CHAPTER VII  COMPARISONS OUTSIDE INDIA
COMPARISON OUTSIDE INDIA

SOUTHERN AND EASTERN ASIA

In Burma, Indonesia and China the Stone Age cultural sequence begins with the Middle Pleistocene times as in the north western India. The tool types of these regions consists of chopper/chopping complex often made on pebbles which differ basically from the Lower Palaeolithic complex of West Asia, Africa and Europe.

The Early Stone Age industry of Cuddapah is a biface-core and flake complex. But it includes fairly a good number of pebble tools and hence a brief typological comparison is drawn here.

BURMA

The Pleistocene river terraces in the Upper Irrawaddy of which five have been recognised (T-1 to T-5) provide a basis for the geological dating of the Anythian industries. The earliest example of this culture occurs in the Laterite gravel and in the T-1 gravels. The whole industry is distinguished into two phases, an Early Anythian of Middle Pleistocene age, and the Late Anythian falling in Upper Pleistocene times. These are devoid of handaxes. The principal tool types are single edged core tools, choppers, chopping tools, handaxes made on fossil wood and silicified tuff. The assemblage also includes crude flake tools with high angled striking platforms. The Late Anythian, a direct development from the earlier assemblages (Novius 1953 : 182), is characterised by smaller and better made tools which include scrapers and points.

There are close technical similarities between chopper - chopping and proto handaxes of Anythian and pebble tools, a few biface of group, of Cuddapah Early Stone Age. The variation is in some of the forms which mostly depend on the shape of the pebble.
INDONESIA

The Lower Palaeolithic or the Patjitanian industry (Novius 1957; 143) of Java consists of a series of large massive and crudely worked stone tools made of silicified tuff of dark colour and of fossil wood. The industry forms part of the great chopper/chopping tool complex of southern and eastern Asia. The flake tools which seldom exhibit either a bulb of percussion or striking platform out number the pebble tools (Van Heekeren 1957: 33) by far. But the Patjitanian is also characterized by a great number of massive tools like choppers, chopping tools, proto-handaxes, handaxes, peculiar type of cleavers, a small number of ovates, round and almond forms and elongated thick butted shapes, some of them showing 'S' twisted cutting edges.

All the above types of Patjitanian industry are represented in the Early Stone Age industry of Cuddapah. Though nothing can be said about the influence of one industry on another or vice versa both the cultures can be dated to Middle Pleistocene times.

CHINA

The excavations at Chou Kou-tien in the sinanthropous site, locality 2, localities 13 and 15 have brought to light Stone Age implements which are lately dated (Peiwen-Chung; 1965: 253) to Middle Pleistocene.

THE SINANTHROPUS INDUSTRY

The Sinanthropus industry consists of (1) the pointed tools, (2) scraping tools, and (3) the choppers. Besides abundant number of flakes have been utilised without any secondary work. The industry is correlated to Abbéville on the basis of their primitive nature of the technique of manufacture.

The above tool types bear striking similarities in technique and
typology to the Early Stone Age industry of Cuddapah, which includes pebble tools, pointed bifaces, edged tools and flakes of massive to medium size with or without retouch. However, techniques like 'bipolar' which is noticed in the Sinanthropous industry is not seen in Cuddapah. The difference also lies in the raw materials employed. Quartz, sandstone and some silicious rocks like chert are used in the Sinanthropous industry while quartzite is the chief raw material in Cuddapah.

THE TINGTSUN INDUSTRY

This industry is located in the Tingtsun village of Haiyangren district in north China and is found in fluvialite deposits along the bank of the river Fenhe. It is dated to Late Pleistocene.

The industry is characterised (Pei Wen - Chung 1965 : 260) by (a) artifacts made by metamorphosed rocks; (b) implements large and rough with secondary work irregular; (c) tools are chiefly scrapers and choppers. The triangular shape point is the characteristic tool type. This industry is correlated with Mousterian in age.

Some of these tool types are comparable with bifaces and unifaces of group II and flake tools of Cuddapah E.S.A. industry.

WESTERN ASIA

The Earliest human industry comes from the Levant. It is purely a flake industry (Clark Howell 1959 : 15) unmixed of bifaces and Levalloïsian technique. The industry is called Tabunian after the cave at Tabun at Mount Carmel.

The Early Stone Age industry of Cuddapah is a pebble, core-flake complex and therefore can not be paralleled with the above industry.

PALESTINE

Excavations carried at Ubeidiya (Stekelis 1966) in the Central
Jordan valley have revealed a succession of beds in which extinct fauna and stone industries are recovered.

The assemblage belonging to the Early Palaeolithic is characterised by chopper-chopping tools made on water worn pebbles of chert, flint, lava and limestone. Besides pebble tools there are polyhedrons, spheroids, picks, cores, cuboids, flakes, etc. In the fourth stage crude Acheulian handaxes appear. The pebble tools, crude handaxes correspond to those from Cuddapah. The other types like polyhedrons and others are absent in Cuddapah.

SOUTH AFRICA

VAAL RIVER BASIN

P.C. Soehne, D.J. Visser and G. Van Riet Lowe have studied the stratigraphy of the Vaal river and its associated cultures. The recent works are those by Bruil, Lave and De Tirt. There are three terrace gravels youngest, younger and the oldest (Van Riet Lowe) each one associated with a lithic culture showing a sequence from the pre-chellen to the advanced Acheulian types.

PRE- STELLENDOSCH

The cultural stage belonging to the basal older gravels is prominently a pebble culture. The pebble tools with unidirectional and two directional flaking technique recall both the Kafuan and Oldowan of East Africa. A few crude pebble butted handaxes are also found along these pebble tools. These artifacts are comparable to crude pebble tools and bifaces of group I of Cuddapah E.S.A. industry.

STELLENDOSCH I

This group comprises Acheulian type handaxes in many cases made on pebbles together with primitive flakes. The handaxes are crude and thick, flakes detached in a clactonic way are in abundance. Pebble
choppers are also present. This assemblage bears close technical similarities to the unifacial and bifacial oblates, flat based tools and massive flakes of E.S.A. in Cuddapah.

STELLENSBOSCH II

Pebble tools disappear in this group and the industry consists of heavy almond shaped handaxes and cleavers made on end and side blow flakes with secondary trimming and straighter edges. These implements represent the early Acheulian types of Europe. Some of the bifaces of group II and III, cleavers and flakes of E.S.A. in Cuddapah display similar characteristics of the Stellenbosch II type.

STELLENSBOSCH III

This group shows a great technological development and the tool types include a variety of handaxes and cleavers. The prepared striking platform of proto-Levalloisian type has its inception in this stage. The commonest forms of cleavers are U shaped made on side blow flakes and are parallelogramatic in cross-section. Some of the handaxes and various types of cleavers with parallelogramatic cross-section have their parallels in the Cuddapah Early Stone Age industry. The prepared striking platform technique does not appear in Cuddapah in this stage.

STELLENSBOSCH IV

The handaxes and cleavers of this group, are generally, similar to those of previous stages but the ovate handaxes are in great proportion and the cleavers are made on end blow flakes. The pyramidal cores of this stage bear a striking resemblance to the earlier Levalloisian cores of Western Europe, as do also the oval end struck flakes detached from them. The prepared platform technique continues to
develop. Cleavers exhibit trapezoidal cross-section and the implements of this stage correspond with the Late Acheulian of East Africa.

The stratigraphical succession in the development of the above industries from the Veal river is absent in Gudnapah. But all the above tool types excepting those with proto-Levalloisian technique, are represented in the Early Stone Age industry of Gudnapah.

EAST AFRICA

OLDUVAI GORGE

The earliest human activity of proven authenticity in the world comes from Olduvai Bed I which is characterised by pebble tools, called "Oldowan culture" (Leakey 1951: 34). The tool types include unifacial and bifacial choppers and some flakes. These are made on lumps of quartz or lava. In the immediately overlying bed, pointed chopping tools appear which are regarded as the forerunners of the true bifacial handaxes that have been reported from the next series of deposits, in association with various types of massive flake tools. At the horizon of the Upper-Middle part of Bed II, at Olduvai, handaxes of Early Acheulian appear. In Bed III the pointed handaxes of Middle Acheulian type are associated with cleavers, made on side blow flakes, and proto-Levalloisian flakes. This developmental sequence culminates in the Late Acheulian of Bed IV which in addition to the above types i.e., pointed handaxes, has yielded rectangular shaped cleavers and Levalloisian flake industry. On the whole Bed II and III are marked by Acheulian industries while the Oldowan artifacts still persist. Leakey (1951: 41 - 143) has recognised 11 evolutionary stages in the industry, five stages in Bed II, one in Bed III and five in Bed IV. The raw materials
employed are quartz, quartzite and lava.

Bifaces of stages one to three characterise the block-on-block technique; the tools are crude and simple and mostly worked at the tip and retain the thick butt. The tool type is rostro-carinate or beche-shaped implement. The stages four and five are transitional between Abbevillian and Acheullian in typology and mark the introduction of cylinder hammer technique. In stage six of Bed III the cleaver makes its first appearances as well as the stone balls of "bolas" type. The bifaces display a very developed form of the cylinder hammer technique. The stage seven of Bed IV is distinguished by high proportion of large, very well made bifaces that are usually wider in proportion to their length than the earlier ones. Cleavers are fairly common and are of convergent type. Stage eight consist of characteristic 'S' twist ovates and 'V' shaped cleavers. The tools of stage nine are similar to those of stage seven; besides Levalloise technique appears. The stage 10 consists of handaxes mostly small and degenerate, cordiform and almond shaped and well finished cleavers etc. The implements of stage 11 comprise almond shaped tools, cleavers, Mousterian flakes and scrapers which is typical of Kenya Fauresmith.

As said earlier no stratigraphical evidence of cultural succession of Early Stone Age is present in Cuddapah. But all the above types, excepting the bolar, rostro-carinates and Levalloiscian flakes, find their parallels in the E.S.A. industry of Cuddapah which also includes Abbevillio-Acheulian handaxes of various shapes such as suboval, oval, almond phiform, cordiform etc., big and small in size, cleavers side and end-struck with 'U' shape and 'Y' shape and massive flakes. The difference lies in the raw materials.
After the end of the handaxe times a number of local cultures appeared in Africa as in Europe. These are (1) the Levalloisian stillbay sequence; (2) the Kenya Fauresmith; (3) the Seangoan and (4) the Kenya Capsian.

MALAWI

Moronga District

J.D. Clark (1966; 67 - 84) has made a preliminary investigations in the Moronga district of the Malawi Rift. The tentative cultural sequence in the area is as follows:

V Later Stone Age
IV Second Intermediate
III Middle Stone Age
II First Intermediate
I Earlier Stone Age

1. Earlier Stone Age

The assemblage comprise of simply split pebbles from the Chiwonde beds at Uraha Hill main site and others in the vicinity and is tentatively dated to an early Acheulian stage. The industry consists of crude pebble choppers and flake tools. This industry finds its parallels in the B.S.A. of Cuddapah where the tools are also made on split pebbles besides pebble tools and flake tools.

2. Middle Stone Age

This industry consist of core scrapers, choppers, flake scrapers, chisels, proto-burins, flakes and cores. Some of the above tool types are found in the Middle Stone Age industry of Cuddapah. The Middle Stone Age industry of Malawi is dated (Clark J.D.; 1966; 74) to the later half of the Upper Pleistocene.
3. Late Stone Age

This is composed of diminutive flakes and cores made on quartz. The L.S.A. industry of Cuddapah bears similarities with the above industry.

NORTH AFRICA

ALGERIA

Ain Hanech

The evidence for the earliest artifacts in Northern Africa comes from Ain Hanech near St. Arnaud in Algeria. The pebble culture at Ain Hanech unlike the other three pebble cultures, viz., Kanas, Olduvai Bed I and Laetoli in Africa was associated with the Villafranchian fauna (Clark J.B.; 1953; 266 - 67). The tools comprise polygonal nodules of very compact limestone from which sizable flakes have been removed over greater part of thin surface. These nodules or cores tend to assume a more or less globular shapes. But the fact that the tool making men occupied Algeria in the pleistocene times is yet to be proved. In any case, the pebble culture at Ain Hanech has no counterparts in the E.S.A. industry of Cuddapah.

Lake Karar

Lake Karar in the Orea Province belonging to the early Middle Pleistocene age has yielded numerous handaxes made mostly of water-worn quartzite pebbles. They range (McBurney; 1960: 90) in type from carefully finished elongated lanceolate shape to some like those of certain of the earlier stages in East Africa. In addition 'D' shaped cleavers, cordi forms are present. Flake tools are also present which include small points and scrapers. Thus this site has yielded challean in association with Acheulian (Alimen; 1957:30) tools.
Typologically the above artifacts may be compared with the bifaces of group II and III and retouched small size flake tools of Cuddapah E.S.A. industry.

TUNISIA

At Sidizin in Northern Tunisia four cultural layers have been distinguished (McBurney; 1960: 103). The lowest is the pebble conglomerate which is followed by a red silt. Another conglomerate resting on the red silt is sealed by a tufa. There is no difference in the faunal evidence obtained from all the above from layers.

The lithic industries associated with the fauna are as follows: (McBurney; 1960: 105):

The first layer has yielded well finished lanceolate handaxes made on limestone. Flint and quartzite are also used for the manufacture of small and thick trimmed flake tools. A large number of flattened river pebbles are coarsely trimmed into massive scraping or chopping edges.

A second cultural horizon is represented by unifacial handaxes with flake scarred ventral surface. Bifaces are rare. The artifacts of the third cultural stage are similar to those of the first horizon.

In the final cultural horizon the prepared core flaking technique appears for the first time indicating the emergence of Middle Palaeolithic tradition in the region.

The tool types of the first three cultural horizons bear close similarities with some of the pebble tools, bifaces, unifaces of the E.S.A. industry in Cuddapah. The fourth tradition has its parallels in the N.S.A. industry of Cuddapah where the occurrence of the prepared core technique is also seen.
MOROCCO

Casablanca

One of the finest Lower Palaearthic sequences of this region is that of the Sidi Abderrehaman quarry (McBurney, 1960: 114). At the base is an archaic industry comprising elongated pear-shaped and irregular handaxes as well as 'U' shaped cleavers (of the first interglacial date). The second industry includes handaxes, cleavers, and large flakes (of the second glacial). The third industry (probably of the third glacial stage) comprises handaxes of cordiform to oval outline.

The above industries typo-technologically correspond to those of Cuddapah though all the types in Cuddapah occur in the same horizon unlike that of Casablanca.

EGYPT

Nile Valley

Sandford and Arkell (1953) have systematically studied the Nile terraces, chronological sequence and their association with the prehistoric cultures.

Terrace I of 30 metres contains the implements of the Old and developed chellean forms. Coarse flake industry of the clactonian type also occurs. The lower terrace of 15 metres contains in its gravel, the older forms derived from the higher terrace and the Acheullian implements. The third terrace (nine metres) has yielded Acheullian implements while the fourth has yielded Levalloisian.

The Chellean and Acheullian forms including the coarse flake industry correspond to bifaces of group I, II and III and some of the flake tools of Cuddapah. But there is no stratigraphical evidence showing a development of Acheullian from chellean in Cuddapah as in
the Nile Valley.

EUROPE

Lower Palaeolithic

Handaxe is a common component part of the Lower Palaeolithic cultures of Europe. As the origin of 'eoliths' is doubtful as expressed by many Palaeoanthropologists, handaxe culture is considered to be the earliest in Europe. The Lower Palaeolithic of Europe consists of two cultural traits viz.; (i) a handaxe tradition and (ii) a flake tradition.

Abbevillian

The earliest flint industry in France is Abbevillian named after the village in the Somme Valley of France. The following sediments, downwards, are recognised (Clark Howell; 1965: 93) in the Valley: The Upper High terrace, High terrace, Middle terrace, Low terrace and buried channel deposits. The Abbevillian implements have occurred in between the Upper High terrace and High terrace. The implements are characterised by block-on-block technique and consists of crude handaxes with irregular flaking and sinuous cutting edge. The group I bifaces and unifaces of Cuddapah correspond to the Abbevillian handaxes.

Acheullian

Acheullian industry named after the type site at St. Acheul is divided into Lower, Middle, Upper and final Acheullian or Micoquian. Handaxe is the tool type of this industry. But flake tools also occur and the use of cylinder hammer technique marks the beginning of Acheullian sequence. The Lower Acheullian has a large proportion of ovate forms; the Middle Acheullian is characterised by 'S' twist ovates and the Upper Acheullian has a high proportion of lanceolate forms—finely flaked handaxes with straight or concave edges. Triangular
shaped and cordiform tools are found at all levels. Cleavers, 
bifacially worked, also occur though rare. The Levalloisoisian tradition 
of facetting the platform appears from Middle Acheullian times. The 
bifaces and unifaces of group IX and III of E.S.A. in Cuddapah correspond 
to Lower Acheullian to Upper Acheullian industries.

Clactonian

Brail has distinguished a different industry, from that of 
Abbevillio-Acheullian, at the type site Clacton-on-Sea (Essex). It is 
essentially a flake culture and the flakes are detached from unprepared 
ocores and the resultant flakes have broad plain striking platforms. 
The flakes of such nature occur with handaxes of Acheullian culture, 
however, the bifaces which are characteristic of Acheullian industry 
are absent in true clactonian industry. The Clactonian culture is 
contemporary with Early and Middle Cultures of Europe.

It is only at Terniella that the flake element is predominant 
and the ratio of flake tools to bifacial core tools is 4 : 1. But 
as a whole the Cuddapah E.S.A. industry is a pebble, core-flake complex. 
However there are striking similarities between the flakes at Clacton 
and those of Cuddapah which also possess wide striking platform with 
an angle more than 90°.

Levalloisoisian

'Levalloisoisian' is named after (Okley; 1964: 253) Levallois-Perret, 
a suburb of Paris. It represents a technique of preparation of the 
core and striking platform before detachment of the flake and this 
was practised by various Palaeolithic groups of Acheullian, Mousterian 
and other cultures.

The Levalloisois technique as seen earlier is absent either in the 
Early or Middle Stone Age industries of Cuddapah.
Mousterian

Mousterian takes its name from Le Moustier near Peyzac in France. Typical Mousterian is an industry (Okley; 1964: 144) without biface or with a few. More than 45% of flakes show faceted butts and more than 25% were struck in the Levalloisian method. The discoidal core exhibits careful trimming arround its edges as well as a series of centrally directed flakes. Its essential tool types are points and side scrapers and a wide variety of utilised flakes.

The Middle Stone Age flake toolsand flakes of Cuddapah include 21% of the prepared core flakes with or without facet. Besides a few bifaces are also represented. Therefore the M.S.A. industry of Cuddapah bears some resemblance with the Mousterian culture. This is further corroborated according to Senkalia (unpublished) that the Middle Stone Age industries of India show some affinities with the Mousterian culture.