THE FUNCTION BASED CLASSIFICATION OF SCRAPER: WITH SPECIAL REFERENCE OF ACHEULIAN PHASE IN INDIA

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Scraper is basically is a tool made on a flake or a blade with continuous retouch along one or two of its sides or along the border (Bhattacharya, 1979: 30-1). Some times by continuous retouching along a side or a part of a piece of core, scraper had been prepared. This type is considered as primitive type of scraper and could found only in Lower Palaeolithic level. Basically, the scrapers made on core and flake both are relevant to the Acheulian phase. The occurrence of blade scraper could found from Middle Palaeolithic level and not a subject to discuss for the present dissertation. Scraper is a common tool type in every Acheulian collection in India.

The Acheulian scrapers could be broadly classified into two groups on the basis of the medium on which it was made and they are: core scraper and flake scraper.

Core Scraper: By a continuous and thorough retouching on a part or side of a core, a core scraper had been prepared.

Flake Scraper: Similarly as above, when the retouching had been done on one two sides or on the border of a flake, a flake scraper had been produced.

The scraper has been further classified in two distinct categories on the basis of the area of retouching and they are: end scraper and side scraper.

End Scraper: an end scraper is a blade or flake representing on one of its extremities (or in two, in case it is a double end scraper) a continuous non abrupt retouch resulting into a more or less rounded edged front (Bhattacharya, 1979: 34). It has two types: single and double end scraper.

Side Scraper: a side scraper is an object made of a flake or core or blade with continuous retouch along a border (Bhattacharya, 1979: 31). There are 4 major sub-types of side scraper according to the position of its edge as the edge is the important morphological feature of a scraper. The names and descriptions of the sub-types are as follows:

Single Side-Scraper: these are prepared on flakes or blades on any suitable border. These can be further sub-divided into three more sub-types on the basis of the shape of the finished working edge. They are: straight, convex and concave (Bhattacharya, 1979: 32).

Side Scraper Double: when two sides of a flake or blade are retouched into working edges these are called double side scraper. It is important to note that the two working edge in this type should never meet. These can be further sub-divided into six types: biconvex, biconcave, double-straight, convexo-concave, convexo-straight and concavo-straight (Bhattacharya, 1979: 32).

Convergent Side Scraper: these are double side scrapers where the two scraping edges join at a more or less blunt thick point. The angle of this point must exceed of 60°. In the case of bellow 60° angle, it would be considered as point. Three sub-types are there:

Convergent Scraper-Straight (Convexo-Straight or Double-Straight), Convergent Scraper Concave (Concavo-Convex or Concavo-Straight) and Convergent Scraper Convex (Biconvex) (Bhattacharya, 1979: 32).

Transverse Side Scraper: this is normal side scraper where the scraping edge has been prepared opposite the butt or the bulbar end of the flake. This can be prepared on thick or thin flakes: Levalloisian or otherwise. These can be further sub-divided into three types: Straight, Convex and Concave Transverse Scrapers (Bhattacharya, 1979: 33).

The main technique which had been applied by man for making Scraper is the technique of Retouching. After detaching a flake from a block/pebble/nodule by stone hammer and making primary flaking by both stone and soft hammer as per requirement, retouching had been done along the border of the flake to prepare a complete Scraper. Even the aforesaid classification of Scraper is based on the type and position of retouching on the flake. Therefore, it could be said that final retouching is the thing which converts a flake tool into a Scraper. The process of retouching had been done by soft hammer on detached flake or some times on a particular primarily flaked portion of a core in view of making different types of edge or point on it. To make different shapes of edge of a Scraper distinct efforts had been given (Bhattacharya, 1979: 32-3).

The working part of a Scraper is it's cutting edge. Therefore, the shape of cutting edge of a Scraper is directly related to its function and according to it scrapers could be classified into five categories and they are: straight, convex, concave, denticulate and combination cutting edge (straight-convex, straight-concave, concavo-convex, denticulate-straight, denticulate-convex and denticulate-concave) (see Table 1 and Fig 1 to 4).

Table 1 (The Classification of Scraper on the Basis of the Shape of its Cutting Edge)

Types	**Shape of Cutting Edge**
Type: A	straight edge
Type: B	convex edge
Type: C	concave edge
Type: D	denticulate edge
Type: E	combination edge

Scraper is a light duty tool having specific uses. The probable function of each shapes of the cutting edges of Scraper is aimed to discuss in this section. The Type: A (having straight cutting edge) seems appropriate for simple and straight scraping purpose like: skinning game or scraping stem or branch of tree. Type: B (having convex cutting edge) could be act like knife and serve curve cutting purpose for small animal. Type: C (having concave cutting edge) seems logical for scraping purpose used on something of round shaped which could be fitted in its edge. Type: D (having denticulate edge) is ideal for the act of serration, used against something hard. Type: E (having combination edge) could be used according to its shape: straight/convex/concave as stated above. Therefore the combination edge Scraper may show an attempt to utilize more than one side of a

single stone piece for different functions by the early man. This shows an advance stage of human mind and probably this is the reason behind the less presence of this category of Scrapers in Acheulian phase. However one more thing to mention is, sometimes two sides of a combination Scraper meet in a sharp point, this kind of Scraper is traditionally called 'Convergent Scraper' which could be useful for making hole on animal skin etc. The possible functions according to the shapes of the cutting edges of Scraper are given in Table 2.

Table 2 (The probable functions of Scraper)

Types	Name of the Types	Probable Functions
Type: A	Straight Edged Scraper	simple and straight scraping purpose like: skinning game or scraping stem or branch of tree
Type: B	Convex Edged Scraper	curve cutting purpose for small animal
Type: C	Concave Edged Scraper	scraping purpose used on something of round shaped which could be fitted in its edge
Type: D	Denticulate Edged Scraper	act of serration, used against something hard
Type: E	Combination Edged Scraper	According to its shape: straight/convex/concave as stated above.
		Sometimes two sides of a combination Scraper meet in a sharp point, this kind of tool could be useful for making hole on animal skin etc.

Therefore, light duty tool Scraper has its particular uses according to its different shapes of cutting edge which has been discussed above. In this way the use of a specific tool in a specific space and time shows man and environment relation which can be interpreted in terms of the ecological adaptation and technological skill of man.

Reference:

Bhattacharya, D.K. 1979. *Old Stone Age Tools (A Manual of Laboratory Techniques of Analysis)*. K.P. Bagchi & Company. Calcutta.

Bhattacharya, D. K. 1979. "Typology and Culture: an Indian Example Discussed". *Man and Environment*. Journal of Indian Society for Prehistoric and Quaternary Studies. Vol. III: 93-8.

Bordes, F. 1961. *Typologie du Palaeolithique Ancien et Moyen*. Bordeaux.

Bordes, F. 1968. *The Old Stone Age*. World University Library. London.

Chatterjee, G. 2012. 'The Classification of Handaxes vis -à-vis Ecological Adaptibility of the Acheulian Man'. *Multifaceted Studies in South Asian Archaeology, Arpitam Festschrift for Professor Vidula Jayaswal. British Archaeoloical Reports.* S. Rama Krishna Pisipaty (Ed.). International Series 2361. Archaeopress. Oxford. England.

Hayden, B. (Ed.). 1979. *Lithic Use-Wear Analysis.* Academic Press. New York.

Jayaswal, V. 1972-73. 'A Note on the Influence of Raw-Material on the Blank-detaching Techniques'. *Puratattva*. No.6. S.P. Gupta (Ed.). pp: 64-70.

Jayaswal, V. 1978. *Palaeohistory of India: a Study of the Prepared Core Technique*. Agam Kala Prakashan. Delhi.

Jayaswal, V. 1979. "Old Stone Age of Central India: A Technological Study". *Man and Environment*. Journal of the Indian Prehistoric and Quaternary Studies. Vol. III: 19-26.

Jayaswal, V. 1982. *Chopper-Chopping Component of Palaeolithic India*. Agam Kala Prakashan. Delhi.

Jayaswal, V. and P.C. Pant. 1973. 'Statistical Studies with Reference to Technique of Manufacture of Palaeolithic Artefacts'. *Radiocarbon and Indian Archaeology*. D.P. Agrawal and A. Ghosh (Eds.). Tata Institute of Fundamental Research. Mumbai. pp: 38-53.

Jones, R. 1980. 'Experimental Butchery with Modern Stone Tools and Its Relevance for Palaeolithic Archaeology'. *World Archaeology*. Vol 12, No 2: 153-165.

Leaky, M.D. 1971. Olduvai Gorge: Excavations in Bed I and II, 1963- 1963. Cambridge University Press. Cambridge. Vol. 3.

Moore, M.W. 2011. "The Design Space of Stone Flaking: Implications for Cognitive Evolution". *World Archaeology*. Vol. 43, No. 4: 702-15.

Sankalia, H.D. 1982 (Reprint). Stone Age Tools- their techniques, names and probable

functions. 1964 (First Edition). . Deccan College Postgraduate and Research Institute. Poona.

Watson, W. 1956 (second edition). *Flint Implements: An Account of Stone Age Techniques and Cultures*. First Edition 1949. The Trustees of the British Museum. London.

Figures

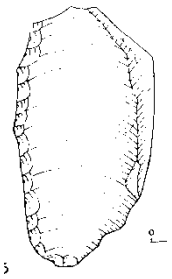

Figure 1: Type-A Scraper (After Pant & Jayaswal, 1991)

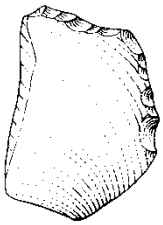

Figure 2: Type-B Scraper (After Pant & Jayaswal, 1991)

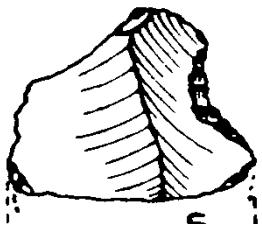

Figure 3: Type-C Scraper (After Misra, 1978)

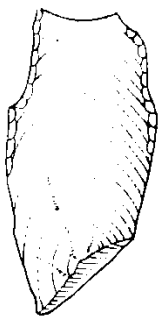

Figure 4: Type-E Scraper (After Pant & Jayaswal, 1991)