

# STONE TOOL AND THEIR TECHNIQUE IN UPPER PALAEOOLITHIC INDIA

**Pardeep Kumar**  
**Research Scholar**  
**Deptt. of History**  
**M.D. University, Rohtak**

**Abstract;** *Palaeolithic period has been sub-divided into three chronologically separated cultural stages Lower, Middle and Upper Palaeolithic stage This paper provides a brief review of evolution of stone tools in Upper Palaeolithic India. It has described tool making technique and raw material that period. An attempt on the development of the stone tools in upper palaeolithic India. They throw light on the gradual evolution of the tools meeting new environment generally, these tools are found at those places where raw material for manufacturing them is easily available*

**Keywords; Palaeolithic, Archaeological Antiquities.**

**Introduction;** The Palaeolithic period has been sub-divided into three chronologically separated cultural stages Lower, Middle and Upper Palaeolithic stage. Each stage is characterized by the relative frequency of certain tool forms and certain tool making techniques.<sup>1</sup> Pre-history deals with Stone Age culture of the period when man was a savage. The sources of pre-history are stone tools, fossils, terraces of the rivers etc. The sources help in determining the distinct Geological Age and Stone Age and also give the information about the climate changes, the environment and habit of the people.<sup>2</sup> Stone tool: Most of Stone tool so far collected are from the surface of the earth but some are the terraces of river. The tools discovered from the terraces are important to the strata graphical point of view. They throw light on the gradual evolution of the tools meeting new environment generally, these tools are found at those places where raw material for manufacturing them is easily available.<sup>3</sup>

The Palaeolithic or Old Stone Age was the longest. It began about 2 million years ago when Stone tools were first used by humanoid creatures and ended with the close of the last ice age about 13,000 B.C. These essentially comprise stone tools prepared with low expenditure of energy in their manufacture.<sup>4</sup> The subsistence economy at this stage by definition is hunting and gathering. This mar further is sub – divided into four stages on the basis of cultural features. The generally accepted features of Lower Paleolithic mainly contain core tools, which are medium to massive in shape.<sup>5</sup> (ii) Middle Palaeolithic mainly contains an emphasis on flake tool with a preponderant of side scraper (iii) Upper Palaeolithic mainly contains thick elongated tools with a good percentage of finished bone tools and a good degree of art execution. Finally a terminal Pleistocene stage of culture is added with blade tools, which are not big as the Upper

Paleolithic and also not as small as the Mesolithic.

The sequential order of three main groups the continues process of technological development that they represent their regional divisions when in the subcontinent are all demonstrated by assemblages of artifacts in corporate in a series of geologically stratified deposits the majority laid down by river stream in many parts of central and Peninsular India.<sup>6</sup> Upper Paleolithic started, when the middle Paleolithic was near end because the man has started the use of different type of tools. In the world sub-content. The Upper Palaeolithic evidence found Western Europe in 'La Perrassi' Laugeri haute' and 'La Magdaleine and few part of Spain found the Upper Palaeolithic tools. South France Upper Paleolithic culture divided in five type of culture (1) Aurignawan (2) Chatalperronian (3) Graveltian (4) Salutrean (5) Magdalenian.

In India before 1970 Upper Palaeolithic phase is not well defined but after that a lot of these types of tools found in India. According to these tools and their technology the Indian pre historian accept it Upper Palaeolithic culture.<sup>7</sup> Upper Palaeolithic culture consists of Blades and Burin tools. Tools of this type were discovered even earlier<sup>8</sup> but as a component of distinct culture they were recognized recently first the R .B Foote<sup>9</sup> discovered the tools of Upper Palaeolithic Age from the Billasurgam caves in Kurnool District to be of the Magdalenian type L. A Cammiade prepared the collection of stone tools found from the southeast coast of India. H. D. Sankalia placed the tools found near Barda under Middle, Upper Palaeolithic and Mesolithic. In Navasa Blade and Burin tools obtained from gravel III. Excavations and exploration in the Chitoor and Kurnool districts of Andhra Pradesh have yielded definite strata graphical, archaeological and Palentological evidence to designate this culture as Upper Palaeolithic. Excavations in U. P Madhya Pradesh and Bihar give much needed material and place Blade and Burin culture in a period between the middle Palaeolithic and Mesolithic culture.<sup>10</sup>

### **Regional Distribution:**

**(A) North Region:** -The Upper Palaeolithic culture is not well developing in this zone region area had lack of Upper Palaeolithic sites.

**(B) Western Region:** - Maharashtra: - A clue of the existence of blade and burin tools of an Upper Palaeolithic type was given by K.R. Todd. From the sites such as Borivlee and Kandivlee in the Mumbai (old Bombay) area this type of tool found here in top most gravel.<sup>11</sup> At Nevasa, along with the Middle Palaeolithic tools some long blades and burins on chalcedony were found. Since these were quite different typologically from the Mesolithic and the Chalcolithic blades. Patne, a village in Chalisgaon Taluka of Jalgaon District is an important site for the study of Upper Palaeolithic culture it provides a sequence of Stone Age industries from the Middle Palaeolithic to Mesolithic trough the Upper Palaeolithic, which is noticed in four phases.<sup>12</sup>

Gujarat:- In Gujarat region Visadi is a rich site of Upper Palaeolithic. It is different from the microlithic industry of the region. This site contain a good percentage of blade and burin these burin are made on babular pieces of quartz the straight sides and corners providing natural striking platforms for the removable of the burin spalls.

**(C) Central Region:** - Uttar Pradesh: - Belan valley, Belan is the small river in district Allahabad in Uttar Pradesh. Here found the number of Upper Palaeolithic tools and strata graphically there is a clear evidence of Upper Palaeolithic culture. But according to Sankalia and Misra these blades and burin did not comprise the classical Upper Palaeolithic types.<sup>13</sup>

Madhya Pradesh: - Bhimbetka in district Raisen gave concrete strata graphical evidence of the existence of distinct blade and burin culture. These tool similar the classical Upper Palaeolithic of Aurignacian type of Western Europe.

**(D) East Region:** - Bihar: - The number of different artifacts found from five groups of sites in Singhbhum reveals that the number of Scraper is more than 50%.<sup>14</sup> There are only a few blades and the number of burins is still less. The presence of blades and burins proves the existence of this industry.

**(E) South Region:** - Andhra- The best and most convincing evidence of poring separate lithic culture known as Upper Palaeolithic is from chitoor and Kurnool Districts of Andhra. The Blade and Burin industry from chitoor and Kurnool is not different from the classic Blade and Burins of the Upper Palaeolithic culture from Western Europe and West Asia. In Andhra Renigunta another important site which blade and are found.

Nagarjanikonda in Krishna valley in District Guntur is rich in stone tools. The blades and burin form a different group. Though there is absence of stratigraphical evidence, one isolate the burin and blade industry from the nature of raw material and type-technologically.<sup>15</sup>

Karnataka:- In Karnataka region of Saladgi and Meralbhavi, where these tools have been found, forms part of the Krishabhima or Shorapur Doab. Meralbhavi about three km south of Salvadgi has found a large workshop of Upper Palaeolithic tool.

**Tools Type:-** Upper Palaeolithic period industries are characterized by smaller, lighter tool, which in some cases are carefully shaped are some new type of blade and burin Aurignacian.<sup>16</sup>

**1) Retouched Blade:-** There are moderately broad, thick and long blades retouched in semi-abrupt retouches. The retouching extends all around the borders including the terminal edge. In a typical Aurignacian blade the retouching is in the manner a fish scale. In some instances notches are made on the center of the blade along the opposite lateral borders. These blades are termed straggled blades.

**i) One margin retouched blade:** - The blade a type-retouching blade. Its one side is ruff and other side is sharp. So its called one margin retouched blade.

**ii) Both margin-retouched blade:** - That s is name show this blade retouched by both side and both of them side was sharp.<sup>17</sup>

Some other type of this type of blade is obliquely retouched blade and baked blade also made in this culture

**2) Burin-** This tool is the other main tools of this culture. Its called by other named 'Graver' Burin can be prepared on a flake, blade or a care. Where the blade or flake is thick two or more facts patrolled to one another and in the some plane may be necessary either on one side only or both side of the working edge.

**i) Angle Burin (Graver):** When the trimmed edge is at right angles or nearly so to the longer axis of the blade or flake, the term 'transverse' is given. Where its direction

in inclined at an angle to longer axis, the term oblique is applied.<sup>18</sup>

**ii) Polyhedral Burin:** Here a number of Burin facets are required, inclined at an angle to one another in order to produce the convex curve of the gouge. There a generally a hollow on the opposite side formed by a large negative bulb of percussion at the top of a burin facet on the inner side of the working edge.

**iii) Flat Burin:** - In the case of the flat burin a number of burin facets are again present, but one or more of them has become nearly parallel to the main flake surface of the blade.<sup>19</sup>

**3. Aurignacian burin:** - This cultural tradition is also number of a specific variety of burin. Arrignacion tradition is called the axial or symmetrical burin. In French this burin also referred to, as be de flute burin. This is prepared at distal end of a thick blade in such a way that the burin edge lies symmetrically along the mid-axis of the blade.<sup>20</sup>

**4.) Blade Knife:** - In Perigordian industries brad flat blades have been retouched to form several kinds of knives and these by for form the most frequent typology all through this stage and sp sequent cultural traditions. In the initial stage the are few and for between and constitute abrupt retouching for one not warily obtained sharp edge of a brad and flat blade while the opposite border acts as the knife edge. In the later stages they are made on rather thick blades with triangular cross- section in such a way that the blunting is done up to the thick mid rib. As a result these became narrowed in appearance.

**5) Audi knife:** - Audi is one of the earliest of these baked blade types. This is a rather short and broad blade where one border is blunted toward the distal end is in a slanted or semi - circular manner to meet the naturally sharp working edge.<sup>21</sup>

**(i) Chattel perronean knife - Sonnevile -** border calls it a knife point because here the blade is rather elongated and the backing is done completely along one border in such a way that it gently carves down to meet the working edge at the interior end. Extending the abrupt lateral retuchings rounds of usually even the base of these blades.<sup>22</sup>

**6) Hamburgian point:** - This is a moderately broad blade in which one border is so backed that the anterior half slopes to give size to a point while the posterior half slopes in a concave fashion to form the tang. This tool type is very common in the north European flat land during late Pleistocene period. It is named after a similar site found near the city of Hamburg in W. Germany.

**7) Single shouldered point:** - A single shouldered point consists of a small narrow pointed blade with the secondary trimming at the butt end which curves out a definite half notch and so produces a shoulder. This type appears at the end of Aurignacian times.<sup>23</sup>

**8) Double Shouldered point** - As the name implies a tool of this type has two shoulders at its base with a consequent sort of tang or stalk between them.

**9) Laurel Leaf point:** - This by definition is a bifacial leaf point, which may be double or single. This type is described only from Upper Solutrean layer.

**10) Willow leaf points:** - These tools are similar to the laurel leaf points but have only one trimmed face and even here the trimming is sometimes confined to pressure flacking down the sides-the other being a flat flake surface.<sup>24</sup>

**11) Triangle-** This another type of Upper Palaeolithic tool. Its shape just like the triangle its Upper edge is sharp.

**12) Chisel-** Chisel had used for the shaped the other tool so it's used to prepare their Burin and Blade tools.

**USE OF TOOLS:** - In the middle Palaeolithic period use of Blade Burin tools knife, point, triangle and chisels. Blade mainly used for scraping. Burins have been used for cutting, scraping striping. Point and chisels propose that Upper Palaeolithic industry in India was probably designed to shape ultimate weapon of hunting and trapping in wood bone and antler. So we can say that it used just like the Middle Palaeolithic period.

**Raw Material:** - Until Upper Palaeolithic times fashioned his tools almost exclusively of stone, but with the coming of the Aurignacians (Homospiens) other materials were added like bone, horn antler and ivory.<sup>25</sup>

**Technique Fluting** - The technique of Mesolithic blade production is broadly termed as flaking. This literally means the semi cylindrical Vertical grooves in pillars. And since a fluted core resembles such pillars the technique is termed fluting. The technique involves the preparation of a core as the first step. Here the usual percussion technique is used to transform any nodule or natural pebble into a prismatic core. The core is then held firmly on the ground and pressure is delivered from the edge of the striking platform.<sup>26</sup>

(a) Palaeolithic blades produced by direct or indirect percussion always maintain a pronounced bulb of percussion the platform is thick and often maintain a slight overhang.

(b) As contrast to the Upper Palaeolithic blades the Mesolithic blades are smaller and produced by pressure flaking technique. Pressure being constantly in touch with the core, the bulb of percussion can never be pronounced. Usually it is as tiny as a pin - head. The platform in these blades need not be thick as the point of impact and direction of the force is totally under control. Finally, often these blades bear numerous ripples and fissures along their scar of detachment.<sup>27</sup>

The identification of the fluting technique cannot be mainly based on these are not always true for all kinds of raw materials. Hence the presence of the characteristic fluted cores alone can demonstrated the presence of this technique. In flint, for instance, it is demonstrated by actual experiment that pressure flaking cannot remove a blade more than 2 cm in length. This has led many authorities to attempt result of pressure flaking variety by punching technique.<sup>28</sup>

**Evolution of tool:** - This period was the transitional nature of the Upper Palaeolithic to Mesolithic culture. After the excavation a number of Upper Palaeolithic age sites discovered. The pre historian collect a lot of tools (Blade and Burin) these the different from the middle Palaeolithic tool in shape, size and technique. So we can say that this period provided different culture and phase.

These blade and burin tool of the Upper Palaeolithic Age may be divided into two categories: (1) Classical Blade and Burin industry of the European type (2) Sub - classical blade and burin industry.

**Classical Blade and burin industry:** - So for only a few type of tools are noticed, and they are not rich variety as seen in Europe. These blades and burin are long, slender but robust but fully retouched or blunted as in the classical Gravetee point.

**Sub-Classical Blade and Burin tools:** - These tools are not invariably fine are not of the true European type. Both these blade and burin industries stratigraphically fall with in the Pleistocene. They succeed the middle Stone Age which blades and burins are few or absent are followed. In the Upper Palaeolithic age first we find the important that along with the stone tools, bone tools also found.

**Chronology-** This period has been dated by C-14 method at a few Sitter in Europe and Western Asia and North Africa (30,000-10,000)The Allahabad two determinations for the lowest gravel the archaeologist give a tentative date 24000 to 17000 B.C. Chopanimondo B.S- 129, 4540 + -110 BC.

**Conclusion:** After this brief survey of Indian Stone Age, we can say that it is difficult to trace the evolution of Stone Age tool without excavations and so for the material has been collected only from the surface. The men of this age did not know the use of metals, and had no idea of cultivation. So, they use the various raw materials available in nature - stone, wood, bone and clay etc - for shaping them into useful object for satisfying his needs object made of comparatively durable materials survive for varying lengths of time and constitute the main source of information for knowledge of the human past The techniques employed in working stone during Upper Paleolithic times in the Indian sub-continent are basically very similar to those found Western Asia, Europe and Africa at corresponding period.

## Reference

1. S. Setter & Ravi Korisettar, *Pre history*, ICHR New Delhi, 2002, p.12
2. S. Piggott, *Prehistoric India*, Harmodswarth, 1950, p. 11.
3. D.K Bhattacharya, *An outline of Indian Pre history*, Delhi, 1972, p. 11
4. S. Setter & Ravi Korisettar, *Pre history*, ICHR New Delhi, 2002, p.12
5. S. Piggott, *Prehistoric India*, Harmodswarth, 1950, p. 14.
6. D. P. Agrawal, *South Asian Pre History*, p.5.
7. D. P. Agrawal, *South Asian Pre History*, p.99
8. K.C. Jain, *Pre history and Proto History of India*. p. 76.
9. R B Foote, *Collection of Indian Pre historic historical Antiquities*, Madras p. 118, 119.
10. D.K Bhattacharya, *Pre historic Archaeology*, Delhi, 1972, p18.
11. K.R. Todd, *Palaeolithic Industries of Bombay*, p. 257-272
12. D.K Bhattacharya, *Pre historic Archaeology*, Delhi, 1972, p.117.
13. K.C. Jain, *Pre history and Proto History of India*. p. 78.
14. A.K Ghosh, *The Palaeolithic cultures of Singhbhum*. 1941, Vol. 60. 1
15. D.K Bhattacharya, *An outline of Indian Pre history*, Delhi, 1972, p. 118.
16. M. S Burkitt , *The Old Stone Age*, Cambridge, p. 69.
17. Ramesh Chobe, *Purattatvic Manva Vigyan*, Madya Pardesh, Hindi Academy, Bhopal, 1991, p.82.
18. M. S Burkitt , *The Old Stone Age*, Cambridge, p. 69
19. H. D. Sankalia, *Stone age Tools ,Type and their Technique, Name and Function*, Poona, 1964, p.21
20. D.K Bhattacharya, *An outline of Indian Pre history*, Delhi, 1972, p. 56
21. Ibid.p57.
22. M. S Burkitt , *The Old Stone Age*, Cambridge, p. 73.
23. H. D. Sankalia, *Stone age Tools ,Type and their Technique, Name and Function*, Poona, 1964, p.18
24. D.K Bhattacharya, *An outline of Indian Pre history*, Delhi, 1972, p. 44.
25. K.C. Jain, *Pre history and Proto History of India*. p. 75.
26. H. D. Sankalia, *Stone age Tools ,Type and their Technique, Name and Function*, Poona, 1964, p.23.
27. Ibid.p24
28. D. P. Agrawal, *South Indian Pre history*, 2002, p.99

