CHAPTER III.

NEOLITHIC TOOLS AND MEgalithIC MONUMENTS.
Sir John Lubbock suggested in 1865 a division of the Stone Age into two periods: the palaeolithic and the neolithic. He proposed the following criteria for Neolithic cultures: (i) association with recent fauna, as against the extinct fauna of the Palaeolithic; (ii) the shaping of tools by grinding in addition to chipping, as against mere chipping in the Palaeolithic; (iii) practice of agriculture and domestication of animals.

Since then the definition has undergone much refinement and elaboration in the light of advanced scientific knowledge of lithic cultures in various parts of the world. This can nowhere be better seen than in a series of authoritative books and papers by Prof. Gordon Childe. According to him, Neolithic is essentially an economic term, and it is the third criterion of Lubbock, which is the most important. He has, therefore, suggested the replacement of the first two by the third. In brief, he defines 'Neolithic' as 'a self-sufficing

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food producing economy.' This definition implies the following traits:

(1) a food-producing economy dependent on the domestication of animals and cultivation of plants; hunting and food-gathering, however, continue, though in a subsidiary role.

(2) sedentary nature of habitation - best exemplified in tells or mounds sometimes rising to a height 30 metres or more and covering at times several acres.

(3) absence of dependence on trade for essential commodities, though sporadic trade in luxury goods might well be present, as was the case even with some of the upper Palaeolithic and Mesolithic communities.

(4) absence of full-time specialists in the society.

On the basis of the above mentioned categories, a detailed study of the material collected from Central Assam in the form of stone tools, potteries and megaliths has been made here. The tools discovered in Assam fall under the category of Neoliths. Recently some prehistoric tools of different ages have also been discovered in Central Garo Hills by the Department of Anthropology, Gauhati University.¹

Central Assam has not yet been systematically explored except for a few sites in North Cachar hills. Most of the available Neolithic tools are merely chance discoveries. The area abounds in megalithic monuments i.e. cists, dolmens, menhirs and carved stones. Some of the earlier writers like Hutton\(^1\) thought these to be 'prehistoric'. Dani's exploration, though very limited, suggests that the Neolithic tools bear no relation to these monuments.\(^2\)

Lubbock\(^3\) (1857) was the first to refer to the find of neolithic tools in Assam. E.H. Steel and Lt. Barron reported Neolithic stone implements from Naga hills. Several stray finds were reported thereafter. Of these only two collections are important for an appraisal of the neolithic cultures in Central Assam. The first large find was made by Mr. W. Penny, a tea planter of Hiswanath (Darrang district). The items have been listed by Coggin Brown;\(^6\) two separate papers were published by Coggin Brown and H.C. Dasgupta\(^8\).

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2. Dani, A.H., *Prehistory and Protohistory of Eastern India*., PP.
on those tools. The other large collection is in the Pitt Rivers Museum, Oxford. This collection includes the materials presented to the museum by several persons, notable among them being J.H. Hutton, J.P. Mills, G.D. Walker, J.H. Grace and C.R. Pawsey. Except for brief notes by J.H. Hutton and J.P. Mills no complete study of these tools has so far been made. Hutton in his paper has described only three types of tools besides dealing with megalithic remains. K.L. Barua summarised the published material; while P.C. Choudhury has given a more general survey of the anthropological and archaeological data.

Another important contribution was made by Dr. A.H. Dani, on the neolithic culture of Assam. He proposed a typological classification of the stone implements of Assam available in the Pitt Rivers Museum, and also made a few important observations regarding the affinities of the neolithic culture of Assam. Dr. H.D. Sankalia has discussed some points pertaining to Dani's classification as well as

2. 'Prehistoric culture in Assam', J.A.R.S., VII, PP. 6-18; PP. 35-41.
the neolithic culture of Assam. T.C. Sarma studied thoroughly the stone implements of Assam and has proposed a new classification of the stone tools, keeping in view the recent evidence yielded by his own exploration and excavation.

Technology:

Geographically Assam falls into various zones. In each of these zones, the assemblage of tools shows an innate relation in material and form to the geological and geographical conditions of the zone. However, the technique of manufacture of the tools is common in all the zones, though slight differentiation in forms may be seen from region to region. The raw materials consist of flat slabs probably from stream beds. They were chosen for the purpose, because there was actually very little need of prior chipping or flaking and grinding or smoothing of these slabs. By slight battering or hammering and grinding of the edge either on one side or both the sides, they can be turned into tools.

Two basic techniques were employed in manufacturing the edge tools. These were flaking and grinding. In giving a final shape to the tools four separate processes were

involved. (1) Some tools are roughly flaked to shape and finished by trimming the edges with fine secondary flakings. There is also some slight evidence of the manufacture of flake tools in the palaeolithic fashion. A large and thin flake of indurated shale was obtained, probably by employing the prepared core technique, but no core has so far been discovered. The flake shows a plain striking platform, making a right angle. The bulb of percussion is barely perceptible. The flake has a naturally sharp edge which is slightly retouched by secondary flakings. (2) This consists of an initial rough flaking to obtain the required shape of the tool which is finished by grinding only at the cutting edge. (3) In this process, human workmanship is noticed only in the preparation of the cutting edge; the rest of the tool is left unworked. These consist of naturally tabular blocks showing evidence of preparation of the cutting edge by grinding at one end. (4) This process consists of a first stage of flaking or chipping to prepare the rough-cut which is then finished either by partial or thorough grinding.

The typological classification of the stone implements of Assam is primarily based on the technique of manufacture.

Classifications:

The implements may be classified into four groups:
(A) Chipped implements, (B) Edge ground implements, (C) Pecked and ground implements, and (D) Fully ground implements. Each group may also be subdivided.

The first classification was made by Coggin Brown\(^1\) in his catalogue; the next by Hutton\(^2\) on shape, and later by Dani,\(^3\) and Sarma.\(^4\) The classifications given by Coggin Brown are as in the following table.

<table>
<thead>
<tr>
<th>Group - A</th>
<th>Chipped Stone Implements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Handaxes</td>
<td></td>
</tr>
<tr>
<td>2. Choppers and scrapers</td>
<td></td>
</tr>
<tr>
<td>3. Simple flakes</td>
<td></td>
</tr>
<tr>
<td>4. Fluted cores</td>
<td></td>
</tr>
<tr>
<td>5. Chipped celts</td>
<td></td>
</tr>
<tr>
<td>6. Broad axes</td>
<td></td>
</tr>
<tr>
<td>7. Tanged lance heads</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group - B</th>
<th>Edge-Ground Stone Implements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parallel-sided axes</td>
<td></td>
</tr>
<tr>
<td>2. Large axes</td>
<td></td>
</tr>
<tr>
<td>3. Short axes</td>
<td></td>
</tr>
<tr>
<td>4. Pebble tools</td>
<td></td>
</tr>
</tbody>
</table>

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Group - C  Pecked and Ground Stone Implements

1. Quadrangular axes
2. Naga Hills axes
3. Naga Hills tanged celts
4. Notched axes
5. Shoe-last celts
6. Wedge-shaped celts
7. Rounded adzes
8. Round chisels.

Group - D  Fully Ground Stone Implements

1. Tanged or shouldered celts
2. Flat celts
3. Small celts
4. Quadrangular axes
5. Large axes with lenticular section
6. Quadrangular adzes
7. Chisels and wedges
8. Splayed axes
9. Perforated axes
10. Miniature axes of jadeite
11. Lance-heads.

Other Stone Implements

1. Grinding stone
2. Smoothing stones for making wooden implements
3. Grooved hammers
4. Notched pebbles
5. Querns of mealng troughs
6. Mullers
Classification given by Dani -

Table 2

A. Facetted tool
B. Rounded-Butt axe
C. Axe with broad cutting edge
D. Splayed axe
E. Shouldered tool
F. Tanged axe
G. Wadge-blades
H. Grooved hammer stone.

These groups are further subdivided -

Class A - Facetted Tool

1. Curvilinear type (a) Rectangular in shape.
   (b) Trapezoidal in shape.
2. Bifacially ground median edged type.
3. Unifacially ground edged type.
4. Facetted tool with side notches.
5. Long type with parallel sides.

Class B - Rounded Butt axe

1. Bifacially ground median edged type.
2. Unifacially ground edged type.
3. Curvilinear type.

Class C - Axe with Broad cutting edge

1. Large type.
2. Small type.
Class D - Splayed axe

Class E - Shouldered Tool

1. Regular and broad type.
2. Regular and long type.
3. Regular with crescent-shaped body.
4. Irregular and broad type.
5. Irregular and long type.

Class F - Tanged Axe

1. Broad type with square or rectangular tenon.
2. Broad type with round tenon.
3. Long type with flat topped round tenon.
4. Long or broad with pointed tenon round in section.

Class G - Wedge-Blades

1. Large in size with pointed butt.
2. Medium in size with broad cutting edge and rounded butt.
3. Medium or small with straight cutting edge.
   (a) Medium in size.
   (b) Small in size.
4. Longish with parallel sides.
   (a) Narrow cutting edge.
   (b) Broad cutting edge.

Assam has two main types of ground tools: (A) faceted tool (B) shouldered tool. Besides these two types there are (C) Round butt axe (D) Axe with broad cutting edge (E) Splayed axe (F) Tanged axe (G) Wedge blades (H) Grooved Hammerstones.
(A) **Facetted Tool**:

A facetted tool is so called because it has a number of facets obtained by grinding. In shape and cross-section, it is rectangular. It is the type commonly termed in southeast Asia "Quadrangular Adze" (Heine Geldern, 1928). Adzes are usually treated as a specialised type of axe.

According to the nature of the cutting edge, Dani subdivides it into five varieties.

1. **Facetted tool with curvilinear or convex slightly flaring edge, and gently tapering rectangular butt. All the four sides are ground, one surface is convex, and the other almost flat. Their junction forms the cutting edge. So far only one specimen has been found in North Cachar Hills, though it is well known in south-east Asia.**

2. **Facetted tool with convex median cutting edge made by bifacial grinding, with a narrower butt, having a square section.**

3. **Facetted tool with unifacially ground, straight or convex cutting edge. The cutting edge, as in variety I, is made by junction of a flat under surface, and an upper surface. Sharply inclined or bevelled and ground at the edge. This shows that it was the intention of the artisan for making the edge by working or grinding the upper face.**
4. Facetted tool with side notches. In addition to the ground faces and median edge, it has semi-circular notches, produced by grinding, to facilitate better hafting. Tool hafted like an adze with handle perpendicular to the cutting edge.

5. Facetted tool with parallel sides. It is a bifacially ground median cutting edge with almost parallel sides and roughly flat top.

The materials used for this type are sandstones. Sandstone is preferred mostly, but examples in limestone, basalt and chert are known.

B. Shouldered Tools:

This is also a type of facetted tool having its butt-end prolonged into a tenon to provide a suitable haft. According to the regularity of the tenon and the body, and the relation or proportion of the length of the body to its breadth, Dani classified it into five varieties.

1. Regular and broad.
2. Regular and long.
3. Crescent with a long tenon.
4. Irregular and broad.
5. Irregular and long.

In some instances both the tenon and the body are square and the right angle between them is sharply cut or
sawed by a wire-like instrument, probably of metal. In others this angle is obtuse or even rounded, because it is formed by haphazard chipping and grinding.  

The area of the present study is Central Assam, which includes only four districts i.e. (1) Darrang (2) Mikir Hills (3) North Cachar Hills and (4) Nowgong. Out of these four, the former three have yielded Neolithic tools. From the fourth region no tool has been reported so far. Only the material obtained from the three districts is, therefore, discussed here.

**Darrang District:**

The tools come from the chance discovery of Mr. W. Penny in Biswanath. The majority of Penny's tools are of sandstone. A good number are in quartzite, slate and a rock described as "decomposed volcanic ash", while there is one of gneiss and one of porphyrite.

The collection of the stone implements from Biswanath is of more than usual interest from several points. It contains a number of rare types of tools, such as grooved hammer stones,

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notched pebbles and celt grinding stones besides several types of celts. All these are listed by Coggins Brown. The following types of stone implements are represented at this site:

1. Celts .. 7
2. Grooved Hammer Stones .. 6
3. Simple Hammer Stones .. 3
4. Celt grinding stones .. 11
5. Small and flat ovoid pebbles notched for binding .. 9
6. Fragments of sandstone (some of which are smoothed) .. 25
7. Fragments of sandstone pebbles (probably utilised) .. 87
8. Worked pieces of volcanic ash (some are .. 8 unfinished celts).

Among the celts, one belongs to the shouldered type. It has been described by Dasgupta\(^1\) as a crudely fashioned chisel-like tool with less prominent shoulders. It is made of slate. Among the non-shouldered celts, the common material

\[1. \text{Dasgupta, H.C., } J.A.S.B., \text{ IX, PP. 291-93.}\]
is also slate. There is one of gneiss (?) and another of porphyrite (?), besides some unfinished pieces of a rock described as volcanic ash.\(^1\) The technique of manufacture of the celt made of gneiss is described as pecking and polishing;\(^2\) others are fully ground. The celt illustrated by Coggin Brown\(^3\) has a narrow blade with a thick butt.

2. Grooved Hammer Stones (Plate. \(\text{IV}\), Figs. 7-6.)

These implements have been described by Coggin Brown.\(^4\) The grooved hammerstones are the rarest of the neolithic stone implements recorded from Eastern Asia, and their occurrence in Assam is of great interest, as mentioned by him. They have not yet been reported from any other place in Assam.

There are six specimens in all, found at Biswanath; five are made of fine, coarse-grained, greyish, bluish or reddish grey quartzite; and one of a dark, fine-grained, diorite schist. Water-worn oval shaped pebbles were used. These were split into two, across the transverse diameter. The fractured end was then ground down until a smooth, slightly convex surface was obtained. The groove or belt was then

\(^1\) Coggin Brown, op.cit., P. 132.
\(^2\) Ibid.
\(^3\) Ibid., Plate IX, Fig. 13.
\(^4\) Ibid., J.A.S.B., X, 1914 a, PP. 107-09.
prepared by pecking roughly at two-thirds of the distance between the face and the pebble's butt. In each case, it is broad and well marked. In two of the quartzite specimens, it forms a complete ring around the implement; in others it is only partially cut. The arrangement suggests that the hammers were mounted to a belted or withy haft.

The tools vary in shape and size. Some are broad and short (Plate. Ill, 3...Figs. 7, 2...), while the others are narrow and long (Plate. Ill, 3...Figs. 3, 4...). The largest specimen measures 10 cms in length, 7 cms in breadth, and 5 cms in thickness; and the smallest one is 6.5 cms long, 6 cms broad and 3 cms thick.

**Celt Grinding Stones**

Eleven pieces of grindstones used for grinding celts were found at the site, of which only one was illustrated by Coggin Brown. 1 The specimen is made of a prepared block of reddish sandstone which carries an elongated smooth depression produced as a result of grinding celts.

The existence of a large number of sandstone pebbles, including the notched ones, suggests that these might have been used for a variety of purposes, serving as hammers and pounders.

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1. *Op.cit.*, Plate, IX, Fig. 22.
Mikir Hills:

Only two stone tools have been found in this district so far. Both of them were procured from the Mikirs of the Saribajan village. They are described below:

1. **Splayed Axe**:

   It is made of shale and thoroughly ground. The butt is narrowed by concave grinding. The cutting edge is very broad, flared out and formed by steeply sloped bifacial grinding.

2. **Chisel**:

   It is made of dolerite. It has a flat butt and a median cutting edge. The cross section is rectangular.

North Cachar Hills:

Archaeologically this district holds the key position. Due to the occurrence of highly regular stone tools, some writers believe that this area served as a corridor through which neolithic traditions from Burma entered Assam.¹ The first reference to the occurrence of polished stone tools in this region was made by Dasgupta.² He described and

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illustrated a shouldered celt made of a local rock identified
as arenaceous clay. Coggin Brown has also included two
shouldered axes, coming from this region, in his catalogue.
Mills and Hutton collected a number of polished stone tools
of various descriptions from the surface in this area. A
portion of their collection has already been reported by
them. These specimens, 27 in all, are now preserved in
the Pitt Rivers Museum. Dani made an independent study
of these specimens, and proposed a typological classification.

This area was found to be very promising, and the
first stratified neolithic site ever to be discovered in
Assam was found here.

Daojali-Hading, meaning the hill of the bird in the
local Dimāsā dialect, is situated in the Langting and Mopa
forest. The site was excavated by the University of Gauhati
in 1961 and 1963.

The stratigraphy shows that it was a single layered
habitation. The available evidence, however, reveals that the
site represents long and continuous occupation by the
neolithic people. The cultural association consisting of

4. Biswanath, discovered by chance, seems to be a stratified
site, but no record of its stratification is available.
cord-impressed pottery, tanged and small celts, and other stone implements, is uniformly distributed throughout the period of occupation. No traces of houses were revealed. A few bone and ivory fragments were also found here.

The classification of stone implements from Daojali-Hading is given by T.C. Sarma in the following table:

**Table - 3**

<table>
<thead>
<tr>
<th>Tool types</th>
<th>Number of Collections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group A - Chipped Stone implement</strong></td>
<td></td>
</tr>
<tr>
<td>(1) Flake tool (Scraper ?)</td>
<td>1</td>
</tr>
<tr>
<td><strong>Group B - Edge-ground implements</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Group D - Fully ground implements</strong></td>
<td></td>
</tr>
<tr>
<td>1. Tanged or shouldered celts</td>
<td></td>
</tr>
<tr>
<td>(i) Curvilinear variety</td>
<td>5</td>
</tr>
<tr>
<td>(ii) North Cachar Hill variety</td>
<td>10</td>
</tr>
<tr>
<td>(iii) Rectilinear variety</td>
<td>2</td>
</tr>
<tr>
<td>2. Small celts</td>
<td></td>
</tr>
<tr>
<td>(i) Oval variety</td>
<td>6</td>
</tr>
<tr>
<td>(ii) Triangular variety</td>
<td>7</td>
</tr>
<tr>
<td>(iii) Quadrangular variety</td>
<td>12</td>
</tr>
<tr>
<td>3. Unfinished axe with Oval section</td>
<td>1</td>
</tr>
<tr>
<td>4. Quadrangular adges</td>
<td>2</td>
</tr>
<tr>
<td>5. Chisels</td>
<td>1</td>
</tr>
<tr>
<td><strong>Other Stone Implements</strong></td>
<td></td>
</tr>
<tr>
<td>1. Grinding stone (complete and fragments)</td>
<td>78</td>
</tr>
<tr>
<td>2. Smoothing Stones (for sharpening wooden weapon)</td>
<td>2</td>
</tr>
<tr>
<td>3. Querns of mealing troughs (complete and fragments)</td>
<td>7</td>
</tr>
<tr>
<td>4. Flat querns (fragments)</td>
<td>2</td>
</tr>
<tr>
<td>5. Mullers</td>
<td>24</td>
</tr>
</tbody>
</table>
In addition to these stone implements from Dajojali-Hading, there are two more collections from North Cachar Hills. Among them, the most important one collected by Hutton and Mills, has now been preserved in the Pitt Rivers Museum, Oxford. The second one collected by Gauhati University, has now been preserved in the museum of the Anthropology Department. All are surface finds. Both the collections include several specimens of unusual interest from the typological point of view.

The classification of the Neolithic implements of the North Cachar Hills, is given in the following table:

Table 4

<table>
<thead>
<tr>
<th>Tool types</th>
<th>Dajojali-Hading</th>
<th>Pitt Rivers</th>
<th>Gauhati University</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A. Chipped Stone implements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Flake tool (Scraper)</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Group B. Edge ground implements</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Group C. Pecked and ground implements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Quadrangular Axe of Jadeite</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Group D. Fully ground implements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Tanged or shouldered celts.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Curvilinear variety</td>
<td>5</td>
<td>1</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>(ii) N.C. Hill variety</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>(iii) Rectilinear variety</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Tool types</td>
<td>Daojali-Hading</td>
<td>Pitt Rivers Museum</td>
<td>Gauhati University</td>
<td>Total</td>
</tr>
<tr>
<td>------------</td>
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<td>-------------------</td>
<td>-------------------</td>
<td>-------</td>
</tr>
<tr>
<td>2. Small celts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Oval variety</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>(ii) Triangular variety</td>
<td>7</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>(iii) Quadrangular variety</td>
<td>12</td>
<td>5</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>3. Quadrangular axes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) With oval section</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>(ii) With rectangular section</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4. Quadrangular adzes</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>5. Chisels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Simple chisel</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>(ii) Tanged chisel</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. Splayed axes</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Other Stone implements:

1. Grinding stones (complete and fragments). 78 - - 78
2. Smoothing stones (wooden weapon sharpeners). 2 - - 2
3. Querns or mealng troughs (complete & fragments) 7 - - 7
4. Flat Querns (fragments). 2 - 2 4
5. Mullers 24 - - 24

There are three more collections from the North Cachar Hills, and they are listed by Coggin Brown. The types include
two shouldered celts and a ringstone. They are now in the Indian Museum, Calcutta. The ringstone is made of sandstone and thoroughly ground.

The bulk of the edged tools found in the North Cachar Hills belong to two main types, viz., the 'Small Celts' and the 'Tanged Celt'. The minor and the rare types are: the quadrangular axe, quadrangular adze, splayed axe, chisel, edge-ground axe and the scraper.

1. **Small Celts** *(PI. 111, 4 Figs. 1-6; PI. VII, 5 Figs. 1-5; 8-12; PI. VIII, 19; PI. IX, 7 Figs. 13, 14, 16.)*

This type is most numerous in this region. The materials used for these tools are shale and sandstone. The measurements of these tools are 2.9 cms - 5.9 cms length; 3.6 cms - 6.1 cms breadth; and 0.7 cms - 1.7 cms thickness. The most remarkable feature is that, in a large portion of them, the width of the blade is greater than its length. Besides, some have equal length and breadth. Sharma explains these differences in shape as being due to the size of the raw material available, and the relative softness and the friability of the rocks used.\(^1\) Resharpening of those tools was generally necessary for use again and again. Thus it reduces the length of the blade.

All the varieties of this type, the oval, the triangular and the quadrangular, occur in this collection.

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Some specimens of the oval variety vary in their shape; of which one miniature tool was found, which is nearly of circular shape (Plate 5, Fig. 8). Another typical example, which is in the Pitt Rivers Museum, has a narrow butt and a flat blade with convex sides, roughly triangular in shape. But it differs from the specimens of the triangular variety (Plate 5, Fig. 7, 8) in which the sides are straight and the butt is rather sharply pointed. The smallest of this variety is a miniature celt of sandstone (Plate 7, Fig. 6). Several typical specimens of the quadrangular variety (Plate 4, Fig. 6) are known, which are different in shape and size. One unique shape of this variety, which has a greater breadth than its length, and has a shape almost resembling the iron spade (Kudali). The quadrangular small celt and the quadrangular adzes are almost similar in shape and size, but the distinction is marked in the manner of grinding the cutting edge. The former one is shaped by bifacial grinding and the latter is unifacial.

The form of the cross section among all the varieties is available. It ranges from the lenticular (Plate 4, Fig. 3) to rectangular (Plate 4, Fig. 4). Other rare forms are oval (Plate 4, Fig. 5), plano-convex (Plate 4, Fig. 4) and parallelogramic (Plate 4, Fig. 8). Among the specimens of the oval variety, the frequency of lenticular and oval sections is higher; and in the other two varieties, rectangular and sub-rectangular sections are more common. About half of
the tools show the rectangular section, which proves the predominance of the flat grinding technique. Shale, which is the main raw material of this type, is a bedded or laminated rock and it tends to break through the bedded phase into the tabular lumps. So, only a minimum amount of grinding is necessary to prepare the sides and faces flat.

The sleeve-method of hafting seems to be the most suitable method of fixing them to a haft; they could also be tied to a loop made of bamboo or cane, a method even today prevalent in this area.

2. **Tanged or Shouldered Celts**

   : (Pl. III, 4 Figs. 7, 14, 15; Pl. IV, 5 Figs. 13-16; Pl. IV, 6 Figs. 1-5; Pl. V, 7 Figs. 11-14).

This type is divisible into three well defined varieties, i.e. (i) Curvilinear, (ii) North Cachar Hill and (iii) Rectilinear. Most of the tanged celts are made of shale. There are two of fossil wood, one of dolerite and the other of chert. Shale, being a comparatively soft and brittle rock, is easier to work by flaking and grinding. This factor may have contributed to a great extent to the production of angular shoulders.

The N.C. Hill variety are numerically stronger and their sizes vary; the length ranges between 3.9 cms - 8.8 cms; breadth, 3.8 cms - 7.9 cms; and thickness 0.8 cms - 1.8 cms.

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The similarity between the 'small celt' and this variety is in the mode of edge-grinding and cross-section. Most of this variety show bifacial, either symmetrical or asymmetrical edge grinding. The rest show unifacially ground edge. The common form of the cross-section is rectangular (Plate X, Fig. 4/5). Other forms are sub-rectangular flattened oval (Plate X, Fig. 2..), lenticular, plano-convex and parallelogramic (Plate X, Fig. 1/6.). In the rectilinear variety it is typically rectangular; while in the curvilinear variety it tends to be planoconvex or flattened oval.

The largest specimens of this type occur in fossil wood. Two specimens show remarkable variations in the form of the shoulders and in the manner of grinding and the cutting edge. One (Plate X, Fig. 2..) has angular shoulders and adze-like bevelling at the cutting edge; another has sloping shoulders and an asymmetrically ground blade. Some of the smaller variants are found at Daojali-Hading (Plate X, Fig. 3/4). A few other notable examples occur in the collection of Pitt Rivers Museum, made of yellowish green dolerite and with an adze type of blade. The blade made of chert, has a long tang and a short blade with a deeply curved median cutting adze.

Among the excavated examples there are variations in size and shape. In some, the tang is crudely shaped (Plate X, Fig. 3/3.), while in the others, it is neatly ground (Plate X, Fig. 1/6.).
3. Quadrangular Adzes: Pl. IV, Figs. 16, 17

The specimens of this highly specialised type are represented in the collections, two from excavation and the rest surface finds. Among them the most typical ones are in the Pitt Rivers Museum collection. They are made of a variety of micro-crystalline igneous rock, perhaps dolerite, and have a perfectly rectangular blade in shape and section. Marks of use are visible at the cutting edge which is substantially thick and could well have been used on wood. They were put to heavy work, such as slicing wood etc. Other specimens are made of shale. They are trapezoidal in shape with rectangular cross section and unibevelled cutting edge. Only one specimen of this type, in Pitt Rivers Museum, is fairly large in size; all others are small and thin. Measurements vary: length 5.9 cms - 4.4 cms; breadth 4 cms - 3.6 cms; and thickness, 1.5 cms - 1.1 cms.

4. Chisels (Plate IV, Fig. 16) :

The specimens found are specialised tools, heavy butts and thick blades. The cutting edge is formed by symmetrical bifacial grinding. They are two varieties i.e., (1) Tanged chisel and (ii) Simple chisel.

(i) Tanged Chisels are made to narrow the butt by grinding the sides thus providing some sort of rudimentary tang for securing a better hafting.
(ii) Simple chisel is a small tool, trapezoidal in shape with a thick butt and bifacially ground cutting edge. All are made of shale.

5. Quadrangular axes:

These are large and heavy tools with a medium cutting edge, and thus seem to be suitable for use as axes. Only two specimens are found. There are two varieties of this type.

(i) With oval section (Plate 24, Fig. 9): The only specimen found is made of sandstone. The cutting edge is not fully sharpened and it seems to be an unfinished tool.

(ii) With rectangular section: It is one of the finest specimens of symmetrically ground blade found in this area.

6. Quadrangular large celt:

This type is represented by only one, which is a unique specimen preserved in the Pitt Rivers Museum. It is the largest tool so far available in this district. The measurement is 170 x 127 x 35 mm. It is made of sandstone. The blade is trapezoidal in shape with flat under-surface and a gradually sloping upper surface. The cutting edge is unifacial (Plate 25, Fig. 9).

7. Splayed axes:

The specimens so far collected here are made of shale
and slate and are very small in size. The breadth is greater
than the length. The largest one measures 47 x 55 x 9 mm;
while the smallest one, 27 x 37 x 9 mm. Their conspicuous
feature is the splayed cutting edge. They are crescent-
shaped and show that they have been subjected to repeated
sharpening. All are ground to carved faces except the
smallest one, which was treated by flat grinding, giving a
rectangular section.

8. Quadrangular axe of Jadeite :

The only specimen is in Pitt Rivers Museum, the
material of which is a brownish variety of jadeite. The
rough-cut was prepared by a very fine pecking, and grinding
was employed only for sharpening the cutting-edge. It is an
elegant specimen of jadeite axe with a symmetrically ground
blade with an extra sharp cutting edge. It measures
90 x 60 x 22 mm.

9. Edge ground tools :

The specimens were found in Daojali-Hading. On the
basis of their method of manufacture, Sarma subdivided them
into three varieties :

(i) This variety is made of a roughly square or triangular

block of sandstone, initially shaped by primary flakings and finished by grinding the cutting edge. They are bifacial tools (Plate 2, Fig. 6, 7).

(ii) Second variety consists of a natural flake of sandstone, flat and tabular, which is converted to a tool by grinding a cutting edge at one end of it.

(iii) Third variety supplies evidence of the pebble grinding technique. It is made of pebble or fossil wood which is no more than ground to provide a cutting edge at one end.

10. Flake-tool (scraper?) :

Only one specimen of this type has been found, which was probably used as scraper. It is a significant discovery. Truly, it represents the survival of the flake-tool tradition in a very diminutive scale alongside the most flourishing ground and polished tool tradition.

Other Stone implements :

11. Grinding Stones :

The grinding stones found at Daojali-Hading, are made of portable slabs of sandstone. The distinguishing feature of these tools is the smooth depression caused by grinding axes, adzes and hoes. Shape and size vary. Majority are
made on flat slabs and a few on cylindrical blocks. The grinding depressions also show variation in their shape and size. Some are elongated and narrow, while the others are bowl-shaped. Some of the grinding stones were dressed by flaking and pecking, as is evident.

12. **Querns (or mealing troughs):**

The querns or mealing troughs were used in conjunction with the mullers. These implements were undoubtedly used for the preparation of food, probably for grinding millet or other small grain. The querns are made of a variety of reddish brown fine-grained sandstone. They are of two types -

(i) **Flat quern:** It is made on a thick slate of sandstone and has a smooth and flat milling surface.

(ii) **Concave quern:** Some querns with bowl-shaped depression may be classified in this category.

13. **Mullers:**

Most of the specimens of this type are made of quartzite pebbles, which were dressed by pecking. Only a few specimens are made of sandstone. They are further subdivided:

(i) **Spheroid Mullers:** They seem like stone balls, but they have a smooth and flat face produced as a result of
mulling or grinding. In cross-section, they are generally plano-convex. (Plate \( \bar{N} \), Fig. 8.).

(ii) Ovoid Mullers - They differ from the above variety only in their oval outline, and the rest of the features are similar.

(iii) Elongated Mullers - The specimens are made of sandstone, either quarried rectangular blocks or elliptical pebbles. Each of them carries an elongated, flat and smooth mulling facet.

14. Smoothing stones (or wooden weapon sharpeners):

Two specimens, which may be classified as smoothing stones or wooden weapon sharpeners, are found in Dajjali-Hading. One is made of a large block of sandstone showing evidence of being shaped by flaking and grinding. Both the ends and the base are dressed by flaking and the curved back shows evidence of smoothing by grinding. The base, which sits on the ground, is rather flat. There are two narrow grooves with a conical piece at the middle of the curved back. These seem to have resulted from sharpening wood spears by grinding. In the absence of sharp edged tools, this must have been the common method of making wooden weapons during the neolithic period.

There is one more specimen of unusual interest. It is a large fragment of a Celt grinding stone showing bowl-shaped
depressions on either face, as well as flat and smooth facets on the edges. On the upper broad face there is a narrow, channel-like groove along side a bowl-shaped depression. It seems to have resulted from the act of smoothing the shaft of wooden spears by the abrading process.

Raw-Materials:

The raw materials used in the neolithic industry of Daojali-Hading include shale, sandstone, quartzite and fossil wood. The shale, a fine grained brittle rock, was exclusively used for making edged tools; sandstone was favoured for non-edged tools, such as celt grinding stones, whetstones, querns, mealing troughs etc. Fossil wood was used for edged tools and the pebbles of quartzite supplied materials for the mullers. These materials are locally available.

The specimens in the Pitt Rivers Museum collection are made of several varieties of igneous and sedimentary rocks besides fossil wood. The majority of them are made of shale, a common material used at Daojali-Hading. There is one specimen of sandstone and two of fossil wood. Other rare varieties of rocks, which are not represented at Daojali-Hading, are dolerite, basalt, chert and jadeite. Except jadeite all other rocks are locally available. In Naga Hills, the tools made of jadeite are more frequent.
Distribution

The faceted hoe, the shouldered hoe and the splayed axe have a wide distribution in South East Asia and South China and the Assam specimens belong to this general complex. The shouldered hoes, the regular rectilinear variety is confined to Naga and North Cachar Hills where it appears to be derived from Burma. The irregular (curvilinear) variety on the other hand is restricted to the Brahmaputra valley, Khasi and Garo hills, where it appears to be the local imitation of the regular variety found in Naga and North Cachar Hills. Both the regular and irregular varieties are common in the whole of South East Asia as far north as Hong Kong. The Hoe-Adze is the commonest tool in Assam, South East Asia and Yunnan. Splayed axe is fairly common in Yunnan and other countries of South East Asia. The splayed axes pre-suppose the existence of metal originals. The faceted and the shouldered tools also appear to develop first in a metal and then to be copied in stone. The rounded-butt-axe is also known from Yunnan and Burma. This type is rare in Malaya and hardly known in other countries in South East Asia. It has a very wide distribution in the Indo-Pakistan sub-continent.

Grooved hammer stones are mostly found in Asswanath. Some specimens are also known from Hong Kong. Several examples have been found in other parts of India.
The Assam materials can be classified broadly into two groups: Group I, including indigenous tool types is almost restricted to the various zones of Assam; and Group II, including common types, wholly foreign, is identical with some of the types of Yunnan and Burma. It is the appearance of foreign types in Assam, Bengal, Bihar and Orissa, that has led scholars to propound various hypotheses, two of which are important. E.C. Worman states, "Indian smoothed stone celts of "Neolithic" type, regardless of their cultural affiliation, appear to be derived from the eastward". He further states, "The eastern half of India belonged to a fairly large south and east Asiatic area throughout which the evolution of post-pleistocene prehistoric cultures was apparently more or less similar. In the early period, this area seems to have included much of India, Burma, South East Asia and Southern China. In the later ones, it was apparently confined in the west to the easternmost provinces of India but expanded in the east to include parts of North as well as South China".¹ The other is the well known theory of the shouldered tool being brought to India by the migration of the Austro-Asiatic.

CERAMIC INDUSTRIES (Plate 27, 3.):

The evidence of Neolithic pottery is known only from the excavation at Daojali-Hading and no other site in Central

Assam has yielded Neolithic pottery.

All the ceramic materials revealed at the site are small fragments, and cannot be utilised for reconstruction of the pots. Most of them are heavily weathered. A few sherds, relatively well baked, are in somewhat fresh condition, Rim sherds are rare and fragmentary and hence it is not possible to determine the size of the pots. Technologically, the sherds are divided into four groups i.e. (A) Cord-marked pottery, (B) Incised pottery, (C) Stamped pottery and (D) Plain fine mad ware. The colour of the first two groups (A and B) is predominantly grey. Other colours are dull red and chocolate brown, while the plain pottery is uniformly brick-red in colour. The cord-marked pottery is the dominant ware at the site. The plain red ware is very rare. On the basis of colour and nature of the fabric, the first two groups are again sub-divided.

**Group A. Cord-marked pottery**: (Pl. 17, Figs. 9, 10, 11)

(i) Cord-marked coarse gritty ware

(ii) Cord-marked buff ware

(iii) Cord-marked coarse grey ware

(iv) Cross-hatched coarse grey ware

**Group B. Incised Pottery**: (Pl. 17, Figs. 9, 10, 11)

(i) Cross-hatched dull-red ware

(ii) Herring bone pattern grey ware.

Group A :

(i) Cord-marked coarse gritty ware :

The colour of this ware is ash grey with a slight reddish tinge on the outer surface. The inner surface is slightly darkish, and the core is also dark.

The clay is coarse and unevenly mixed. The fabric is very rough. The thickness of the ware varies from 4 to 5 mm. The outer surface bears rows of parallel grooves of cord-marks.

(ii) Cord-marked buff ware :

The colour is pale grey with a slightly brownish tinge on the upper surface. The inner surface is darkish. The paste of this ware is not well prepared. It is rough, coarse and unevenly mixed. The thickness ranges from 2 to 5 mm. The outer surface shows relatively thick cord marks.

(iii) Cord-marked coarse grey ware :

The colour is brownish grey and the thickness is between 5 mm and 7 mm. Material used is coarse and tempered with sandstone grit and coarse sand.

All the moulded pots show smoothed inner surface, while the beaten pots bear shallow pits left by the hand. The outer surface of all these sherds is covered with cord-marks which extend even upto the rim.
(iv) Cross-hatched coarse grey ware :

The colour of this ware is grey, and the thickness is 5 mm. The material used is coarse or medium clay and tempered with sandstone grit. The ware is shaped by the beat and hand method by using a beater carved with cross hatch design.

Group B. Incised Pottery : (\textit{\textit{P. V. I}}, \textit{\textit{P. 8. 9 - 10}}, )

(1) Cross-hatched dull-red ware :

The colour of this sherd is affected by the iron slats, thus simulating a slipped surface. Original colour may perhaps have been greyish-brown. The material is coarse but carefully prepared clay, tempered with powder sandstone. The thickness is 8 mm.

The inner surface is smooth, while the outer surface is decorated with incised cross-hatched pattern. The shape is of a simple rim with a slightly out-turned lip.

(ii) Herring-bone pattern grey ware :

The colour of the ware is grey in the outer surface, and blackish in the inner surface. The material used is relatively fine clay, well prepared and tempered with powder sandstone. The thickness is 7 mm. The outer surface is decorated with an incised herring bone design.

Both the varieties of Group B are handmade.
Group C. Stamped Pottery: (Pl. VII, Fig. 7 - 8, 9, 12)

The colour of this type is dull-red, and the material used is coarse clay and unevenly mixed. The thickness is 6 mm.

Both the surfaces are kept raw and are made rough by an irregular stamped pattern. The shape of the pot is rim sherd having short neck and out-turned lip. The pot is handmade.

Group D. Plain fine red ware: (Pl. VII, Fig. 9 - 13)

This is the most important ware of this series, and the colour of this is brick-red. The fabric and method of construction differ greatly from those of other wares.

The material used for this type is a paste made of well prepared fine clay, tempered with powdered sandstone or coarse sand. The fabric is hard; the thickness is 3 mm. Both the surfaces are smooth and even, but there is no sign of slip or burnish.

The shape of the pot is not clear. It can be inferred from the rim sherds that some of them presumably belong to a type of plain-rimmed shallow bowl.

The characteristic features of the neolithic pottery of Central Assam are as follows:

Colour:

On the basis of colour, grey pottery may be regarded
as the dominant neolithic pottery of Assam. The dull-red ware forms the next important class. Other colours are buff, mottled grey and chocolate brown.

Materials:

The clay used in the manufacture of the cord-marked pottery is coarse, impure and unevenly mixed. Only the plain red ware was made from fine and well prepared clay. The clay of all these wares is heavily tempered, the most common temper being sandstone grit of fairly large size. Some of them are 3 mm. thick. Sandstone powders are still used for tempering the clay by the Tangkhul Nagas. In some cases, coarse sand and vegetable materials were also used.

From the method of preparation of paste, the neolithic pottery of Assam may be taken to represent a crude form of the ceramic industry.

Method of Construction:

Hand-modelling was the basic technique for the construction of the vessels. Some vessels were shaped by the coil building method, and some sort of a cord-wrapped mould seemed to have been used for the construction of the walls. The most common method seems to have consisted of making a rough shape of the vessel by hand, while the final shape was...

given by beating the wall, the method which is commonly known as the beater and pad method. Two types of beaters have been used. In some cases the blade of the beater, which is generally a rectangular piece of wood, is wrapped round with string of cord, while in the other, it is made rough by engraving. Usually some kind of design such as cross-hatching or a diamond pattern is engraved on it. Pots made by this method show on their outer surface impressions of the string or the impressed designs of the grooved beater, while the inner surface bears marks of the pad used to support the wall of the pot while beating. This method of preparation of earthen pots is still prevalent among the Sema Nagas.

In some of the wares, the surface is smooth while the other is raw or untouched. A raw surface is rough and uneven, and most of the sherds fall in this category. A smooth surface is generally produced by rubbing the surface of the pot with the wet hand while the clay is still wet. The outer surface of all pot-scherds, except the plain red ware, is rough and of incised designs. Both the surfaces of red ware are smooth, while in the pots made by coil-building method, only the inner surface is smooth.

Parallel grooves occurring in rows seem to be the common pattern of cord-marks. Another conspicuous pattern

was probably produced by a double threaded, twisted cord. No evidence of burnishing, tooling or slip is found in any of the sherds. The firing of these types of pottery is imperfect. It seems that the pots were fired in an open fire with dried grass and wood as fuel. Similar methods of firing are still prevalent among the Sema Nagas. The incised pots show herring-bone and cross-hatched or diamond designs.

The cord-marked pottery occurs as the dominant type of ceramic ware over a wide region of eastern Asia comprising China and the countries of South East Asia. The cord-marked ware of this region no doubt belongs to this eastern Asiatic Neolithic tradition.

Conclusion:

The foreign types, appearing in India, are traceable to secondary sources in Burma, Yunnan and Malaya; and hence the date of their appearance may be even later and well within the historical period or even the protohistoric period. The evidence from India is, therefore, quite in keeping with this late dating.

The eastern Neolithic culture, distinguished by the occurrence of rounded butt axes and other specialised tools,

the latter perhaps involving metallic technique of manufacture, is inspired by the Neolithic and later tradition in China and south east Asia. Both in the technique and in the form, these tools are different from those of the southern Neolithic culture. Further, the associated ceramic industries of each culture are basically different from those of others. The two cultures are considered as distinct entities.

At Daojali-Hading, the pottery found in association with the Neolithic implements was greyish in colour and often showed basket-and-cord impressions on the exterior. The implements comprised: celts including one of shouldered variety; hoes; corn-grinders; mullers; pestles etc. There was no evidence for the use of metal. The assemblage indicates a similar economy as that of Kuchai.

At Kuchai (District Mayurbhanj in Orissa), a coarse girt-tempered red ware, sometimes also slipped and showing incised or finger-tip decoration was found in association with polished stone implements. The implements comprised rounded-butts-axes, facetted hoes, chisels, pounders and fragmentary examples of a mace-head and a grinding stone. No shoulder hoe was found in the excavation but it was found from the surface collection.¹ There was no evidence of the use of metal.

The stone axes would have been used for forest

clearings with a view to farming while the existence of pounders, grinding stones, etc. may imply acquaintance with husbandry. The economy and the food habits of the people are not known. Probably they were crude agriculturists, practising shifting cultivation on the hill slopes by using firing as the chief means of clearing the land and stone hoes for tending the young plants and weeding the grasses. This shifting cultivation is called jhum cultivation, which is still in vogue among the hill tribes of Central Assam. Probably species of rice and millet, which are native plants of the area, were grown. Further, the population must have depended to a great extent upon the almost inexhaustible source of forest products, a practice still current among the present inhabitants of the area.

The date of the neolithic occupation in Central Assam is not yet fixed. No definite carbon-14 results are yet known. From the excavation at Pandu-Rajardhibi, District Burdwan (West Bengal), some polished stone implements occur in phase III, which by sequence dating (based on a radio carbon date of 1012 + 125 B.C., for phase II) could be assigned to the earlier half of the first millennium B.C. The occurrence of these axes is in a stratum where knowledge of copper and seemingly of iron too was attested. On the other hand, the occupations both at Kuchai and Daolali-Hading belong to a period when metallurgy was not commonly practised
in that area. In that sense, they are typically neolithic. In view of the presence in their respective assemblages of advanced types like shouldered hoe and facettted hoe, a much earlier horizon than 1000 B.C. cannot be postulated for that phase of the Neolithic culture.

MEGALITHS: Pl. V7, Figs. 10, 11; Pl. VI, Figs. 12-16.

The study of megaliths of eastern India has drawn the attention of scholars only recently. J.P. Mills has made the following observation in this regard: "An archaeological characteristic of Assam of world wide fame is its wealth of megaliths. Indeed it is one of the few places in the world where monuments of this type are still erected. Among the monuments are groups of huge sandstone cists of a type unknown elsewhere. . . . . . . Both on the megaliths and rocks in Assam are often found most interesting drawings". A megalithic culture existed in Assam not only in the prehistoric times, but still exists among the Khasis. In recent times, the Khasis have erected rough stone monoliths, the most primitive type of monuments of megalithic culture. A similar practice is prevalent among some Naga tribes.

In Central Assam monoliths have been found in several places e.g. Kasomari and Jamuguri in Mikir Hills, and Derebra, Tuivamittlang, Kobak, Boloson, Kartong and Harangajao in North Cachar Hills.

Dr. Hutton and J.P. Mills described the ancient monoliths of North Cachar Hills as both solid and hollow, and stated that "the upright menhirs and the sitting stone must be interpreted in the light of Khasi, Synteng and Naga monoliths and dolmens as providing phallic memorials through which the soul-matter of the living, as of the dead, assists the fertilization of nature; the upright stones representing the male and the flat ones the female principle". According to them the hollowed monoliths also indicate the same general principle. Considering the extreme care and toil bestowed upon them, they think that the hollow monoliths of North Cachar were used for depositing the ashes of the dead and that this type is to be associated either with the Mikirs or the Khasi-Synteng group of tribes.

Kasomari Jamuguri:

The monoliths at Kasomari pathar near Jamuguri in the Diayang valley are described by Dr. Block. He noticed a chessman type similar to those of Dimapur, with a hemispherical capital containing carvings of swords and daggers. The base contains a horizontal band, and the panel below it shows various animal designs, such as lions, elephants, etc. There

2. Ibid.
are rosettes and other designs above, and the top is filled with a pear-shaped panel with decoration. Though the specimen indicates a touch of North Indian art, the designs suggest non-Aryan workmanship. There are two square stones at Kasomari of which the smaller one is still standing while the bigger one has been thrown down. Both have a cup-shaped hollow in the flat top. The former of these two pillars is decorated in front with two lotus flowers close to one another. The carvings on the fallen squared figure, though almost obliterated, are much more interesting. It is the only representation of a human or quasi-human figure on any of the monoliths. It represents a human being with four arms. The upper right hand holds a leaf-shaped sword. Above the head of the figure is a curious emblem shaped something like a double axe-head or trumpet. From the waist of the figure hang three curious appendages more or less triangular in shape, one at each side and one between the straddled legs.

These appendages represent some articles of dress or of defensive armour.

The group of monoliths of Kasomari, with the exception of a single round column of the "Chessmen" type which predominates at Dimapur, consists of flat monoliths, pointed at the top, with figures, carved in relief over them, generally known as the "sword-blade" column. The monoliths

are now mostly found flat on the ground in two rows with
14 monoliths in each row, of which not more than five or
six are standing in their original position. The orientation
of the rows is roughly north-south, but it is noteworthy
that the columns face the Diyang river and the rows are
exactly parallel to the course of the river. The biggest
of these columns is 10 feet in length. The upper portion
of the monoliths is generally carved in relief in the shape
of two lotus stalks with two lotus leaves on either side
and a lotus bud on the top. Between the two stalks at the
bottom is usually carved a dagger or something like the
head of a Naga spear. Some monoliths have only two lotus
leaves instead of four, others have human figures at the
top in place of the lotus bud. The space below the lotus
stalks is usually occupied by carvings of birds or animals,
such as lions or elephants facing each other, with some
symbol like a trident placed between them. A remarkable
figure on a monolith in the western row is that of a four-
handed deity with a crown on his head, horns on either side,
and wearing big ear-rings. Mortise holes in the centre of
the top of two of the columns, measuring 59 x 58 x 21 and
48 x 17 x 13 cms. respectively show that unlike the
Dimapur monoliths, some of the Kasomari Pathar monoliths
were intended to be fastened together at the top.

The monoliths of the Kasomari show the impact of the Hindu art. As Hutton states, if these monoliths may be connected "with the existing remains of the Naga tribes, we may perhaps infer that the culture of the latter people is on the down rather than the upward grade, and is a decaying remnant of a civilized culture, formerly established in the plains and subsequently extirpated from them by invasions which only allowed it to survive in the less desirable country but less accessible hills or which absorbed into the Tantric worship of Hinduised Assam". In spite of the later development of the Kasomari-Jamuguri monoliths, as pointed out by Hutton, the possibility of their connection with the Tibeto-Burman and Monkhemer cultures of the Khasi-Mundas is indicated both by their shapes and their association with the rites and cult of fertility.

At Dimapur, there is a series of monolithic erections which take the form of lingam and yoni, but are unlike anything else in India. The nearest parallel is perhaps found again in Malaya. A similar group of monoliths, but much later in date to the Ahom period are found. Other evidences links up the monoliths at Dimapur and Jamuguri with existing monoliths in the Naga hills, but the latter are always of rough stone.

1. J.A.S.B., XX (N.S.) PP. 143-47.
The rough stone monoliths are apparently derived from originals of wood. There is series of megalithic works forming a chain from the most primitive type of monuments right down to the present day; and we get a similar series in the Jaintia Hills. They are rough stone monoliths.  

The huge monolithic stone memorials of the Khasi people, known as 'U Mawthoh Dur' and 'U Mawtho Dur.Briew', are maintained in the Khasi Hills, and pillars of diverse shapes and designs and other memorial stones are found in old settlements of the Kachari and Naga races, such as Dimapur and Kasomari Pathar. Some three memorial stones exist at Horupani, 22.5 Kms from Jamuguri. The first memorial is a single block of stone about 106 cms in diameter carved into a trough ending in a spout, the rim of the cavity being used by the Nagas for sharpening their dao. The inside of the basin is carved with a floral design.

Another oblong stone is carved into an open wedge-shaped trough and a third is an upright slab with a rudely carved hollow at the bottom.

North Cachar Hills:

The monoliths found in North Cachar Hills are divided into the male and female types. The former group constitutes


the larger ones from Kartong and the small group between Kartong and Kobak. The monoliths from Kartong have the shape of truncated cone, the flat base of which is circular, having cavities. The Kobak group belongs to the male type, which is not pear-shaped, the top of the stones being conical rather than bulbous. Most of the stones contain carvings of bands, pigs and human heads. Some stones from Bolasan are similar to those from Kobak except in their carvings; others are pear-shaped and bulbous, though not so flat across the tops, but convex from the greatest circumference to the apex, with a cavity at the top. They are arranged in lines like the wooden posts in larger and smaller rows. The height of the larger one is 132 cms, having a cavity of 25 cms in diameter and 61 cms in depth; some contain carvings of elephants, dog teeth pattern, orbs, deer, vessels, rainbows etc. The pear-shaped stones and tanks in pairs are noticed at Malangha. At Bolasan and near Kartong are to be seen more twin tanks. A mound shows remains of a circle of stones with a menhir outside it. Between Malangha and Kartong there are several menhirs, flat on one side and round on the other, resembling a cricket bat. Between Kartong and Waichang there are rows

of cricket bat menhirs with sitting stones; two of them contain carvings of human figures. In Muchidui near Bolasan lies a dolmen. 1 The Derebra group are the male types and are different from those of Kobak and Bolasan in having larger cavities at the top. 2

The important sites, where the monoliths are found in North Cachar Hills, are: (1) Derebra, (2) Tuivamittlang (3) Kobak, (4) Boloson, (5) Kartong and (6) Harangajao.

At Derebra there are more than twelve monoliths having larger cavities at the top, all of them of different sizes (Plate II, Figs. 1-7).

1. The diameter of the cavity is 39 cms. and the depth is 61 cms.
2. Cavity diameter 50 cms; depth 82 cms.
3. Cavity diameter is 50 cms; depth 1 meter.
4. The diameter of the monolith is 98 cms and height 90 cms whereas the diameter from neck is 63 cms and depth, 73 cms.
5. The diameter of the cavity is 116 cms, depth 102 cms.
6. Diameter - 143 cms, depth 81 cms.
7. The biggest monolith in the area (human figure is shown).
8. Diameter is 220 cms, depth 110 cms.

At the Tuivamittlang there are in all three hollowed monoliths. Their diameters are 96 cms, 59 cms and 61 cms.

2. Ibid.
respectively, whereas the diameters of their necks are 26 cms, 15 cms and 20 cms respectively. One bangle piece of bronze has been found at the first one which was filled with earth and vegetation. No evidence of bones or other articles has been found after cleaning the area. Another monolith, lying on the bottom of the mound, is having hollows on both sides. Its diameter is 61 cms, and the diameter of the hollow on one side is 14 cms, whereas on the other side it is 6 cms.

One menhir is still existing on the bottom of the mound, called Khalluktlang. There are some figures engraved on the back side of this menhir. One human torso is shown holding bow and arrow. On the left side, near his feet, an elephant is engraved within a circle. Below the figure, a tiger is shown and at the bottom is carved the figure of a bull. The monoliths erected, were both solid and hollow. They used to bury their dead, and the hollow monoliths were used as the repositories of the ashes. These hollow monoliths represented a specialised form of phallic ancestor cult which was widely prevalent among the earlier Mongolians of the South East Asia. ¹ Hutton & Mills, conclude that "In any case, the North Cachar hollowed monoliths must represent a rather specialised development of phallic ancestor cult, typical of Assam, widely spread in south-east Asia and extending over even to Oceania and Madagascar". ² In regard to the Naga Hills, particularly the use of megaliths is

² Ibid.
believed to be "closely associated with a fertility cult in which the souls of the dead are utilised to fertilise the soil and promote the good crops of men, stock and cereals".  

The Austro-Asiatic Mon-khmer-speaking Khasis and Syntengs are believed to be the representatives of the earliest of the known races of men inhabiting Assam. They are at least linguistically as well as culturally akin to the Mundha people of Chota Nagpur. They were the original authors of the megalithic culture in Assam and they once occupied the hills, the plateaus and the higher plains which were not subject to inundations. Later invaders, like the Tibeto-Burman Bochos, may have displaced them as a result of which the Khasis and the Syntengs, being driven to their present hill fastness, were more or less secluded from association with others and thus preserved their original culture to a large extent whereas other tribes of the same stock being overshadowed by the new comers lost their culture and in due course came to be known by separate tribal names.  

The present author is not convinced by the explanations given by the scholars mentioned above, particularly

1. Ibid.
3. Ibid.
for the hollow monoliths of a type of jar, as the megalithic remains. They may have been used for different purposes. The author thinks it proper to call these hollow stones corn-grinders. A large number of corn grinders of the Neolithic period have been discovered in South India, and the method of grinding is still current there. For such grinding, similar types of stone and pestle or muller are used. More likely, these may have been used for the purpose of storing the drinking water or "Ju" (rice beer) or for stocking their foods (rice etc.) for safety.

Rock Engraving: (A, F, Fig. 17).

A number of caves and rock shelters have been discovered in Central Assam, but we do not have any evidence of the settlement of prehistoric people therein. There are more than five caves in Dhenukhana Pahar near Tezpur town; one cave called Baduli Kurung in Kandali Mauga, Nowgong district, and one very big rock shelter in Maibong. Besides these, there are more additional caves and rock shelters in Central Assam. In Madhab Pahar in Kampur (Nowgong) there are three caves with the images of goddess Manasā enshrined inside two of them. None of the caves and rock shelters bears any paintings.

Rock engravings are found in Central Assam, particularly in North Cachar Hills. A cliff near Maibong has carved on it human figures, geometrical patterns, animals, birds,
reptiles and double handed 'daos' of particular interesting type. ¹

At a little distance from Kharangma in North Cachar Hills, at a place locally known as Arlong Inner which means elephant stone (lit. Arlong - Stone; Inner - Elephant), there is a spirited group of seven figures crudely ingraved in two rows, five in the upper row and two in lower (Plate......). All the figures vary in size. Six of the figures are male, and only one represents a female. These figures are carved on a rock which curiously has a natural formation in the shape of a pair of elephants with their backs joined. The sculptures are weathered and indicate a crude style. The bulk of these engravings offer no clear evidence as to dating. The figures have the characteristic poses of dancing; some throwing hands upwards, others turning their limbs at different angles, still others having flexed legs and tribhanganas. Although archaic in modelling, the figures make a vigorous expression of group dance. And this sense of rhythm is heightened by movement which makes them a beautiful composition. Stylistically they seem to belong to circa 7th Century A.D.