

FIVE SEASONS OF EXPLORATION IN KEONJHAR DISTRICT, ORISSA

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The present paper is a summary statement of the results of five seasons of archaeological field work carried out between 1982 and 1986 in the Keonjhar district of Orissa state. Very little work has been done previously on the prehistory of this area, and the fieldwork reported here, carried out in part fulfilment of my doctoral work, had the initial aim of locating Stone Age sites through intensive exploration and then making a detailed study of their associated geomorphology and ecology. Contemporary ethnographic correlates were also recorded in order to attempt to reconstruct the Stone Age subsistence-settlement system of the area.

THE REGION

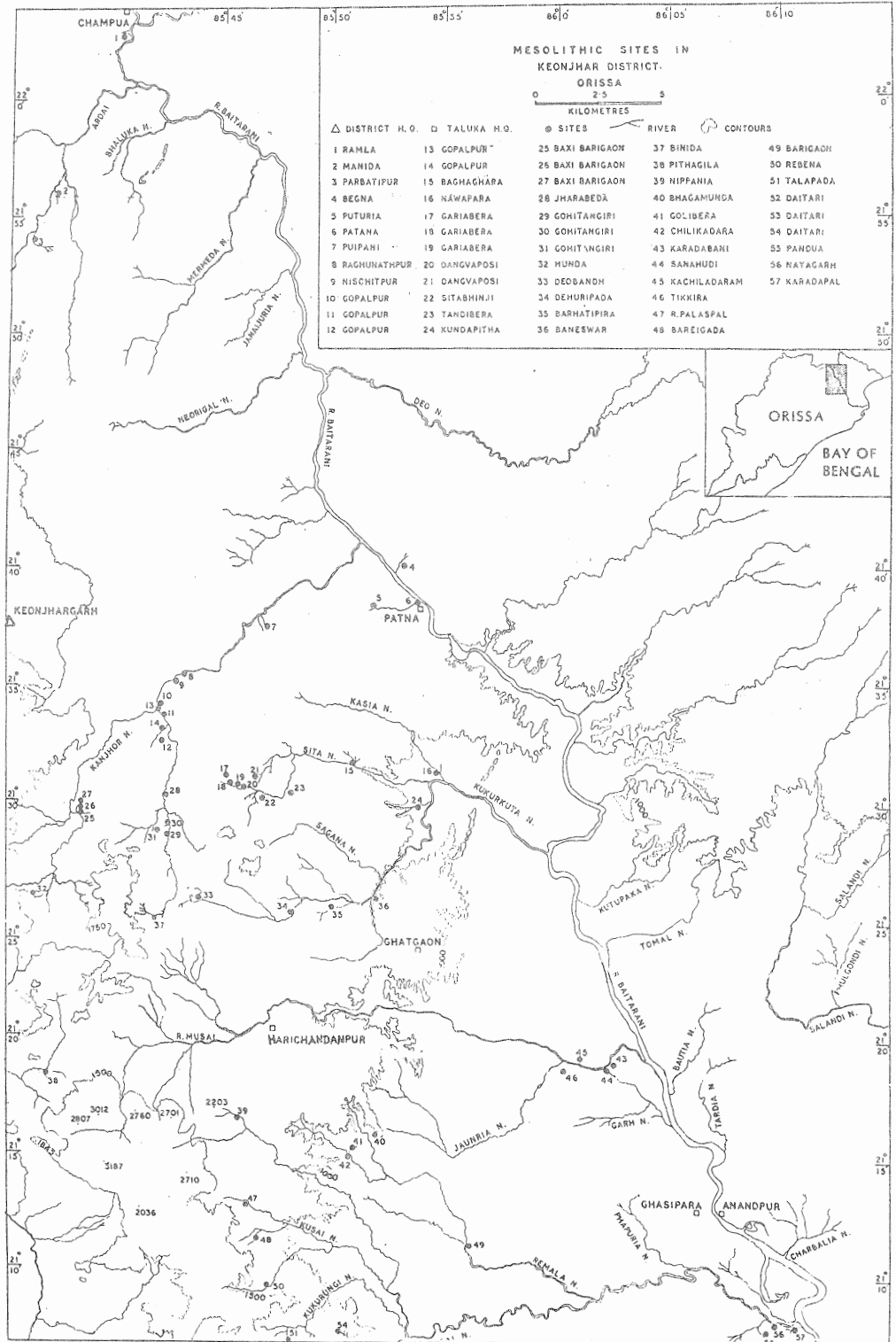
Keonjhar district is located in the northern part of Orissa, between 21° 01' and 22° 10' North and 84° 10' and 86° 22' East. It has an area of 8,330 square kilometres, and is surrounded by Singhbhum district (Bihar) to the north, Dhenkanal and Sundergarh districts to the west, and Mayurbhanj and Balasore districts to the east. Keonjhar district consists of two physiographic units: (a) Lower Keonjhar, consisting of a fertile and thickly populated plain; and (b) Upper Keonjhar, consisting of a thickly forested and hilly tract intersected by narrow valleys. The latter zone is the habitat of an important tribal population known as the Juangs.

Geologically the area is an extension of the Chhotanagpur region, and is drained by the river Baitarani and its numerous tributaries. The vegetation is of the tropical deciduous type and the climate is characterised by hot summers, high humidity and well distributed rain. The average precipitation is 1600 mm per annum.

THE SITES

Intensive exploration in the Champua, Ghasipura, Ghatgaon, Palaspal and Patana taluks spanning five seasons resulted in the discovery of 57 Mesolithic sites. Most of these sites are associated with granitic outcrops, while a few are found in the foothill region lying close to streams. The artefactual spreads at individual sites vary widely; the largest measure approximately 20,000 square metres in extent, but intermediate ones measure around 2,500 square metres and the smallest are only about 100 square metres. Most of the sites are now located in dense forests.

The exploration was restricted to tracts along the banks of the smaller streams originating from the western hills, all of which join the river Baitarani which runs along the eastern side of the district.



This restriction was decided upon owing to the greater chances of preservation of primary sites along these smaller streams, which have been less affected by fluvial activity than the major rivers.

The majority of the sites discovered are primary in nature and still preserve habitational deposits. The occurrence of isolated Mesolithic artefacts in association with rock outcrops was also observed at quite a few places. Although these occurrences may not be called "sites" in the conventional sense, their significance for interpreting the Mesolithic cultural system cannot be entirely ignored.

The most significant general feature of the Mesolithic habitation sites is the occurrence of heavy duty implements made of various raw materials, chiefly dolerite followed by quartzite and limestone. In some sites heavy implements and microlithic artefacts co-occur in mixed clusters.

A well-developed blade technology is the most outstanding feature of the microlithic assemblages. Because of the artefactual similarities between the sites and their geographic contiguity they are considered as representatives of a single industry for purposes of typological analysis. Chert is the principal raw material, followed by quartz, chalcedony and lydianite. The lithic component is characterised by backed blades, obliquely truncated blades, retouched blades, burins, knives, triangles, trapezes, crescents, lunates, side-scrapers, round scrapers, steep scrapers, thumbnail scrapers, flake cores, blade cores, microblade cores, utilized blades, flakes and chips.

Heavy Implements

As already mentioned, the common occurrence of heavy-duty implements is an interesting aspect of these assemblages, and the raw materials selected for these implements are different from those used for the microlithic artefacts. The lithic types comprise choppers (both uni- and bifacial), horsehoof cores or scrapers, picks, knives, limaces and flakes. Celts, fashioned by means of flaking, pecking, grinding and polishing, are another interesting category of implement.

The horsehoof core or scraper is predominant among these heavy duty implements. In general, these have steep edges obtained by means of step flaking and are very similar to specimens from archaeological contexts in Australia (Allchin 1957; Gould 1971; Lampert 1977; Mulvaney 1969), New Guinea (Kamma 1978:308), Indonesia (Bartstra 1976:90), Mexico and the western United States (Hester and Heizer 1972:107), South Africa (Sampson 1974) and elsewhere in India (Nanda 1983; Ota 1986; Paddayya, personal communication).

These horsehoof-shaped tools are mostly made on thick doleritic slabs and nodules. Most were prepared by minimum flaking along their margins, leaving much cortex intact. In all cases the flat bottom of the raw material has been retained. Flake scars are generally shallow

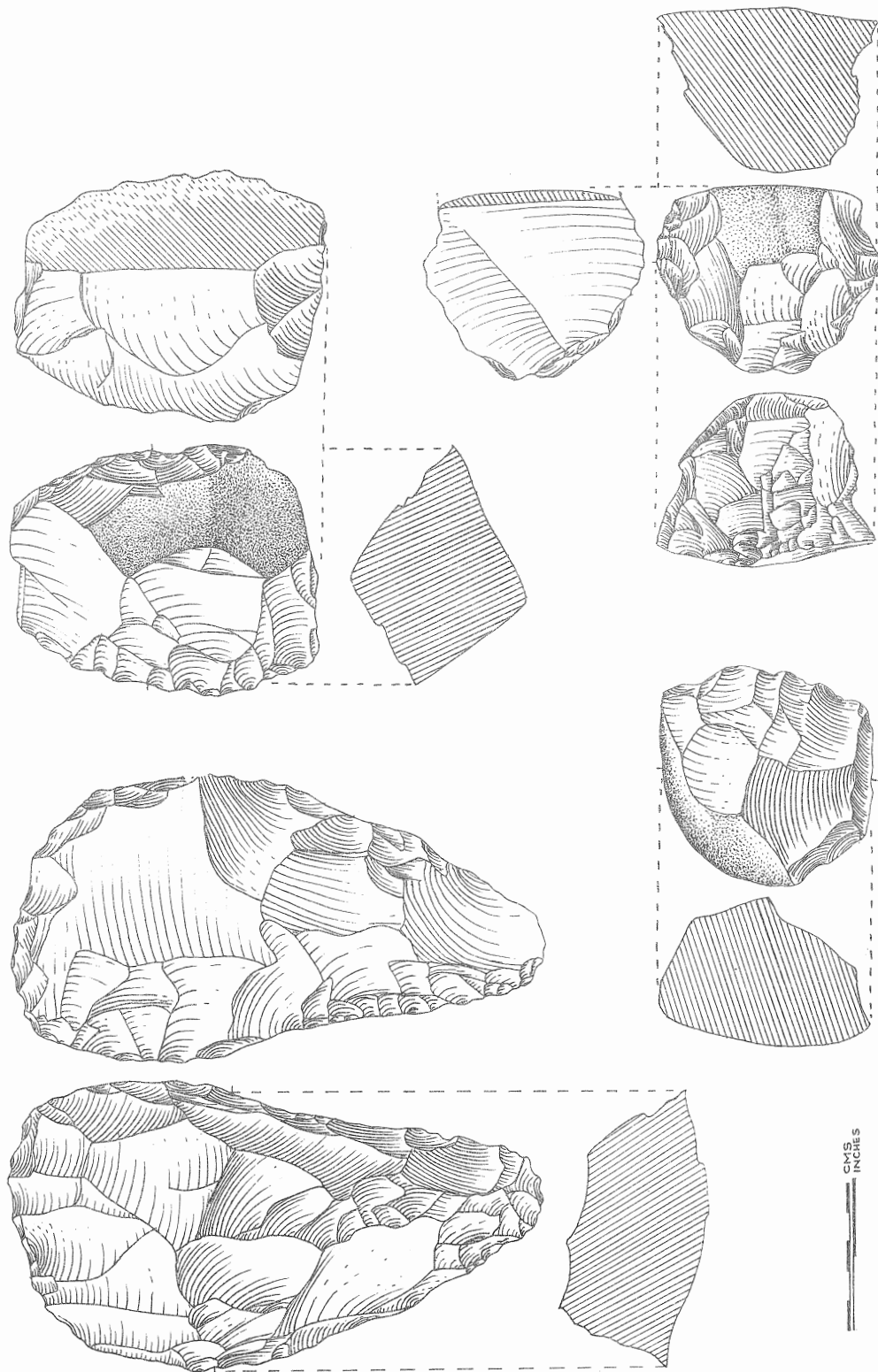


Figure 2. Heavy duty Mesolithic artefacts from Keonjhar District; flat-bottomed thick scraper (top left), core scraper (top right), chopper (bottom left), horsehoof core or scraper (bottom right).

and do not show any prior preparation of the core. The nature of the flaking suggests use of a controlled hammer technique, and secondary working along the margins is not very common.

All these open-air sites appear to have been connected with occupational activities. Most of them are associated with granite outcrops rising 5 to 10m above the plains. The possibility of obtaining a commanding view of the surrounding plains, the availability of hard ground for habitational purposes, and the ubiquity of boulders for raising shelters could all have been considerations which influenced Mesolithic settlers to select these outcrops as locales for their encampments. Also noteworthy is the nearness of the sites to streams. The dense forests and hills around should have provided a variety of game and wild plant foods. The raw materials for stone tool making may have been obtained from nearby veins and dykes, and from riverbeds.

ETHNOGRAPHIC CORRELATES - THE JUANGS

With a view to obtaining analogies and parallels that may serve to shed light on the lifeways of the Mesolithic peoples of the area, especially with respect to ecological adaptations and the reconstruction of settlement and subsistence patterns, ethnographic investigations were undertaken among the Juangs.

Despite modern influences and "acculturation" it can be suggested that the constraints and possibilities of a forest environment, which still regulate the rhythms of Juang life and subsistence, may operate to offer valid analogies for the reconstruction of human adaptations during the Mesolithic phase. From a holistic perspective the contemporary Juangs offer a referential grid encompassing all aspects of culture, material as well as non-material, facilitating a reconstruction of human organisation and adaptation in the past.

The Juang settlements are located generally on the higher slopes of hills or on the valley floors, and preferably near streams to ensure a supply of drinking water. The residential units are small and made of wattle and daub, leaves, and foliage. On average a house is two by two metres in size, square, and with walls 1 - 1.5 metres high. Entrances are usually small and are closed by doors of leaves and twigs. All forms of fenestration are totally absent.

Juang economy is based on a combination of shifting cultivation, gathering, hunting and fishing. Although shifting cultivation is the main component of the economy the food grains thus obtained do not last for more than four months of each year. Hence they must resort to gathering, hunting and fishing to supplement their sustenance.

The Juangs have a remarkable knowledge of their environment. So far, over 200 useful plant species have been identified as being known to them. Plant parts exploited include fruits, flowers, inflorescences, pods, leaves, berries, seeds, nuts, tubers, shoots,

stalks, stems, bark and cambium. These plants may be edible, medicinal, poisonous (for fishing etc.), fermentable, or else useful for other purposes such as rope-making, cleaning (saponific seeds) and oil production. Their indigenous plant medicines are said to be very effective, and are used for a number of ailments such as fever, constipation, wounds, venereal disease, snake bite, indigestion, and other chronic diseases. The Juang also depend on forests for the raw materials for their houses, for implements like bows and arrows, agricultural tools, digging sticks, fishing rods, containers (gourd water-bottles, containers made of bamboo culms for honey, oil and wine), for striking fire, for leaves to make mats, raincoats and hats, and for their musical instruments. Fibres from a number of trees are used to make traps and ropes, and they also extract gums and lacquers from a number of trees for various purposes.

Hunting is mostly done in summer, although it does not now form an appreciable part of Juang economy. Apart from an annual hunt associated with a festival, hunting is practised only on rare occasions. The most common species hunted include deer, sambar, wild boar, hare, porcupine and peacock. The chief hunting equipment is the bow and arrow. Dogs accompany men in their hunting expeditions.

In addition there are a number of birds which are caught regularly with the help of bird-lime, net-traps, spring traps and noose traps. They also catch more than 20 species of fresh-water fish by numerous methods, including weirs, nets, hooks, arrows, poisons, and many types of fish traps. The gathering of small animals is also a common activity. These include land molluscs, crabs, fledglings, insect larvae, and red ant larvae.

The most outstanding feature that distinguishes the Juangs from other neighbouring groups is their inexhaustible knowledge of their biological environment. The accumulation of an immense amount of such knowledge in the tribal groups must result from ecological adaptation and continuous exploitation over long periods. It reflects a traditional pattern of economic behaviour comparable in many respects with that of the Stone Age economies of the region.

In the light of available correlations, including the contiguous distributions of Mesolithic sites and present-day settlements, it is pertinent to raise the issue of ethnic or evolutionary links between the present-day Juangs and the prehistoric inhabitants of Keonjhar.

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