

Prehistoric Tool Making Industries of Primordial Andhra Pradesh at Giddalur

A Classificatory Study of Cammiade and Burkitt

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Abstract

The pre-historic cultures at Giddalur and its vicinity demonstrate the evolving pattern of semi-nomadic palaeolithic, mesolithic and neolithic cultures. They are embedded in an area where river fertility was abundant. They reveal the matter of the fact that South India was the ancient most region, where the first man of the Indian sub-continent walked up right. This prehistoric tale has been traced in the Karnoolaozoic geological system and the Cuddaphaaozoic geological system.

Glossory

(i)Rostrocarinate and 'Victoria West'(ii) Levellois and Proto-Levallois(iii) Clactonean(iv) Coarse Burinate (v)Plano-Convex Section (viii)Abbelleo-Acheulian Group (ix) Bioconical/Discoidal Medium (x) Detrital Laterite(xi) Palaeo-climatic Correlations (xi) Pluvial Cycle (xii)Detrital Laterite (xiii) Aozoic Geological System(xiv) Rostrocarinates (xv)ClactoneanCore (xvi)CorticalPatches (xvii)Burinate Flakes (xviii) BladdishFlakes(xix)Parallelogram Cross-Section(xx)Oblique Cutting Edge(xxi)Quartzite Metamorphosed(xxii)Lanceolate Upper Part (xxiii)Implementiferous Gravel stratum (xxiv) Pebble butt(xxv) ObscureAngled Flake (xvi) Faureamith and the white Cultures (xviii) Autochthonous Growth with a Restricted Distribution (xxix) *insitu*(xxx) Acheulian Pyriform Handaxe (xxxi) South African Smithfield

Wayback in 1930, M.C.Burkit and L.A.Cammaide together excavated and demystified the prehistoric cultures in contemporary Andhra Pradesh. They published the report in 1930 "... based on observations made at number of sites in the region under study, though the data produced by them were from some four or five selected areas viz. the Bhavanasi gravels, where a good section was obtained opposite the village Krishnapura of the eastern entrance of the same pass Dronala-Atmakur pass of Nallamalais; Yarrakondapalem, near eastern entrance of the same pass; GundlaBrahmesvaram situated on the top of the high mountain valley on the bank of Gundlakam river; and Giddaluru, a town near the Nandikanmama pass, past which two rivers, Sagileru, and Enumaleru, flow and meet."(Burkett and Commiade, 1930: 327-40). Their exploration has brought-out major Stone Age cultures to limelight. It displays divergent periodicities. De terra and Paterson are of the opinion that "these sites belong to very early hand axe industries of quartzite stone, and latest microlithic industry of agate and quartz.

They have experienced fluctuating climatic variations. These fluctuations are emphatically portrayed in stratigraphic chains and their consequential impact upon variants of tools. These developments ultimately have laid down quite cognizant track for a pluvial cycle which in all probability must have occurred in Peninsular India simultaneously along with the Great Himalayan sequences. The very pluvial phase resulted in the formation of detrital laterite and clay beds.” (Terra H.de. and Paterson T.T, 1939: 271-72). Nevertheless Terra Paterson work assumes more significance as it went beyond mere Palaeo-climatic correlations, and provided a Geo-chronological scale familiar in European chronological estimates. However,” in Palaeo-Asia, the vegetational conditions during the glaciations are more obscure in Europe, while, during the preceding glaciations, trees appear to have existed all across Siberia” (Moreau R.E., 2009:42). The very technological variations in the South Indian sites of different ages already mentioned by explorers M.C. Burkit and L.A. Cammaide have more or less similar equivalents in South Africa. Hence the alteration of Pluvial and Dry periods from the early Palaeolithic times to the Mesolithic in both South-East India, and South Africa appear remarkably analogous as a result of these investigations. It is evident that these two distant land regions had experienced almost entirely different climatic conditions at different intervals time.

South India as the Ancient-most cradle of Prehistoric Man

South India occupies a significant place in the genesis, and spread of prehistoric cultures was revealed by Cammiad and Burkit in the published in Antiquity (September, 1930) ‘ Fresh Light on the Stone Age of South India’. This published article was based on well conceived empirical observations at the five sites of the Giddalur region.

Giddalur is located 15.3500⁰ N and 78.9167⁰ E in Andhra Pradesh state of India. The Giddalur region is surrounded by two long ranges of hills, the Nallamalais on the east, and the Erramalais on the west. They virtually divide the northern part and Southern part Karnool district as three well augmented zones. The eastern-most part of these sections being 600 feet above sea level and much hilly, comprises Cumbum and Markapur talukas. This is in fact a part of the Eastern Ghats which separates Giddalur from Nellur. This mountain range is popularly known as ‘Velikondas’. Amidst this range, and Nallamalais to the west, several low parallel ridges cut-up the country in to valley. Through these linear ridges, the hill streams draining the eastern slopes of the Nallamalais have forced their way. Some of these gorges, thus hollowed have been damned for irrigation. The most outstanding of these has been the Cumbum tank formed by an embankment across the Gundlakamma river. ‘ This fine sheet of water is about five miles long by three or four broad. It is nearly surrounded by picturesque hills and several rocky islets stud its bosom’ (Newbold T.J, 1846:392) Gundlakamma river segregates the massive George between Choliveedu and Turimelloa regions. The river Gundlakamma and its tributaries, -Rallavagu, Tigaleru, Duvvaleru and Sagileru originate in the Nallamalai region. The source of the Gundlakamma is located near Gundla-Brahmeshvaram. It penetrates the plain through Cumbum George. Sagileru river flowing southward, and moves towards the Pennar in Cuddappah. Sagileru flows beside Giddalur. Its tributary Enumaleru merges near Talapalle. The geological significance of the region may be summed-up as below:

- The region actually consists of Cuddaphaozoic geological system and Karnoolaozoic geological system
- The Karnoolaozoic geological systemsleeps over awkwardly upon the very upturned edges of the Cuddaphaozoic geological system
- The eastern portion comprising Giddalur virtually consists of quartzites. The central portion includes the Karnool system displays limestones and quartzites
- The western-most portion is structured partly withCuddapah system, and the other part its very extreme western-most portion consists of Achaean formation consisting of granite rocks
- There is an an intercalation of shades and quartzites in the structured portions of the middle and eastern section of the Karnool region.
- However, the Sagileru shades are often quartzitic. They are much brighter or ash coloured than those further north. They are grey or purple.
- The shades mentioned above are highly cleaved oblique to the bedding planes, and weathered along the cleavages in to silvery platy bits.

Sites	Observationsof Large Cliff Sections at Geo-Archaic Regions of Giddalur	Evidence
A	Opposite to Krishnapuram at the western entrance of Dronala-Atmakurpass ,Nallamalais	Cliffs
B	Yarrakondapalem,near eastern entrance of the of Dronala-Atmakur pass,Nallamalais	Chips
C	GundlaBrahmesvaramat the top mountain valley on the bank of Gundlakam river	Quartzite
D	Giddaluru town near Nandikanmama pass, two rivers Sagileru, Enumaleru merge	Chips

Giddalur I

The very cliff section of the Sagileru river at the bridge near Giddalur was explored at the earliest. Along with this and the other two sites are referred to as GiddalurI .The meandering river at times strikes the opposite bankafter swinging the section revealed above the water level during March is infact basal weathered rock. Well upon this rock, a deposit of cemented graveloverlain by a layer of river-slit. This is superimposed by a loose pebbly deposition of a comparatively much later origin. The entire cliff is hardly ten feet tall.At the southern end of the SPG building at Giddalur on the right bank of the river Sagileru, a stratified section portrays gravel in a thickly cemented condition lying in between the bedrock, and modern flood loam. The cliff is around 10-12 feet above the water level. At the top, scattered small chips of quartz and chert are observable. Here we notice microlithic flake tools.

Giddalur II

To the South, and South-East of Giddalur locality, very close by Narasimhakonda, a site referred to as Giddalur II is situated. Here too a section of Sagileru and its gullies comprises the gravel stratum.How ever, the tools found here are generally at the surface level just above

the sectional stratification. Quite close by, in greater frequency, at the foot hills, just to the east, and once more at the surface microlithic artifacts have been excavated. Some among them are of divergent and indisputable shapes and sizes. However, the site area needs to be explored more intensively for a greater clarification of stratigraphical and climatological outputs.

Talapalle

At the outskirts of Talapalle village, almost five miles away from Giddalur, a furlong lengthy stretch of the river bank Enumaleru was studied. At the earliest section nearer to Giddalur village, a lower cliff not so higher than five feet is observable. Its lower part is a pebbly layer, and the upper part consists of the recent flood loams. At this place, the flood plane terrace in the bed is entirely covered with thick denser gravel – spread overpacked with well rolled tools. Here we find series-I implements. They appear to low down from heights during a pluvial phase, further carried down, deposited as detrital pebble-beds devoid of stratification. Further away from the village, where there is a swing of the river, the cliff section is a properly stratified deposit as much as twenty feet thick. The cemented gravel layer here is of six feet thickness. Here good large sized cleaver of parallelogram cross-section and pebble-but was noticed in situ. Its sequential structural formulation is mentioned below.

Explicit Sequential Structural formulation at Talapalle	Quantum Analysis
Modern Flood Loam	Five Feet thick
Reddish earth with Kankur deposit	Infinite variety
Cemented implement bearing gravel bed	Stingy terracotta type
Basal shaley rock exposed to a height of four feet above the then water level with a marked obliquity towards the east	Hydraulic Manipulations

Kanchipalle

Just three miles to the west of Giddalur, and six hundred-fifty meters to the south Krishnamsettipalle, Kanchipalle site is situated. It is marked with a gully probably pertaining to the Enumaleru river. The gully is covered with large number of rolled pebbles, and flakes essentially of Clactonean technique. A few Abbevillian looking tools with pebble-built, and one noteworthy Acheulian pyriform handaxe have been found amidst the scattered pebbles. As there is no section available at gully, a well-section nearby reveals just soil over shades.

Typological Analysis of the Paleolithic Industries

Giddalur-I

The antiquities collected from Giddalur-I site comprises mainly implements of Series-I and Series-II mentioned in the classification table provided by Cammiade and Burkit. We may classify them as *etat physique* as well. It is observable that almost invariably the earlier implements such as the Abbevilleo-Acheulian hand axes and the rostrocarinates are much refined and rolled than the evolved Acheulian xcoups-de-poing and cleavers and other flake tools. A striking feature of these collections was the very

Occurrence of the rostrocarinate and ‘Victoria West’ forms among the specimens of the earlier series. These implements were created out of pebbles, as is very apparent by the

cortical patches often preserved on them, have been boldly flaked, and have irregular rims. The rostrorinated particularly are of the largest size (8 inches to 10 inches in length, and 4 inches to 6 inches in width), and have flat ventral plane, and a keel-like dorsal surface with a high cortical patched butt-end. The forementioned features were for the first time observed by Burkitt at Giddalur and Chodavaram. The nomenclature 'Victoria west type' is derived from similar tools observed for the first time at Victoria west at South Africa. These tools have typical characteristic feature in the formulation of ventral surface almost wholly by the removal of one single flake and the tool having a pointed end. Due to the fore mentioned feature, the tool has a mildly crooked tip end as well. The availability of this kind of tools in the south-east India is considered by Burkitt as of extreme importance and as a sure indication of the link between this region and South Africa. In South Africa, this tool is connected with the appearance of first flake industries. However, this tool is datable to lower Palaeolithic age. Here we observe flaked unifacial and bifacial pebbles. They at Giddalur-I are almost irregular and full pebbles recalling the Kafuan or Oldowan counterparts. However, at Giddalur-II, they are often created on split pebbles and resemble closely the Sohan pebble chopper-chopping tools of north-west India. It would indeed be interesting to ascertain the technological 'increment' in these two pebble tool types in the Abbeville-Acheulian assemblage in this area from collections made in-situ. At the same time, their low percentage compared with the prolific variety of biface cleaver forms in the industry might suggest the pebble element as an autochthonous and integral part of the main core-tool tradition of the south.

Abbeville-Acheulian tools characteristically possess irregular and wavy margins. They remind cortical patch in the butt-end in many cases, and an almost elliptical patch in the butt-end in many cases, and an almost elliptical cross section. In certain instances, both the dorsal and ventral sides have mid rib. Nevertheless, in almost every case, the top is pointed in shape. A majority in this group is in much a rolled condition. The succeeding major group consists of ovoid tools, flake made hand axes, probably of middle to late Acheulian period. In fact, the ovoids range from narrow and elongated specimens with jagged rims and elliptical cross sections to those which are very wide and almost discoid in shape with fairly well-chipped sides, straight rims, and lenticular cross section. The variety of hand axes includes widely chipped pear-shaped specimens. Their tips are sharp and pointed. They possess biconvex cross-section and much fresher look than the Abbeville-Acheulian group mentioned earlier. They are much lighter in weight, and more regular in shape. There is a fine group of cleavers which either are ordinary bifacially-chipped tools, or else the results of single Vaal technique of cleaver-edge-making with a rather squat, almost semi-circular shape, or of the double Vaal technique with parallelogram cross section along the last mentioned group, the is one implement which appears like a text-book specimen, as it were, double Vaal technique owing its most carefully chipped margins containing the flake scars on either side, and a most regular parallelogram cross section and a cleaver edge obtained as a result of the aforementioned fact.

The highly progressive Acheulean coups-de-poing represent by a group of four specimens. They are extensively chipped on both sides. They are of regular shape with a pointed tip with

a biconvex cross-section. One among those tools is very small, but quite well made. Any way following features may be summed-up symptomatically:

- Giddaluru-I doesn't have Levalloisian flakes. These flakes are clactonean in formulation technique.
- The flake varieties are large, oblong, smoother, ventral, bulby, rippled. Triangular in size and shape.
- These flakes are either created out of straight hits on the top, or oblique hits from across the sides.
- Certain among those flakes have a serrated edge. They probably signify the utilization of the tool.
- A typical tool discovered here a wide notch on either side indicates its utility as a hollow scraper.
- All cores have been clactonean cores. They are bioconical or discoidal of medium or small sizes.
- The two scrapers hollow in variety with functional notch much battered due to excessive utility.
- A bladdish flake on greenish quartzite of plano-convex section with flat underside and parallel margins is either broken or was deliberately truncated as the bulbar and tip portions are absent.

It is crystal clear from the composition of the collected tools and devices that the major groups in Giddaluru-I belong to Abbevelean-Acheulean bifacial industry with a pebble tool accompaniment and a Clactonian flake-technique.

Giddaluru-II

Though the collections from Giddaluru-II include Abbevilleo-Acheulian tools, they are comparatively smaller in size, rostricarinated and Victoria west types are absent and a certain proto-Levalloisian and Levallois trend in flake making is observable. It portrays an advanced tool making industry. A dimly represented group of coarse burinate flakes; another better represented group of blade tools and bladdish flakes from the typological viewpoint seem to accentuate the development noticeable in the Giddaluru-II industry. Most of the clactonean and Levalloisian flakes and scrapers are relatively smaller. They appear to be an integral part of an upper palaeolithic tool assemblage. Here levellois and Proto-levellois flakes together are almost equal to clactonish flakes. When the core component is observed, a majority is of less than average size of a normal residual core of a lower palaeolithic industry.

- Giddaluru II site is an industry essentially pertaining to the series II and III of Burkitt and Commiade.
- However, the series IV also forms a distinct prolific group situated very close by Giddaluru II site.
- It is opined by the scholarly circles that if and when admixtures from series II and IV are eliminated series III industry appears very poor.

- Series IV industries are rich in antiquarian value. They seem to be corroborated by the collections under review, even though the blade element seems to have been sufficiently represented in our collections.
- While the industries of series-I of Giddalur I are excessively rolled, the corresponding artifacts in Giddalur II appear to be comparatively more fresh looking.
- This may imply that the earlier phases of Giddalur II would typologically belong to the end of series I and the beginning of series II as further suggested by their much smaller size, and better workmanship.
- Among eight typical tools of the Acheulean group at Giddalur II, three tools are made in flakes; one tool is of very thin cross section, apparently possessing an S' twist. Among the remaining four tools, one tool has a broad cleavish end, and the rest of the three have tongue shaped ends.
- There are four cleavers; two are made out of flakes with a straight edge formed by a single vaal blow; Of the other two one tool has an oblique cutting edge, and the second is an exquisitely created triangular-shaped cleaver with a fine parallelogram cross-section secured from double vaal blows demonstrating a fine secondary trimming; The cleaver edge appears to be worn out of utility.
- Based on size, material, and workmanship, the flakes and flaky tools of this site may be conveniently classified into two groups. If the series II tools are made out of the same brownish quartzite like the mass of the hand axes, and are invariably bigger in size without much of secondary trimming in most cases.
- The other group, comprises tools smaller in size. They are made on greenish shaly variety or on lydianite. These tools are either slender blades with backing on one side or side and end scrapers with steep secondary touch along the working edge.
- If Levalloisian technique is apparent on many of those tools, there seems to be indications of punch-technique as visible from the long slender slices removed from the surfaces some of the flakes.
- Apart from the fore mentioned tools and flakes, there are five specimens of bladdish flakes. A few coarseburinate tools available would also belong typologically to this series III

C. Talapalle

A large collection of tools from the Enumaleruriver-bed near Talapalle, have for the most part Abbevilleo-Acheulian characteristics and the tools are large sized and boldly flaked with very little of stepped flaking perceivable. The material found is almost entirely quartzite, save for few specimens which are of sandstone probably quartzite metamorphosed due to long weathering. The entire bed was scattered with pebbles and artifacts, and except some of the flake implements all the tools in the collections are heavily rolled. There is one large sized pebble chopper much rolled with jagged edge along a part of periphery. Here, one of the Abbillevean hand axes is made out of a very large sized pebble about 9 inch long and 6 inch wide. It is worked-out in bold flakes creating deep scars bifacially resulting in rhomboid cross-section owing to the mid-rid on either side.

- Along with Abbevillian-Acheulian bifacial hand axes with or without pebble-butt, there is also a persistent element of flake-made hand axes fabricated on large sized-flakes with upper portions slightly trimmed in to a hand axe shape.
- There is a feeble representation of Victoria west type among all the tools deciphered at the site. The Abbevillian series alone manifests the slow and methodical development in itself.
- There are tools with pebble-butt and only ends slightly flaked in to a sharp point. There are others which have almost an almost lanceolate upper part, and lower pebble-butt
- There are also narrow cutting-edge tools rather than a tip-end with rough parallelogram cross section. Hence, it stands esoterically somewhere between bifacial hand axes and cleavers.
- There are a few ovoids. Some among them with literal inverted 'S' twist along the sides.
- Here, rolled and unrolled cleavers of ordinary bifacial flake-technique as well as Vaal technique have been discovered. One among them, picked-up *insitu* from the implementiferous gravel stratum in the cliff section of twenty feet height mentioned above.
- The forementioned tool is boldly flaked tool with almost double Vaal blows resulting in a sharp cleaver-edge and a parallelogram cross-section with a pebble butt
- The flake tools include fairly retouched side-scrapers and two good specimens of hollow scrapers, spoke-shaves as van Riet Lowe calls them, and the flakes are big and small, discoid, and tongue-shaped. One among those flakes, is in triangular shape with retouched edges, appears to have the platform somewhat prepared though still obtuse angled.
- Another tool of the site is formed by major flake scars with a positive and negative bulb with upper and lower sides. It is concavo-convex section with a plain striking platform
- The broad edges at the lower part of the flake have been worked by secondary retouch into a useful scraper*
- This specimen may very reasonably be a precursor of the true Mousterian. Typologically, it belongs to Middle palaeolithic tool making industry
- The vigorous presence of hand-axe like tools down below the flake scars and the bulbs has already been made indicating Talapalle site being a mixed industry, and so demonstrates a middle palaeolithic influence acting on a lower palaeolithic industry.
- At the present conditions, we are unable to identify the comparative age of the discovered tools to other truly lower palaeolithic Abbevillian-Acheulian tools due to lack of relevant knowledge base.
- The South African counterparts of these types, particularly flake made tools are found at Middledrift (Cape province) in Stellenbosch industry at Cofimvaba (Transkeii) and also at near cross bridge and close by Process Bridge in Orange Free State.
- These tools belong to the middle palaeolithic by the evidence from Taungs, where clear stratigraphical superposition reveals the sequence mentioned below: (i) Lower Palaeolithic (ii) Middle Palaeolithic (iii) Smithfield
- The occurrence of similar specimens in the collection, unduly rolled, and in most cases with pebble cortex, and with the upper side not showing very neat trimming, reveals there is in the influence of a middle palaeolithic industry on the lower rather than the presence of middle palaeolithic industry itself.

- This element in the Talapalle industry together with the concavo-convex flake scraper and Levallois-like flake tool would tend to place it in the stage which would mark the end of series I and the very beginning of Series II

Kanchipalle

Kanchipalle industry essentially comprises Series I. Abbevillian hand axe like tools and large-sized Clactonian tools, both of them, heavily rolled, and both retaining for the greater part of the body the cortical patch, represent the prominent features. The core portion of the tools are also rolled and Clactonized. However, truly Achulean feature is present in the industry as represented by one single regular Acheulian pyriform handaxe bifacially chipped with secondary trimming along the edges, and biconvex cross-section, though with a flattish cortical butt end. There are also among the flakes, a few which have the cortical patch non-existent owing to the primary or secondary preparation. The whole gully-site is littered with large heavily rolled pebble artifacts and flakes of Abbevillio-Acheulian facies. It is the earlier bifacial industry that again forms a prominent feature of the dense pebble deposit found in the bed of the rivers themselves, as near Talapalle on the Enumaleru. The recent studies depict the striking similarity in the evolutionary pattern of the tools.

However, these revelations disclose only an insignificant component of the archaeological evidences.

*This tool appears to have its relative analogies in the South African Smithfield. As a tool variety, it cannot belong to that industry which is much more modern than the main industries we are dealing with here, and which as Burkin feels, is an autochthonous growth with a restricted distribution in south Africa, and the result of a contact between the Faureamith and the white cultures.

Table comprising Prehistoric Tools from the Four Giddalur Sites

Type	Giddalur - I	Giddalur - II	Talapalle	Kanchipalle
Pebble Tools	2	3	1	..
Rostorocarinales	2
Victoria West	2	..	1	..
Abbevillio-Achulian Handaxes	13	6	9	3
Achulian Handaxes	19	8	13	1
Ovids	14	..	7	..
Cleavers	6	4	5	12
Clactonian Flakes and Flake Scrapers	11	30	10	..
Proto-Levallois	..	10	2	..
Levallois	..	14
Bladish Flakes	1	5
Coarse Burinate Tools	..	3
Cores and Core Scrapers	10	7	3	3
Total Number of Tools	80	90	51	19

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