CHAPTER - I

INTRODUCTION

Prologue

Meghalaya, the area brought under the present study, is here represented by three prehistoric sites, namely, Saw Mer in East Khasi Hills, Makbil Bisik and Bibra Gre in West Garo Hills. It is a hilly terrain stretching from east to west in the southeast corner of North East (NE) India, as its integral part.

1.1: Location of Meghalaya in India 1991
The NE, as a whole, is topographically characterised by vast flood plains at the middle, flanked by elevated plateaus and basins. It is a sub tropical zone dominated by extensive Southwest monsoon and Northeast winter climatic regime, originating from Bay of Bengal and Eastern Himalayan ranges respectively.

The climate is moderately high and humid, especially, at the lowland areas in the middle and ‘continental highland’ type (Hung and Hou, 1998), in the extreme Northwest and Southeast and a ‘special highland’ type in Tawang and Shillong.

The climate of Khasi and Garo Hills is considerably influenced by its topography. The sudden rise of hills in the south immensely affects the Southwest monsoon causing heavy rainfall. Infact, the topography, together with seasonal winds, controls the climate of the region which may be divided into four seasons, broadly applicable to the areas under study:

(a) Spring season: March to April;
(b) Summer (rainy season): May to September/October;
(c) Autumn season: October –November;
(d) Winter season: December to February.

During March and April, the atmosphere gradually warms up and dryness prevails with the advent of spring. The temperature reaches its maximum from May to middle of June, the period which may be termed as Summer season. The mean temperature during this period is between 24° to 26° c.

During October and November, the climate becomes cool and temperature falls considerably, and is often aggravated by occasional showers due to cyclonic effect over the Bay of Bengal.

The Winter season sets in and continues upto the end of February. During these months the temperature at Shillong (close to Saw Mer) comes down to as low as 2°-1° c., while in Garo Hills, the range varies from 14°-18° c.
Rainy season starts by the end of May and continues up to the middle of October, after which the rain gradually decreases. The maximum rainfall occurs in the southern slopes of the Khasi Hills. The amount of rainfall decreases uniformly, on the rain shadow area lying towards the northern region.

Khasi and Jaintia Hills receives the highest rainfall in its southern slopes, that is, over Mawsynram and Cherapunjee. The average annual rainfall of the area is 12,000 mm and at Mawsynram, it is 14670 mm as per the data based on the records of the last 10 years. For this reason, Mawsynram has the distinction of being the rainiest place in the world.

The average annual rainfall of the upper Shillong (Saw Mer) is 2750 mm, while it is 2680 mm in Asannang Gre (close to Makbil Bisik and Bibra Gre).

The seasons commence and break at slightly different times in different parts of the region; but the climate at the end of May is more or less common to all places. Over the foothills and at the low altitudes, the climate is moderate, even during the winter season. As a whole, the climate of the area is
not extreme. Cloudiness is a common phenomenon over the hills and different types of clouds are seen from season to season. Fogs, mist, nimbus clouds are quite frequent during rainy season and can be seen at a very low height as well.

The hills and plains of the seven states (Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura) that makeup Northeast India have been occupied by different waves of Mongoloid people who came from the north and east of Southeast Asia at different periods (Bhagabati 1988). The earliest such migration took place well before the beginning of the historical period in the region (Lebar et al., 1964; Bayard, 1979). Of these ancient migrants, except the Khasis of Meghalaya - the Austroasiatic linguistic group of people (Mon Khemer), (Das 1978), all other speak dialect belonging to the Tibeto-Chinese family of languages which is further divided into a number of sub-families (Dixon, 1922; Das, 1968).

Northeast India is regarded for its vivid and rich cultural heritages. This is due to its trans-continental corridor connecting South, Southeast and East Asia. In this region there has been a harmonious adjustment of physical and cultural environments. Each wave of immigrants to the region faced three options: absorption, isolation and extinction. The physical features of the region facilitated and still facilitates the coexistence of vivid culture. Culture is always silent; the silence has its voice. It is the reflection of the past on the present. The culture of Northeast did not come out of vacuum; it rests on past. Or we may say the message of culture sent from the hoary past is recorded in the tradition, mostly in material culture even today. Following such clues, we can roll back to the past. This is ethno history of the people who have no written history of their own.

Human migration or movement is not aimless. Culture does not act independent of ecology, rather it works in tune with the given environment where it originated and flourished. As a natural course, a culture expands and acts as an
impelling force for breaking or expanding its territorial boundary. Reasons of this are many: one of them is the over exploitation of naturally available resources that jeopardizes the existence of a cultural group (Ashraf 1990). It impels a culture to extend its horizon of distribution in search of an area, initially ecologically compromisable and economically viable for its subsistence. There is an inherent tendency of a cultural group to avoid uncertainty of any form. As observed in among the aboriginal tribes of Northeast, the initial process of such movement starts with either at family or at village level; but that within its defined territorial limit. And subsequently, it is followed by migration in mass. This is what the present studies reveal. This process was at work during prehistoric period as well, otherwise distribution of the similar cultures under allied ecological conditions would not have been possible. The process has its genesis in the past, and the present cultural phenomena are the reflection of the distant past.

Under a given ecological condition, a given cultural mindset is created. The legends from major ethnocultural groups of this region point to this fact as notion spontaneity. All such cultural groups while reckoning their original habitat, refer that they migrated from highland environment of different parts of Southeast Asian countries, closely akin to their present habitat. This oral tradition gets its support from the material culture from both the regions.

The prehistoric material culture of Northeast India exhibits an overall homogeneity, especially, with the introduction of blade-flake and pebble-flake traditions and these become more conspicuous towards the later phases represented by ground and polished implements. (Sharma 1980, Sonwal 1987, Mahanta 1995). The inter territorial homogeneity in the prehistoric tradition is currently related to a particular linguistic family known as “Tibeto-Chinese”. It has further been segmented into a number of sub-families among the different tribes living in various pockets. But there is an exception: the upper Khasi Hills present incomparable
prehistoric sites, but they form a distinctive homogenous class within themselves. This is being followed by their exclusive Austroasiatic linguistic affiliation; viz. the Mon Khemer (locally known as Khasi), the sole representative of Austroasiatic Super family. This adds an additional, at the same time, an important dimension to this phenomenon.

The issue of linguistic correlation with ethnic cultures of prehistoric Southeast Asia was raised as early as 1932, by Robert Heine Geldern (Ha Van Tan, 1990: 353). His reconstruction of three prehistoric cultures related to three languages of Austroasiatic origin influenced the later researchers like Colani (1938), Beyer (1948), Loewenstein (1957) and others. But in the later stage the hypothesis faced severe criticism for its unexplainable sequential gaps (Tan and Vuong, 1961; Bron Son, 1977; Bellwood, 1978).

Whatever is the case, with regard to correlation, the fact is that the contemporary linguistic scenario of the given population of Northeast is comparatively less complicated in the sense of its solitariness among the Austroasiatic linguistic groups. This further reveals the impact of influx of Mongoloid population over the prehistoric Northeast who altered the ethnic composition in terms of racial characters. The example is the Khasi who are racially Mongoloid (Das, 1968), speaking Austroasiatic language. This may also be true to the Sulungs – a linguistically lesser known tribe of Arunachal Pradesh confined to in and around Parsi Parlo. This is a prehistoric site yielding waisted axes and hoes peculiar to Hoabinhian sites in Viet Nam (Colani 1929; Ha Van Tan, 1990, Ashraf 1994) and Qingloii-Tibetan Plateau (Ku’n 1957). According to Furer-Haimendorf (1950) and Stonor (1952, 1972), the Sulungs were the autochthons to the region who speaks a dialect unintelligible to the tribes that encapsulate them (Deuri, 1982).

Two hypothesis may be forwarded for this phenomenon:
i) Retention of Monkhemer (Austric) language with the alteration of racial characters in Mongoloid make-up itself dispels the notion of supremacy over one another: rather a phenomenon that could be related to a catastrophic imbalance in the distribution of sex-ratio in the earlier population group. The reason behind this is not easy to explain at the moment. But the circumstantial evidence suggests for a substitution against the deficit part of the ratio. And that was compensated by the members of the Mongoloid population who merely acted as biological father. This perhaps could be also a contributing factor to lead the society towards matriarchy at an early stage of the process and subsequently responsible for the development of matriliny among the same hybrid population now known as the Khasis.

ii) To delve into this phenomenon, the problem relating to the historicity of migration and language need to be taken into account. The waisted or the grooved tools as referred to by various authors are related to the Austric population. The existence of the waisted tools in archeological context in the existing habitat of the Sulung and the continuity of the characteristically peculiar language among the Sulung point toward some positive cultural association in the past. Their arrival might have antedated the migration of the Tibeto-Chinese linguistic family. The Sulungs were subsequently encircled (during the iron using stage: Ashraf 2000) by the dominant Nishis. For existence's sake, the Sulungs entered into a kind of economic and other cultural adjustment. Thus they became bilingual. They accepted the overall supremacy of the Nishis and gracefully accepted them as their masters. At the domestic level, they continue to retain their traditional dialect, quite unintelligible to their master. What is felt is that it is a matter of cultural juxtaposition and an example of symbiotic existence over the time for the sake of survival. The same may be the case for the Khasis, but the only difference is that the earlier is related to the cultural/physical adjustment, while the later is biological.
The prehistoric culture flourished in Khasi Hills with its distinctive tool kit and Austroasiatic linguistic base. At present it stands as an island among the Tibeto-Chinese linguistic pool. The insularly existence of the prehistoric tool tradition and the continuity of Austroasiatic language encapsulated by a dominant tribe pose problem. How can it be interpreted? A number of queries come to picture: (i) Had the existing population been the author of the unique prehistoric tools recently collected from Barapani and Saw Mer, (ii) or, the author of the tools keeping their linguistic distinctiveness initact merges with the Mongoloid population.

The evidences reveal that the Austroasiatic people were the author of Hoabinhian or Mesolithic cultures at its earliest phase of formation (Ha Van Tan, 1990). They radiated at different directions and came in contact with the local situation, grew under varied ecological zones; underwent variations, but at the same time they retained some characteristic elements peculiar to this culture. We should not lose sight of this fact that the variation does not mean a total transformation. Local evolution of cultures might have taken place in an area exhibiting ecological heterogeneity within the wider ecologically homogeneous zone. This is what is assumed to have happened in the high altitude ecology in Khasi Hills and comparatively low altitude ecology in Garo Hills. This may be taken as a product of an adaptive process. While understanding the process, the strata caused by racial, cultural, linguistic and ecological factors need to be taken into account. All may not have contributed their share to this process; rather they may be selective. This determines the quantitative and qualitative configuration of a culture. This becomes explicit when we study the Hoabinhian culture in Garo Hills - a centre of spectrum tradition and the other adjoining cultures of comparable time depth brought under study, (This will be discussed in details in passing).
Cultural configuration of prehistoric traditions and the area under study

Northeast India as bio-cultural extension of the Southeast Asia entered more prominently into the process of cultural assimilation during Mesolithic or Hoabinhian cultural phase (Wormen 1949, Sharma 1988, Ashraf 2001). This post Pleistocene traditions were brought to the region by various ethnic groups belonging to Austric and then by Mongoloid population at a much later date, the latest being the Lisu and Akhas (Aka) of Arunachal Pradesh. A Mongoloid population linguistically belonging to Sino-Tibetan family entered into the Chao Phraya Valley of Thailand only a few centuries ago (Higham 1989: 3). Except the Sulungs of Subansiri Valley, who needs further conformation, all other Austric groups are being racially extinct leaving only the cultural remnants in the from of material culture and language. On the other hand, the Mongoloid population of various linguistic sub families of Tibeto-Chinese family subsequently dominated the entire hilly region of Northeast India. From that point of view of chronoculture the early post pleistocene or the Mesolithic cultural phase may be considered as the safe lower level for ethnoarchaeological assessment in Northeastern region; while the upper limit remains open and depending on the degree of diffusion of cultural elements.

Within the given framework it is observed that artifacts conducive to geo-cultural process occasionally got charged with emotive factors and became a part of the local tradition. When it spills over beyond its ethno-cultural and geo-cultural boundaries, it may be termed as Spectrum tradition as it spreads fast and far and wide in fragments or in its total form. The whole process apparently acts in a common ecocultural system at a given period of time, and within this limit various cultural bands may have either acquired or adopted or retained these cultural elements or traits through the process of assimilation and migration. These
traditionally charged cultural elements when got transformed into an artifact, become a part of cultural type. Such cultural types may more assertively be used as an index fossil to ascertain the degree of culture contacts among the various independent bands who entered into the process.

1.3: Southeast Asia & its Neighbouring Regions: Map to show Sites discussed in text.

In wider context, process of cultural development in prehistory is manifested in its gradual transformations of tool traditions along with local variations. The whole process was activated within a defined period of time and space conditioned by local situation. But this trend suddenly got disrupted in Southeast Asia towards the end of Pleistocene epoch. Infact, this dramatic situation arose out of changing climatic conditions and topography resulting from the advances and retreats of the glaciers in the Northern Hemisphere.
The Pleistocene climatic changes of Southeast Asia were not much conspicuous as to those that took place in other parts of the world (Shuter Jr. & Shutler, 1975; Jennings, 1971; Bellwood, 1992). The change forced most parts of the world, including India in general (excluding NE. India), to adopt a new technological device. This is in the form of microliths to cope with the situation which arose out of this climatic change, affecting the global warming system. As mentioned already, the process had no direct bearing on Southeast Asia but an immense indirect impact on the land and a challenge to the people of Southeast Asia came from Pleistocene fluctuations in sea levels. During Ice Age, sea levels were considerably lower and much of the insular Southeast Asia, such as, Sumatra, Java, Borneo and Palawan, were a part of the continent known as the Sunda Shelf (fig: 1.3).

Similarly, the Sahul shelf, bridging New Guinea and Tasmania to Australia. During the Pleistocene, at the time of low sea level, there was a favourable condition for cultural migration between the islands of Southeast Asia, the New Guinea and Australia. While during post Pleistocene, because of high sea level Southeast Asia was geographically divided into two parts: Mainland, comprising China south of the Yangtze (Bellwood 1992: 56), Myanmar (Burma), Thailand, Indochina and Peninsular Malaysia and India in the Northeast.¹ The Island Southeast Asia comprises Indonesia, East Malaysia, Brunei, the Philippines and Taiwan. This unique situation had created an atmosphere of isolation for the divergence of gene pools (Shulter, Jr. & Shulter 1975:11) and of cultural adaptation.

¹ The same words which Peter Bellwood (1992:56) used to justify the inclusion of Yangtze of South China to mainland Southeast Asia may be quoted in dub for Northeast India: Northeast India is an integral part of Southeast Asia in cultural and linguistic terms and many thousands of speakers of languages in the Tai, Tibeto-Burman and other, sub groups of Sino-Tibetan family (Das,1968) still live in larger parts of Northeast India. The dominance of Austronesian linguistic group in the Khasi Hills of Meghalaya further gives an impetus to the problem. So it is rather impossible to understand the later stages of Southeast Asian prehistory without reference to Northeast India.
The impact of sea level fluctuation during the end Pleistocene was so forceful that it almost shuttered the general trend of cultural development. Consequently, a number of local traditions emerged, mostly in a reversed fashion of lower Palaeolithic period. Among these traditions, the most prolific one is the 'Hoabinhian', because it spread fast and far and wide, even upto Northeast India.

This new exploitative implements are distinguished by simple flake using the cobble as raw material. In this connection, it may be mentioned that the crudeness along with their morphological features often tempted the archeologist to relate them to the earlier cultural phases.

It is reported that in the upper level of Hoabinhian sites, edge grinding of pebble tools are found (Bellwood 1992). This is also an interesting phenomenon in Meghalaya, a Characteristic feature that we tried to view in its local context. (see page 191& 287-288). The typical Hoabinhian implements which we encountered in Meghalaya are also reported from the upland of Hoabinhian sites in Burma (Myanmar), Viet Nam, Thailand, Cambodia and Malaysia. The location of the sites and variety of the assemblage indicate a wide spread adoption to the ecology of Northeast.

Against this backdrop, let us now turn to the post Pleistocene tradition brought under the present work. Here our focal point of study concerns itself with the attribution pertaining to prehistoric traditions. Their process of development and consequences in the light of available Hoabinhian impinging sites distributed over various localities of Meghalaya.

Reconstruction of history of prehistoric cultures, which also includes 'tradition', is solely based on material evidences derived out of given archaeological context. Here the context implies cultural settings of the sites against its geomorphological and ecological background. While studying traditions, the status of a site is determined through widely acclaimed cultural traits manifested in an
assemblage, having less ambiguity, constituting a part of fairly established traditionally controlled tool type. The term tradition has wide spread application in archaeology. Brain M. Fagan (1988:507-9) has rightly pointed out that in archaeology it is used to describe lasting artifact types, assemblages of tools, economic practices and established technological pursuits that last much longer than one phase. The tool making tradition, cited as an example may continue in use by a single band or may share it in different ways by different cultural bands of more or less contemporary period. Thus the tradition implies a degree of cultural continuity. Ha Van Tan on the other hand, defined tradition with more clarity: “Tradition means the characteristics, the cultural styles fixed in time and transmitted from generation to generation. The origins of these characteristics might have been linked to the conditions in which man acted on his environment, conditions whose stability during a particular period or in a particular area served to fix them; and once stabilised they were transmitted by habit, and the prehistoric tradition was born” (1976:159). We must keep it in our mind that Hoabinhian in a definite prehistoric chronological context maintained a long history of tradition, sometimes in a more localised form with varied characters. Two technical traditions in the lithic industries of Meghalaya has been identified in the Hoabinhian context: the Cobble Tool Tradition (Pebble-Flake) as found in Bibra Gre and the Stone-Block Tool Tradition as found in Makbil Bisik and Saw Mer. Thus the traditions within a tradition itself indicates a variation in basic subsistence strategy, particularly, if they exist in a common ecological belt. It is an interesting phenomenon which needs to be examined from various angles.

The tool tradition with certain stage-diagnostic artifacts known as “index-fossil” (Trigger, 1968: 528) or ‘type fossil’ constitutes the Hoabinhian culture. It developed during Mesolithic phase in early Holocene epoch in Southeast Asia. Unlike other parts of India, no typical microlithic traditions have been found
HOABINHIAN TOOL TYPES FROM VARIOUS LOCALITIES OF GARO HILLS

Plate 01: (a - c) Nanglbibra (NBG), (d) Salbalgre (SBG), (e) Watiabri (WTA), (f) Thebranggre (TBG), (g - i) Rongram (RNG)
in Northeast India but the Hoabinhian tradition represented by the index fossil like sumatraliths, short axe, broad axe, lanceolate, etc. has been recovered in the course of our exploration in different localities of Garo Hills (plate:1.01:p.14) more recently, a prehistoric site at upper Shillong in Khasi Hills of Meghalaya has also revealed a particular type of index fossil common to that which has been found in other prehistoric sites of West Garo Hills, under study, (plate:1.02:p.17) but that with a distinct variation in their respective assemblages.

As the new discovery at Upper Shillong is very much within the perview of our research in the sense of understanding of distribution and development of Stone Age traditions of Meghalaya, we have decided to take up three sites- two in Garo Hills and one in Khasi Hills of Meghalaya. These prehistoric sites are subdivided into regional economic groups defined largely on the basis of (a) Similarities or differences in material culture, and (b) environmental factors that control the configuration of material culture within a defined ecological setting. At the present state of our knowledge, it is not possible to correlate these cultural groups in absolute chronological terms, but for a general chronology given against Southeast Asian cultural Groups. In this context it may be mentioned that three inland and three coastal groups are brought under a chronological framework through radiocarbon determination. "The inland groups with their associated chronologies are called Sonvi (C 18,000 – 9000 BC), Hoabinhain (C. 9000 BC) and Bacsonian (C. 8000 B.C.). The terminal dates for the Bacsonian and the

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1. Archaeologists, including J.M. Mathews (1968:94), are of the opinion that the Hoabinhian is essentially post-Pleistocene and, therefore, 'Mesolithic' Differences in opinion continue to exist; some scholars, viz. Solheim (1969), Gorman (1970), Dunn (1970) and Golson (1971) suggested a late Pleistocene date for its beginning (Ha Van Tan 1997:35). According to Gorman the Hoabinhian techno complex in Viet Nam first appeared during the late Pleistocene (about 13000 - 14000BP) and continued as a recognizable complex until ca. 5000 to 6500 BC. (1970: 82). But the new evidences from Lang Vanh Cave and Xom Trai Cave of Viet Nam show that the Hoabinhian extended that much earlier (17000 - 18000 BP) than the date expounded by Gorman. From the large number of radio carbon determinations now available from various sites in South East Asia, it is clear that the early stage of the Hoabinhian belongs to the late Pleistocene.
Lithic Implements representing the Core Cultural Elements

Plate 1.02

SMR - 6
BBG - 534
MBS - 532

(For details refer to Chapter VI)
Hoabinhian are not yet known, but probably lie in the period 3000-2000 B.C, depending on the region in question” (Higham, 1989 : 35).

The coastal groups in Viet Nam is referred to as ‘cultures’ by Ha Van Tan (1980) and Nguyen Van Hao (1979). The most prominent of these cultures are: Bau Tro, Hoa Loc, Ha long and Cai Beo. Although later in date, (5085 ±60 BC) (Bayard 1984.C) to 4545± 60 BC (Nguyen Van Hao 1979), these cultures were greatly influenced by Hoabinhian traditions or ‘Hoabinhian inspired’ (Higham 1989) stone technology, or Hoabinhoid Industry (Ha Van Tan 1997:37).

The cultures from the areas already referred to might have diffused into the areas ecologically more or less homogeneous. Movement of cultures from one place to another is a long drawn out process, which should be viewed from the standpoint of reciprocity before coming into any conclusion. At this juncture, at least two things may be forwarded in affirmation:

(i) The particular importance of these sites is that they exhibit a stone tool assemblage with strong Southeast Asian affinities, especially, of Hoabinhian traditions.

(ii) All most all the classical forms of Hoabinhian stone tool traditions representing even the earlier stages of development (plate : 1.01(a-c) :p.14) were found to have been existed among different cultural subgroups of Meghalaya. This is one of the major aspects to be noted while discussing the prehistory of Meghalaya in a given cultural background.

Methodology

In contrary to general practice of collecting tools from a site in selective manner, we have given emphasis on random process of collection of

1. In this study a site denotes high concentration of artifacts.
artifacts and collected the whole lot\(^1\) (Tolstoy 1958) at least from two sites, namely Saw Mer and Bibra Gre. So far Makbil Bisik is concerned, the materials come from a stratified zone brought under a small scale excavation.

Materials collected from all the three sites are systematically documented and initially brought under conventional methods of classification by using typo-technology as base.

In third stage, we have gone deep into the process by using six schedules\(^2\) to treat each and every artifact, totalling 621 in number. The sample size of each site is not the same for the reason mentioned already.

To avoid disparity among the varied ‘sample sizes’ of the sites, a new statistical device is utilised. It merely replaces percentile for unit. The results are found to be more convenient for comparative analysis.

The schedules include both metric and physical verification, such as, tool types, length, breadth and thickness; shape, weight, nature of flake scars, hafting facility; gripping facility, contour, mid-ridge; mainflake surface; bulb of percussion; cortex and working edge.

In the fourth stage, the actual working field of a tool is worked out through technometric analysis, using scheduleds, developed with an approach to obtain additional information on:

(i) Edge-angle (Kobayashi, 1975; 115–127), i.e. angle between working edge and grip-axis (approach varies), and

(ii) Distance between thumb-pad-scar\(^3\) (TPS) and palm-pad-scar\(^4\) (PPS).

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1. Collection of each and every artifacts that has been found exposed or embedded over a specified area or section (river section). So the sample size solely depends on the given situation.
2. for schedules, see Chapter - VIII.
3, 4. Flake scars meant for gripping.
Analytical aspects

(i) The applicability of type fossil concept is quite effective in tool traditions of Meghalaya. But at the same time, it is equally misleading if not viewed in its proper context. This phenomenon can easily be demonstrated physically, through the acquired samples (plate:8.1: p. 293). So the type fossils which are considered as one of the solid base to understand tool tradition and other typological aspects are assessed meticulously to its best and possible extent.

(ii) The traditional approach centering the working edge and typo-technology is slightly modified in this study.

While studying material culture of Stone Age, we generally put emphasis on typo-technological aspects of a tool. This approaches, may consider as one of the most widely used traditional approaches, often being used to identify a culture within a tentative chronological framework.

As mentioned, we have slightly deviated from the traditional approach. While using the criteria already established for classification, we have simply viewed the matter from a different angle by using a new set of technical device:

Contrary to the so called working edge, we put emphasis on the blunt or gripping edge because of the fact that in a hand operating tool the gripping part played a vital role. It is obvious that a tool with a defective handle or grip can never be considered as an effective one. So, in that sense, a cutting edge should always be defined in terms of grip-axis. Now the question is, what does this grip-axis mean? In this context, it is interesting to note that most of the stone artifacts from Meghalaya exhibit some sort of provisions for gripping or handling in the form of either flake-scars (here by termed as grip scars:GS) or thick edge with definite contour and also grooves and tang for hafted tools. In one of the surfaces
of a tool, GS are found in the form of a semi-circular or oval scars to place the
thumb pad (here by termed as TPS) and to place the palm pad (PPS). TPS and PPS
are always found in a common plane and the imaginary line drawn across the TPS
and PPS is termed as 'grip-axis'(plate : 5.01(a) :p.177 & 8.2: p.295).

Rotating force of the grip axis is known as 'torque'. And the angle
between the torque and point of impact of the working edge determines the
direction of operation and actual working space of a given tool.

Other Considerations

(a) An established fact is that stone artifacts of Garo Hills were made exclusively
of dolerite with a very few exceptions. This aspect is further confirmed through
microscopic examination. The process reveals some interesting results; it exhibits
source-variation of raw materials amongst the cultural groups. This may be
considered as culture related phenomenon.

(b) State of preservation may be measured in terms of patination through metric
analysis. Degree of patina, we believe, if assessed meticulously may provide a
tentative time depth involved against an assemblage of stone tools. So it could be
taken as determiner of comparative time depth of tools found in a common geo-
ecological unit. Parameters for this analysis are:

i) Soil samples from the place of occurrence of tools used for this purpose need
to be passed through chemical examination.

ii) Mode of occurrence of soil and material.

iii) Mean weight of patina extracted under controlled specification.

As the process itself involves a major topic of research, here we
simply verified the prospects of the aspect physically, and the results are found
encouraging.
c) Technology is studied through cross examination of various parameters, included in schedules B, C, D and E. Schedule ‘C’ which includes contour, main flake surface (mfs), interfacetory ridges (ifr) and striking platform provides information on:
(i) Technique employed in shaping a tool, while schedules D & E provide data on:
(ii) Methods of manufacturing a tool.

d) Knapper’s perceptive level is attempted to assess through functional efficiency and gripping comfort of a tool as they are the most vital aspect of a hand-operating tool. At this point it may be said that they had a definite idea behind in removing each and every flake with a definite aim of having a better grip from the tools he made. Experiments on lithic reduction sequences (Bradley, 1975) of the given sites clearly indicate that the production of a tool does not take place in aimless direction; it is systematic in true sense of the term (plate:8.1:p. 293 & fig:5 MB 17a :p.215). It is a matter of mind and a product of the psychological make up of an individual –a member of a defined cultural group and person or individual, not isolated from one another. Individual’s action reflects the personality and cultural identity. This is what was reflected in ‘mental template’ (Deetz, 1967 : 45) or ‘precepta’ (Tugby, 1958 : 24). While working with a detractable material such as stone or bone, the mistake can not be easily corrected; the maker has to proceed on with mistake or has to discard (Thomas, 1974 :12). Options are there (Wilmsen, 1974 :201); but systematization in a definite direction is more expected in a culture; otherwise, the cultural grouping during the past would not have been possible.

e) Tools as a indicator of means of livelihood (Man-material-land relationship)

Distribution of Stone Age sites along with their distinctive assemblages of tools are critically examined to get an idea of the nature of habitat.

Availability of resources and mode of economic practices for livelihood acts as a driving force for technological innovation over general trends
as incrised standardization of a wider variety of specialized tools and become a part of local tradition.

Easy access to the field of subsistence operation and availability of raw materials is one of the major factors that encouraged man in selection of a habitat or in other words, habitat itself reflects the mode of livelihood of primitive people. The tool-kits of the assemblages often reflect the means of livelihood. An insight into the tool-kits indicate two sets of artifacts distinguishable on the basis of the concept of prehistoric economy which revolves round the hunting, gathering fishing and food producing.

The tools through which one execute the economic practices is termed by us as principal tool and the tools supporting the economic pursuit as auxiliary tools. Practically, auxilliary tools always out numbered the principal tools for obvious reason as in the case of a plough or a digging stick.

Archaeological Premonition

Meghalaya is an integral part of Northeast region of Indian Union. The landscape of the region as a whole has undergone a series of profused changes, partly because of active tectonic activities and partly, under the influence of different human factors. Northeast being a part of Indian Union is under the political sphere of South Asia, but ethno-geographically, it may better be treated as an extension of Southeast Asian geocultural complex, (Worman 1949). But this complex is not so simple as one thinks of. Complexity in the geocultural process is due to polygonal origin and subsequent transformations of landscape and cultures developed through interactive influences. The process got activated more conspicuously, from late Pleistocene owing to various regional and global factors. Because of the close interrelationship between the land and the people, an integrated insight into the problem is inevitable, or else, there is every possibility of moving towards blind alley. Mere conventional approach under the given circumstances
does not always bring forth the real picture. A holistic approach only may elicit something genuine and that acts in variance with the assumed ‘facts’. Just to realise the situation of Northeast, only a glimpse of a few archeological conundrum is presented:

There are only two material items of prehistoric past, namely, stone artifacts and pottery exist in the present of Northeast. Among these items, pottery of prehistoric origin is still in vogue among the certain aboriginal tribes of Northeast. These primitive pottery remain at its archaic state and these could well be taken as a replica of past one. Stone artifacts have ceased to exist long ago. But use of these materials in different functional context is still in vogue almost among all the ethnic groups of Northeast. Therefore, one must be very careful in fixing the status of a prehistoric site in archeological context.

While dealing with geomorphology for setting up chrono-cultural sequences of Garo Hills it must not be forgotten that it is a land of traditional jhummers, practising shifting cultivation from the time immemorial. As a result, surface soils of most of the accessible slopes of the hills are being found under repeated human interference. Consequently, over periods of time, a lot of geological debris creeps down the slopes and settled towards its foot, as if a colluvial deposit. Sometimes, it may also constitute an artificially created stratified implementiferrous zone as are found at Didami, Thebrongri, Miching granchep II & III and some pockets of Rongram. So the situation calls for an anatomical approach, rather than a mere superficial observation.
Prehistory of Meghalaya can not be viewed in isolation, but as an integral part of North East India embodies together with seven states. The region as a whole in the earlier works was referred to as Assam (Raikar & Chatterjee 1980).

The preservation of stone artifact is an age-old practice. It is a custom among the tribes of Northeast. These supernatural, heavenly objects, as they believe, are viewed with reverence for various reasons pertaining to benevolent causes (Goswami, 1961). Thus, they kept these objects (celts) in their houses as family possession whenever they find them accidentally during digging of earth or clearing Jhum fields (Singh, 1997). In a sense this is the beginning of prehistory in an institutional form among the tribes. The so-called preliterate initiated this as non-academic process but later on during the late nineteenth century formal beginning made its start when the Europeans came to the scene. They brought the house collections to the limelight of the world prehistory by preserving in different institutions of the world (Dani 1960, Sharma 1980).

Prehistoric tools were first reported from Assam in 1867 by Sir John Lubbock, appeared in Athenaeum. It deals with some polished stone axes collected by Captain E.H. steel. He continued his investigation and his
collection of stone axes were appeared in his contribution to the Asiatic Society of Bengal (Steel 1870).

Among the Indians the first systematic study was carried out by R.D. Banerji in 1924. He recorded his findings in the caption of “Neolithic implements from the Abor (Adi) country (ASI annual report 1924:25)

There is an important collection of stone tools from Arunachal Pradesh which have been preserved in the Pitt river Museum, oxford. These were collected by J.M. Mills and J.H. Grace during 1933-35. The first scientific report of this collection was made by Dani (1960). In 1966 Sharma also studied the collection and pointed out its Southeast Asian linkage. (1966, 1980).

In 1969-70 Bopardikar carried out an archaeological survey in the Lohit district of Arunachal Pradesh. The exploration indicated the presence of ‘preneolithic’ and neolithic phases of cultures (Bopardikar 1972, Sharma 1980).

Daojali Heading in North Cachar Hill of Assam, a rich ceramic neolithic site was brought under excavation by Goswami and Sharma in 1962-63. The 76 centimeter thick occupation deposit yielding neolithic implements along with stamped ware, (Goswami & Sharma 1962-63; Sharma 1967, 1981, Allchin 1968).

Sarutaru and Marakdola located at the foothills of Meghalaya, near Guwahati, Assam was brought under excavation by Rao (1973,1977; Thapar, 1985). The site yielded ceramic neolithic sequences but the result
needs further investigation as the spot was highly disturbed and seems to be superimposed.

Parsi Parlo in Arunachal Pradesh is a stratified neolithic site. The excavation (1982-83) revealed three successive phases in its 100 centimetre thick cultural deposit. It started from aceramic neolithic under the influence of Hoabinhian tradition to the iron using (Ferrolithic) stage through the Ceramic neolithic. (Ashraf 1990, 1998).

Ramesh conducted an intensive and extensive study on stone Age cultures in West Tripura with an emphasis on geomorphological condition. And for neolithic sequence of that area he offered a C-14 determination of 3450± 110 BP (1989).


The beginning of Stone Age Archaeology in Meghalaya date backs to 1931 (Walkar 1937) and with the collection of prehistoric antiquites (stone axes, adzes and hoe-blades) between 1931-1937.

Goswami and Bhagabati in 1959 reported about a rich prehistoric site of Rengchang Gre (Goswami & Bhagwati, 1959).

With the introduction of the branch of Prehistoric Archaeology in the Department of Anthropology, Gauhati University, Assam in 1966, the teachers and the students of successive batches carried out their investigation in Garo Hills (Sharma & Sharma 1968), (Sharma and Singh 1968).
The Stone Age culture in Meghalaya is represented by nearly three dozen sites, except two all are located in Garo Hills. Of the explored sites, only four—Selbal Gre, Rongram and Makbil Bisik brought under limited excavation, (Sharma, 1980, Thapar, 1981, Mahanta 1995).


Basing on the materials from Garo Hills four doctoral dissertation has so far been made.

Sharma (1972) studied on the stone tools centers round the palaeolithic and Mesolithic periods.

He studied quaternary deposits developed in different river valleys of the Garo Hills; Stratigraphic evidences identified were investigated with cultures belonging to different phases.

He tried to present a chronological basis that was modilled after the 'series' followed by Sanakalia.

Medhi (1980) carried out a survey of quaternary formations in Garo Hills. He endacouvered to establish the geomorphological backgrounds of Stone Age culture of Garo Hills.
Sonowal (1987) studied the Stone Age cultures with major emphasis on the flake and pebble industries of the Garo Hills. She attempted to shed light on the typo-technological aspects of the stone tools of the Palaeolithic periods.

Mahanta (1995) made a systematic study on the Stone Age cultures of Salbal Gre through extensive survey. His work was on advance over the previous works endeavouring to evolve a chronology using the additional data. In fact over the time there is an attempt to give more clarity to the technotypological aspects with reference to their chronological counterparts.

Sharma & Roy (1985: 89-91) discovered a pebble chopper tool tradition in the Simsang Nangal Valley at Nangl Bibra in 1978. In the same complex another lithic tradition of flake tools and a few microliths on chert and jasper justified the presence of Levalloisian and microlithic traditions.

Since 1981, the trend seems to have deviated, putting more emphasis on ethnoarcheological approaches. A critical study on the new line was attempted by Roy (1981) where the salient features of material cultural elements of the neolithic past and the present are correlated by studying the shifting cultivation of the Garo Hills.