

Investigations into the Acheulian Phase in the Shorapur Doab, Peninsular India

A preliminary report

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with Pl. I-V

The writer's investigations between 1965-68 in the Shorapur Doab, lying in the Gulbarga District of North Karnataka, brought to light a wealth of data pertaining to the Palaeolithic (Middle and Upper), Mesolithic and Neolithic cultures (Paddayya 1970; 1971; 1973; 1974 a and b). But there was nothing that could be ascribed to the Early Palaeolithic. Frankly speaking, the remains of this cultural phase were not expected, because quartzite – the most common raw material utilised by the Palaeolithic populations of India – is a rarity in the Doab. For this very reason the solitary but well-shaped handaxe of limestone which Foote (1916: 122: pl. 2) collected from a place called Yedihalli was regarded as a stray piece, not worthy of serious follow-up studies.

Since 1969 the writer has been carrying out further studies on the Palaeolithic and Mesolithic phases; these have led to the discovery of a number of new sites. More important, it has now been possible to identify with certainty an Early Palaeolithic phase also in the area. The first site of this cultural phase was discovered in 1969 at a place called Gulbal. Here the artifacts were obtained from a 2 m. thick boulder conglomerate of limestone. Like the specimen collected by Foote from Yedihalli, the majority of artifacts from this site also are made of limestone. The assemblage consists of about 200 examples – well-shaped handaxes and cleavers as well as a small number of pebble tools and scrapers. It was soon realised that the Doab was also inhabited by Lower Palaeolithic groups who performed used limestone for fabricating their tools and weapons. With the clues so obtained, intensive search was undertaken in the region; we now have one dozen localities belonging to this phase.

The area and sites

To be more precise, the area containing these sites lies in the southwestern corner of the Shorapur Taluk, one of the three Taluks constituting the Doab; it is situated about 15 kms. away from the left bank of the river Krishna. Its topography is characteristic; it consists of an oval shaped valley or basin with a maximum diameter of 15 km. and an altitude of 450 m. above sea level. It is enclosed by limestone and shale plateaux (sometimes capped by Deccan Trap) on the south, west, north and, to some extent, also on the east; they rise to a height of about 60 m. above the floor of the valley. Four ephemeral streams, named after the villages of Kupi, Gulbal-Meralbhavi, Benhatti and Devapur and each with its own network of smaller streams, originate in the plateaux and cut through the valley in an easterly direction. They all have courses of 6 or 7 km. and join at or close to the village of Hunsgi to form a bigger stream called the Hunsgi nullah. The latter flows more or less parallel to the Krishna and joins with it after an easterly course of about 35 kms. It is thus clear that the valley and the plateaux flanking it form the source region of a tributary stream of the Krishna river.

The valley slopes down gently from west to east, which explains the easterly courses of the streams cutting through it. Its floor is covered with black cotton soil supporting crops like millets, groundnut and cotton. From the sections exposed by the streams mentioned above, it is clear that the bed rock (limestone, shale or granite) is not more than 3 to 4 m. from surface. It is more important to realise that raw material for tool-making occurs abundantly in the form of *kankar* conglomerates, exposed to a thickness of about 3 m. and extending areally for several kilometres. Taking into account the absence of Deccan Trap, Mahadevan (1941: 137-8) considers these beds to be of pre-Trappean age. They consist mainly of angular to sub-angular pebbles of silicified limestone (and occasionally of quartzite and sandstone), all set in a matrix of *kankar* and extremely well cemented. The phenoclasts range up to half a metre across and served as the chief raw material for the Acheulian settlers.

The *kankar* conglomerates apart, the valley floor is extensively covered with fluvial deposits occurring in the form of gravel conglomerates. The streams draining the valley cut through these sediments, thereby exposing them to surface. Sometimes they are also exposed because of the ploughing up of the overlying black soil. It is these gravel deposits which have yielded Lower and Middle Palaeolithic artifacts at several localities; at certain places the overlying black silt has produced Upper Palaeolithic artifacts. Confining ourselves here to the Lower Palaeolithic, we note that we have a total of one dozen localities – nine gravel sites and three workshop sites. Two of the latter group are located on the outer margin of the plateaux enclosing the valley, not within the valley itself. They are briefly described below:

Gulbal

This place is in the southwestern corner of the valley and has three Acheulian localities, situated one or two kilometres away from one another.

Gulbar-5 is a workshop lying close to the foothill region of a limestone and shale plateau, and overlooks the Gulbal stream as it comes down from the plateau. It consists of a barren plot of land occupied by *kankar* conglomerates; it extends for about one kilometre and is covered with scrub vegetation. The artifacts, all highly weathered, were found as isolated pieces amidst pebbles of limestone. This sparse occurrence can only be explained away in terms of downstream movement of gravel debris and tools to form fluvial deposits like the ones to be described below.

Gulbal-2 lies about two kilometres downstream of the above locality. Here the stream has exposed a boulder conglomerate (1-1/2 to 2 m. thick); it is cross-bedded and shows lenses of calcareous earth (Pl. I, No. 1). The artifacts were found throughout this sediment; the overlying black silt (15 cm. to 1/2 m. thick) yielded Upper Palaeolithic tools. Gravel conglomerates morphologically similar to the one exposed here were found to extend discontinuously for about a kilometre downstream and a kilometre upstream, and laterally for about 200 metres on either bank of the stream.

Gulbal-4 lies on a feeder of the above-mentioned stream. Here the limestone boulder conglomerate was exposed to a thickness of 1/2 to 3/4 m. Several artifacts were found *in situ*, and also in the bed of the stream. The overlying black silt (1-1/2 m. thick) was found to be sterile.

Benhatti

This section also lies on the Gulbal stream, about two kilometres downstream of Gulbal-2. It is just downstream of the Yadgir-Talikot road crossing. The basal weathered sandstone is overlain by 1/2 to 1 m. thick limestone boulder conglomerate. This sediment was exposed for about 200 metres along the stream and laterally for about 100 metres. Several artifacts were obtained *in situ* and also from river bed. The gravel is overlain by half a metre thick sterile black silt.

Hunsgi

As already mentioned, at or close to this place the Gulbal, Benhatti, Kupi and Devapur streams join to form a bigger stream which we may call the Hunsgi nullah. Six tool-bearing localities were explored here.

Locality Hunsgi-A lies on the Devapur stream, a short distance upstream of the village of Hunsgi. Here a boulder conglomerate of limestone is exposed to a length of 150 m. along the stream; it is 2 to 2-1/2 m. thick and has produced a number of artifacts. Overlying it disconformably is a pebbly cobbly gravel (about 1-1/2 m. thick) bearing lenses of brownish sand. It has given Middle Palaeolithic artifacts of chert along with freshwater molluscan shells. This is one of the few localities in south India where a deposit yielding Middle Palaeolithic tools directly overlies that of the Early Palaeolithic, thereby leaving us in no doubt as to the relative chronological positions of the two cultures.

The other five localities form one single complex and are located on the Hunsgi nullah proper, which is about 50 m. broad with extremely shallow banks (1 to 2 m. thick). Starting from the Hunsgi village, implementiferous gravel deposits occur for nearly one kilometre along the nullah and for 100 to 200 m. on either bank. Owing to cultivation and erosion of the black soil, the gravels are exposed to surface. There are five spots where they are exposed in a pronounced way.

Locality Hunsgi-III, lying on the right bank of the stream, is the most important of these findspots (Pl. I, No. 2, Pl. II, Nos. 1 and 2). It extends for over 200 m. along the stream and for about 100 m. laterally. Here, during February–March 1974, the Public Works Department has dug a number of trenches for procuring earth for the embankment of a small dam that was being built across the stream. These cuttings have exposed a calcareous deposit mixed up with pebbles of limestone and other rocks. From the dug-out material a large number of artifacts have been collected. In order to ascertain the *in situ* character of the tools and also to know whether the sediment also contains organic material like animal fossils, one of the P. W. D. trenches (called Trench 1), measuring 6.5 m. N-S and 4 m. E-W and already dug up to a depth of 65 cm., was selected for excavation and dug up to the natural soil. It exposed six layers as follows, from top downwards (Fig. 1; Pl. II, No. 2)¹:

- Layer 1 Laminated black sandy silt.
Thickness: 5 to 22 cm. Sterile.
- Layer 2 Brown sand. Thickness: 10 to 20 cm. Sterile.
- Layer 3 Compact black brown silt. It is very similar to layer 1, but devoid of laminations and less sandy. Thickness: 10 to 40 cm. Sterile.
- Layer 4 It is an orthoconglomerate consisting of whitish calcareous earth and pebbles, respectively, making up for 60% and 40% of the volume. The latter are mainly of limestone (60%) and granite (30%). The deposit is completely lacking in sorting, with pebbles of 10–15 cm. class occurring alongside boulders of 40–60 cm. size. Nor is there any pattern in the orientation of phenoclasts. That the deposit suffered only a short-distance transportation is revealed by the fact that pebbles of even a soft rock like limestone show rounding only along the edges. This layer forms the main Acheulian horizon and has yielded finished tools as well as a number of cores, unworked flakes and chips. Maximum thickness: 75 cm.
- Layer 5 It consists of brownish *murrum* mixed up with pebbles and rock fragments (making up for 25% to 30% of the volume). Now granite pieces outnumber those of limestone. Like layer 4,

¹ It will take some time before the laboratory studies of the various deposits are complete. The terms used presently therefore are only provisional.

this deposit is also lacking in sorting. The artifacts also occur in smaller numbers. Maximum thickness: 65 cm.

Layer 6 It represents the natural soil and consists of light brown murrum mixed up with granite blocks. Pebbles of foreign rocks like limestone as well as tools are completely absent. A huge boulder of pink granite (measuring about 2- $\frac{1}{2}$ m. across) was encountered in one corner, thereby suggesting that the bed rock is not much below.

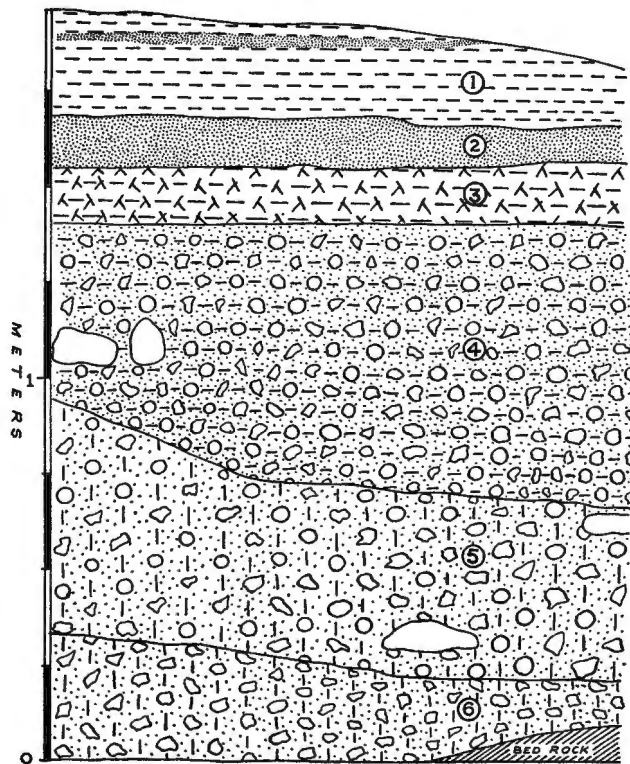


Fig. 1. Section facing south, Trench 1, Hunsgi - III.

Arikera

This and the site of Yedihalli discovered by Foote are situated on the outer edge of the plateau flanking the valley on the north. Two factory sites were discovered here. Both are situated on or close to the exposures of geological conglomerates identical with those found at Gulbal and other places. Here also the artifacts have been found but in small numbers. The streams in the vicinity were explored for locating gravel deposits which might contain artifacts washed down from those factory sites. But, unfortunately, no such deposits could be traced.

Conclusions

A full interpretation of the Stone Age localities of the Hunsgi valley must await more detailed studies of the areal extent and morphological characters of the sediments and their relationship with one another. Moreover, the possibility is a lively one that more workshops will be found in the valley. The work

undertaken so far therefore can only be regarded as incomplete. The exploratory studies described above and the excavation at Hunsgi-III allow us to draw only tentative conclusions. The valley and the plateaux enclosing it must have been covered with thick vegetation, and must have been frequented by game animals of various species. Even now small groups of deer can be spotted in the valley during certain seasons of the year. The factory sites at Gulbal and Arikera prove that the *kan kar* conglomerates were an attraction to the Acheulian hunters; they chipped tools out of the small and large limestone pebbles forming these conglomerates. In the course of time the artifacts as well as the loose pebbles were washed down and deposited wherever hollows existed over the rock floor of the valley. This deposition might have been aided by the presence of rocky ridges serving as barriers. Several such ridges are noticed at Hunsgi. From the wide areal extent of the tool bearing sediments it would seem that their deposition was caused by surface wash, not by any channelled watercourses. Further, it is necessary to bear in mind that the present streams have only cut through the deposits and have nothing to do with their formation.

As for the lithic industry itself, the collections are made up of over 2000 pieces. About 90% of them are made of limestone obtained as pebbles from the geological conglomerates. In contrast to the tabular limestone of the plateaux, this variety is silicified and hence much harder, thereby giving fairly good conchoidal fracture. As far as is known to the writer, this is the only region in India where limestone has been utilised as the chief raw material by the Stone Age artificer. As yet the assemblages have not been studied even in a preliminary way, so only a few tentative remarks can be made about their cultural affiliations. The occurrence of handaxes and cleavers as the main types suggests that we are dealing with an Acheulian culture of the Lower Palaeolithic period. The other types are pebble tools, knives, bifacial points and a variety of scrapers of chert and limestone (Pls. III-IV).

That these sites represent an early facies of the Acheulian is suggested by the following two features. The majority of handaxes are rather thick and show crude workmanship; they seem to have been shaped by means of the stone hammer technique, which has left large and deep flake scars. Also the outlines are not well defined, and the edges are twisted. Secondly, handaxe types like the ovate and cordates forms and triangular examples, which all characterise evolved Acheulian in Europe and elsewhere, are rare in the assemblages.

References

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Addendum

With a view to identifying occupation horizons which alone can preserve the cultural evidence in its original or undisturbed context, the writer undertook further excavations at the site of Hunsgi (Lat. 16° 27'; Long. 76° 31') from January to March 1975. Locality V, lying on the left bank of the local stream and about 300 m. downstream of locality III, was selected for this season's work.

This locality is about one hectare in extent, and forms a distinct terrace rising to a height of 5 m. from

the stream bed; water does not reach this level even during flood. The vegetation consists of low grasses and thorn-scrub forest species like *Acacia* and *Zizyphus* characteristic of the semi-arid climate. The whole area is dotted with numerous granite boulders which actually form part of a ridge cutting across the stream in a southeast-northwest direction. At the time of Acheulian occupation the drainage was not yet fully organized and was in the form of braided runnels flowing at a higher level and in a much broader system of channels¹. It is probable that a portion of the present terrace was part of this channel system.

Proceeding from the clues given by the surface clusters of artifacts, several trial trenches were dug at different points. These proved to be disappointing in that they either exposed bedrock immediately below black soil (30 to 40 cm.) or revealed 30 cm. to 1 m. thick soft gravel (very similar to that found in Trench 1 at locality III), formed due to localized shuffling of pebbles and angular pieces of limestone, granite boulders of various sizes, and whitish calcareous material derived from the disintegration of granite. This gravel deposit contained only scattered artifacts but no regular occupation levels as such. However, one of the trial pits (1 x 1 m.), lying 45 m. away from the stream bank and 4 m. above the water level, gave entirely different results. Here below 70 cm. thick soft gravel, a concentration of artifacts was encountered. In order to ascertain whether this was just a stray phenomenon or forms part of an occupation level of some kind, the pit was extended finally to cover an area of 22.75 square metres. The concentration of artifacts also continued. Further, the floor was found to extend outside the excavated area, especially to the north.

The thickness of the floor ranges between 20 and 35 cm. (Pl. V). It consists of sub-angular pebbles and cobbles as well as rubble (pieces with flat surfaces and sharp edges) of limestone, and granite blocks of various sizes, all set in a matrix of whitish material derived mainly from the *in situ* weathering of granite. Unlike the loose overlying gravel, this deposit is extremely hard to dig even with a hard pick, frequently calling for the use of chisels. While the pebbles and cobbles of limestone form part of a thin gravel spread laid down over the locality by the ancient stream prior to the arrival of man, the angular blocks of this rock were undoubtedly brought to the site by man from the plateaux which are within a distance of 2 or 3 km. The floor is underlain by bedrock (granite) with the crevices filled up with sterile granitic detritus. In addition to numerous smaller pieces ranging between 5 and 30 cm. (some weathering into powdery masses), more than half a dozen granite boulders (50 cm. to 1 m. across) were exposed in the trench. Considering these in relation to the ones lying outside the trench, especially on its northern side, we seem to have in this spot an ovalshaped area with its periphery defined by granite boulders. We can cite at least three advantages which must have favoured its selection for occupation by the Acheulian groups. Firstly, its riverside location would ensure easy and adequate supply of water. Secondly, the granite boulders marking out the area would already give protection from wind and also facilitate the job of raising temporary shelters with branches and grass. Thirdly, the limestone pebbles scattered over the locality would serve as the raw material for tool-making. This was supplemented by the angular pieces procured from the plateaux.

The floor has yielded over 300 stone artifacts. As in the case of assemblages from other sites in the Doab, limestone is the principal raw material employed by the occupants of this site. Lack of any preferred orientation in the positions of pebbles and artifacts, the sharp nature of the edges of artifacts, the preponderance of waste products over finished tools, and the occurrence of limestone and granite pieces with battered surfaces (obviously used as hammerstones) prove that the working was carried out on the spot itself. Cleavers and handaxes are the two major types among the shaped tools; other types

¹ The writer is thankful to Dr. S. N. Rajaguru, Reader in Environmental Archaeology, Deccan College, Poona, for this observation. Dr. Rajaguru is undertaking a detailed study of environmental setting of the site.

are picks, points, scrapers and backed knives. On the whole, the assemblage compares favourably, technologically and typologically, with those from other sites in the area.

So far the excavations have not produced organic materials of any kind. But it is worth emphasizing here that the area dug is very limited in extent; there are clear indications that the locality has several spots containing occupation levels. Secondly, the matrix material of the floor is alkaline and hence quite suitable for the preservation of animal bones. It is hoped that future excavations will provide data of this kind also.



No. 1. View of the tool-bearing limestone conglomerate at Gulbal-2.



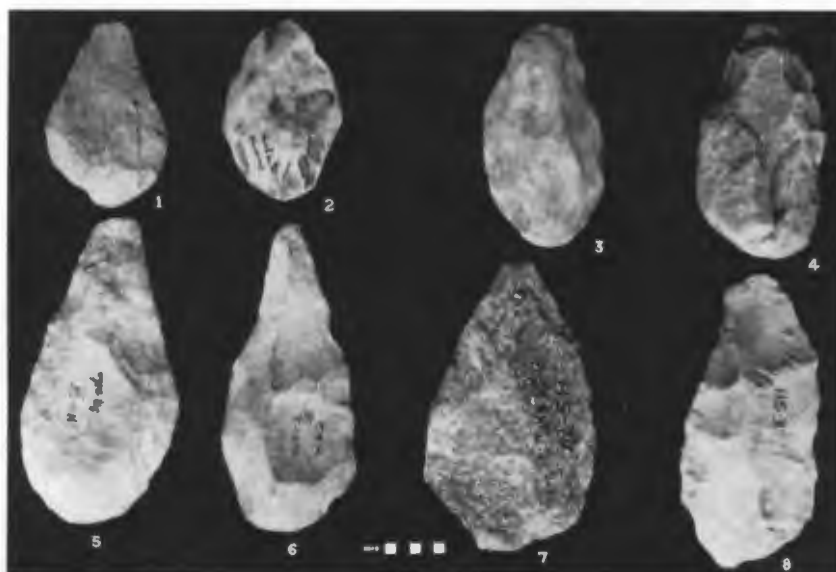
No. 2. View of the dam (with earthen embankment on either side) across the Hunsgi stream. The Acheulian Locality-II is on the left side of the embankment in the background. Locality-III is on the right side of the embankment in the foreground (see Pl. II, No. 1).



No. 1. View of the trenches excavated by the Public Works Department at the Hunsgi Acheulian Locality-III. Trench 1, excavated by the author, is indicated by the arrow.



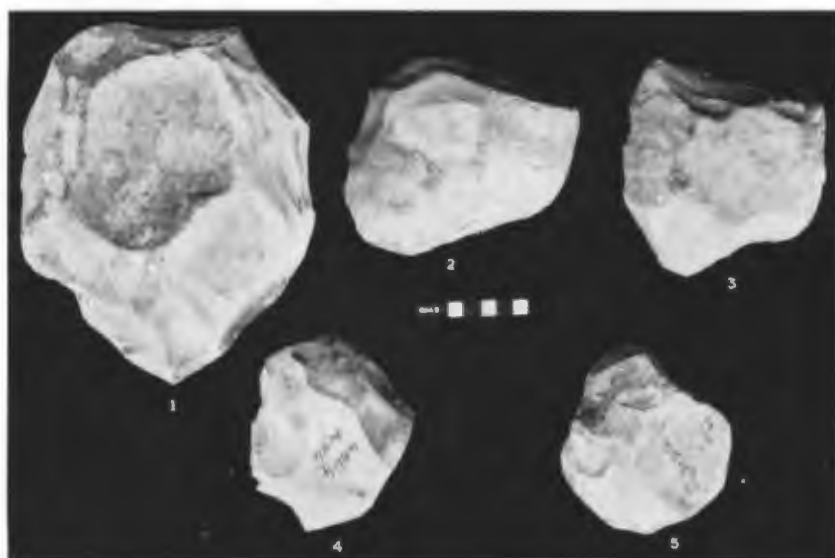
No. 2. View of the section facing south, Trench 1, Hunsgi-III.



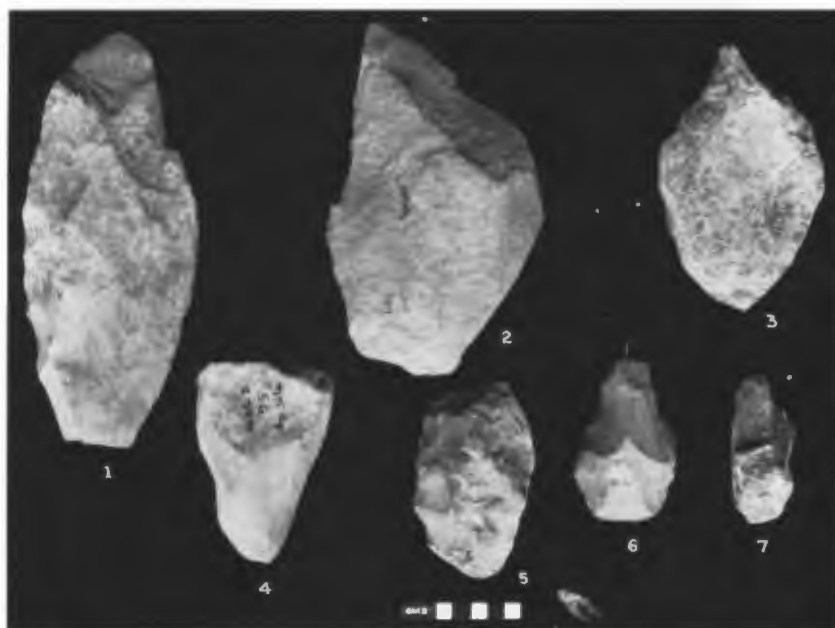
No. 1. Handaxe types from Acheulian sites in the Shorapur Doab.



No. 2. Cleaver types from Acheulian sites in the Shorapur Doab.



No. 1. 1: Core; 2-5: Chopping tools from Acheulian sites in the Shorapur Doab.



No. 2. 1-3: Pick-like artifacts; 4-5: Knives; 6-7: Bifacial points from Acheulian sites in the Shorapur Doab.



View of the main part of the Acheulian floor, looking northeast, exposed in Trench 3, Locality V at Hunsgi, Karnataka (South India).