeded by mixed oak-chirpine forests between 9,000 and 6,500 yr BP, as inferred by the rise of oak and other broad-leaved taxa and a contemporary decline of chirpine with the onset of a warm and moist climate. The lakes attained a wider expanse by this time, as indicated by the enrichment of aquatic flora. Subsequently, between 6,500 and 4,300 yr BP the expansion of *Pinus cf. roxburghii* and depletion in oak and other broad-leaved taxa suggests that climate turned relatively cooler and dry than witnessed earlier. From 4,300 to 3,000 yr BP the climate became harsher, as evidenced from the decline in broad-leaved taxa and incursion of

Bombax malabaricum-a savannah element in the forest. Between 3,000 and 800 yr BP, the steady improvement of *Quercus* and other broad-leaved taxa occurred with the inception of a warm and moist climate, probably due to an increase in monsoon precipitation. The frequent retrieval of cerealia and other culture pollen denotes the acceleration in the agricultural practice in the region. Since 800 yr BP onwards the climate deteriorated as reflected by the sharp decline in oak and other broad-leaved elements and a simultaneous expansion of *Pinus cf. roxburghii*. The selective exploitation of the oak cannot be ruled out. Two pluvial episodes have been recorded in the region around 5,500 to 4,000 yr BP and 2,100 to 800 yr BP as the sediments deposited during these periods are largely constituted of coarse sand as marked in the lithocolumns.

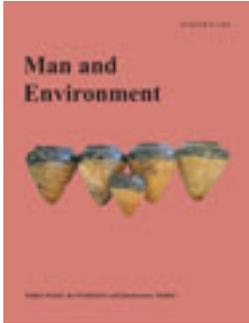
Anjali Trivedi *et al.*, *Man and Environment* XXXVIII (1): 74-89 [2013]
ME-2013-1A07

Defending the Golden City: Survey and GPS Aided Mapping of the Outer Fortification Wall Surrounding Old Goa

Brian Wilson, Abhijit Ambekar and Rohini Pande

In 1566 during the rule of Viceroy Antão de Noronha, the Portuguese initiated the construction of a massive fortification wall surrounding the city of Old Goa. Covering a distance of more than 20 km, the wall remains one of the most interesting examples of Portuguese military engineering in all of its overseas colonies and is one of the largest fortification walls in South Asia. Recent scholarship has traced the wall's origins and phases of construction largely through historical research, yet to-date no serious archaeological work has recorded the physical remains of this immense structure. This article presents the results of a recent survey mounted to record the current state of preservation of the wall, give a detailed description of its construction and layout, and record its exact course through the walking survey and GPS aided mapping. This work is critical as increased construction activity is encroaching upon the wall, and many segments have already been destroyed. The results of the survey reveal that only 11.9 km of the wall still survives in relatively good state of preservation but these portions are currently under major threat from unregulated real estate expansion.

Brian Wilson *et al.*, *Man and Environment* XXXVIII (1): 90-115 [2013]
ME-2013-1A08



Volume XXXVIII, No. 2 (July-December 2013)

Further Thoughts on the Study of Early Agro-pastoral Societies of India

K. Paddayya

This paper is a sequel to the H.D. Sankalia memorial lecture of 2010 in which the author called for the use of 'newer' perspectives in the study of early agro-pastoral cultures of India (Paddayya 2011). In the present paper he argues that the roots and ethos of village life in the country can be traced back to the protohistoric stage of its past and that the contemporary society could benefit from an anthropological understanding of this stage of human cultural evolution.

K. Paddayya, *Man and Environment* XXXVIII(2): 1-9 [2013]
ME-2013-2A01

Evaluating the Anarta Tradition in the Light of Material Culture from Loteshwar and Other Sites in Gujarat

S.V. Rajesh, K. Krishnan, P. Ajithprasad and V.H. Sonawane

The Anarta tradition is primarily defined by its ceramic types; Gritty red Ware, Fine, Coarse and Burnished Red Wares and Burnished Black/Grey Wares, made by hand/slow wheel. Although, a good number of sites have been studied till date, no concrete attempt has been made to bring to light and define its other cultural parameters. This paper tries to define its ceramic varieties and other parameters within the light of excavations at Loteshwar, its 'type site' that gives evidence of transition from Mesolithic to chalcolithic and also by incorporating finds from excavations and explorations in adjacent regions. Further, the available radiocarbon dates from these sites were recalibrated. Through this exercise, it was possible to assign an earlier date for Anarta tradition and its continuity to a much later date than what was thought earlier. The paper concludes with a verification of the term 'Anarta Tradition' within the spatio-temporal framework.

S.V. Rajesh, *et al.*, *Man and Environment* XXXVIII(2): 10-45 [2013]
ME-2013-2A02

Contextualizing Megalithic Places: Survey, mapping, and Surface Documentation in the Environs of Hire Benakal (Koppal District, Karnataka)

Andrew M. Bauer and Mudit Trivedi

Although there is a long history of archaeological research on India's great variety of megalithic monuments and sites, only recently has attention been cast on their potential significance to understanding social relationships and inequalities within the societies that produced them. Early studies were primarily concerned with categorizing and typologizing the multitude of megalithic forms that dot India's archaeological landscape while largely overlooking the spatial configuration of monuments and their broader context within cultural landscapes. Building on more recent scholarship, in this paper it is demonstrated that by systematically surveying, mapping, and recording spatial relationships among megalithic sites and other components of their archaeological environs it is possible to view them as ancient places that were important to cultural practices of reproducing social inequalities. We make this argument by presenting the results of systematic archaeological survey and surface documentation within the vicinity of Hire Benakal, a ~20 ha megalithic complex composed of more than 1000 distinct monuments and commemorative features in Koppal District, central Karnataka. Through analyses of the spatial distribution and variability in megalithic mortuary architecture and monuments' relationships to other land use sites we argue that not all ancient inhabitants of Hire Benakal's environs exercised equal abilities to mobilize labour and to establish social connections to the important material and symbolic resources that came to define this megalithic place. In addition to these emphases on context, in this paper we introduce a method for expediently generating quantitative data about monument variability to test for statistical relationships and on that basis make arguments about places and social practices and processes.

Andrew M. Bauer and Mudit Trivedi, *Man and Environment* XXXVIII(2): 46-61 [2013]
ME-2013-2A03

Archaeological Excavations at Porunthal, District Dindugul, Tamil Nadu

K. Rajan, V.P. Yathees Kumar, S. Selvakumar, R. Ramesh and P. Balamurugan

Recent excavations conducted (2009-2010) at Porunthal in District Dindugul of Tamil Nadu yielded cultural material that has a wide significance for the history of Tamil Nadu. Nearly 2000 glass beads were recovered from a 50 m² dig along with evidence of a glass working furnace and other cultural material. A large number of four legged jars, pots, bowls, plates, basins, conical vases and several beads of steatite, carnelian, agate and quartz were recovered from four graves. A ring stand engraved with Tamil-Brahmi script, *va-y-ra*, was recovered along with a pair of stirrups, iron swords and arrow heads. Another important finding was of the grains of paddy placed as grave goods in a four-legged jar. The paddy grains collected from the jar were dated to 2440±30 BP (490 B.C.) and this date ascribes the introduction of the Brahmi script in India to 5th century B.C.

K. Rajan, *et al.*, *Man and Environment* XXXVIII(2): 62-85 [2013]
ME-2013-2A04

Rock Art Discoveries in Rohtas Plateau Region, Rohtas District, Bihar

Sachin Kumar Tiwary

This article based on results of exploration of rock art sites in Sasaram block of Rohtas District in Kaimur region of Bihar. It reports on the earlier excavations conducted in this region, the nature of explored sites, various features of caves and shelters, subject matter of pictographs, their orientations, chronology and presents a comparative analyses.

Sachin Kumar Tiwary, *Man and Environment* XXXVIII(2): 86-91 [2013]
ME-2013-2A05

Ethnoarchaeology of the Dying Art of Potters in Imphal, Manipur

Samurailatpam Sujata Devi and Preeti A. Panjwani

Pottery manufacture is fascinating, but modernization weighs on the survival of the traditional techniques of potters' art; such as the case at Ningthamcha Kharong, a pottery manufacturing site in Imphal, Manipur. Here pottery making techniques are interesting. The potters use a devise (*Phunderi*) made of circular wood and rubber along with a few other semi-modern implements. The finished products of this pottery manufacturing technique are incense burners, hookah tops/smoking cups, small pots, etc. these potters were makers of the hookah tops/ smoking cups for ancient royal families, but presently they produce decorative products for fairs (*Mela*). Pottery assemblages of Khangabok, Khamaran, Khuman Andro, Koutruk, and Sekta were analyzed. The study of the hookah tops/smoking cups from the above mentioned sites led the way to conduct an ethnoarchaeological study at Ningthamcha Kharong. Based on analogy of shapes, types and designs a comparative study of manufacturing techniques of the artefacts and the contemporary products at Ningthamcha Kharong was done.

S. Sujata Devi and Preeti A. Panjwani, *Man and Environment* XXXVIII(2): 92-98 [2013]
ME-2013-2A06

Nari-Uttan-Hastha-Pada: An Ethnoarchaeological Study in the Light of the Living Tradition of Charkhopadaine

A.K. Dubey and Sachin Kumar Tiwary

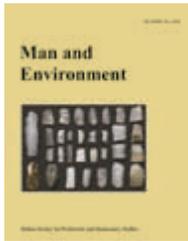
The present paper describes the definition, antiquity, iconographic evolution, distribution and different mediums in which the *Aditi-Uttanpada* or *Lajjagauri* is found in relation to the living tradition in a tribal society called *Chera*, which is similar to the former known as *Charkhopadaine*. The authors have introduced a new term *Nari-Uttana-hasta-pada* for better understanding and defining the cult.

A.K. Dubey and Sachin Kumar Tiwary, *Man and Environment* XXXVIII(2): 99-105 [2013]
ME-2013-2A07

A Note on Rare Ritual Animal Killing Depicted in Rock Painting of Kala Tola, District Kota, Rajasthan

Jagat Narayan, Tej Singh Mavei and Neha

Jagat Narayan, *et al.*, *Man and Environment* XXXVIII(2): 106-107 [2013]
ME-2013-2A08



Volume XXXIX, No.1 (January-June 2014)

Graveyards of Prehistoric Life: Understanding the Evolution of Helmut de Terra as a Researcher and Writer on South Asia

Nayanjot Lahiri

The subject of this paper, Helmut de Terra, is usually seen as the co-creator of a once influential and now discarded 1939 framework for understanding Indian prehistory, one in which ecological and climatic changes were integrated and interwoven with the occurrence of Palaeolithic industries. However, there was much more to de Terra's engagement with Asia than the application of the European Ice Age sequence to the region. This can be appreciated if one examines his life and work from 1919 when he first visited Java to the 1930s which saw three major expeditions led by de Terra in South and Southeast Asia. Drawing on his little known publications and on a variety of unpublished and archival sources, the paper not only attempts to unravel the persona of this geologist-cum-archaeologist, but also capture the intellectual climate of those times where a scholarly synergy could be seen at work among scholars who worked on the prehistory of China, Java and India.

Nayanjot Lahiri, *Man and Environment* XXXIX(1): 1-23 [2014]
ME-2014-1A01

Further Explorations in the Southern Fringe of Ghaggar Plains, District Bhiwani, Haryana

Parveen Kumar, Raj Pal and Vivek Dangi

This paper is preliminary report of the second season (March-April 2012) of the village-to-village survey in the southern fringe of the Ghaggar Plains partly in the Charkhi-Dadri tehsil of Bhiwani District, Haryana. A total of 75 sites have been documented and explored. By focusing on this area we hope to better understand the issues such as the relationship between Ganeshwar-Jodhpura culture complex of northern Rajasthan and the Harappan Civilization; and also the expansion of the Harappan Civilization in the southwestern fringe region of the Ghaggar Plains; and the general information about the archaeological sites in the region.

Parveen Kumar, *et al.*, *Man and Environment* XXXIX(1): 24-32 [2014]
ME-2014-1A02

Site Catchment Analysis of the Harappan Site of Rakhigarhi, District Hissar, Haryana

Amarendra Nath and Tejas Garge

Rakhigarhi, categorised as a metropolitan centre, is one of the five largest archaeological settlements of the Harappan Civilization. The aim of the present paper is to determine the function of Rakhigarhi and its satellite sites spread around 15 km by applying the method of site catchment analysis. This analysis

incorporates the study of exploitation of resources by the ancient community by examining the zonation of resources spread around ancient sites and the resources exploited from distant lands. It highlights the hierarchical position of Rakhigarhi in the settlement pattern of lower Saraswati/Drishadvati valley sites.

Amarendra Nath and Tejas Garge, *Man and Environment* XXXIX(1): 33-45 [2014]
ME-2014-1A03

Osteological Study of a Human Skeleton Excavated from Vaharvo Timbo, District Patan, Gujarat

Veena Mushrif-Tripathy, P. Ajithprasad, M. Madella, J. L. Mateos, S.V. Rajesh, B. Rondelli, J.C. Saiz, C. Lancelotti, C. Gadekar, and J.J. Garcia Granero

The present paper describes the results of osteological studies on a sub-adult human skeleton found at *Vaharvo Timbo* in Ranod Village in Sami Taluka of the Patan District, Gujarat, belonging to the Chalcolithic period (3000-2600 BCE). The skeleton has been kept partially embedded in a block of soil, as it will be for display in the museum. Hence, any observations made have been based on the skeletal elements exposed on the surface of the block of soil in which it was buried. The skeleton is of a child, around 7 years old at the time of death. Sex determination of this sub-adult has not been done. Interestingly the maxillary incisors are broad in their Mesio-distal diameter. No pathology was noticed on this child.

Veena Mushrif-Tripathy, *et al.*, *Man and Environment* XXXIX(1): 46-51 [2014]
ME-2014-1A04

The Iron Age Faunal Economy at Badmal, District Sambalpur, Odisha

Pankaj Goyal, P.P. Jogalekar and P.K. Behera

The paper deals with the analysis of the faunal remains recovered from the Iron Age deposits at Badmal, located in Western Odisha. Badmal (21° 6' 22"N; 84° 03' 37"E) locally known as Asurgarh, lies around half a kilometre south-west of the village of similar name. The site was subjected to limited excavation in 2002-03 by Sambalpur University at two different localities where two periods of occupation (Iron Age and Early Historic) were unearthed. The faunal material (n = 641) from both these localities was classified examined, photographed and quantitatively analyzed at the Archaeozoology Laboratory at Deccan College, Pune following the well-established internationally standardized procedure. The faunal assemblage at the site revealed presence of both domestic (cattle, buffalo, sheep, and mongoose). In addition, one reptilian species of Indian sawback turtle was identified. The proportion of wild animals relative to domestic ones was much smaller. While Odisha is one of the most important areas for understanding past human-animal-environment relationship, the region is lesser known for bio-archaeological datasets. Therefore, the present paper provides a window of opportunity to look into the nature of animal-based subsistence activities of the Iron Age people in this region.

Pankaj Goyal, *et al.*, *Man and Environment* XXXIX(1): 52-61 [2014]
ME-2014-1A05

Tekkalakota through the Ages: Recent Research and Perspectives

Namita Sanjay Sugandhi

This paper provides the results of a survey and surface collection project around the site of Tekkalakota, in Bellary district, Karnataka. Tekkalakota is best known as a site type of the Southern Neolithic (c. 3000-1000 BCE), but also has substantial deposits and remains that date to the later Iron Age, Early Historic and Medieval period. It is these late periods, particularly the Iron Age (c. 1000-500 BCE) and Early Historic period (c. 500 BCE- 500CE), which were the focus of a survey and surface collection project conducted in 2005. The survey area also included the Asokan edict sites Nittur and Udegolam. Erected in the mid-3rd century, these inscriptions have often presumed to mark the boundaries of the Mauryan Empire (c. 320-180 BCE). However, more recent studies have suggested that Mauryan imperialism varied significantly across the Indian subcontinent, and may have been more limited in regions such as the southern Deccan. This preliminary examination of the Iron Age/ Early Historic settlements at Tekkalakota supports this interpretation, and indicates that processes of Mauryan imperialism had limited impact in this area. Nevertheless, the site of Tekkalakota and its environs have tremendous potential in terms of their ability to shed light on poorly understood cultural periods such as the Iron Age and Early Historic and on long term processes of continuity, change and integration across the Southern Deccan.

Namita Sanjay Sugandhi, *Man and Environment* XXXIX(1): 62-80 [2014]
ME-2014-1A06

A Study of Unique Stone Mortars from Goa, Velha

Abhijit S. Ambekar, Rohini Pande Ambekar, D.N. Sridhar and A.S. Gaur

Goa Velha known as Gopakattanam, the ancient capital of the Kadambas of Goa, till today displays faint remains of the capital. It is here that two unique stone mortars were found and the general belief was that they were once used for oil extraction during the rule of the Goa Kadambas. The article traces the proper identification of these stone mortars based on ethnoarchaeological studies, of the conventional method of jaggery production and coconut oil extraction in Goa. In addition to ethnoarchaeological studies, travellers records were also studied to ascertain the proper function of the stone mortars. Besides these, a geochemical analysis was also carried out to identify the properties of the stone.

Abhijit S. Ambekar, *et al.*, *Man and Environment* XXXIX(1): 81-91 [2014]
ME-2014-1A07

Typological Analysis of Chalcolithic Lithic Assemblage from Navinal, District Kachchh, Gujarat, Western India

Charusmita Gadekar, S.V. Rajesh, Saleem Shaikh, Brad Chase, Y.S. Rawat, Ambika Patel, G.S. Abhayan, V. Vinod, Ajit Kumar and P. Ajithparasad

Recent explorations at the site of Navinal, Kachchh District, Gujarat has brought to light interesting evidence regarding the co-existence of regional Chalcolithic culture with urban Harappans. This integration is reflected in various archaeological artefacts collected from the site. Lithic assemblages are integral part of Chalcolithic cultures and are known to provide important evidence regarding trade and technology. The lithic assemblages recovered from the site has given proof of long distance trade/contact and adaptation of a new technique of the lithic blade production.

Charusmita Gadekar, *et al.*, *Man and Environment* XXXIX(1): 92-105 [2014]
ME-2014-1A08

Folk Tales on Ancient Metal Mining Activities in Rajasthan and Gujarat

A.K. Grover

Folk tales form an integral part of the human history and are related to varied subjects. Ancient metal mining related folk tales, especially for precious metals, are no exception. During field surveys in southern Rajasthan the author recorded a few such tales and attempted to verify their ground truth with the aim to correlating tales with various geological factors suitable for occurrence of metals. The correlation was found to be positive, which further pointed to applications of folk tales prevailing in parts of Rajasthan and Gujarat have been gathered during field surveys, from colleagues and from literature. Area-wise prevailing such folk tales and their ground geological truth or findings of investigations are presented in the paper.

A.K. Grover, *Man and Environment* XXXIX(1): 106-115 [2014]
ME-2014-1A09



Volume XXXIX, No. 2 (July-December 2014)

Prehistory of the Middle Son Valley

J.N. Pal

This is the presidential address delivered during Society's annual conference held at Varanasi (14-16 December 2013). This address summarises results of prehistoric archaeological investigations conducted by the University of Allahabad since 1974. In particular, findings of systematic and scientific archaeological investigations done by multi-disciplinary teams of Allahabad University and other national and international institutes in the Middle Son Valley has been discussed.

J.N. Pal, *Man and Environment* XXXIX(2): 1-12 [2014].
ME-2014-2A01

Preliminary Results of Excavation at Karanpura, a Harappan settlement in District Hanumangarh, Rajasthan

V.N. Prabhakar and Jaseera C. Majid

Karanpura is located on the River Chautang (ancient Drishadvati, a tributary of River Sarasvati) nearly 60 km west of Hissar and 6 km west of Bhadra on the Bhadra – Goga Medi road in District Hanumangarh, Rajasthan. The Excavation Branch II of the Archaeological Survey of India excavated the site for two field seasons, viz., 2012-13 and 2013-14. The excavation brought to light occupational remains of Early Harappan and Mature Harappan phases of Harappan civilization. The occupational remains of over 3 m evidenced a continuous occupation at the site starting around *circa* 2800 BCE until around the end of second millennium BCE. The upper 1.5 m of occupational deposit had been removed by local villagers for agricultural purposes and it hence could be presumed that the end of the habitation occurred towards 2000 BCE. Nevertheless, the excavation has enabled us to understand the dynamics of Harappan culture and its spread into the areas watered by the tributary rivers like River Drishadvati for reasons of exploitation of various raw materials located in the northern Aravalli region. The access to these raw material sources might have been facilitated through the settlements located on the River Drishadvati to a larger extent. This paper puts forth the preliminary results of two seasons of excavation at this site.

V.N. Prabhakar and J.C. Majid, *Man and Environment* XXXIX(2): 13-41 [2014].
ME-2014-2A02

Recently Documented Miniature Vessels from Chanhu-daro, Indus Valley c. 2600-1900 BCE

Heidi J. Miller

This research paper presents unpublished material on miniature vessels from the site of Chanhu-daro. A miniature vessel, has been defined for this research, as a vessel whose external height and/or maximum

body diameter does not exceed 5 cm. The approximately 180 newly documented pots illustrate the popularity of this container size at the site. In fact, these exceptionally small vessels do not form a distinct category because they share formal features with various vessel types of different sizes but represent the far end of the vessel size-continuum. The varied manufacturing techniques, the quantity found at the site, and the surface treatments on approximately 40% of the assemblage, demonstrate that this size of vessel was valued and useful to the inhabitants and not necessarily a toy or symbolic representation.

H.J. Miller, *Man and Environment* XXXIX(2): 42-52 [2014].
ME-2014-2A03

Excavations and Geophysical Survey at the Ancient Early Historic Town of Talapada, Odisha, 2013

Rabindra Kumar Mohanty, Monica L. Smith and Timothy Matney

The site of Talapada is a 25 ha settlement with a square formal perimeter that replicates the rampart at the nearby Early Historic urban centre of Sisupalgarh. Geophysical survey and excavations were used to investigate the interior of the Talapada settlement, revealing that occupation was selective within the rampart perimeter and that the site was not fully inhabited even during the period of substantial occupation at the nearby Early Historic site of Sisupalgarh. Artefacts were similar in type and abundance to Sisupalgarh, however, suggesting that the dwellers of smaller sites in the urban hinterlands fully participated in the regional economy of the Early Historic period.

R.K. Mohanty *et al.*, *Man and Environment* XXXIX(2): 53-63 [2014].
ME-2014-2A04

Application of Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry to the Glass Bangles from Hirapur Megaliths

Kantikumar A. Pawar, James Lankton, Bernard Gratuze and Kim Yongjun

In the present paper an attempt has been made to throw light on the glass (bangles) material -recovered during the course of the burial excavation at Hirapur in Chandrapur District, Maharashtra, a dolmen site in Central India, the first of its kind to be excavated. Scientific analysis (Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry technique) of the glass material has been used to compare this material with that from other sites in Maharashtra.

K.A. Pawar *et al.*, *Man and Environment* XXXIX(2): 64-72 [2014].
ME-2014-2A05

Tangkhul Megaliths and their Counterparts: A Comparative Study

P. Binodini Devi

Manipur, in the northeastern part of India, has four valleys and five hill districts. Ukhrul, a revenue hill district has five sub-divisions - the Chingai (Ukhrul North), the Ukhrul (Ukhrul Central), the Kamjong Chassad (Ukhrul East), the Phungyar Phaisat (Ukhrul West) and the Kasom Khullen (Ukhrul South). The district is mainly populated by the Tangkhul tribe. The present paper deals with the tradition of the megalithic period practiced by this tribe in each of these sub-divisions. This work is based on field investigations related to various social aspects, and, religious and superstitious features, connected with the construction of megaliths and their wooden counterparts by the Tangkhul tribe.

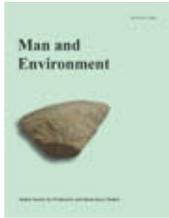
P. Binodini Devi, *Man and Environment* XXXIX(2): 73-77 [2014].
ME-2014-2A06

Settlements with Painted Grey Ware: Spatial Analysis and Interpretation of Inter-site Behaviour

Daljeet Singh, Bhuvan Vikrama and Dilip K. Kushwaha

The Ganga Plains have played a significant role in the origin and growth of Indian Culture. The Upper Ganga Plain has evidenced a predominance of the Painted Grey Ware (PGW) culture, and has not only been associated with the epic Mahabharata, but also with or at least with one of the waves of Aryan migrations into Indian Subcontinent. Discoveries of a considerable number of PGW sites, as a result of archaeological investigations during the last sixty years, provide a quantum of data for scientific analyses and reconstruction of this culture. One such approach is the spatial analysis and dispersal pattern of the sites. The focus of this paper is to identify the distribution pattern of the sites of the Ganga Plains and determine the inter-site spatial behaviour of the authors of the PGW Culture.

Daljeet Singh *et al.*, *Man and Environment* XXXIX(2): 78-90 [2014].
ME-2014-2A07



Volume XL, No.1 (January-June 2015)

Barpadar: An Acheulian Site in the Upper Jira River, District Baragarh, Odisha

Pradeep K. Behera, Prakash Sinha and Neena Thakur

The present paper briefly discusses the results of recent investigations carried out in the upper course of the River Jira, a tributary of the River Mahanadi, which brought to light an Acheulian lithic assemblage in semi-primary context near the village Barpadar, situated about 18 km southwest of the district headquarters of Baragarh in western Odisha. Stratigraphically, the assemblage is found to be associated with a deposit of lateritic gravels. While the discussed assemblage does not contain chopper-chopping elements, techno-typologically it exhibits several characteristic features normally noticed in the Late Acheulian techno-complex of India. The low incidence of manufacturing debris and patterns of raw material use at the site appear to suggest that the large cutting tools and most of the available large flake blanks of quartzite were carried to this site by the Acheulian hominins from some other locales of the Jira Valley.

P.K. Behera *et al.*, *Man and Environment* XL(1): 1-13 [2015].
ME-2015-2A01

Newly Discovered Acheulian Site at Atit on Urmodi River, Satara District, Maharashtra

Jayendra Joglekar and S. G. Deo

The Deccan Trapp region of the Upper Krishna Basin with special reference to Urmodi River is the focus of this paper. Explorations carried out in the region have brought to light an Acheulian site at Atit. This puts River Urmodi on the map of prehistoric archaeology for the firsttime. Explorations show that there is scope to carry out further research in this region.

J. Joglekar and S.G. Deo, *Man and Environment* XL(1): 14-18 [2015].
ME-2015-2A02

Towards a New Direction in Lithic Studies

Charusmita Gadekar

One of the major problems while dealing with lithic assemblages is the selection of useful and appropriate statistics to describe and analyse the data. Inappropriate statistics yields weak results, while strong ones often give erroneous interpretations. This paper is an attempt to show the usefulness of fractal analysis regarding Chalcolithic lithic assemblages. Fractal statistics are relatively new in mathematics. They can be useful in archaeology since many archaeological phenomena like many other natural phenomena are fractals. Fractal analysis is not just a single statistics. It is a large suite of

quantitative techniques for describing and analyzing complex and irregular phenomena. Fractals provide clues to the underlying dynamics that created the fractal patterns thus it is best suited for archaeology since archaeological records are the static pictures of past cultural dynamics.

Charusmita Gadekar, *Man and Environment XL(1): 19-26 [2015].*
ME-2015-2A03

Craniometric Analysis of Two Primate Species in Sri Lanka: *Macaca sinica* and *Trachypithecus vetulus*

Charmalie Nahallage

Anthropoid primates in Sri Lanka belong to the group of Old World Monkeys in the family Cercopithecidae. The more omnivorous macaques belong to the sub-family Cercopithecinae and the folivorous two langur species to Colobinae, respectively. There are marked external morphological differences between the macaque species and two langur species. However, no studies have been conducted to determine the differences from their skeletal morphology. This study attempts to determine the species variation using standard craniometrical measurements. Ten macaque and purple-faced langur crania and 8 macaque and 10 langur mandibles were measured housed at the Department of Sociology and Anthropology University of Sri Jayewardenepura, at the National Museum Colombo and from a private collection. Fifteen cranial and 9 mandibular measurements were taken using a digital sliding caliper. In the cranium, there are statistically significant differences in the muzzle length, nasal breadth, nasal height, piriform height, piriform breadth and inter orbital breadth between these two species. Macaque cranium has a longer muzzle, greater upper facial height and a wider long nose than the langurs. However, the langur cranium has a wider inter orbital distance and narrow piriform aperture than the macaques. In the mandible, there are statistically significant differences between bicondyle breadth, bigonial breadth, bimental eminence breadth and height of ramus. Langur mandibles are taller and wider than macaques. When considering the teeth, both species have bilophodont teeth; nevertheless langur teeth have higher cusps than macaques. This is directly related to their dietary specialization and is used to distinguish between Cercopithecines and Colobines. These cranial and mandibular measurements and dental morphology are very important for the identification of different primate species from the bones excavated from prehistoric cave sites in Sri Lanka.

Charnalie Nahallage, *Man and Environment XL(1): 27-32 [2015].*
ME-2015-2A04

A Preliminary Report on the Excavation at the Neolithic Site of Law Nongthroh (Sohpetbneng Hill), Khasi Hills Meghalaya

Marco Mitri, Desmond Kharmawphlang and Hiambok Syiemlieh

Surface finds of Neolithic artefacts have been reported from the Khasi Hills of Meghalaya. This paper is a preliminary report of a small-scale excavation conducted in Khasi Hills at the Neolithic site of Law Nongthroh (Sohpetbneng Hill). The excavation is important because this is for the first time an AMS

date is available. Paddle groove impressed potsherds and finished stone tools are significant finds from the excavation.

M. Mitri *et al.*, *Man and Environment* XL(1): 33-42 [2015].
ME-2015-2A05

Malli: An Early Iron Age Site, Gondia District, Vidarbha Region, Maharashtra

Virag G. Sontakke

Early Iron Age in Vidarbha is associated with the Megalithic culture and use of iron on a large scale. Evidence suggests that the megalithic people were masters in iron technology. The cultural remains of Early Iron Age in Vidarbha region are mostly known to be located in the eastern part. This cultural region is more or less confined to the area between Wainganga Valley in the east and Wardha Valley in the west. The archaeological site of Malli, discovered by the author, is the first megalithic site excavated in Gondia District during 2010-11 and again in 2012-13. Large number of megalithic monuments with typological difference and inner layouts added extra significance to the site. Excavation carried out on the habitation mound brought to light ancient habitation remains. Eight megaliths chosen for excavation revealed hitherto less known type of inner architecture in Vidarbha.

V.G. Sontakke, *Man and Environment* XL(1): 43-53 [2015].
ME-2015-2A06

Faunal Remains from the Iron Age Settlement at Malli, Gondia District, Maharashtra

Pankaj Goyal, Krutika Haraniya and Virag G. Sontakke

The present paper presents a full report of the analysis conducted on the faunal remains excavated from the Megalithic burial-cum-habitation site of Malli, located in Tiroda Taluka of Gondia District, Maharashtra. It is important to note that Malli is the only excavated site in the Upper Wainganga Valley. A total of 5195 animal skeletal fragments were analysed, that includes faunal material recovered from the Megalithic burials as well as the habitation site. The animal skeletal fragments from the habitation site of Malli represent the remains of animals as a component in the full-fledged protohistoric subsistence system. This subsistence system involved the utilisation of both domestic and wild animals. However, the proportion of wild animals relative to the domestic was very small. This shows that wild resources did not play a major role in the subsistence activities of the inhabitants at the site. The animal skeletal fragments recovered from the Megalithic burials revealed the partial burials of cow/ox and goat/sheep.

Pankaj Goyal *et al.*, *Man and Environment* XL(1): 54-65 [2015].
ME-2015-2A07

Archaeological Explorations in Sanjai River Valley, District West Singhbhum, Jharkhand (2013-14): A Preliminary Report

Paromita Bose

Singhbhum, Jharkhand during the field season of 2013-14. The exploration work was mainly concentrated in and around the Sanjai River basin. However, parts of Binjai and Kharkai River valleys were also explored. In addition to the fresh collections of stone tools from the previously reported sites, the exploration brought to light a considerable number of archaeological artefacts from seven newly discovered localities/clusters. This paper summarizes the evidences retrieved from different localities/clusters within the region under study along with their proper contexts.

Paromita Bose, *Man and Environment* XL(1): 66-74 [2015].
ME-2015-2A08

Unique Fossilization and Preservation of the Laterite Baby: Implications of Radiological and X-Ray Diffraction Analysis

P. Rajendran, V. Prasannakumar, Rajesh Reghunath and Santha Sivadasan

A fossilised human baby entombed within the ferricrete layers was discovered from Odai in Bommayarpalayam of Villupuram District in Tamil Nadu on the southeast coast of India. Detailed examination and analysis of the fossil using Computed Tomography (CT) or X-ray, 2-D scanning, 3-D scanning, 3-D Photomicroscopy and Scanning Electron Microscopy (SEM) have revealed the presence of a human baby having fossilised skull bones, cervical vertebrae, bone structure, RBC, brain tissues, blood vessels, muscular tissues, lenses in eye balls within the orbits, teeth within the gum, etc. X-ray Diffraction Analysis (XRD) of the ferricrete of the Middle Pleistocene throws light on the mysterious process of soft tissue fossilization and preservation of the *laterite baby* which belongs to the *Homo sapiens* (archaic).

P. Rajendran *et al.*, *Man and Environment* XL(1): 75-81 [2015].
ME-2015-2A09

Birth of Prehistory in Europe: The India Connection Grâce à Hugh Falconer

K. Paddayya

This paper seeks to draw the attention of readers to a nearly forgotten aspect of the birth of prehistory in Europe. It concerns the role played by Hugh Falconer's prolonged field studies in the natural history of India in the early half of the 19th century. His work on the fossil fauna including remains of the anthropoids in the Siwaliks of western Himalayas and sedimentary stratigraphy of the Ganga Valley helped him in generating fresh interest among the British geologists in the earlier findings of animal fossils and stone tools from ancient drift gravels of Europe and their final acceptance by the Royal

Society in May 1859. Falconer also drew upon certain aspects of ancient Indian cosmogony and his observation that early man originated in the tropical and subtropical zones has now been proved correct.

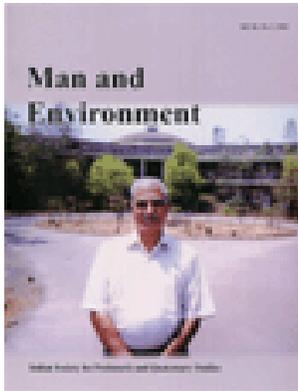
K. Paddayya, *Man and Environment* XL(1): 82-93 [2015].
ME-2015-2A10

Trading in Prehistory and Protohistory: Perspectives from the Ancient World Civilizations

D.N. Tripathi

Prehistoric trade is usually understood in its broadest sense to mean the transfer of goods. Social processes play a major role and in many cases are more important than economic transactions. Although most research has been directed to highly distinctive material objects, such as stone axes, obsidian tools, pots, or metal items, a large number of perishable objects as well as raw materials and food probably circulated within and between prehistoric communities. The study of prehistoric trade requires two very different kind of analysis. First, items that have been moved from their points of origin are to be identified. Second, the mechanism responsible for the distribution of these objects is, reconstruction. The former method requires a wide range of techniques grounded in physics and chemistry, and the latter has been heavily influenced by anthropological theory. Trends and theories in the study of trade activities are discussed here mainly in connection with the Neolithic Age, during which most of the traceable items of long-distance circulation were produced from obsidian or *Spondylus* shells. As is evident from the archaeological evidences in the Aegean region, obsidian continued to be traded in the Bronze Age. However, when the invention of alloys gave rise to metal technology, the procurement of metals, such as copper and tin, became the main motive for long-distance trade.

D.N. Tripathi, *Man and Environment* XL(1): 94-104 [2015].
ME-2015-2A11



Volume XL, No. 2 (July-December 2015)

Feudalism in India and Professor D.D. Kosambi: A Reconsideration **A.P. Jamkhedkar**

Professor H.D. Sankalia Memorial Lecture delivered at Pune in 2014.

A.P. Jamkhedkar, *Man and Environment* XL(2): 1-8 [2015]
ME-2015-2A01

Harappan Interments at Rakhigarhi, Haryana

Amarendra Nath, S.R. Walimbe, Tejas Madan Garge, Veena Mushrif-Tripathy, Rajendra Dehuri and Arun Malik

The excavations at Rakhigarhi (29° 17' 30'' N; 76° 06' 50'' E) have reported skeletal series of the Harappans both from cemetery and habitation area. Interment archaeology is quite unique as it unfolds a distinct funerary mechanism for highlighting gender, besides other mortuary features commonly recorded at Kalibangan and Farmana.

Amarendra Nath *et al.*, *Man and Environment* XL(2): 9-32 [2015] ME-2015-2A02
ME-2015-2A02

Settlements on the Changing Alluvial Landscape in Early Medieval Varendri: Survey and Excavation at Domile-Khairghuni in Dinajpur, Bangladesh

Swadhin Sen

This paper attempts to examine archaeological places of a particular area of the Varendri subregion within a framework of their landscape context. It has been done by elaborating upon the nature, function and pattern of the settlements through a combined methodology of surveys, systematic excavations and geoarchaeological understanding of the continuously changing alluvial context. It has been possible to designate settlements and their boundaries by considering the spatial patterning of archaeological places including the tanks. At the same time, it was found that the pattern of the settlement was partially controlled by the rivers, and settlements were abandoned for different reasons. Settlements were found to be abandoned possibly because of floods and avulsion of rivers. It has also been proposed that the

dichotomy between the urban and rural for assigning the nature of the settlements might be problematic, as religious establishments acted as the core of these settlement structures. It was found that the continuously shifting terrain of an alluvial landscape might have acted in a spatio-temporally varied way for the development, continuation and abandonment of settlements, along with the other factors and processes during the Early Medieval period.

S. Sen, *Man and Environment* XL(2): 33-64 [2015] ME
ME-2015-2A03

Kodumanal: An Early Historic Site in South India

K. Rajan

Recent excavations conducted during the years 2012 and 2013 at Kodumanal in Erode District of Tamil Nadu yielded important cultural material that has significance on the Early Historic South India. The site yielded evidence for iron and steel workshops, in previous excavations, and in the present excavations gem stone, copper smelting, and conch/ shell workshops were unearthed. Nearly 551 Tamil-Brāhmī inscribed potsherds, 598 graffiti bearing potsherds, NBPW, Rouletted ware, punch-marked coins, and five radiometric dates obtained from the samples collected from stratified layers, provide good scope for revising the date of the beginning of the Early Historic period in South India. The findings helped to push back the date as early as the 6th century BCE.

K. Rajan, *Man and Environment* XL(2): 65-79 [2015].
ME-2015-2A04

A Study of Traditional Boats and Navigational History of Odisha, East Coast of India

Sila Tripathi

It is believed that around 60,000 years ago when the sea level was lower, people employed floats or rafts for water crossings. Over the centuries, different types of traditional boats were constructed and used for maritime trade, fishing, warfare, etc. Literary sources indicate use of different types of vessels in seas, rivers and lakes. As in other littoral states of India, references to a number of traditional boats of Odisha are found in contemporary literature, namely Pota (dug out), Nauka, Bhela, Chapa and Padhua. There are some traditional boats, for instance, teppa, padhua, nauka and patia, which are still in use and built along the Odisha Coast. The present paper details construction techniques of traditional boats of Odisha, their usages, difference between these traditional boats and those from other parts of the east coast of India, as also the navigational technology.

S. Tripathi, *Man and Environment* XL(2): 80-93 [2015]
ME-2015-2A05

The Gold Mining Sites of the Past in Rajasthan and Gujarat

A.K. Grover

Existence of numerous old metal mining sites and metallurgical remains in almost all States of India itself speaks of the know-how for minerals, mining techniques and metallurgical

processing. The states of Rajasthan and Gujarat are no exception; such remains have been found in areas of Pre-Cambrian Aravalli Hill Range and adjacent plains. They include the copper belts of Khetri, Alwar-Jaipur and Salumbar-Ghatol, lead-zinc-copper belts of Rajpura-Dariba and Pindwara-Deri-Ambaji, and lead-zinc-silver belts of Agucha and Zawar. Gold has been intimately associated with sulphides of these metals in both States. Western India was considered to be devoid of gold deposits until its discovery at Bhukia area in Rajasthan. Bhukia was earlier considered as 'poor copper prospect'. This find gave a thrust to re-orient the surveys to locate gold in other base-metal prospects areas and has resulted in successful identification of many sites of past gold mining/ extraction activities. Details of such sites identified so far with geological samples analyzing gold content of more than one gram per tonne (g/t) has been described in this paper.

A.K. Grover, *Man and Environment* XL(2): 94-105 [2015]
ME-2015-2A06