

## Man and Environment

### Abstracts

Volume XX, No. 1 (January-June 1995)

#### **Indigenous Perceptions of the Past**

*R.N. Mehta*

R. N. Mehta, *Man and Environment* XX(1): 1-6 [1995]  
ME-1995-1A01

#### **Ancient Cities of Bihar in Archaeology and Literature**

*B.P. Sinha*

B.P. Sinha, *Man and Environment* XX(1): 7-20 [1995]  
ME-1995-1A02

#### **The Early Stone Age of Pakistan: a Methodological Review**

*R.W. Dennell*

Prehistorians and their scientific colleagues often disagree over the results of archaeological and geological field-work. This is especially so when research teams have worked in the same area and on the same material, but at different times. A good example is the Soan Valley of northern Pakistan, investigated by de Terra and Paterson in the 1930s, and Rendell and Dennell in the 1980s. Both teams attempted to establish a chronological framework for the Early Palaeolithic, but their results are wholly irreconcilable. This paper explores the reasons why, and argues that these differences arose primarily because of the prior expectations of each team. De Terra and Rendell began with fundamentally different preconceptions about the structure of the Pleistocene, the stability of land surfaces, and the validity of long distance correlations. Likewise, Paterson and Dennell each began with profoundly divergent views on the structure of the Early Palaeolithic, and the significance of lithic variability. Crucially, these differences originated well before field-work was even commenced. Field-work must therefore be evaluated within its wider intellectual framework. If researchers begin with radically different assumptions, they are likely to end with incompatible results, and attempts to reconcile those differences are unlikely to be successful. If, as here, researchers are separated by considerable lengths of time, differences between them are likely to stem from intervening developments; that is to say, both may have been “right”, but only within the context of their time.

R.W. Dennell, *Man and Environment* XX(1): 21-28 [1995]  
ME-1995-1A03

## **A Preliminary Report of the Faunal Remains from Damdama**

*P.K. Thomas, P.P. Joglekar, V.D. Mishra, J.N. Pandey and J.N. Pal*

Damdama – a Mesolithic site in Pratapgarh District (Uttar Pradesh) was excavated by Allahabad University between 1982 and 1987. The analysis did not reveal bones of any domestic animal among thousands of bone fragments. The fauna comprised a wide spectrum of mammals as large as the elephant, the gaur and the rhinoceros, and as small as the pigmy hog. The faunal exploitation indicates a cyclical trend in resource management where an increase/decrease in mammalian resources was compensated by parallel changes in the avian fauna and the aquatic fauna.

P.K. Thomas, *et al.*, *Man and Environment* XX(1): 29-36 [1995]  
ME-1995-1A04

## **Craft Production in the Harappan Culture**

*Jaya Menon*

The Bronze Age in the Indian subcontinent is represented by the Harappan culture. Harappan craft production is taken as an example to illustrate the economic and sociological aspects of a Bronze Age culture. This paper presents an overview of Harappan craft production and puts forward a case for occupational specialization which is a distinctive feature of an early urban society. In the absence of a deciphered script, Harappan craft objects provide a body of data which gives important clues towards a complex society. The production and use of craft products exemplify the social stratification and occupational division of labour which are necessary criteria of urban societies.

Jaya Menon, *Man and Environment* XX(1): 37-55 [1995]  
ME-1995-1A05

## **Excavations at Balathal: Their Contribution to the Chalcolithic and Iron Age Culture of Mewar, Rajasthan**

*V.N. Misra, Vasant shinde, R.K. Mohanty, Kurush Dalal, Anup Mishra, Lalit Pandey and Jeevan Kharakwal*

This Paper deals with the recent discoveries made at Balathal in Udaipur district, Rajasthan. The excavation yielded a twofold cultural sequence: Chalcolithic (2350-1800 B.C.) and Iron Age (5th century B.C.-3rd century A.D.). The Chalcolithic period at Balathal is characterized by the presence of large, multi-roomed rectangular or squarish mud-brick and stone structure of varied functions, the profuse use of copper, and the manufacture of a variety of fine and coarse ceramics. The most remarkable discovery in the Iron Age at Balathal is a mud rampart with a stone revetment. It is roughly on plan and covers an area of 30 x 15 m. This is the earliest mud rampart in Rajasthan. The presence of a number of iron smelting furnaces and a

variety of iron implements suggests that Balathal played an important role in the economic organization of the later part of the Iron Age.

V.N. Misra, *et al.*, *Man and Environment* XX(1): 57-80 [1995]  
ME-1995-1A06

### **Was Kumaon the Source of Early Iron in North India?**

*D.P. Agrawal, Sheela Kusumgar, M.G. Yadav, V.D. Gogte, Jeevan Kharakwal and Manju Pant*

D.P. Agrawal, *et al.*, *Man and Environment* XX(1): 81-85 [1995]  
ME-1995-1A07

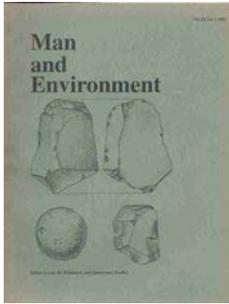
### **Ceramic Vessels: their Role in Illuminating Past and Present Social and Economic Relationships**

*Archana Choksi*

Pottery is a very powerful tool for the interpretation of past, but archaeologist working on Harappan Gujarat have tended to use ceramics to clarify issues of regionality and chronology. Their almost exclusive use of typologies in this respect has neglected the use of pottery to illuminate social and economic relationships of the past.

Drawing on an examination of the contemporary output of two manufacturing centres in Kachchh, this paper argues that it is socio-economic conditions of the society in which a potter works that determine the form, function and shape of his output. This paper delineates the relationship between the shape, function and technological capacity of vessels, and provides a framework for interpreting these relationships in the archaeological record.

Archana Choksi, *Man and Environment* XX(1): 87-108 [1995]  
ME-1995-1A08



**Volume XX, No. 2 (July-December 1995)**

### **Quaternary Sedimentation and Neotectonism in the Lower Tapi Valley**

*J.N. Malik*

The Tapi river in south Gujarat is tectonically controlled. Thick deposits of Quaternary alluvial sediments resting over Deccan Trap are exposed in the cliffs all along the river. The sediment sequences are restricted to the right bank whereas on the left bank only the upper part of the sediment column is exposed, invariably exhibiting a fining upward in the sequence and pointing to deposition in two phases – each aggradational phase having commenced with the deposition of coarse sediments. The present-day river channel is highly sinuous and characterized by the development of point bars, sand bars and shoals, at places exhibiting entrenched meanders and extensive braiding. This change in the nature of the river channel from a low sinuosity and high energy flow regime to high sinuosity and low energy conditions, as well as the sets of channel fills, are attributed to the reactivation of fractures aligned to the Cambay basin trend during the Late Quaternary.

This paper describes the salient features of the channel trends, sediment characteristics and evolutionary history of the river vis-à-vis the structural setting and tectonic features of the lower Tapi basin.

J.N. Malik, *Man and Environment* XX(2): 1-9 [1995]  
ME-1995-2A01

### **Chronology of the Indian Stone Age: the Impact of Recent Absolute and relative Dating Attempts**

*Sheila Mishra*

Stone Age chronologies are built up by relating archaeological material to a number of Processes which produce change over time. These include the progressive nature of change in the stone tool technology (an elaboration of the Three Age system), the evolution of life forms, and the geological record, especially, the record of climate change – to build up sequences of the change in human cultures. Since the 1950s, physical processes, such as radioactive decay, for which the rates of change can be precisely known, have been developed into an impressive array of additional dating methods. The impact of new methods of dating, new dates, new archaeological evidence, all contribute to an ever changing chronology of the past. In the last ten years a significant numbers of new dates have become

available. These are summarized and their implications for the age of different phases of the Indian Stone Age discussed.

Sheila Mishra, *Man and Environment* XX(2): 11-16 [1995]  
ME-1995-2A02

### **Pressure Debitage and Heat Treatment in the Microlithic Assemblage of Bagor, Northwest India**

*Marie-Louise Inizan and Monique Lechevallier*

The pressure debitage technique, previously identified by the authors from Navdatoli and Mehargarh, has also been identified from the site of Bagor in Rajasthan. Additional details of microlithic blade industry from Bagor, as well as a comparison with Harappan blade manufacture are also discussed in this paper.

Marie-Louise Inizan and Monique Lechevallier, *Man and Environment* XX(2): 17-21 [1995]  
ME-1995-2A03

### **A Neolithic Animal Butchering Floor from Budihal, Gulbarga District, Karnataka**

*K. Paddayya, P.K. Thomas and P.P. Joglekar*

Prolonged field research at the ashmound site of Budihal has led to the identification of several functionally differentiated areas. This article highlights the features associated with a structural facility created by the Neolithic inhabitants for butchering animals.

K. Paddayya, *et.al*, *Man and Environment* XX(2): 23-31 [1995]  
ME-1995-2A04

### **Harappan Subsistence Patterns with Special Reference to Shikarpur, a Harappan Site in Gujarat**

*P.K. Thomas, P.P. Joglekar, Arati Deshpande-Mukherjee and S.J. Pawankar*

The faunal assemblage from Shikarpur has brought into focus several interesting aspects of the subsistence patterns and ecology of the Harappans in Gujarat. The excavation at Shikarpur, although of a limited nature, revealed 47 species of animals which contributed to the Harappan diet. These preliminary observations indicate that the Harappans exploited a wide variety of fauna ranging from terrestrial to aquatic. Enough evidence was found to illustrate the nature of animal husbandry in relation to other functional aspects of the site.

P.K. Thomas, *et.al*, *Man and Environment* XX(2): 33-41 [1995]  
ME-1995-2A05

## **Anthropometric Data on a Human Skeleton from the Early Historic Levels at Padri**

*S.R. Walimbe and Vasant Shinde*

This article deals with the anthropological observations made on the adult male human skeleton recovered from the Early Historic levels (1 st century B.C.-A.D.) at Padri. The skeleton is fairly well preserved allowing a detailed anthropometric study. The individual, 167.59 cm in height, is robustly built. The small-sized dentition suggests consumption of soft and processed food; pathologies like caries, attrition and tartar accumulation are evident.

The skeletal remains were discovered lying in an extremely awkward position on the ground and were not intentionally buried in a pit. However, no traumatic marks are observable on any of the preserved cranial or post-cranial elements to support the possible accidental death of this individual.

S.R. Walimbe and Vasant Shinde, *Man and Environment* XX(2): 43-55 [1995]  
ME-1995-2A06

## **The Watgal Excavations: an Interim Report**

*D.V. Deavaraj, Jim G. Shaffer, C.S. Patil and Balasubramanya*

Excavations at the site of Watgal, Raichur District, north Karnataka State revealed a sequence of five major occupations. The first occupation contained only chipped stone tools and lacked other types of cultural midden. Occupations IIA-IV demonstrate the persistence of a Southern Neolithic cultural assemblage from c. 2700 B.C. into the first millennium B.C. where it is associated with Jorwe and Early Historic types of pottery. Pits in Occupation HA also contained the earliest known examples of carbonized betel nut seeds.

D.V. Deavaraj, *et.al*, *Man and Environment* XX(2): 57-74 [1995]  
ME-1995-2A07

## **Narmada Valley Microvertebrates: Systematics, Taphonomy and Palaeoecology**

*Rajeev Patnaik*

Microvertebrates recovered (field season 1991 -92) from a conglomeratic layer of Upper Pleistocene age exposed near Devakachar village, Narsinghpur District, Madhya Pradesh are systematically described and compared herein. Taphonomical studies have revealed that accumulation of micromammal remains was primarily biogenic. Small mammal remains were eventually transported and deposited by fluvial processes along with those of associated microvertebrates. Palaeoecological reconstruction indicates the presence of sandy plains, grasslands with a high sub-soil moisture content and shallow stream systems.

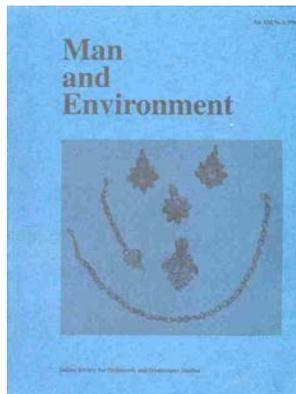
Rajeev Patnaik, *Man and Environment* XX(2): 75-90 [1995]  
ME-1995-2A08

## **The Optical Plotting Technique Using the Reflex Metrograph: a New Approach to Ceramic Drawing**

*Vinod Nautiyal, K.P. Nautiyal, B.M. Khanduri, Sudhir Nautiyal and Jagdeep Negi*

The Reflex Plotter developed by Scott in 1981 for the 3-dimensional measurement of small objects, and with possible use in archaeology has been effectively used in this study to obtain an accurate and error free drawing of archaeological pottery. An attempt has been made, based on this technique, to demonstrate the inaccuracies inherent in the traditional method of drawing. The versatile application of the microprocessor-based Reflex Plotter suggests that this technique might have a wide implication in archaeology.

Vinod Nautiyal, *et.al*, *Man and Environment* XX(2): 91-96[1995]  
ME-1995-2A09



**Volume XXI, No. 1 (January-June 1996)**

**Reinvestigation of the Prehistoric Archaeological Record in the Kortallayar Basin, Tamil Nadu**

*Shanti Pappu*

This article attempts to re-examine the nature of the Palaeolithic archaeological record in the Kortallayar basin. The work of previous scholars is critically examined and the results of the author's research into Pleistocene environments, site taphonomy and lithic technology are put forward. This forms a part of the broader aim of studying hominid behavioural strategies during the Middle to Late Pleistocene in this region.

Shanti Pappu, *Man and Environment* XXI(1): 1-23 [1996]  
ME-1996-1A01

**Quaternary Pollen Analysis and Palaeoenvironmental Studies on the Salt Basins at Pachpadra and Thob, Western Rajasthan, India: Preliminary Observations**

*B.C. Deotare and M.D. Kajale*

The salt lake sites of Pachpadra and Thob have provided evidence for pollen analysis and palaeoenvironmental studies indicating a fluctuating plant cover and local hydrological variations in a semi-arid ecological setting. These variations are not necessarily due to climatic change.

B.C. Deotare and M.D. Kajale, *Man and Environment* XXI(1): 24-31 [1996]  
ME-1996-1A02

**Preliminary Field Report on the Archaeology of Faridabad — the Ballabgarh Tehsil**

Nayanjot Lahiri, Upinder Singh and Tarika Uberoi

This paper is a preliminary report of an ongoing field reconnaissance of Ballabgarh which forms the northern segment of Faridabad District (Haryana). That this segment formed part of ancient Indraprastha and subsequently was a constituent of the Delhi *subah* (province) of the

Mughal empire provides a backdrop to its historic significance but sits uneasily with the lack of archaeological detail. Since 1947, not more than three or four sites have been reported in print, and in the earlier reports as well one looks in vain for even elementary information on the early and medieval settlements of this geographical stretch. Hopefully, this field survey in which over 50 new sites were discovered will provide greater archaeological clarity to the settlement history of Ballabgarh.

Nayanjot Lahiri, *et.al*, *Man and Environment* XXI(1): 32-57 [1996]  
ME-1996-1A03

### **Mobility Strategies, Site Structure and Settlement Organization: an Actualistic Perspective**

*Sheena Panja*

This paper seeks to understand the material consequences of human behaviour through actualistic research in order to provide a heuristic device with which to interpret past behaviour from archaeological remains. Here diverse mobility strategies and their material consequences are sought to be understood from an actualistic study of the Dhangar community in Pune District, Maharashtra at the level of the landscape and a single site. This is compared with published literature to formulate models for recognizing diverse mobility strategies from the archaeological record.

Sheena Panja, *Man and Environment* XXI(1): 58-73 [1996]  
ME-1996-1A04

### **Maritime Archaeology: the Ethnographic Evidence**

*Himanshu Prabha Ray*

The ethnographic evidence on indigenous traditions of boat building forms the focus of the paper and the objective is to highlight the biases that have crept in as a result of the almost total neglect of this data in archaeological writings. Earlier studies have been based primarily on material evidence of maritime contacts with the colonial model of transoceanic trade providing the theoretical framework. Thus long distance seafaring has often been perceived as a 'luxury trade' with the Indian subcontinent supplying precious commodities to centres further west. In this simplistic pattern, the dynamics of a sectoral, subsistence based trade have been almost negated. This paper discusses the issue from the perspective of the water craft that may have been in use, rather than on the basis of commodities and ceramics.

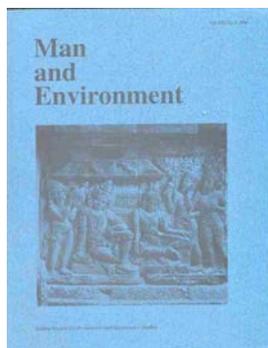
Himanshu Prabha Ray, *Man and Environment* XXI(1): 74-85 [1996]  
ME-1996-1A05

## **Marine Archaeological Explorations in the Kaveripoompattinam Region: Fresh Light on the Structural Remains**

*Sila Tripathi, A.S. Gaur, Sundaresh and P. Gudigar*

Kaveripoompattinam also known as Poompuhar, was a port which played an important role in the maritime history of India. Archaeological findings and inscriptions as well as literary evidence bear ample testimony to this. Recent discoveries made during marine archaeological explorations and excavations around the Poompuhar region of Tamil Nadu have yielded submerged brick and stone structures and terracotta ring wells. The presence of these structures in the near-shore and off-shore region of Poompuhar suggests that the port city once extended beyond the present shore line.

Sila Tripathi, *et.al*, *Man and Environment* XXI(1): 86-90 [1996]  
ME-1996-1A06



## Volume XXI, No. 2 (July-December 1996)

### **The Rama Legend as Depicted in India and in Indonesia**

*Krishna Deva*

Krishna Deva, *Man and Environment* XXI(2): 1-5 [1996]  
ME-1996-2A01

### **The Significance of Quaternary Geological Studies in Environmental Interpretation: a Case Study from Alwar District, Rajasthan**

*K.S. Raghav and R.K. Saxena*

The hard rocks in and around Alwar District belong to the Alwar Series of the Delhi Super group of rocks. The hill slopes are covered with colluvial fills and alluvial fan deposits, which are made up of gravel pebble and sand admixtures. These coarse litho-units are overlain by loess-like material. Three cycles of aeolian and fluvial deposits have been recognized in the area. The present study emphasizes the control of natural factors such as terrain, climate, sediment characteristics and neotectonism in the dune migration and soil erosion seen presently.

K.S. Raghav and R.K. Saxena, *Man and Environment* XXI(2): 7-14 [1996]  
ME-1996-2A02

### **Techno-Typological Analysis of Lithic Artefacts from the Dari-dungri Acheulian Site, Sambalpur District, Orissa**

*Pradeep K. Behera, Premananda Panda and Neena Thakur*

This paper describes the Late Acheulian assemblage recovered from the exposed surface of the lateritic cobble-gravel deposit in the foothill region of Dari-dungri, located in the Sambalpur district of Orissa.

Pradeep K. Behera, *et.al*, *Man and Environment* XXI(2): 15-26 [1996]  
ME-1996-2A03

## **Archaeological Investigations in the Upper Gundar Basin, Madurai District, Tamil Nadu**

*V. Selyakumar*

This paper presents a brief review of the results of six seasons of surface survey and trial trenching at four sites in the Upper Gundar Basin, Madurai District, Tamil Nadu. Evidence for the Mesolithic and Iron Age was found, but the Palaeolithic and Neolithic phases were not represented. The Mesolithic phase can be divided into Early and Late. The former preceding the Iron Age has yielded many wild animal bones, while the latter overlaps with the Iron Age and has revealed both domestic as well as wild animal bones and Iron Age pottery indicating interaction between the hunter-gatherers and agro-pastoralists. Iron Age remains are represented by four habitation sites and three habitation-cum-burial sites and 18 burial sites. The trial trench dug at S. Pappinayakkanpatti yielded a Mesolithic deposit below Iron Age remains. The Iron Age is divided into two phases: Early Iron Age and the Early Historic period. The Iron Age economy was agro-pastoralist, with hunter-gatherer groups living in the marginal areas.

V. Selyakumar, *Man and Environment* XXI(2): 27-42 [1996]  
ME-1996-2A04

## **Animal Remains from the Neolithic and Chalcolithic Periods at Senuwar, District Rohtas, Bihar**

*Vijay Sathe and G.L. Badam*

Twenty one taxa of animals, predominantly mammals were identified from the Neolithic and Chalcolithic periods at Senuwar. This study highlights the major contribution of domestic animals to the food economy. The frequency of faunal elements and their use in the food economy suggest that there was a general preference for large ruminants and that there were no visible shifts in the pattern of faunal exploitation during this time

Vijay Sathe and G.L. Badam, *Man and Environment* XXI(2): 43-48 [1996]  
ME-1996-2A05

## ***Dvaraka* in Literature and Archaeology**

*Alok Tripathi*

The identity and antiquity of *Dvaraka*, as mentioned in *The Mahabharata*, has remained an unsolved problem for over a century. Most scholars identified it with modern Dwarka and tried to substantiate this with literary and material evidence. The discovery of a sunken city supposedly of Mahabharata age in the Arabian Sea has become one of the most publicised of archaeological discoveries. The author has made a critical analysis of earlier research on

*Dvaraka* and concludes that there is no concrete evidence to identify Dwarka with the ancient *Dvaraka* or *Dvaravati* of *The Mahabharata* or to date this site to the mid-second millennium B.C.

Alok Tripathi, *Man and Environment* XXI(2): 49-58 [1996]  
ME-1996-2A06

### **Satellite Remote Sensing in Archaeology**

*Sushama G. Deo and P.P. Joglekar*

Remote Sensing, is a technique used primarily for resource and environmental management in archaeological field research. Sensing information in the form of an image from a distance in the sky proves useful to obtain a bird's eye view for site locational studies and the present status of man-land interactions which can be extended to the past by appropriate geomorphological studies.

Sushama G. Deo and P.P. Joglekar, *Man and Environment* XXI(2): 59-62 [1996]  
ME-1996-2A07

### **The Use of Remote Sensing in Monitoring Changes in and around Archaeological Monuments — a Case Study from Hyderabad, Andhra Pradesh**

*K. Balaji, L.S. Suresh, V. Raghavswamy and N.C. Gautam*

Satellite images help us to map and inventory the location and spatial arrangement of features and structures of archaeological significance because they generate discrete spectral signatures of shape, size and pattern. In the present study remote sensing has been used to identify and understand the status of important archaeological monuments in and around Hyderabad using remotely sensed satellite data of IRS, SPOT (PLA and MLA) and LANDSAT (TM) of 1987 and SS. The hard copy (FCC and B and W prints) on 1:50,000 and 1:25,000 scale were visually interpreted and maps were prepared clearly bringing out the details of the present extent of the fort walls of Golconda, the fortified remnants of Purana Qila and the effect of the urban development that is taking place in and around these monuments. This information will prove useful in the preparation and updating of archaeological maps and in assessing the impact of urbanization.

K. Balaji, *et.al*, *Man and Environment* XXI(2): 63-70 [1996]  
ME-1996-2A08

### **The Destruction of Archaeological Sites under the Impact of Rapid Development in Haryana: an Area of High Archaeological Potential**

*Vijneshu Mohan*

An unprecedented surge in industrial and agro-based activities has led to the large-scale destruction of archaeological mounds in rapidly developing states like Haryana.

Consequently, there is widespread depletion of the archaeological data base. Only a collective resolve at the local level can effectively counter this man-made menace.

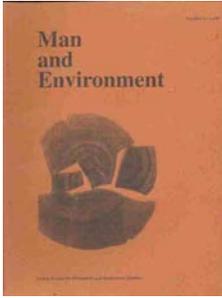
Vijneshu Mohan, *Man and Environment* XXI(2): 71-74 [1996]  
ME-1996-2A09

### **Modern Impacts on Archaeological Sites in India: A Case Study from the Shorapur Doab, Karnataka**

*K. Paddayya*

Drawing upon his experience in field archaeology covering the last three decades the author highlights the transformation taking place in archaeological sites in India due to various developmental activities. Using the Shorapur Doab of North Karnataka as an example, he points out how till recent times traditional methods of land-use tended not to disturb the archaeological record in a drastic way and how in more recent times developmental activities of various kinds, triggered by the initiation of a major irrigation project on the river Krishna, have started radically altering or destroying the sites. The paper closes with a few suggestions regarding the steps that need to be taken for the management of our cultural heritage.

K. Paddayya, *Man and Environment* XXI(2): 75-88 [1996]  
ME-1996-2A10



## Volume XXII, No. 1 (January-June 1997)

### **Prehistoric Research in India: an Assessment**

*Radhakant Varma*

Radhakant Varma, *Man and Environment* XXII(1): 1-7 [1997]  
ME-1997-1A01

### **Ethnoarchaeology of Harappan Sea Trade — a Preliminary Study**

*Lajwanti Shahani*

India's maritime trade with the Persian Gulf has been interpreted both from Mesopotamian *texts* and archaeological data. Fresh data from the Oman Peninsula offer exciting clues for our understanding of Harappan sea trade; this calls for a focused study of contact between the Harappans and the Omanis. From c. 2500 to 2000 B.C. this region saw the emergence of the mature phase of the Harappan culture, the Umm an-Nar culture in the Oman Peninsula and Harappan sea trade with the Gulf. Ethnography has played an integral role in our understanding of the traditional maritime activities of communities on the west coast of India engaged in trade with the Gulf.

Environmental processes that have influenced ship building and navigation technologies on the Indian Ocean are poorly understood. Although this subject does not strictly fall within the scope of archaeology, it needs to be understood well in order to identify the variables at sea and examine their effects on voyages.

Lajwanti Shahani, *Man and Environment* XXII(1): 9-18 [1997]  
ME-1997-1A02

### **Traditional Indian Tillage Methods and their Impacts on Acheulian Sites in the Hunsgi-Baichbal Valleys, Karnataka**

*Richa Jhaldiyal*

A large number of Stone Age sites in India occur as thin artefact horizons on or very near the surface in cultivated fields. These sites are prone to disturbance by tillage activities which may cause transformation of the spatial and contextual association of the artefact assemblage, cause damage to the artefacts and re-expose them to contemporary natural processes of disturbance. In order to understand and measure the impact of traditional tillage methods on the integrity of surface and subsurface Acheulian sites an experimental study was conducted

from March 1993 to November 1994 in the Hunsgi and Baichbal valleys, Gulbarga District, Karnataka. Secondly the nature of the local agricultural system was also investigated. This study shows that traditional tillage methods cause minimal interference to the soil structure thus preventing significant alteration of artefacts and their provenance.

Richa Jhaldiyal, *Man and Environment* XXII(1): 19-30 [1997]

ME-1997-1A03

### **A Middle Palaeolithic Assemblage from Ramayogi Agraharam in the Red Sediments on the Visakhapatnam Coast**

*Alok Rath, K. Thimma Reddy and P. Vijaya Prakash*

The coastal archaeology of India has lacked evidence for the Middle Palaeolithic, especially along the east coast. The occurrence of numerous Middle Palaeolithic artefacts - as well as Upper Palaeolithic and Mesolithic artefacts — in a finer red sediment within a stratified context and in a 'true' coastal ecosystem, adds a new dimension to the Indian Middle Palaeolithic. The genesis of the red beds in which these artefacts occur, has been intensely debated over the last five decades. The discovery of this prehistoric cultural evidence is therefore of great interest and might serve as a basis for understanding these clastic sediments.

Alok Rath, *et.al*, *Man and Environment* XXII(1): 31-38 [1997]

ME-1997-1A04

### **A Re-analysis of the Microlithic Assemblage from Bandarawela, Sri Lanka: Excavated by Charles Hartley in 1913-14**

*Justin Morris*

Previous analysis of the quartz/crystal microlithic assemblages from Church Hill, Bandarawela, Sri Lanka, based on the collection of C. Hartley and N.A. Noone and H.V.V. Noone, have centred on a typological approach, with an emphasis on functional and morphological attributes. A new analysis based on primary and secondary technological criteria, disagrees with the previous suggestion of lithic types present within the assemblage, and the core reduction technique employed at Bandarawela. Instead, a new method of core reduction technique is suggested, and implications are highlighted for the Late Stone Age of Sri Lanka and southern India as a whole. The role of the raw material in the manufacturing process is also examined. These results do not support the conclusions reached by other archaeologists studying the Late Stone Age of Sri Lanka in terms of the technology used at the time and it is hoped that they will act as a catalyst for debate on the period and region.

Justin Morris, *Man and Environment* XXII(1): 39-44 [1997]

ME-1997-1A05

## **The Chalcolithic Phase in the Bhima Basin, Maharashtra: a Review**

*Sonali Naik and Sheila Mishra*

This paper reports the recent discovery in Pune District, of two Chalcolithic sites belonging to the Late Jorwe phase at Talegaon (Dhamdhere) on the Vel river and Sheriwadi on the Bhima river; and reviews the Chalcolithic phase in the Bhima basin based on visits made to the known sites as well as a review of published literature.

Sonali Naik and Sheila Mishra, *Man and Environment* XXII(1): 45-58 [1997]  
ME-1997-1A06

## **Understanding Iron Technology: an Ethnographic Model**

*Vibha Tripathi and Arun K. Mishra*

The present paper focuses attention on the growth of metallurgy in general and of iron in particular. The various stages of iron metallurgy as they might have been during ancient times have been reconstructed based on observations of those traditional iron workers who have been engaged in iron technology for centuries. Their fast disappearing way of life is now the only tenuous link with the past and therefore needs to be studied, recorded and analysed before acculturation severs this link.

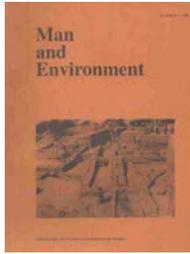
Vibha Tripathi and Arun K. Mishra, *Man and Environment* XXII(1): 59-67 [1997]  
ME-1997-1A07

## **The Chandraketurah-Tamluk Region of Bengal: Source of the Early Historic Rouletted Ware from India and Southeast Asia**

*Vishwas D. Gogte*

Rouletted Ware with its beautiful circular indented designs was first discovered at Arikamedu. Subsequently, it was found at many Early Historic sites in south India, Sri Lanka and Southeast Asia. The widespread occurrence of Rouletted Ware has posed many questions about its origin and source. This paper attempts to identify its source by comparing the clays from different sites with the mineral contents of Rouletted Ware obtained by X ray diffraction analysis. X ray diffraction (XRD) analysis indicates that this fine pottery was produced at multiple production centres in the Lower Ganga Plain with the epicentre in the Chandraketurah-Tamluk region of Bengal. Further, the analysis shows that the lustrous Rouletted Ware was nothing but a variety of NBP ware with indented circular decorations.

Vishwas D. Gogte, *Man and Environment* XXII(1): 69-85 [1997]  
ME-1997-1A08



## Volume XXII, No. 2 (July-December 1997)

### **Quaternary Stratigraphy and Morphology of Desert *Ranns* and Evaporite Pans in Central Rajasthan, India**

*S.K. Wadhawan and H. S. Sharma*

The Quaternary stratigraphy of the three major types of *ranns* and gypcrete/calcrete pans in distinctive geomorphic settings and evolutionary stages along the margins of the Shergarh-Dechu dunefield in the central Rajasthan desert are discussed here. The *ranns* at Thob (132-140 m AMSL), Jhalaria-Dediya and Lawan (226-234 m AMSL) owe their origin to neotectonic configurations of the bedrock. The Phalsund gypcrete and evaporite pans along the deranged course of the Lik Nadi — a relict misfit ephemeral stream — represent the arid environment post-dating the aeolian dynamism preserved as clustered parabolic megadunes. Based on the correlation of depositional records and event stratigraphy, a relative antiquity of these *ranns* and their palaeoclimatic implications are also discussed.

S.K. Wadhawan and H. S. Sharma, *Man and Environment* XXII(2): 1-7 [1997]  
ME-1997-2A01

### **Microlithic Sites in the Tarafeni Valley, Midnapur District, West Bengal: a Discussion**

*Bishnupriya Basak*

This is a systematic study of the prehistory of Tarafeni valley. Detailed analysis of the distribution and context of the sites has been made. A new methodology has been adopted for stone tool analysis in which the entire reduction procedure is studied. Overall, the emphasis has been on the presentation of an integrated picture of human behaviour.

Bishnupriya Basak, *Man and Environment* XXII(2): 11-28 [1997]  
ME-1997-2A02

### **Dwellings or Granaries? the Pit Phenomenon of the Kashmir-Swat Neolithic**

*R.A.E. Conningham and T.L. Sutherland*

In the light of recent methodological and theoretical developments applied to the pit phenomenon in British Iron Age archaeology, the pit "dwellings" of the Kashmir-Swat Neolithic are reassessed and a new hypothesis presented for their function.

R.A.E. Conningham and T.L. Sutherland, *Man and Environment* XXII(2): 29-34 [1997]  
ME-1997-2A03

### **Excavations at Balathal, Udaipur District, Rajasthan (1995-97), with Special Reference to Chalcolithic Architecture**

*V.N. Misra, Vasant Shinde, R.K. Mohanty, Lalit Pandey and Jeevan Kharakwal*

V.N. Misra, *et.al*, *Man and Environment* XXII(2): 35-59 [1997]  
ME-1997-2A04

### **A Preliminary Report on the Characterization of Copper and Gold Ornaments of the Arippa Megalithic Culture in Kollam District, Kerala, South India**

*P. Rajendran and C.S.P. Iyer*

During an archaeological excavation of two cist burials at Arippa (8°50'10"; 77°01'23") near Madathara in the Kollam district of South Kerala, rich megalithic cultural material consisting of a stone tool, numerous iron implements, pottery, three gold-earrings, a copper bangle, an infant's cranium, human bones, animal bones and food material were found. The food material was not charred but was also unidentifiable due to the poor state of preservation. Such rich cultural material had not been discovered earlier from any excavated site in Kerala.

P. Rajendran and C.S.P. Iyer, *Man and Environment* XXII(2): 61-65 [1997]  
ME-1997-2A05

### **Significance of Remote Sensing for Geomorphic Mapping in Archaeological Investigations**

*K. Nageswara Rao, Ch. Udayabhaskara Rao and K. Srinivasa Rao*

Recent archaeological excavations at Majeru village in the Krishna delta have revealed cultural material pointing to the existence of a Satavahana port. This study highlights the importance of geomorphic mapping based on remote sensing in order to understand the palaeo-geographical setting of archaeological sites. This is essential for a proper interpretation of archaeological findings in the area and was undertaken for the Satavahana period towns of Majeru and Kothapatnam. The location of these Satavahana port sites shows changes in the coastline in the last 2.5 ka.

K. Nageswara Rao, *Man and Environment* XXII(2): 67-72 [1997]  
ME-1997-2A06

## **Onshore and Nearshore Explorations along the Maharashtra Coast: with a View to Locating Ancient Ports and Submerged Sites**

*Sila Tripathi and A.S. Gaur*

Coastal explorations were carried out along the west coast of India at Elephanta Island, Malvan, Vijaydurg, Sopara and Chaul. A number of lead and copper coins as well as pottery of different cultural periods were found. Onshore explorations at Malvan and Vijaydurg yielded stone anchors of the Historical period, the first of their kind to be found in this region. The purpose of the submerged stone structure off Vijaydurg appears to have been damage to enemy ships or protect the fort from wave and current action. Other discoveries as well as offshore explorations are of importance in the reconstruction of the maritime history of India.

Sila Tripathi and A.S. Gaur, *Man and Environment* XXII(2): 73-83 [1997]  
ME-1997-2A07

## **Living Pre-Rigvedic and Early Rigvedic Traditions in the Himalayas**

*P.C. Kashyap*

This is an account of some unique living traditions of the pre-Rigvedic and early Rigvedic period from the western and northwestern Himalayan terrain of the Saptsindhus. The traditions are today embodied in very old rituals and fairs — *Buddhi Diyaudi*, *Jhiru*, *Bishu* and *Bhunda*. Strictly speaking, these are not fairs nor are they folk performances like the Ram Leela or the Ras Leela. They can only be understood and interpreted with the help of Rigvedic references, which in turn help to elucidate Rigvedic allusions, provide visual confirmation of some of its events and establish their historicity.

P.C. Kashyap, *Man and Environment* XXII(2): 85-93 [1997]  
ME-1997-2A08