

is handmade and insufficiently fired. The available types include large and medium-sized vases, generally with carinated or concave neck, deep, ovaloid, convex-sided and shallow bowls, spouted vessels, basins, platters, etc. Decorated sherds are also met with. Incision and applique patterns are found on many sherds. A few potsherds bear painting *m* black pigment over red surface; such sherds, obtained from the upper horizon are similar to those of the Malwa Ware.

The excavation yielded a good number of animal bones also, often in an excellent state of preservation. The species include cattle, deer, antelope and dog. Microliths, consisting of blades, cores and flakes, have also been obtained, though the number is not impressive.

The excavated trench has not yielded evidence of settlement, but absence of rolling on potsherds suggests that these have not travelled much before their getting deposited. The ceramic industry in comparison to that of Koldihwa and Mahagara in the Belan valley exhibit evolved traits in firing and finish. The occurrence of a few sherds of the Malwa Ware in the assemblage may also suggest the contact between the two cultures—Neolithic and Malwa.

43. EXCAVATION AT RAMPUR, DISTRICT SIDHI.—G. R. Sharma of the Allahabad University, Allahabad, and his team carried out excavation at the Epi-Palaeolithic site of Rampur (Lat 24°33'30" N; Long 82°12'30" E), which is situated on the northern bank of the Son. With a view to ascertaining total thickness of artefact-bearing horizon a trench, measuring 1 sq. m, was laid out almost in the centre of the site. The excavation was conducted down to a depth of 85 cm. The total accumulation was divisible into three layers: lower sandy stuff (10 cm), red-brown sandy clay loam (20 cm) and sandy clay loam (percentage of sand increased). The artefacts were obtained down to a depth of 30 cm, i.e. from layers 1 and 2 only, the concentration being near the top. The assemblage included cobbles, cores, flakes, blades, finished artefacts and debitage fashioned mainly on chert. Evidence of heat-treatment was noticed on many specimens. The lithic assemblage of Rampur compares well with that of Bhaghor I, in tool typology, technique and use of raw material.

The excavation at the site established the fact that the Epi-Palaeolithic man did not open his workshop on the base rock-surface but on red-brown sandy clay loam.

44. EXPLORATION IN THE MID-SON VALLEY, MIRZAPUR, UTTAR PRADESH, AND SIDHI, MADHYA PRADESH.—B. B. Misra of the Department of Ancient History, Culture and Archaeology, University of Allahabad, at the instance of G. R. Sharma, conducted extensive exploration in the south-western parts (south-western parts of Robertsganj and western part of Duddhi sub-divisions) of District Mirzapur, Uttar Pradesh, and adjoining eastern regions (Deosar and Singrauli sub-divisions) of District Sidhi, Madhya Pradesh, bounded by Kaimurs in the north, the river Mear (Mayar) in the south, Kanhar in the east and Gopad in the west. As an amalgam of ridges and valleys, bare rock expansions, sheltered alluvial basins, thick forest covers and agricultural lands, still inhabited mainly by a number of tribal groups with widely varying primitive cultures, the explored region measures about 4466 sq. km (77 km from east to west and 58 km from north to south). The region is drained by the Son and the Rihand along with their various tributaries like Ghaghar, Bijul, Gopad, Balia, Deoshar, Mear, Kachan, Mohan, Saura etc. Explorations resulted in the discovery of a large number of sites ranging from Lower Palaeolithic to Neolithic through Middle and Upper Palaeolithic and Mesolithic. Besides, the above rivers have exposed extensively implementiferous and fossiliferous Quarternary formations. Recent cuttings in connection with the installation of Singrauli Super Thermal power Plant at Shaktinagar (District Mirzapur) have also laid bare similar geological deposits in a number of localities, viz. in the sections of approach channel near the Pump-house of the Plant at Shaktinagar, in a discharge and diversion canals between Telgaon in the east and Jainagar in the west and at the southern foothill of the Kota hill near the northern boundary wall of the plant at Shaktinagar.

The following four distinct geological formations were identified in several sections in ascending stratigraphic order.

1. This oldest formation has a maximum-preserved thickness of about 7 m and is composed of two members—lower coarse or gravel member and upper fine or clay member. The basal gravel member resting unconformably on eroded bed-rock varies in thickness from 4 to 5 m. The maximum thickness of this deposit is preserved in the cliff sections of the river Kachan near Hirawah locality, between the confluence of the Mayar (Mear) and the Kachan and the village Taldah. It is composed of angular to rounded or sub-rounded class of sandstone, quartzite, shaly limestone and quartz, set in matrix of clay and is very well-cemented. This bouldery gravel is overlain, at several places, by mottled clay, light-brownish or yellowish/greyish in colour and often containing plenty of calcium carbonates. Lower Palaeolithic artefacts comprising pebble tools, handaxes, cleavers, scrapers, discoids along with core, flakes and debitage made generally on quartzite and chert and occasionally on quartz were extracted from this gravel. Overlaying mottled clay, in the Jainagar locality of discharge canal, has also yielded a few evolved Lower Palaeolithic tools including proto-Levalloisian specimens.

2. With the maximum exposed thickness of 6 m it unconformably rests on Formation 1. The formation comprises massive to crude sub-horizontally-laminated medium to very coarse sand granules and pebbles. The main detrital constituents are quartz, clasts of sandstone shale, quartzite and limestone set in matrix of clay, generally dark-reddish in appearance. This formation is partly cemented with iron granules, rolled and rounded or sub-rounded pieces of agate, chalcedony and other silicious rocks. The upper 3 to 4 m of this formation is dark-brown/grey mottled indurated clay. Middle Palaeolithic and a few evolved Lower Palaeolithic tools were found from this deposit. This formation is well represented in the cuttings of discharge canal between Telgaon and Jainagar and in the cliff sections of the river Mayar (Mear) and the Kachan near their confluence and also in the section of the Kohrakhor nullah (a branch of river Mohan) at the Sarpdah locality, about 6 km south-east of Jiwan, the sub-divisional head quarters of Deosar tahsil on the Sidhi-Singrauli road.

3. This formation has a maximum thickness of approximately 15 m and rests unconformably on Formation 2. It is made of two distinct units: 3 A, coarse member (sandy gravel) and 3 B, fine member (silty clay).

Composed of quartzite, shale, quartz, chalcedony, agate, chert etc. ranging from medium to very coarse sand granules and pebbles, III A (lower coarse member) often contains evolved Middle Palaeolithic artefacts. A large number of well-preserved fossils of extinct animals like buffalo, hippopotamus, crocodile, rhinoceros, elephant, tortoise, etc. have been obtained from this deposit.

Resting conformably on 3 A, 3 B deposit, widely exposed, is composed of silty dark-brownish/blackish clay. Irregular calcium carbonates occur throughout the deposit. This formation has yielded fresh Upper Palaeolithic tools, made mostly on chert.

4. The fourth and the last geological formation resting on 3 B in this part of the mid-Son valley has a maximum-exposed thickness of about 3 m. It has also two distinct units (4 A and 4 B).

4 A, the coarse member (gravel), varies in thickness from 0.5 to 1 m and is composed of rolled calcium carbonate and iron granules and small stone pieces. It has yielded Epi-Palaeolithic-like tools along with early microliths fashioned generally on cherty stuff and quartz.

About 2 m in thickness, 4 B, the upper fine member (silty/sandy clay loam) rests conformably on 4 A. Microliths were extracted from this formation.

This 4 Formation may tentatively be correlated with gravel IV and overlying clay loam of the Belan area. This formation is well represented in the section of the Balia Nadi between the