

Man and Environment
ABSTRACTS
Volume XXVI, No. 1 (January-June 2001)

Prehistoric Sites and Settlements: A Palaeogeographic Perspective

K.R. Dikshit

K.R. Dikshit, *Man and Environment* XXVI(1): 1-13 [2001]
ME-2001-1A01

The Idea of India and its Heritage: The Millennial Challenges

D.P. Agrawal

D.P. Agrawal, *Man and Environment* XXVI(1): 15-22 [2001]
ME-2001-1A02

Emergence of Early Harappans in North Gujarat

Abhijit Majumdar

The paper deals with the penetration of the Early Harappan community into northern Gujarat during the first half of the third millennium B.C. The factor attracting people to this area are discussed. Possible routes taken by this community, the area from where they might have migrated are considered and an attempt is made to date the Early Harappan migration.

Abhijit Majumdar, *Man and Environment* XXVI(1): 23-38 [2001]
ME-2001-1A03

The Fishing Practices among the Mallahs of Allahabad District, Uttar Pradesh

Shahida Ansari

This is an ethnographic study of fishing practices among the Mallahs of Allahabad district, Uttar Pradesh. The paper attempts to correlate the ethnographic data with archaeological evidence from the Ganga Valley. The ethnographic data provides a better interpretation of the fish remains from archaeological sites, the role played by fish in prehistoric diet, the techniques involved in fishing, types of fishing tools and likely residues which would remain

after processing. Mallah settlements in were also studied to understand the importance of temporary, seasonal and permanent settlements in the context of bone disposal.

Shahida Ansari, *Man and Environment* XXVI(1): 39-55 [2001]
ME-2001-1A04

Indian Palaeolithic Collections in the Smithsonian Institution: International Exchanges and their Archaeological Potential

Michael Petraglia and Michael Noll

Palaeolithic collections from India are housed in the Smithsonian Institution, Washington, D.C. (USA). Nine accessions were recorded as donations and exchanges from 1883 to 1959. The majority of the collections were obtained during the height of British colonial domination of India and at a time when the rapidly developing Smithsonian Institution desired collections from around the world. The Indian collections are historically significant as they portray the circumstances surrounding the acquisition of Palaeolithic objects for potential exhibits and comparative studies. The museum collections indicate the location of important Palaeolithic sites and they are valuable for addressing aspects of Acheulian technology and behaviour.

Michael Petraglia and Michael Noll, *Man and Environment* XXVI(1): 57-68 [2001]
ME-2001-1A05

Geomorphological Observations at and around Kelshi, Konkan Coast, Maharashtra

Sushama G. Deo, Savita Ghate, Arati Deshpande-Mukherjee and P.P. Joglekar

Geomorphologically Konkan coast is characterized by pocket beaches and rocky headlands. There are two sand dunes at Kelshi, one of which is active and the other stabilized. The old dune at Kelshi is important, as it has preserved an archaeological site. The average height of the old dune is about 18 m. this paper aims to give preliminary geomorphic observations around the study region. Sedimentological analysis of samples collected from a geological trench is presented. The trench revealed the presence of platform-like layers of lateritic rubble.

Sushama G. Deo, *et al.*, *Man and Environment* XXVI(1): 69-74 [2001]
ME-2001-1A06

A Review of Archaeological Exploration in Dhule District — The Stone Age and Chalcolithic Phases

S.A. Sali

A review of the Prehistory of Dhule District, based on village-to-village survey is given in this paper. The prehistoric sequence in Dhule District includes a number of phases of Lower Palaeolithic (Early Stone Age), Middle Palaeolithic, Upper Palaeolithic and Chalcolithic. The

Quaternary sequence has been divided into six separate phases of deposition, with a number of unconformities. Chalcolithic cultures include the Savalda, Late Harappan and Jorwe of which the Savalda has been first recognized from the Tapi basin.

S.A. Sali, *Man and Environment* XXVI(1): 75-86 [2001]
ME-2001-1A07

Interpretation of the Fecundity Seal from Harappa as a Pictorial Representation of RV V. 78 with the Asvin Twins as Presiding Deities

P.V. Pathak

The fecundity seal from Harappa (Fig.1 A, B) is so named, because it carries a picture of a lady with a tree coming out of her womb. On side A of the seal, a standing human figure is shown holding a dagger or a weapon in one hand and a shield in the other. This standing human figure appears to be protecting the other human figure who is in a sitting position, holding both hands on his head as if defending himself. On side B, two animal figures in standing position are shown on the left hand side while on the right hand side is the fecundity symbol with a tree shooting out from the vulva of a lady in inverted position.

P.V. Pathak, *Man and Environment* XXVI(1): 87-91 [2001]
ME-2001-1A08

Redefining the Rigvedic and Harappan Connections

Shivaji Singh

This article discusses various issues related to the Vedic Culture and Harappan Civilization using evidence relevant to South Asian Protohistory in general and the Aryan invasion/migration theory in particular that formed the very basis of Vedic-Harappan dichotomy. Archaeological and genetic findings rule out the possibility of a second millennium B.C. arrival of Aryans in India.

Shivaji Singh, *Man and Environment* XXVI(1): 93-98 [2001]
ME-2001-1A09

A Human Skeletal Discovered from the Rock Shelter Site of Deulga Hills (District Sambalpur), Orissa

S.R. Walimbe, Pradeep K. Behera and Veena Mushrif

Extensive explorations were undertaken in the rock shelter sites of Deulga Hills (District Sambalpur, Orissa). In order to understand the nature of habitation inside the rock shelters and the archaeological context of the rock art of Deulga Hills, a trial pit was laid on the floor of one of the shelters. Three broad layers of habitation could be identified, of which layer 2, presumably belonging to the late Mesolithic phase, yielded a human burial. This young adult, probably a female, is very short in stature and exhibits general gracility in cranial and post-

cranial features. The gracility of this specimen might be because of genetic makeup of the individual, or because of less mechanical stress on females expected during the pre-agricultural levels. Some interesting pathological lesions and anomalies have also been noticed, including vertebral fusion, foramina of vertebral body, rib deformity and dental pathologies.

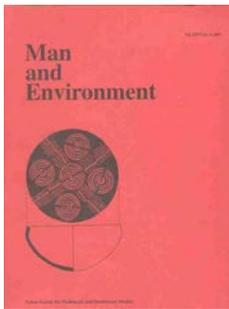
S.R. Walimbe, *et al.*, *Man and Environment* XXVI(1): 99-107 [2001]
ME-2001-1A10

Osteological Differences between Blackbuck (*Antelope cervicapra*), Goat (*Capra hircus*) and Sheep (*Ovis aries*)

Seema J. Pawankar and P.K. Thomas

Distinguishing between various ruminants of similar size from fragmentary bones found at archaeological sites is a difficult task. In this paper we give certain qualitative markers in the post-cranial bones which make it possible to distinguish between sheep, goat and blackbuck, which may be of use to other workers in the field.

Seema J. Pawankar and P.K. Thomas, *Man and Environment* XXVI(1): 109-126 [2001]
ME-2001-1A11



Volume XXVI, No. 2 (July-December 2001)

Archaeology of the Eastern Ghats: an Ecological Overview

K. Thimma Reddy

K. Thimma Reddy, *Man and Environment* XXVI(2): 1-16 [2001]
ME-2001-2A01

Green Imperialism: Monsoon in Antiquity and Human Response

M.K. Dhavalikar

M.K. Dhavalikar, *Man and Environment* XXVI(2): 17-28 [2001]
ME-2001-2A02

Role of surface Sites in Indian Palaeolithic Research : a case study from the Hunsgi and Baichbal Valley, Karnatak

K. Paddayya and Richa Jhaldiyal

In India a large number of Stone Age sites have been reported from either surface or near surface contexts. However these sites have always played a peripheral role in Indian prehistoric research since they are thought to contain unreliable chronological, palaeoenvironmental and behavioural information. This paper tries to dispel these misconceptions about surface sites by presenting the results of surface studies in Hunsgi and Baichbal Valley, Gulbarga District, Karnataka.

K. Paddayya and Richa Jhaldiyal, *Man and Environment* XXVI(2): 29-42 [2001]
ME-2001-2A03

Holocene Episodes of Colluvial Deposition at Kalapet near Pondicherry

Hema Achyuthan, Savita Ghat, Sushama G. Deo and Sheila Mishra

A spectacular feature seen near Pondicherry is a 40 m deep gorge cut into the Cuddalore sandstone of Miocene to Pliocene age. This gorge is about 1 km long and is graded to a lower sea level. Closer to the sea, a series of colluvial gravels are found filling the gorge. Microlithic artefacts were found close to the edge of the gorge and post date the gorge

formation. Quartz microlithic industry is found in the lower colluvial gravel and Megalithic pottery in the upper colluvial gravel. This shows that there were two distinct phases of colluvial deposition, which may relate to minor changes in climate, vegetation, sea level or human activities near the site.

Hema Achyuthan, *et al.*, *Man and Environment* XXVI(2): 43-46 [2001]
ME-2001-2A04

Archaeological Re-investigation and Archaeozoology of Seven Southern Neolithic Sites in Karnataka and Andhra Pradesh

Ravi Korisettar, P.P. Joglekar, Dorian Q. Fuller and P.C. Venkatasubbaiah

Archaeological investigations were conducted afresh of Seven Southern Neolithic sites in Karnataka and Andhra Pradesh. Archaeozoological evidence is discussed in relation to the plant remains with a view to understand domestic plant and animals in the context of southern Neolithic culture.

Ravi Korisettar, *et al.*, *Man and Environment* XXVI(2): 47-66 [2001]
ME-2001-2A05

A Rare Chalcolithic Pottery Cache from Balathal, Rajasthan

V.N. Misra and R.K. Mohanty

This paper reports an unusual Chalcolithic pottery set from Balathal. The set consists of seven pots. Six of these comprise three beautifully painted Black-and-Red ware bowl, two medium-sized pots and one small pot in Grey ware. Inside of the medium-sized pot was found a large quantity of steatite disc beads and Job's tears which were intended stringing into necklaces. The pot, therefore, served as lady's jewel box. All the six pots were carefully stacked inside a large Grey ware jar. The jar was placed close to a fireplace. The entire ambience of the find spot is that of a kitchen. The Chalcolithic deposit of Balathal is dated by 26 radiocarbon dates. The range of uncalibrated dates is 3000-1500 B.C. (calibrated 3700-2000 B.C.). One date obtained on charcoal collected from the fireplace itself has an uncalibrated reading of 2250 B.C. (calibrated 2880-2462 B.C.).

V.N. Misra and R.K. Mohanty, *Man and Environment* XXVI(2): 67-74 [2001]
ME-2001-2A06

Ochre Coloured Pottery: its Genetic Relationship with Harappan Ware

M.D.N. Sahi

Ochre Coloured Ware Pottery (OCP), based on research of the last 50 years, occupies a very significant place as one of the earliest protohistoric entities in India. Two distinct and separate chronological horizons have been assigned to the OCP. It has been considered Pre-Harappan on the basis of evidence from the excavations at Ganeshwar and Jodhpura in

Rajasthan while in the Ganga-Yamuna Doab it is designated as a 'Late Harappan' pottery. Our attempt here is to examine whether there is a genetic relationship between Ochre Coloured Pottery and the Harappan Ware. Both are sturdy and heavy red ware with monochrome, black painting on a red slipped surface. The area of distribution of the two wares also partly coincides. Cultural relationships are reflected in pottery styles and therefore, emphasis on pottery forms is given.

M.D.N. Sahi, *Man and Environment* XXVI(2): 75-88 [2001]
ME-2001-2A07

Some Metallurgical Aspects of an OCP Period Copper Hoard

R. Balasubramaniam, M.N. Mungole, V.N. Prabhakar, D.V. Sharma and D. Banerjee

The material of construction (Cu) of an ancient Indian ochre coloured pottery (OCP) period (2650-800 B.C.) anthropomorphic figure has been characterized by optical and scanning electron microscopy, and microhardness measurements. The green surface patina was analysed by X-ray diffraction as a mixture composed mainly of cuprite and minor amounts of malachite and brochantite. The copper possessed a highly heterogeneous grain structure consisting of equiaxed grains (of size 30-40 μm) and entrapped second phase particles of spherical shape. The identification of equiaxed grains with straight annealing twins, coring and spherical shape of the inclusions indicated that the anthropomorphic figure had been cast to shape without any further working operation. The relatively low microhardness (65 to 80 kg/mm^2) of the sample further confirmed that the sample was a cast structure. Local compositions from several different locations in the metallic matrix and the entrapped inclusions were obtained using an electron probe microanalyzer. The composition of the metal was almost pure Cu, with minor impurities of C and Sb. The major elements identified in the second phase particles were Cu, Pb and S, which indicated that these particles were sulphides. The presence of these sulphides has been discussed in with respect of the Cu extraction process.

R. Balasubramaniam, *et al.*, *Man and Environment* XXVI(2): 89-97 [2001]
ME-2001-2A08

Glass Beads in India: Lamp Winding and Moulding Techniques

Alok Kumar Kanungo

The production of glass was one of the most advanced techniques of the ancient world. Most of the early evidence for glass has been found in the form of beads. In India, glass beads are reported from more than 40 archaeological sites belonging almost solely to the early Iron Age period, with the exception of four beads from Chalcolithic Maski. There has been a lot of discussion on the numero uno position of Ancient Indian Beads (both stone and glass) in the Bead World at large. Interestingly, Indian enjoys the same position today. Owing to the breakdown of the monopoly of maritime trade, the location of bead manufacture, export and the via media of trade have changed.

Alok Kumar Kanungo, *Man and Environment* XXVI(2): 99-108 [2001]
ME-2001-2A09

A Rare Discovery of Metal Objects from Agiabir, District Mirzapur, Uttar Pradesh

Purushottam Singh and Ashok Kumar Singh

Purushottam Singh and Ashok Kumar Singh, *Man and Environment* XXVI(2): 109-115
[2001]

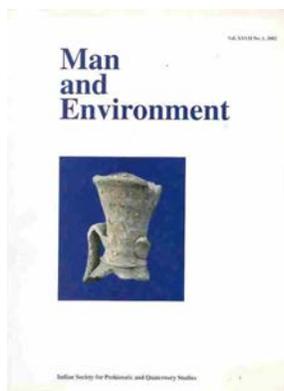
ME-2001-2A10

Addenda to the Copper Hoards of the Indian Subcontinent: Preliminaries for an Interpretation

Paul Yule

Paul Yule, *Man and Environment* XXVI(2): 117-120 [2001]

ME-2001-2A11



Volume XXVII, No. 1 (January-June 2002)

The Archaeo-Historical Idea of the Indian Ocean

Sunil Gupta

This paper attempts to consolidate the early Indian Ocean world within an archaeo-historical framework. Drawing from the Braudelian principle of *la longue duree* (the long haul) the endeavour is to view events, episodes and material culture processes along the Indian Ocean rim in deep time perspective (5th/4th millennium B.C. to early 1st millennium A.D.). Notional stages in the emergence of the Indian Ocean Interaction Sphere are outlined. The paper also touches upon key conceptual and methodological themes relevant to the historical construction of the Indian Ocean in Antiquity.

Sunil Gupta, *Man and Environment* XXVII(1): 1-24 [2002]
ME-2002-1A01

Indian Fine Wares from the Red Sea Coast of Egypt

Roberta Tomber

This paper presents new evidence for Indo-Roman sea trade during the early Roman period and focuses on the Indian fine wares found at the two most important Egyptian Red Sea ports during this period, Berenike and Myos Hormos. The forms and clay fabrics of the vessels found in Egypt are summarised and comparisons drawn with India, particularly from the site of Arikamedu. Two main forms occur in Egypt, and these belong to the well-known 'rouletted' ware (Wheeler *et al.* 1946: Type 1; Begley 1996a: Form 1) and stamped bowls (Wheeler *et al.* 1946: Type 10; Begley 1996a: Form 5).

Roberta Tomber, *Man and Environment* XXVII(1): 25-31 [2002]
ME-2002-1A02

People and contacts in the Ancient Western Indian Ocean Seaboard or Azania

Felix A. Chami

This work presents archaeological data that sheds light on the people of the ancient Western Indian Ocean Seaboard (WIOS) and their contacts with the rest of the world, especially the Indian Ocean seaboards. Data for the period ranging from the beginning of the last

millennium B.C. to about A.D. 500 is examined. This paper has utilized previously ignored historical data for the period before the Christian era. Recently, archaeological work conducted on the coast and islands of Tanzania has thrown more light on the question of the ancient peoples and cultures of the WIOS and their contacts with the rest of the ancient world. Old archaeological data from the interior has also been used to provide more support to the new thinking. The WIOS had people practiced Neolithic tradition before 200 B.C. Sites of this period include the Ukunju cave in Zanzibar where trade goods and other items such as chicken bones, suggest contact with the rest of the Indian Ocean seaboard. The people of the Early Iron Working Tradition took over after A.D. 200. The Rufiji sites of this period have yielded trade goods including beads from the Mediterranean world.

Felix A. Chami, *Man and Environment* XXVII(1): 33-44 [2002]
ME-2002-1A03

Looking for Connections: Southwest Arabia in Late Prehistory

Christopher Edens

The paper explores the role of Southwest Arabia in long distance trade networks prior to the emergence of the Iron Age in the region around 1000 B.C. The possibilities of a Neolithic-Bronze Age exchange network, connecting Yemen with the northern Red Sea, Persian Gulf and the wider Near East are investigated.

Christopher Edens, *Man and Environment* XXVII(1): 45-55 [2002]
ME-2002-1A04

Ancient Maritime Trade in the Indian Ocean: Evaluation by Scientific Studies of Pottery

Vishwas D. Gogte

For the past ten years, the author has been successfully employing mineralogical analyses by XRD and microscopic methods for scientific comparisons of pottery related to maritime trade of the Indian Ocean. With these techniques, it was possible to establish firm interrelationships between Ras al-Junayz (Oman) and Lothal during Indus Civilization (Gogte 2000a) and Petra (Jordan) and India during the Early Historic period (Gogte 1999). Further, the study of the Rouletted Ware has helped in visualizing the dynamic trading activities of the people of Bengal on the east coast of India and Sri Lanka during the Early Historic period (Gogte 1997, 2000b and 2001). The paper reviews important features of the above studies to bring out the utility of the scientific studies in understanding ancient maritime activities.

Vishwas Gogte, *Man and Environment* XXVII(1): 57-68 [2002]
ME-2002-1A05

Mandvi: an Early Historic Sea Port near the Gulf of Kachchh, Western India

Atusha Bharucha-Irani

Mandvi, is the largest Early Historic site in Kachchh. Also it is the only Early Historic site located on the coast of Kachchh. Interestingly, the site does not seem to be mentioned in Greco-Roman or Indian texts dated between in the 1st c. B.C. – 4th c. B.C. In particular, the *Periplus Maris Erythraei* (1st century A.D.) and the *Geographia* of Ptolemy (2nd century A.D.), the two texts which provide copious information on Indian trade ports and coastal settlements, are silent about Mandvi. The occurrence of trade potteries at the site, especially Mediterranean amphorae, creates the case for an archaeological definition of the role of Mandvi as an ancient port.

Atusha Bharucha-Irani, *Man and Environment* XXVII(1): 69-72 [2002]
ME-2002-1A06

An Archaeological Reconnaissance of the Konkan Coast: From Bharuch to Janjira

V.S. Shinde, Sunil Gupta and Dilip Rajgor

From the Narmada-Tapi estuarine zone, the Konkan coast stretches under the shadow of the Western Ghats to the river Sharavati in northern Karnataka. The metropolis of Mumbai is a convenient marker between the northern and western parts of the Konkan. The Konkan coast was a dynamic littoral region in historical times, impacted by urbanism from the interiors and attracting oversea trade in the B.C.-A.D. transition. The paper brings together results of fieldwork undertaken in the Konkan from 1993 to 2000 by the authors singly and jointly. We intend to publish the validity – in archaeological terms – of Early Historic ports mentioned in textual records. In particular, the focus is upon harbours of western India listed in the Greek texts such as the *Periplus Maris Erythraei* (1st century A.D.) and *Geographia* of Ptolemy (2nd century A.D.). The results of our survey are set out from Bharuch (ancient harbour of Brgukaccha) to the anchorage of Kuda at the head of the creek at Murud-Janjira. New evidence of transport pottery and archaeological features of Early Historic port-sites is presented.

V.S. Shinde, *et.al*, *Man and Environment* XXVII(1): 73-82 [2002]
ME-2002-1A07

Maritime Trade in Early Historic Tamil Nadu

K. Rajan

The long survival of trade centres and port towns located in different ecological zones depended upon economically viable natural resources like iron ores, gems, pearl fishery, and products derived from forests. In Peninsular India, the optimum utilization of these materials and their subsequent export to the Mediterranean World, Sri Lanka and Southeast Asia in the Early Historic period is seen in the light of fresh findings from the places like Quesir al-

Qadim and Berenice, Khlong Thom, Sembiran, Mantai and Anuradhapura. Recent ethnographic studies on the gem stone, iron and steel, pearl fishery and glass industries in the Tamil region suggest maritime trade activity, the development of ports and trade routes serving the hinterland in ancient times. The paper explores the long distance maritime linkages of the Tamil-Kerala region in Early Historic times.

K. Rajan, *Man and Environment* XXVII(1): 83-98 [2002]
ME-2002-1A08

Beyond and Before the Imperial frontiers: Early Historic Sri Lanka and the Origins of Indian Ocean Trade

Robin Coningham

On the eve of Partition, Sir Mortimer Wheeler published the findings of his wartime excavations at Arikamedu (Wheeler 1946, Wheeler *et al.* 1946). His report attracted great international interest as it included the first systematically recorded evidence of Roman artefacts in India. These artefacts enabled Wheeler to link the relative typologies of southern India with early European history, resulting in the creation of absolute chronologies for the region. In addition to Wheeler's chronological success at Arikamedu, his discoveries also allowed him to frame a model for the origins of Indian Ocean trade. This model suggested that Roman traders had acted as external stimuli to "leisurely and unenterprising" settlements on the Indian coast, transforming them into active trading stations (Wheeler 1955: 174). Reiterated in his well known book *Rome Beyond the Imperial Frontiers* (Wheeler 1955), this model has influenced much subsequent research in this area, leading one scholar to complain of the overstated role of Roman influence in the development of this trade (Whitehouse 1991). This paper will reassess the antiquity of Early Historic Indian Ocean trade, and the position of Greco-Roman artefacts within its development, with reference to new evidence from Sri Lankan-British excavations at the city of Anuradhapura (Coningham 1999, in press a).

Robin Coningham, *Man and Environment* XXVII(1): 99-108 [2002]
ME-2002-1A09

Pre-Islamic Maldives

Naseema Mohamed

Maldives is a small country, a double string of coral islands, none of which are very large. Nevertheless, in spite of its small size, the country has been populated for well over 2000 years. With research and archaeological excavations, the ancient history of the islands is at last coming to light.

The language of the Maldives, is of Indic origin, the people are of different ethnicities, perhaps because of the strategic position of the islands, almost in the centre of the most travelled routes in the Indian Ocean. Ships called at the Maldives, stopping over during

the stormy days of the monsoon, on their way to the east and on the return journey. Trading ships also called at the island, bartering their goods for cowries, ambergris, tortoise shells, fish and coir rope. Some of the industries of the islands were fishing, rope-making, weaving, boat building and coconut cultivation.

Maldives converted to Islam in 1153 A.D. Recent archaeological evidence proves that until the advent of Islam, the Buddhist religion had existed in the country. Buddhist relics and ruins of monasteries have been found in many islands. Additional evidence of a Buddhist past was found in late 12th century copperplate grants, translated in the 1980's.

The islands had their own customs and culture. Ruled by their kings and queens for many centuries, the islands seem to have remained an independent kingdom through most of its known history. Maldives had its own system of rule, which seemed to have been suitable to the geographical setting of this unique archipelago.

Mention of islands identifiable as Maldives were made in ancient Buddhist texts of India and Sri Lanka. Roman and Greek writers, and in later centuries, Chinese, Arab and Persian records also mention the Maldives. These records reveal that the ancient Maldivians were seafarers and travelled long distances, to Rome, China, and perhaps other distant countries for which no record now exist.

More extensive research, including scientific excavation of archaeological sites, will help us gain a clearer picture of the country's pre-Islamic past.

Naseema Mohamed, *Man and Environment* XXVII(1): 83-98 [2002]
ME-2002-1A10

Early Maritime Activities of Orissa, East Coast of India: Linkages in Trade and Cultural Developments

Sila Tripathi

In the maritime history of India, Orissa (ancient Kalinga) played a significant role in spreading Indian culture to other parts of the world, including Africa, Rome and Southeast Asia. Archaeological findings, explorations and excavations at various sites, epigraphical and numismatic evidences of different periods, and literary records, enabled the reconstruction of the maritime history of Orissa. In this paper an attempt has been made to trace the nature of trade and cultural contacts between Orissa and other countries of the world from various sources. Besides attack by neighbouring kingdoms, and unsound economic condition, the geological processes like tectonic activities, sea level changes and sedimentation were also equally responsible for the decline of ports of Orissa. However, the maritime traditions are preserved in the cultural festivals of Orissa, which are celebrated as commemorative traditions.

Sila Tripathi, *Man and Environment* XXVII(1): 117-126 [2002]
ME-2002-1A11

Early Maritime Trade Network of Bengal

Shahnaj Husne Jahan

The present paper deals with the early maritime trade network of Bengal within the time frame of 4th century B.C. to 4th century A.D. It has been generally accepted that Bengal had maritime contacts with Rome and China since the Early Historic Period. Thus perspective gradually changed the basic conception of the history of Bengal because it brought into focus an important element, i.e., international trade, against the known perspective of agrarian culture. However, scholars were unable to pinpoint their proof of maritime contact, because much of their hypotheses were built on literary evidence. In this paper, an attempt has been made to overcome the shortcoming by examining the cultural materials found in archaeological contexts, and also in museums and private collections in Bangladesh, India (West Bengal), Sri Lanka, Myanmar and Thailand. The cultural materials discussed include the Northern Black Polished Ware, Rouletted Ware, Knobbed Ware, amphorae, glass, semi-precious stone beads and seals and sealings with Kharosti-Brahmi inscription. Finally, the nature of trade network has been examined by using the criteria suggested by Evers (1991).

Shahnaj Husne Jahan, *Man and Environment* XXVII(1): 127-138 [2002]
ME-2002-1A12

The Role of Local trade Networks in the Indian Subcontinent during the Early Historic Period

Monica Smith

A variety of trading and non-trading activities utilized and crated land-based trade routes during the Early Historic period. The presence of local trade routes in the Indian subcontinent is documented by a common corpus of items such as fine ceramics, coins, and marine shells in archaeological sites. Archaeological fieldwork consisting of systematic survey at both the town-sized site of Kaundinyapura and the city of Sisupalgarh enables a detailed examination of the way in which trading networks provided goods that were part of the basic repertoire of household items.

Monica Smith, *Man and Environment* XXVII(1): 139-151 [2002]
ME-2002-1A13

Early Historic South India and International Maritime Trade

Peter Francis Jr.

India's role in international commerce has not received the attention it deserves. South India has slighted by many historians and archaeologists in favour of concerning on events in the North. Beads are small items, often overlooked and not properly understood in their role in world trade. This paper seeks to help rectify the neglect of these topics. The period considered here are the first few centuries A.D.

Peter Francis Jr., *Man and Environment* XXVII(1):153-160 [2002]
ME-2002-1A14

Comparison of Prehistoric Glass Beads from Korea and Thailand

In-Sook Lee and Mark T. Wypyski

This paper presents new evidence of contact between the eastern Indian Ocean region and Iron Age Korea through microprobe analyses of trade beads.

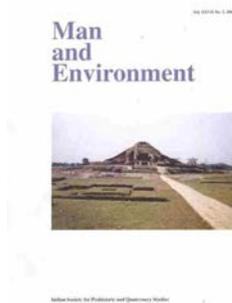
In-Sook Lee and Mark T. Wypyski, *Man and Environment* XXVII(1): 161-163 [2002]
ME-2002-1A15

West Asian Sassanian-Islamic Ceramics in the Indian Ocean, South, Southeast and East Asia

Ian Glover

Turquoise-blue glazed storage jars of the late Sassanian–early Islamic Period (seventh–early eleventh century A.D., comprise a distinctive ceramic type exported from Lower Mesopotamia and found widely distributed around the shores of the Indian Ocean, into Southeast and East Asia, coastal China, even reaching southern Japan (Fig. 1). Because they are easily recognizable and were exported over a rather short time span, they provide a useful tool for cross-dating sites in which they have been found and also give a useful perspective into the dynamics of early Islamic trade to southern and Eastern Asia (see also Tamboe 1989: 31).

Ian Glover, *Man and Environment* XXVII(1): 165-177 [2002]
ME-2002-1A16



Volume XXVII, No. 2 (July-December 2002)

Middle Palaeolithic Human Activity and Palaeoclimate at Kalpi in Yamuna Valley, Ganga Plain

Rakesh Tewari, P.C. Pant, I.B. Singh, S. Sharma, M. Sharma, P. Srivastava, A.K. Singhvi, P.K. Mishra and H.J. Tobschall

Lithic and bone artefacts, chronologically assignable to the Middle Palaeolithic, are recorded from the Kalpi section in Yamuna valley. These artefacts have been recovered from a stratigraphically constrained horizon dated by Infrared Stimulated Luminescence (IRSL) technique to around 45 kyr. The lithic artefacts are made mostly on 2-4 cm size quartzite pebbles, and consist of pebble tools, cores, un-retouched pebbles, broken pebbles, atypical points, side-scraper, and chips; and occur in a limited area. The bone artefacts far exceed the lithic artefacts in number and are spread over a few hundred meters. The bone artefacts are end-scraper, point, notched tool, burin, atypical end scraper and bones with cut marks. Special mention can be made of a large mammal vertebra and animal skull showing cut marks used as anvil, and a triangular point with a fire hardened tip. The bone artefacts invariably show some evidence of charring. Along with the bone artefacts a large number of bone pieces and teeth of vertebrates have been recovered. A 3.54 m long elephant tusk and 1 m long elephant shoulder blade are significant. Rich faunal remains in this horizon indicate a humid climate with strong monsoon around 40-45kyr, which is also supported by mineralogical-geochemical data. This is the first record of Middle Palaeolithic human occupation of the Ganga Plain.

Rakesh Tewari, *et.al*, *Man and Environment* XXVII(2): 1-13 [2002]
ME-2002-2A01

Geomorphological Contexts of the Stone Age Record of the Ganol and Rangrom Valleys in the Garo Hills, Meghalaya

Sukanya Sharma

This paper discusses the geological context of the stone tool assemblages of the Ganol and Rangrom valley in Garo Hills, Meghalaya. The research included intensive stratigraphic studies of the Garol and Rangrom valley alluvium to establish a chronological background for the cultural material recovered from these alluvium. The cultural material consists of a flake-blade assemblage, a pebble-tool assemblage, a bifacial tool assemblage and the ground and polished tool assemblage. The paper presents a discussion on site preservation, site setting and stone tool assemblages from the area.

Sukanya Sharma, *Man and Environment* XXVII(2): 15-29 [2002]
ME-2002-2A02

Arjuna 3, a Middle Palaeolithic Site, in the Deokhuri Valley, Western Nepal

Gurdun Corvinus

This paper deals with the description and analysis of a Middle Palaeolithic site, Arjun 3, in the Deokhuri Valley in Western Nepal. So far it is the only Middle Palaeolithic site discovered in Nepal. The artefacts comprise blade tools, scrapers, and points and discoidal cores prepared in a well-developed Levallois technique. The raw material is quartzite.

Gurdun Corvinus, *Man and Environment* XXVII(2): 31-44 [2002]
ME-2002-2A03

Preliminary Geoarchaeological Studies in West Bengal

Sheena Panja, Bishnupriya Basak, Sharmi Chakraborty, Suchira Roychowdhury and S.N. Rajaguru

This paper is a preliminary attempt to understand the relationship between changing landscape and archaeological site. An effort has been made to throw light on cultural adaptations and human behaviour through time, from the Late Pleistocene to the mid-Holocene period in selected regions within West Bengal. Fieldwork was carried out in the Western Uplands and the alluvial regions of North, South and Central Bengal. In the late Pleistocene, early hunter-gatherers occupied the present sub-humid parts of the Western Uplands which were then relatively arid. During the Middle to Late Holocene low energy flood plain environment dominated in the alluvial parts of West Bengal, while in the last 200-400 years there has been the prominent development of sandy levees. The Chalcolithic to Early Medieval adaptation occurred in a low energy flood environment where sites were not exposed to catastrophic floods but only “nuisance” floods.

Sheena Panja, *et.al*, *Man and Environment* XXVII(2):45-60 [2002]
ME-2002-2A04

Chronology of Harappan Port Town of Gujarat in the Light of Sea Level Changes during the Holocene

U.B. Mathur

In addition to the well-known habitational site off the coast of Dwarka in Gujarat, one more offshore habitational site, off Hazira (Surat District, Gujarat) has come to light recently. It is proposed that these habitations were pre-Harappan in age. They came into existence when the sea level was a few metres lower than the present, more than 6000 years ago, and part of today's continental shelf was exposed. The onshore Harappan sites like Lothal, Dholovira and Kuntasi, developed as port towns when the sea level was higher than the present about 4500 years ago.

U.B. Mathur, *Man and Environment* XXVII(2): 61-67 [2002]
ME-2002-2A05

Evolution of Settlement Types, Material Culture, and Urbanism in Early Historic Period Phase II Gujarat, Western India

Kalini P. Kandawalla

This paper attempts to understand the evolution of settlement types, material culture and urbanism during the Early Historic Period (EHP) Phase II (~ 100 B.C to 500 A.D), in Gujarat, Western India. It seeks to identify the differences in the distribution of material culture in relation to settlement types, based on cluster analysis of five types of influences, namely, foreign trade, political system, religion, monetized exchange, and defense systems. Based on cluster analysis of 51 EHP Phase II settlements, seven settlement types are identified.

The frequencies of the types of influence and their combinations indicate that monetized exchange combined with political influence may be the most important catalyst for the evolution of settlement complexity. Implications of these findings are discussed in the context of the research on the evolution of urbanism, and suggestions for future research are made.

Kalini P. Kandawalla, *Man and Environment* XXVII(2): 69-80 [2002]
ME-2002-2A06

Subsistence during the Historic Period in Coastal Orissa

Arati Deshpande-Mukherjee and Jitu Mishra

The study of faunal material from three Historic period sites in coastal Orissa: Gaurangapatana, Bardhyakuda and Maniakapatana has provided an insight into the subsistence economy comprising both terrestrial and aquatic resources. Information on the exploitation of marine resources is available from the fish bones and marine molluscan shells.

Arati Deshpande-Mukherjee and Jitu Mishra, *Man and Environment* XXVII(2): 81-89 [2002]
ME-2002-2A07

Newly Discovered Rock Paintings, Ancient Stone Quarry, and Painted Brahmi Inscriptions in District Chandauli (U.P.)

Rakesh Tewari and Ravindra N. Singh

This paper reports the discovery of an important archaeological site, comprising of painted rock-shelters, an ancient stone quarry and early Brahmi inscriptions, located in the Vindhyan foothills, to the southeast of Varanasi. These finds suggest a comparative chronology for the rock paintings. The ancient stone quarry appears to be on the ancient route from Pataliputra to Varanasi. The presence of Brahmi inscriptions in a non-administrative context shows that fairly broad groups of people were literate by c. 3rd – 2nd B.C.

Rakesh Tewari and Ravindra N. Singh, *Man and Environment* XXVII(2): 91-96 [2002]
ME-2002-2A08

Graffiti Marks of Kodumanal (India) and Ridiyagama (Sri Lanka) – a Comparative Study

K. Rajan and Osmund Boperachchi

India and Sri Lanka have had close and continuous cultural contacts since prehistoric times. Microlithic tools, graffiti marks, Brahmi script, Prakrit language and Buddhism are some of the shared cultural traits found in early times. In this paper, an attempt is made to show the significance of the identical graffiti marks found in the early Historical context of two important archaeological sites Kodumanal in Tamil Nadu and Ridiyagama in Sri Lanka. This limited comparative study clearly suggests the close relationship that existed between the graffiti engraved on pots as well as on the stone.

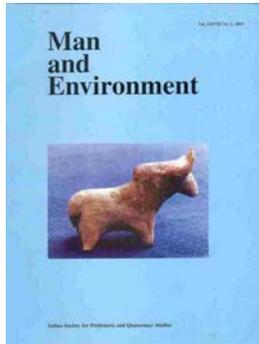
K. Rajan and Osmund Boperachchi, *Man and Environment* XXVII(2): 97-105 [2002]
ME-2002-2A09

Megalithic Culture of the Madias of Maharashtra

Shaunak S. Kulkarni

This paper deals with the Megalithic burial practices of the Madias of Maharashtra. The presence of Megalithic practices in different regions suggests to some degree the use of stone for the dead is a world-wide feature. Megaliths of similar character suggest inter-regional contact and cultural sharing. Megalithic monuments used as a memorial are found in various parts of the world including South India, Central India and Northeast India. Different types of Megaliths have been found from Naikund, Borgaon, Chingleput and Maski and Brahmagiri in the Vidarbha Megalithic region around Amaravati and Nagpur where Madias lie today.

Shaunak S. Kulkarni, *Man and Environment* XXVII(2): 107-111 [2002]
ME-2002-2A10



Volume XXVIII, No. 1 (January-June 2003)

Archaeology of the Middle Ganga Plain

Purushottam Singh

Purushottam Singh, *Man and Environment* XXVIII(1): 1-6 [2003]
ME-2003-1A01

Iron from Early Historic Gujarat: A Technological Perspective

Ambika Patel

A study of stratified iron objects from various archaeological excavations and explorations has been attempted here. The iron objects recovered from excavated sites were studied with special emphasis on processes of manufacture and methods of fabrication. The present work incorporates analysis of iron objects from excavations of the Early Historic sites of Nagara, Shamalaji, Devnimori and Timberva. Along with excavated archaeological specimens, contemporary recycled scrap material and a few objects made by tribal people using traditional technology were also analysed. This study aims at the classification of the iron objects from various Early Historic sites, the distribution of these types and an understanding of the methods of production, and fabrication, by the study of the microstructure of the objects. An attempt to trace the developmental stages in the production technology has also been made. It also aims at the evaluation of the chemical composition of the iron objects to understand the nature of iron in terms of purity and alloying elements as well as the study of the traditional contemporary iron working practices.

Ambika Patel, *Man and Environment* XXVIII(1): 7-19 [2003]
ME-2003-1A02

The Harappan Heritage and the Aryan Problem

Michel Danino

Because of the Aryan invasion theory, the Harappan civilization was initially assumed to have had no direct relation with later historical India. Yet archaeological evidence has

increasingly shown its numerous connections with the subcontinent's later developments in the fields of science and technology, agriculture, town planning, art and craft, religion and culture. The last two are of special importance not only in refuting the unscientific Aryan invasion theory, but also in understanding the overall continuity of Indian civilization. The Harappan heritage is a cultural continuum and not a cultural hiatus.

Michel Danino, *Man and Environment* XXVIII(1): 21-32 [2003]
ME-2003-1A03

Metallurgical Investigations on a Chalcolithic Copper Nail from Balathal

A. Srivastav, R. Balasubramaniam and V.N. Misra

A Chalcolithic (2350-1800 B.C.) copper nail from Balathal has been characterized by X-ray diffraction, microstructural and electrochemical methods. The surface patina was composed of sulphates and oxysulphates in the outer layers while the inner layers were rich in copper oxides. The nail exhibited smaller grain sizes near two of the surfaces while the structure in the interior was equiaxed. The deformed grains and inclusions near the surfaces and variation in the micro-hardness of the sample from different faces proved that the copper nail was processed by cold deformation after initial casting of the square cross-section nail. The electrochemical behaviour of Chalcolithic Cu has been compared with that of a modern Cu sample by potentiodynamic polarization studies. The corrosion rate of Chalcolithic Cu in aerated 3.5% NaCl solution was only marginally higher than that of modern Cu. The higher rate of corrosion has been attributed to the presence of second phase sulphide inclusions. The excellent condition of preservation of the 3800 year old copper object, with no indications of stress corrosion cracking, suggests that pure copper or copper-based materials can be seriously considered as candidate canister materials for long-term underground storage of nuclear wastes in underground repositories.

A. Srivastav, *et al.*, *Man and Environment* XXVIII(1): 33-40 [2003]
ME-2003-1A04

Archaeology of the Pudukottai Region, Tamil Nadu

K. Rajan

This paper reports the intensive explorations undertaken in Pudukottai region of Tamil Nadu that has a large number of Megalithic monuments, Jain centres and rock-shelters with Tamil-Brahmi inscriptions. The presence of Megalithic monuments in close vicinity to irrigation tanks suggests a relationship between Megalithic people and the tank based irrigation. The paper attempts to explore the various factors involved in the emergence of the of the Early Historic culture in this region.

K. Rajan, *Man and Environment* XXVIII(1): 41-56 [2003]
ME-2003-1A05

Onshore Excavation at Bet Dwarka Island, in the Gulf of Kachchh, Gujarat

A.S. Gaur and Sundaresh

Several ancient habitational sites were discovered in the coastal area of Bet Dwarka island during the last two decades of marine archaeological exploration. A large amount of protohistoric and historical pottery was collected from the sites. An excavation was undertaken at Bet Dwarka during 2001-2 to obtain a cultural sequence of the island. The following cultural sequence was observed from the excavation. The remains of the Late Harappan period were found near Balapur village on the island. This is a single culture site. A large number of potsherds including carinated dishes, bowls, and jars were recovered. A few sherds with black painting on red were also collected. Important antiquities from this trench include a copper fish-hook and an antimony rod. The remains of the historical period were also noticed over a large area of the island. Three trenches were laid on the southern coast. The important activity during this period was the exploitation of marine resources like different types of shells and fish. The important factor which led to a continuous habitation at Bet Dwarka was the availability of marine shells which were exploited on a large scale. The island also served as a safe harbour.

A.S. Gaur and Sundaresh, *Man and Environment* XXVIII(1): 57-66 [2003]
ME-2003-1A06

Discovery of the Ancient Port of Chaul

Vishwas D. Gogte

Although Chaul has been often mentioned in the ancient literature as major port on the west coast of India, Early Historic and the later period archaeological evidence has been found for the first time at Chaul. The occurrence not only of the characteristic Satavahana pottery but also ring-wells, coins, saddle querns, glass beads and bangles of the Satavahana period has been recorded at several places on the old mud flat of the Kundalika river. A body sherd of a Roman amphora was found in a trench along with a human skull in the Satavahana strata. A large variety of the Chinese and the Islamic glazed pottery were found on the old mud flat. An ancient embankment wall and a dilapidated stone structure resembling a jetty have been located on the edges of the old mud flat.

Vishwas D. Gogte, *Man and Environment* XXVIII(1): 67-74 [2003]
ME-2003-1A07

Cultural Aspects of the living Megalithic Tradition in Narainpur, Bastar District, Chhattisgarh: a Case Study of the Associated Ceremonies

Arun Kumar and S.N. Bajpai

The paper deals with cultural aspects of the rituals related to living megalithic tradition in the Bastar district (Chhattisgarh). The ritual involves a series of ceremonies, locally named *Guta*

Urasna, Kalk Urasna and Kalk Hurna. Akomamas have a definite role to play in these ceremonies. Variations in sex, age and social status as represented in living megalithic traditions are studied. The superstitions and beliefs associated with the traditions are also observed. The underlying belief behind the building of a monument is to provide a permanent resting place for the departed soul.

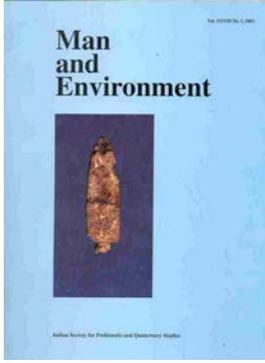
Arun Kumar and S.N. Bajpai, *Man and Environment* XXVIII(1): 75-79 [2003]
ME-2003-1A08

Caves of Western India – An Intranet Website

Ashok Marathe, Viraj Shah, Nivedita Gandhi and Sunil Deshpande

Intranet websites interconnect information and the people who need that specific information. The security system ensures that only identifiable users have an access to the explicit data. The main aim of communicating the data on the caves of western India on a website is to make people, especially laypersons, aware of the rich cave-tradition of the region and understand these caves from a historical perspective. The information on a website, apart from being accessible to everyone, is easy to grasp due to the lucid language used and the systematic presentation of the facts. It highlights the important features with pictures and diagrams to enhance their unique attributes.

Ashok Marathe, *et al.*, *Man and Environment* XXVIII(1): 81-84 [2003]
ME-2003-1A09



Volume XXVIII, No. 2 (July-December 2003)

Legend, Tradition and Myth in the Context of Antiquity

M.C. Joshi

M.C. Joshi, *Man and Environment* XXVIII(2): 1-8 [2003]
ME-2003-2A01

Asmaka Mahajanapada: A New Perspective

Reshma Sawant

This paper attempts to throw light on one of the sixteen *Mahajanapadas* that flourished in c. 6th century B.C., in Maharashtra, namely Asmaka *Mahajanapada*. Hitherto the dynastic history of South India began with the Satavahanas. Assessments of recent archaeological and numismatic data push back its history to c. 6th century B.C. The silver punch-marked coins of Asmaka *Mahajanapada* and their wide distribution, and probable role in contemporary trade network as reflected in literary and archaeological evidence support the significant position of Asmakas in regional as well as all Indian context. The Asmaka-Vidarbha interconnection, its role in contemporary trade network and probable territorial extent has been discussed in the light of literary (Pali and Sanskrit) and recent numismatic and archaeological evidence.

Reshma Sawant, *Man and Environment* XXVIII(2): 9-20 [2003]
ME-2003-2A02

Excavations at Bagsara – 1996-2003: A Preliminary Report

V.H. Sonawane, P. Ajithprasad, K.K. Bhan, K. Krishnan, S. Prathapachandran, Abhijit Majumdar, Ajit K. Patel and Jaya Menon

This paper is a preliminary report of the excavations carried out at Bagsara in Rajkot District, Gujrat. The excavations brought to light a coastal settlement of the Harappan culture. It shows four shows four distinct phases of cultural development, three of which belonging to the Urban Phase and the last one representing the Post-Urban phase of the Harappan culture.

The site was protected in the Urban Phase by a massive fortification wall, which showed three successive stages of construction. The urban Phase occupation clearly shows three distinct Chalcolithic cultural traits: the Classical Harappan, the Anarta tradition of North Gujarat and the Sorath Harappan of Saurashtra. It also revealed for the first time the stratigraphic context of these regional cultural traits and their specific distributional features. There is enough evidence at the site indicating industrial production of craft items of shell, faience, semiprecious stones, etc. which formed the mainstay of the economic set up of the Urban Harappan occupation.

V.H. Sonawane, *et.al*, *Man and Environment* XXVIII(2): 21-50 [2003]
ME-2003-2A03

Shell Working at Nagwada (North Gujarat) with Special Reference to Shell Industries of the Harappan Tradition in Gujarat

Kuldeep K. Bhan and Dakshayini Gowda

This paper discusses shell working at Nagwada – a Mature Harappan Phase site of the Integration Era, in North Gujarat. The Principle aim of this paper is to investigate the role played by this industry in the economy of Nagwada and to study the technology used in the manufacture of shell ornaments at the site. This information is examined in relation to shell material recovered from other coastal sites of Gujarat in order to present a comprehensive and holistic view of this craft production system in Harappan Gujarat.

Kuldeep K Bhan and Dakshayini Gowda, *Man and Environment* XXVIII(2): 51-80 [2003]
ME-2003-2A04

Pre-industrial Iron Smelting in Mayurbhanj, Northern Orissa: An Ethnohistoric Study

Basanta K. Mohanta, Kishor K. Basa, Pranab K. Chattopadhyay and Tapan K. Das

This paper is based on studies of metallurgy and technology of pre-industrial iron-smelting in Mayurbhanj (Orissa) using archaeological and ethnographic/ethnohistoric sources. Evidence includes a dome-shaped charcoal-making furnace, iron-smelting furnace, tuyeres, ores, slag, an ingot and an anvil. An important aspect of the paper is the discussion on charcoal manufacturing furnace from ethnographic (ethnohistoric) context.

Basanta K. Mohanta, *et.al*, *Man and Environment* XXVIII(2): 81-90 [2003]
ME-2003-2A05

Early Historic Pottery from Kachchh (Gujrat)

Atusha Bharucha Irani and Abhijit Dandekar

This paper deals with the result of explorations conducted by the first author in the Kachchh region of Gujrat during 1994-95. It attempts to understand the ceramic tradition of the Early Historic period in the region and its probable contact with other neighbouring regions in India and Pakistan.

Atusha Bharucha Irani and Abhijit Dandekar, *Man and Environment* XXVIII(2): 91-97 [2003]
ME-2003-2A06

Faunal Remains from Purani Marmi: a Late Ahar Culture Settlement in the Mewar Region of Rajasthan

P.P. Joglekar, P.K. Thomas and R.K. Mohanty

While excavation was being carried out at Balathal for seven field seasons between 1993 and 2000, field investigations were also carried out at a few Ahar culture sites in Rajasthan. Purani Marmi (25° 6'N; 74° 25'E) is one of these important sites. The ancient site of Purani Marmi is situated on the right bank of the river Kothari, a tributary of Banas in District Chitorgarh, (Rajasthan). At this site after preliminary study of surface collection of animal bones, section scraping was done to recover material from stratified contexts. This paper presents detailed account of animal remains collected from four habitation layers in the year 1999-2000. A total of 545 fragments of animal bones including molluscan shells were examined. The animals identified include cattle, sheep and goat, buffalo, blackbuck, spotted deer and domestic fowl. Two species of freshwater molluscs are present in the assemblage. The faunal remains suggest that people of Purani Marmi were mostly engaged in cattle pastoralism along with sheep-goat herding and supplemented by limited-scale hunting.

P. P. Joglekar, *et.al*, *Man and Environment* XXVIII(2): 99-109 [2003]
ME-2003-2A07

Instilling Discipline and the Habit of Science: Sir Mortimer Wheeler and Indian Archaeology

Sudeshna Guha

Sudeshna Guha, *Man and Environment* XXVIII(2): 109-115 [2003]
ME-2003-2A08