Introduction:

In March, 1967 an archaeological site was exposed accidentally at Ambari, Gauhati, during the construction of a building for Reserve Bank of India. Later on a salvage operation was undertaken by the Department of Anthropology, Gauhati University in collaboration with the State Archaeological Department of Assam. The site was again brought under systematic excavation in November, 1970 by the Department of Anthropology under the directorship of Prof. M. C. Goswami, Head of the Dept. of Anthropology, Gauhati University, assisted by Dr. T. C. Sharma and Dr. H. C. Sharma of the same faculty and in collaboration with the State Archaeological Department of Assam.

In conducting this work we received technical assistance from Dr. Z. D. Ansari, Curator and Reader in Field
Archaeology and Dr. K.K. Dhavalikar, Reader in Archaeology, Deccan College, Poona. We were further assisted by Sri S.K. Mukherjee, Deputy Superintending Archaeologist, Archaeological Survey of India (Eastern Circle).

The Site:

The site (Long. 91°43'E and Lat. 26°05'E) is located on the bank of the mighty river Brahmaputra and in the heart of the city of Gauhati, Assam as a whole experiences a moderate rainfall which makes the climate of this place wet. The river is always navigable and it provides facilities for commercial and human movement during the historic period or even earlier. This is apparent from the presence of the archaeological sites on either banks of this river, which flows throughout the length of this territory. Infact, the Brahmaputra was and still is the main channel of communication sustained by innumerable tributaries which drain into it from either side. As the city stands on the archaeological ruins the antiquity of the major portion of these ruins is yet to be unveiled and determined. This city has a legendary background as Pragjyotishpura, the ancient name of the city of Gauhati, mentioned in one of the
The present city of Gauhati stands on the ruins of successive periods of rulers and their peoples who traditionally had it as a centre of their socio-cultural and political life in the known period of history as well as during its mythological past. Continuous occupation of this area by groups of people bearing different cultures lived here one after another.

Evidences of the ruins of the past history of this city are scattered not only within the heart of the city but also over the outskirts covering an area not less than 15 square kilometers.

The Objectives of the Excavation:

The literary history of Assam rolls back only upto the 6th century A.D. (Chaterjee, 1970). Our idea as regards the history of Assam beyond the said period remains as a matter of speculation as there is no concrete archaeological data that may take us beyond the aforesaid limit. The excavation at Ambari was undertaken with two principal objectives in view. Firstly, it was intended to establish an archaeological sequence
that, in long run, might mutually support literary evidences so far available. Secondly, it was intended to push back the chronology of Assam's history, if possible, with the help of archaeological evidences. The legendary stories about the most ancient period of Assam's history have no archaeological basis. This gap in our knowledge was sought to be filled in by the hidden ruins at Ambari, if possible. Further, it was sought to discover the evidences for the socio-economic life of the people who occupied this site in the different phases of its occupation.

The present author limits his study to that of the pottery only. In order to establish functional relation of pottery with other aspects of culture, only the related cultural aspects (i.e., material culture, nature of settlement, religious ideas etc.) will be referred to in the course of our discussion.

Trenches: (Plan-2) (Pl. No. XVI)

To achieve the ends mentioned above trial trenches as well as horizontal ones were opened. The main problem that we faced during the excavation was the subsoil water that started percolating after layer (6) in each trench. In order to tide over this problem
certain portion of the two trenches, namely AMB-I & II were selected where the controlled pits were dug. In these two trenches we reached below 4.00 metres and 3.75 metres respectively below the datum line. We were compelled to abandon the idea of further digging below the aforesaid levels because the subsoil water was rushing forth from all the directions of control pits although constant efforts were made to bail out water.

Altogether four trenches were selected for digging. These were further divided into different sub-trenches (shown in 'Plan - 2'). In each of the trench excepting AMB-I & II digging was confined to layer 6 (six) as after reaching layer(6) we encountered sub-soil water.

In order to have a clear idea about all the cultural layers of this site - trench AMB-I & II have been taken as indices. Layers of the other trenches were at the same time described and compared. This gives us an idea about the nature of formation of cultural layers at this site.
Description of the Trenches:

AMR - I : (Pl.No. XVIIa) (Section 4).

Layer - 1 : Contains humus exposed all over the surface of the trench.

Layer - 2 : Consists of dark brown earth. It is not of uniform thickness all over the trench. It yielded pottery of different types viz., Kaolin ware, red ware, 'Mughol glazed' ware etc.

Layer - 3 : Yielded mediaeval pottery specially the 'Mughol glazed' ware. This shows that layer(2) represents the mediaeval period from 13th to 17th century A.D. While digging the top of layer (2), a pit was noticed in the western section of the trench. The pit was cut into layers (2), (3), and (4). This is sealed by layer (1).

Layer - 4 : This is a part of the test pit (measuring 1.50 metres X 1.00 metre) and situated towards South east side of the trench. The main object of opening to this trench was determine the actual depth of the habitational layer. In this layer we encountered sub-soil water. The soil is compact and sticky and retains brick bats and pottery.
Cultural Finds: Pottery made of Kaoline and red ware.

Structure: Continuation of the wall that was encountered at layer (3).

Layer - 5: Layer (5) is composed of compact and yellowish soil. This layer is devoid of any brick bats.

Cultural Finds: Scanty Pottery.

Structure: The same structure described above continues here also.

Layer - 6: This layer is sticky and its soil is reddish brown.

Cultural Finds: Fragmented pottery sherds.

Structure: This layer exhibits some stone block and lay in between layers (6) and (7). The soil which was encountered in layer (3) was traced here and found to have built above or on layer (6).

Layer - 7: This layer seems to have merged with layer (6) at some point then covered with water.

Cultural Finds: Only a few sherds were found.

Structure: No structural remains have been encountered.
Layer - 8: Layer (8) is a compact ochorous clay.

Cultural Finds: The pot sherds found are scanty in number.

Structure: No structure has been encountered.

Layer - 9: Its soil is ashy grey in colour.

Cultural Finds: Only a few tiny pot sherds were encountered.

Structure: Absent.

Layer - 10: Layer (10) is hard and sticky. It is composed of mottled clay.

Cultural Finds: Some stray and weathered pot sherds were found.

Structure: Absent.

AMB - II:

A trench measuring 8 x 7 metres was laid in east-west direction. The first, second, third, fourth and fifth layers of the trench do not exhibit variations from that of the layers (1), (2), (3), (4), (5) & (6) of AMB - I.
The top course of bricks was encountered at a depth of 15 centimetres from below the surface. The wall appears to be a part of a structure complex. The exact time of the foundation of this structure is not known. A casual glance at this structure leads one to identify it as a drain. In the present case we find the massive wall on north and on the south, a few rows of bricks which are seen slightly projecting out; so it is difficult to identify the structure as a drain. From the nature of the curve occurring here and there it can be stated that the wall probably formed a part of an apsidal structure which might have been a Hindu temple. Such apsidal brick temple although few and far between continue to occur in India till 6th to 7th century A.D. (information received from Dr. M.K. Dhavalikar and Dr. Z.D. Ansari). Stratigraphically, this structure can be said to be contemporary to the back large structure of the east and may be dated to 8th to 12th century A.D. (i.e. phase III).

This structure could not be dug deeper than 40 centimetres from present surface level as sub-soil water started percolating after reaching the said depth.

In order to have better idea about the trench, a controlled pit was dug to a depth of 3.75 metres.
Four more cultural layers were encountered here in the course of digging. These are as follows:

Layer - 7: Layer (7) contains reddish brown clay and its average thickness is 30 centimetres.

Cultural Finds: Only a few potsherds were found.

Structure: No structure was encountered.

Layer - 8: Layer (8) is composed of pale brown and compact earth and its thickness is 35 cms.

Cultural Finds: The potsherds are found in extremely fragmented condition.

Structure: At the top of layer (8) only a few brick bats were found.

Layer - 9: Layer (9) contains loose greenish grey earth. Deposition or formation of green patina over the pottery leads us to assume that this layer might have been actually a refuse pit. The thickness of the layer is one metre.

Cultural Finds: Pottery were found in fragmentary condition.

Structure: Absent.
Layer - 10: Layer (10) is composed of hard and compact reddish earth. Although it yielded a few pot sherds, it was impossible to excavate further because the sub-soil water was rushing forth from all directions and the wall developed cracks which at any moment might crumble. The digging was stopped after reaching a depth of 3.75 metres below the surface of the site.

Cultural Finds: Only a few fragments of pottery have been collected.

Structure: No structural remains or bricks have been encountered.

AMB - III: (Pl. No. XVIIb)

While exposing the wall in the locus in the O - P another wall that runs towards north-south of the trench was encountered in the locus O - B. It was one of the biggest and longest wall so far mentioned. The top layer i.e. (1) was already exposed; the nature of the same does not vary much from that of the first layer of AMB-I.

Layer - 2: Layer (2) is also the same as the layer (2) of AMB-I. The other characters remain the same
as in identical layer of AMB-I.

Layer - 3: It is also the same as layer (3) of AMB-I.

Layer - 4: Colour of the soil is reddish or brownish and retains a number of brick bats.

Cultural Finds: Pottery occurred in large number.

Structure: It is seen that the wall running in the north-south direction rests on this layer.

Layer - 5: The average thickness of the layer is 15 centimetres. The layer consists of hard sticky earth which appears to be alluvial soil.

Cultural Finds: Pottery.

Structure: No structure was encountered.

Layer - 6: Layer (6) is composed of black sticky earth; from this fact it becomes obvious that the area remained waterlogged for a considerable period of time.

Cultural Finds: Same as in other trenches.

Structure: Absent.
AMB - IV:

Layers (2) and (3) were partially exposed during the first salvage operation in the year 1969, the rest of the area was exposed during the second season of this work. Layers (2) and (3) do not vary much from the layers (2) and (3) of AMB-I.

Layer - 4: It retains a lesser quantity of brick bats. The colour of the soil is to some extent blackish.

Cultural Finds: This layer yielded pottery consisting of kaolin and red wares. In addition to the above three images of Visnu were also unearthed from this layer.

Structure: Two bricks measuring 27 x 19 x 5 centimetres were also collected from this layer.

Layer - 5: The colour of the soil is almost yellowish and this may be taken as an alluvium soil.

Cultural Finds: This layer yields pottery which are scanty in number.

Structure: Only some fragmented brick bats were found. Besides, there is one structure which is
assumed to be a drainage structure has been encountered. This is made of some rectangular stoneblocks.

Layer - 6: Layer - 6 is partially exposed. The nature of composition of the soil does not vary much from the other trenches.

Cultural Finds: Pottery collected are scanty in number and consist of Kaolin and red wares.

Structural remains: No structural remains have been encountered.
Cultural Stratigraphy and Sequences:

Digging in a limited area has brought to view four cultural phases with which other cultural layers of other trenches have been correlated. It should be mentioned here that in all the trenches it was not possible to reach as deep as in trench AMB-I where also the virgin soil could not be reached. In AMB-I, altogether nine cultural layers have been exposed. Few and scanty are the datable evidences, though the upper layers can be approximately placed in fixed chronological horizon on the basis of C-14 determination and certain other recognizable size of the pottery. They are Muslim glazed ware from the layer (2) and Chinese Celadon ware from layer (3) which can be firmly dated to 9th to 10th century A.D. on the basis of C-14 determination. From the upper level of this layer Celadon ware of earlier period and developed varieties have been collected. Further, a hoard of Brahminical Sculptures assignable to 8th to 9th century A.D. (Dhavalikar, 1973 : 140) may also be taken as corroborative evidences which are found in the same layer.

* 920 ± 105 BP (Based on 5730 Half life).
Working on this basis, the upper limit of the site may be divided into two broad phases, layer (3) being placed in the phase 9th to 13th century A.D.; and the next phase being identifiable with 13th to 16th century A.D. (the period of Muslim invasion of Faahati).

So far as layer (5) and (4) are concerned, these have yielded identical pottery types. Layers (6) and (7) contain a large pit cutting into layer (8). These do not show any recognizable pottery types. Layers (8) and (9) appear to be riverine deposits which occasionally yielded rolled fragments of pottery types of completely new traditions. Of these a fragmentary lid has close semblance to the identical type found at later phase of Sisupalgarh (Lall, 1949). More evidences however, are required for dating the lower limit of this site. It is true that in order to get complete picture of this site the digging should have been continued till the virgin soil was encountered. So, basing on these available and limited data an attempt has been made to give a profile of this site.

The long wall, in all probability, a boundary wall extends throughout the area in the east-west
direction and was laid over layer (6). The foundation
trench was filled up with rubbles. So the materials of
layers (6) and (7) belong to an earlier phase than (4)
and (5). This may belong to early mediaeval period when
the boundary wall was constructed.

Reconstructing the Sequences of pottery:

The question that we face at present arises
as to how the changes observed at a number of sites can
be correlated when there are no datable data (like the
coin, inscription, copper plate etc.). The way out of this
impasse is a comparative study of the remains themselves
with some ceramics discovered from datable context.

Certain changes in the material culture of a
people over time are inevitable. Nonetheless if similar
types and forms of certain ceramics are discovered in
widely differing cultural zones, one cannot but link up
the spread of identical cultural ties manifested in the
products of material culture. Similarities in type and
structure lead but to one assumption that these belonged
to the same cultural period.
So a stratum is said to be dated by the object it contains. This procedure leads us to further assumption and it makes us presuppose that the materials which we select for our comparison are typical for the layer containing these.

In majority of the cases such assumptions are justified. Sometimes associated finds serve as corroborative evidences. Exceptions are also encountered in some cases. These are elucidated by Mr. Delougaz in the following words: "Strictly speaking, the date of an object is the date of its manufacture rather than that of its use and obviously most objects survive sometime after having been made when the objects in question were fragile and of no intrinsic value, as is ordinary pottery, for instance, it is unlikely that they survived very long; the difference in time may then in most cases be disregarded and the objects and building remains in which they were found to be contemporaneous" (quoted from H. Frankfurt, 1964 : 1).
POTTERY FROM AMBARI SITE

Pottery collected from excavations may be divided into six major groups. These are further divided into several sub groups on the basis of morphological and functional characters. While classifying morphologically texture of the wares, techniques of manufacture, decoration and types are taken as denominators.

On the basis of texture, the pottery assemblage may be classified into four groups viz., i) Kaolin ware, ii) Red ware, iii) Buff ware and iv) Grey ware.

i) Kaolin ware: Kaolin ware occupy a major portion of the collection. It seems to have enjoyed wide popularity. Though it presents certain typological differences in different layers, it continued through all the excavated cultural layers with varied frequencies.

There seems to exist a relation between the colour of this pottery and the associated texture: whiter the colour, finer is the texture. The reddishness in its colour is due to the presence of impurities like the ferric contents.
Basing on the nature of texture the Kaolin pottery of the collection may again be sub-divided into two categories — Fabric A and B.

A. The Kaolin ware that attained its technical excellence consists of fine fabric and white core. At the same time it is free from impurities. Such wares are, however, limited in occurrence. The ware of this sub-group hardly exhibit the application of any kind of slip or further treatment. The surface nearer the neck is decorated with some typical design like lozenges and similar other designs (Pl. No. XVIIIa).

This sub-group includes the types which are as follows:

Types – 11, 13, 14, 22, 28, 30, 32, 33, 36a, 50, 66, 67, 76, 77, 79a, 83.

B. The ware classified under this sub-group exhibits a wide range of colour variations. The variations are due to the difference in quantity of ferric material in clay. The presence of this material in clay produces reddishness to the surface of these pots.

This sub-group includes ware of the following types:
ii) **Red Ware**: This constitutes a major portion of the collection. Wares of this class of this class are recurrent through all the phases of habitation of the site though with variable frequencies. They contain a variety of wares though the differences are major. The size and shape of that correspond to the former to a great extent. Certain types of these wares are manufactured by Assamese potters; (discussed in Chapter-IV). Basing on the nature of surface-treatment the whole group can be divided into two - i) Red ware without slip, ii) Red ware slipped in red.

1) **Red ware without slip**: The pottery of this group can be divided into two categories basing on their clay composition - Fabric A and B.

**A.** These are well fired and more or less compact in nature containing moderate quantity of tempering material like the ground/round quartz crystal. Pottery with this fabric includes the following types.
Types - 2, 9, 16, 19, 20, 21, 23, 43a, 45a, 46a, 48a, 61, 70a, 79, 88, 88a.

B. These ware are laminated and contain a large quantity of quartz grains and paddy husk as tempering material (Pl.No. XVIIIb). This is represented by a solitary type having a ring each on its loop handle. The modern Kumar potters of Assam still use the same as tempering material and their pots are exclusively used for ritual purposes.

Types - 7, 8, 10, 10a, 15, 25, 38, 43, 44, 45c, 45d, 45e, 48, 48b, 48d, 53, 62, 63, 64, 70, 71, 72, 87.

ii) Red ware slipped in red:

Pottery of this type is laminated and contains a moderate quantity of sand as tempering material. The concentration of this material in case of bowl is towards the lower or basal part. They seem to have been used for cooking and such other utilitarian purposes. Very often application of slip on such vessel is avoided. When applied, it remains confined to the rim and hardly reaches
below the upper body. Such pottery was made by the combination of wheel and hand. Engraved beaters of different types were also employed to give some decorative appearance to the pots (Pl.No. XVIIIc). The surface of the beater seems to have been engraved so that the impression left by it would resemble basket impression (Pl.No. XVIIIc-d) or cross or chequered pattern etc.

This sub-group includes fabric B.

B. It contains comparatively negligible quantity of non-plastic materials and is very much consistent in texture. The surface is decorated with the decorations like the rosette diamond, lozen etc. Negligible quantity of tempering or non-plastic material in the clay reduces the utilitarian value of pottery. Most probably these were meant for ritual purposes. It includes the following types:

Types - 17, 34, 37, .

iii) Buff ware: Pottery of this group received wide circulation in this site. It continued throughout all the habitational layers and with variable frequencies. The method of manufacture is as that of other groups. The pottery included in this group is invariably devoid
of any slip. The ware of this group may be divided into two sub-groups basing on the clay composition. These are fabric A and B.

   A. These are well levigated and exhibit negligible quantity of non-plastic material. This sub-group includes the following types:

   Types - 7b, 12, 27, 30a, 48c, 49, 50, 51, 55, 56, 69.

   B. The ware are coarse and retain large quantity of non-plastic material and are laminated. The ware of this fabric retain some designs. This sub-group includes the following types:

   Types - 1, 3, 4, 5, 7c, 18, 24, 26, 35a, 36b, 39, 40, 41, 42, 44a, 50a, 57, 58, 60, 65c, 74, 75, 82, 85.

   iv) Grey ware: This is represented by only a few types of ware. This may be divided into two sub-group basing on the nature of fabric. These are A and B.

   A. It includes the following types:

   Types - 54, 68.
B. The types included are:

Types - 36, 52, 80, 81.

It may be noted that the two foreign types, namely, the 'Celadon' and 'Muslim glazed' ware were also collected from this excavation. These will be referred to in describing types.

Clay and Tempering or Non-plastic Materials:

When clay is fired well, its constituents undergo stable chemical changes. This very phenomenon prevents pottery from being decayed and thus serves as an important material for the study of cultural history. The nature of these changes varies according to the mineral composition of the clay and the condition of firing. This, in turn, determines the morphological characters of pottery.

The non-plastic materials offer resistance to the pots from getting cracked when fired. Both the organic
materials (viz., husk, burnt husk and others), minerals (viz., quartz and others) or even the ground sherds may serve this purpose. The addition of this material to the clay is sometimes deliberate or sometimes occur in natural state in the clay (This has been dealt in petrological analysis). The natural occurrence of non-plastic materials is bound up with geological condition of a place. A sudden variation in the changes of non-plastic materials or in the clay composition of the pottery at particular layers of a site indicates the changing nature in pottery tradition (which involves the potters) and deviation in choice and the need of the clients or their users.

The pottery fabrics that were introduced in the lower strata continued onward with their variable frequencies and exhibit some differences in their clay and the compositions within a single stratum/same type of clay exhibits differences in their composition. Sometimes these are fine ones sometimes coarse. It is hard to surmise whether the fineness or roughness in clay is bound up with the availability of raw materials or has something to do with the pottery types. It has been
observed that the pottery which is produced in large numbers generally retains coarse fabrics; whereas this is reverse for the pottery that is exclusively decorative in nature and is of limited circulation almost in each cultural stratum.

Patrological Analysis:

Kaolin - A - AMB (3) : Medium grained, broken and fractured fresh quartz in a light yellowish ground mass, altered iron patches (S. 18).

Kaolin - A - AMB (3) : Finely divided groundmass of siliceous (quartz) materials with a few iron stains all over a few laths of altered biotite (mica); a few quartz are bigger (S. 19).

Kaolin - A - AMB (7) : Sub-angular broken quartz grains along with some round altered iron patches and a very few microclines in nearly homogeneous siliceous micaceous ground matrix (S. 32).

Kaolin - A - AMB (6) : More micaceous and less siliceous groundmass with infrequent presence of broken angular to less rounded quartz; a few are altered iron patches & chloritic grains (S. 34).

Kaolin - A - AMB (5): Angular, very fresh microcline along with a few smaller altered ones and variously broken and fractured nearly fresh quartz (corroded sub-angular and elongated) in a siliceous and yellow brown ground mass altered iron stains present all over (S. 20).

Kaolin - B - AMB (3): Fine grained sub-angular quartz in a siliceous and yellow brown (iron stained) ground mass altered iron patch (S. 21).

Kaolin - B - AMB (3): Broken sub-angular, quartz and a few microclines in a siliceous light yellowish ground mass, a very few micaceous inclusions (aggregates of laths) (S. 24).

Kaolin - B - AMB (3): Very sub-angular quartz (polycrystalline and composite) in a siliceous rich clayey matrix, nearly free from iron stains (S. 39).

Kaolin - B - AMB (2): Usually fresh and quartz (maximum unit) and a few pressure affected microcline and plagioclases in a very fine grained
silica rich clayey matrix, occasional black (iron) skeleton present (S. 43).

Red Ware - B - AMB (5) : Angular, very fresh quartz with a few smaller and similarly fresh microcline in a siliceous and yellowish ground mass, very occasional iron patches (S. 25).

Red Ware - A - AMB (5) : Fine grained angular sub-angular fresh, a few pressure affected quartz with a few zoned and twined felspar (plagioclase) two or three iron dots in a siliceous and light yellowish ground mass (S. 36).

Red Ware - A - AMB (5) : Matrix is composed of siliceous (quartz grain still show angularity) feldspathic (plagioclase) and altered iron staining material very few scattered grains of sub-angular quartz and still fewer biotites (mica) occur (S. 38).

Red Ware - A - AMB (4) : Angular to sub-angular fine grained quartz (composite and polycrystalline) frequently in silica (angular to sub-angular), in silica, mica, felspar rich matrix matrix, black segregations present (S. 40).
Red Ware - B - AMB (5) : Siliceous (more brown iron stain) ground mass containing scattered nearly sub-angular quartz microcline plagioclase (felspar) with very few micaceous inclusions (S. 25).

Red Ware - B - AMB (7) : Maximum angular with a few sub-rounded forms of quartz and a few plagioclase (felspar) grains densely arranged in a reddish brown leoninitic matrix (S. 27).

Red Ware - A - AMB (5) : Uniformly distributed variously angular (some elongated quartz with a micaceous grains) and altered iron grains in siliceous end ground mass comparable to 25 (S. 31).

Red Ware - B - AMB (4) : The matrix is yellow brown composed of clayey and siliceous material with fewer black substances (quartz included with round boundaries) a few more angular to sub-angular quartz (usually fresh, a few are pressure effected and composite) and a few microclines plagioclase (felspar) are twined and pressure effected (S. 44).

Ruff Ware - A - AMB (5) : Very few sub-angular quartz in a siliceous (selectively iron stains) ground mass with very fewer incaceous ingredients (S. 31).
Buff Ware - 3 - AMB (3) : Angular to sub-angular nearly finer grains of quartz (unit composite, inter-growth, in growth), a few microclines (affected twins), very few altered mica and some rich fragments (altered) a very few iron dots in a siliceous and brownish matrix (S. 37).

Buff Ware - 3 - AMB (4) : Microclines and quartz (finer grained angular to sub-angular, pressure affected), a very few plagioclase in a less silica rich clayey matrix (S. 42).

Buff Ware - 3 - AMB (2) : Angular to sub-angular fine grained quartz (usually fresh units, very few pressure affected) and similar sized pressure affected plagioclases and microclines along with sub-rounded to near rounded black substances are uniformly scattered in a silica rich clayey matrix. Sub-angular altered amphiboles and orthopyroxenes are typical rare accessories (S. 47).

Grey Ware - A - AMB (3) : A few sub-angular to sub-rounded quartz in siliceous and greyish ground mass, rounded iron patches and mica-ceous patches are occasional (S. 28).
Grey Ware - AMB (2): Oriented, elongated and small angular (fine-grained to medium) quartz usually fresh, a few altered biotite (mica) and chlorite in a silica rich brown clayey matrix, very few plagioclase inter-matrix black spot common (S. 41).

Grey Ware - AMB (2): Usually angular quartz (a few medium-grained and some elongated - unit, composite types, fresh with sub-angular olivine, microcline and plagioclase feldspars in a silica rich clayey matrix, very minor altered micas present (S. 45).

Mughal glazed - AMB (2): Very finer usually sub-angular grains of quartz some fresh units, others are (composite and polycrystalline and ingrowths) along with fewer plagioclase and microcline (both pressure affected twined) are infrequently scattered in silica rich and broken iron rich clayey matrix. Altered biotites (mica) and nearly angular altered clinopyroxenes are very rare (S. 48).
Analysis:

Among the associations, the varieties under kaoline and red ware groups represent an acid furniture while the Grey ware and the Buff ware indicate an intermediate type, the Mughal glazed one being characteristic of typical basic rock type. The more siliceous type exhibit more alteration comparable to less weathering effect. However, the intermediate generation is less prominently weathered than the siliceous type. The kaoline variety is less weathered and still less altered. In any case, the younger the horizon of the finds the lesser the effect of weathering and alteration.

Method of Manufacture:

A detailed study and analysis of the pottery at Amberi reveal two distinct methods of manufacture, viz., i) Hand made and ii) Wheel made.

i) Hand made - The method of making pots by hand is assumed to have been developed much earlier than the fast wheel. The term 'hand made' in the context of South East Asian pottery includes coil building, ring
building, slow wheel etc. In many parts of the world the fast wheel appeared towards the later part of the neolithic culture. The hand made pottery as a distinct tradition continued and continues to dominate the South East Asian pottery tradition during the past as well as the present. The same phenomenon is found among the American Indian potters where the fast wheel has not yet been adopted (Bushnell and et al: 1).

This technique proves itself more efficient for producing certain pottery types having utilitarian purposes that cannot be produced by using the fast wheel. This factor makes this tradition continue. Besides social tradition connected with this phenomenon and the caste hierarchy act as a determining factor. The types of pots which are produced by this method are:

Types - 1, 3, 7, 7a, 7b, 7c, 8, 9, 10, 10a, 15, 17, 19, 20, 21, 23, 24, 25, 31, 32, 33, 35, 35a, 36, 36a, 36b, 37, 38, 39, 40, 41, 42, 43, 43a, 49, 50, 53, 62, 79, 79a, 79b, 79c, 79d, 79e, 79f, 79g, 89.
ii) **Wheel made** - The pottery assemblages from Ambari include a few types that were exclusively made by using wheel. Majority of these were made by the combination of wheel and beater. The same feature characterises the pottery tradition of North India both ancient and modern.

The pottery types that were made by this technique can be identified from the striae and the corrugation produced on the neck or on the upper body of the pot. If the pottery is exclusively produced on the wheel, it exhibits cut marks on its base which manifests a number of ripples on this part of the pot. Relative distances of these ripples indicate the speed of the wheel.

Basing on the technical variations the whole assemblage may be classified into two categories -

a) **Pottery made on wheel.**

Types - 65, 65a, 65b, 65c, 66, 67, 70, 70a, 72, 76, 77.

b) **Pottery made by combined application of wheel and beater.**
Surface Treatment:

There are two motives which lie behind the surface treatment. This may either be decorative or utilitarian in purposes or sometimes both may have been achieved by treating the surface.

The pottery collected from Ambari is characterized by extremely limited application of slip. This may be due to the nature of raw material. It may be that the colour and texture of Kaolin reduced the need of a slip. Moreover, the extensive use of different kinds of grooved beaters rendered the application of slip unnecessary. A slip or in true sense, wash is applied around the rim of Red ware and sometimes extended below the neck region.
In case of bowl the inner surface is treated with wash. This is done in order to reduce the chances of percolation of the liquid through the pores of the vessels. This might have been an attempt to conceal the roughness of the surfaces and to give the produce a better look. However, the justification of this speculation may be supported by the data from two contemporary potter communities (Chapter - IV).

**Firing:**

The pottery were fired in all probabilities by adopting of two different techniques, viz., under oxygenated condition and deoxygenated condition which become evident from the colour of the pottery so fired. The changes in colours are nothing but the chemical changes in clay mineral brought about by firing. Major portion of this collection was fired under oxygenated conditions, under different degrees of temperature. The difference is visible from the hardness or looseness of the ceramics; the higher the temperature, the harder the product is as low temperature produces loose ceramic ware. The differences in the degree of firing determine the adhesiveness...
and durability of the pottery.

As it has already been mentioned that the temperature brings about some chemical changes in clay mineral and produces differences in colours which also are dependent on the difference in mineral contents of clay used for pottery manufacturing. According to Sephard (1965: 106-07) the white clays, if it is free from impurities always retain its original colour when fired under oxygenated condition. Likewise, the white clay or Kaolin that retains iron impurities produce reddish or buff colour after being fired under oxygenated condition of varying degrees.

Besides this, the clays that are rich in iron contents turn to be red after being fired under oxidizing condition. However, there always exist colour differences which are conditioned by the amount of impurities and degrees of temperature. There are only a limited proportion of ceramic in this collection that were fired under reducing condition and are represented by a few types and by a number of sherds. Again, the pottery that were made of Kaolin and other clays with impurities or free from impurities manifest grey to drab grey appearance.
It is also possible that because of the presence of impurities, the natural colour of the clay is often masked, and it turns black or blackish when fired under reducing temperature.

Types and Descriptions:

Type - 1: Lid, buff ware, fabric B, flanged waist with incurved rim; comparable types were collected from Bangarh where it occurred at Kusān-Gupta level (Goswami, 1948; Pl. XXX : 45). The same types of lid were further reported from Sisupalgarh (Lall, 1949; Fig. 7 : 42), Arikamedu (Wheeler, et al., 1946) and Utnur (Allchin, 1963 : 37). This comparable type occurred in the aforesaid sites during early historic period. (9) (Fig. 8 : 1).

Type - 2: Fragmentary part of a basin, red ware fabric A, showing slightly incurved body wall, internally corrugated; wheel made. This type may be compared to the bowl reported from Sisupalgarh (100-200 A.D) (Lall, ibid) (8) (Fig. 8 : 2).

Type - 3: Rim of a short neck vessel, buff ware, fabric B, with flanged lip with more or less rectangular rim; band of dentation marks on the inner surface of the
Type - 4: Rim of a bowl, buff ware, fabric B, with outgoing lip with grooved rim; wheel made (8).

Type - 5: Deep bowl, wide mouthed, buff ware, Fabric B, outgoing lip with rounded edge; external surface of the upper body showing sharp keel on the junction of the upper and lower body; internal and external surfaces are without any treatment; wheel made (8) (Fig. 9:9).

Type - 6: Deep bowl, wide mouthed, buff ware, fabric A, with flanged lip with internally and externally grooved rim; external surface of the body showing grooves, sharp keel present on the body; faint marks of corrugation lead us to assume that at least the rim part was made on fast wheel (8) (Fig. 9:10).

Type - 7: Shallow bowl, wide mouthed, red ware, fabric B, splayed lip with clubbed rim; keeled present on the body; hand made (6) (Fig. 9:4).

Type - 7a: Shallow bowl, wide mouthed, red ware, fabric A, flanged out lip with almost transversely cut rim; carinated; body showing concavo-convex profile;
Type - 7b: Shallow bowl, buff ware, fabric A, keel present on the body; hand made (7) (Fig. 9:11).

Type - 7c: Shallow bowl, kaolin ware, slightly reddish in colour, fabric B, variant of types 7 (2) (Fig. 9:5).

Type - 8: Shallow bowl, wide mouthed, red ware, fabric B, flanged out lip with grooved rim; body showing plano convex profile; surfaces are without any treatment; hand made (5) (Fig. 9:7).

Type - 9: Shallow bowl, wide mouthed, red ware, fabric A, nailed headed rim; body showing convex profile; surfaces are without treatment; hand made (5) (Fig. 9:8).

Type - 10: Deep basin, wide mouthed, red ware, fabric B; with incurved rim; hand made. Comparable types are collected from the existing ethnographic context (i.e. the pottery made by the Kumar) (4) (Fig. 9:13).

Type - 10a: Deep bowl, comparable to the above type excepting the grooves (external and internal) on the rim which are absent in type 10 (4) (Fig. 9:12).
Type - 11: Shallow bowl, Kaolin ware, fabric A, splayed lip with thicken out and internally grooved rim; neck showing faint corrugation marks; sharp ledge or keel on the body; wheel made; surface without any treatment (7) (Fig. 10:1).

Type - 12: Shallow bowl, buff ware, fabric A, lip slightly outturned with beaded out rim; faint groove like formations on internal surface; internal and external surfaces are devoid of any treatment. Faint marks of corrugation on the external surface, assumed to be made by wheel (6) (Fig. 10:2).

Type - 13: Wide mouthed and shallow bowl, Kaolin ware, fabric A, flanged out lip with slightly rounded edge; a triangular projection is formed internally on the junction of neck and lip; externally corrugated and internally smoothened. Body shows carination. Presumably, it is made by wheel (6) (Fig. 10:3).

Type - 14: Shallow bowl, Kaolin ware, fabric A, splayed lip with clubbed rim; step like formation on the lip; the external surface of the body is more or less corrugated and the internal surface is thickened; keeled or carinated; wheel made (5) (Fig. 10:4).
Type - 15: Wide mouthed bowl, red ware, fabric B, flanged out lip with internally unibovelled edge, grooved on its external surface. The internal surface of the lip is provided with two bands of circular punched impressions; hand made; surface without any treatment (5) (Fig. 10:6).

Type - 16: Medium necked, deep pitcher, red ware, fabric A, short necked, splayed lip with clubbed rim; externally grooved on the upper body, body showing concavo-convex profile; wheel made (5) (Fig.10:7).

Type - 17: Shallow bowl, red ware, fabric B, sharp outturned and thickened end rim. Internal and external surfaces are equally smoothened; hand made. This type finds limited circulation (3) (Fig.10:8).

Type - 18: Deep bowl, wide mouthed, buff ware, fabric B, flanged lip with grooved rim (internally and externally) short neck; body showing grooves on its external surface; sharp keel or ridge on their external surface; internal and external surfaces are without any treatment; wheel made (5) (Fig.9:1).
Type - 19: Shallow bowl, wide mouthed, red ware, fabric A, splayed lip with rounded out edge; internal and external surface is without any treatment; slightly pronounced ridge on the body; body showing bi-conical profile; hand made (5) (Fig.9:2).

Type - 20: Shallow bowl, wide mouthed, red ware, fabric A, flanged out lip with bi-bevelled edge; short neck; body showing carination. External and internal surfaces are without further treatment excepting smoothing; hand made (5) (Fig.9:3).

Type - 21: Wide mouthed bowl, red ware, fabric A, with splayed lip, triangular rim grooved on its inner surface. Both inner and outer surfaces are without any treatment; hand made (3) (Fig.11:1).

Type - 22: Wide mouthed bowl, Kaolin ware, fabric A, splayed lip with externally thickened and bi-bevelled rim, grooves present on its inner surface; carinated; wheel made (3) (Fig.11:9).

Type - 23: Wide mouthed, deep bowl, fabric A, red ware, out going lip externally thickened rim; ridge presents on its body; hand made (3) (Fig.11:8).
Type - 24: Shallow bowl, buff ware, fabric B, slightly splayed lip with rounded edge, grooved on its internal surface; body bulges out. Both the surfaces are without any treatment; hand made (3) (Fig. 11:3).

Type - 25: Wide mouthed, medium deep bowl, red ware, fabric B, splayed out lip with rounded in edge, grooved on the inner surface of the lip; keel present on the body; hand made (3) (Fig. 11:4).

Type - 26: Wide mouthed, medium deep bowl, buff ware, fabric B, splayed out lip with externally thickened rim, grooved on its inner surface; sharp keel on the body; wheel made (3) (Fig. 11:2).

Type - 26a: Wide mouthed, medium deep bowl, Kaolin ware, fabric B, lip with clubbed rim, keel present on the body; wheel made (3).

Type - 27: Wide mouthed, shallow bowl, buff ware, fabric A, splayed out lip with rounded edge, step like formation on the inner surface of the lip. Body showing plano-convex profile. Internal and external surfaces are without any treatment; wheel made (3) (Fig. 11:7).
Type - 28: Shallow bowl, Kaolin ware, fabric A, splayed out lip with rounded edge, grooved on the inner surface of the lip; wheel made (3) (Fig. 11:5).

Type - 29: Shallow bowl, Kaolin ware, fabric B, splayed out lip with rounded edge, keel present on the upper body; external surface showing corrugation; wheel made (3) (Fig. 11:6).

Type - 30: Medium deep bowl, Kaolin ware, fabric A, splayed out lip with bevelled edge, grooved present on the inner surface of the lip. Corrugation marks one the external surface lead one to take it as wheel made pottery (3) (Fig. 12:1).

Type - 30a: Medium deep bowl, buff ware, fabric A, splayed out lip with rounded edge; sharp keel present on the body; wheel made (3).

Type - 31: Shallow bowl, wide mouthed, Kaolin ware, fabric B, splayed out lip with beaked edge; carinated; hand made (3) (Fig. 12:8).

Type - 32: Shallow bowl, Kaolin ware, fabric A, splayed out lip with rounded edge, groove present on the inner surface of the lip; carinated; hand made (3) (Fig. 12:2).
Type - 33 : Shallow bowl, Kaolin ware, fabric A, splayed out lip with thickened rim; keel faintly developed on the body; hand made (3) (Fig. 12:3).

Type - 34 : Medium deep bowl, wide mouthed, red ware, fabric B, outturned lip with rounded (slightly) rim; body showing sharp carination; inner surface is smoothed with the application of slip or wash; wheel made (3) (Fig. 12:4).

Type - 35 : Medium deep bowl, Kaolin ware, fabric B, splayed lip; sharp ridge on the upper body; hand made (2) (Fig. 12:5).

Type - 35a : Medium deep bowl, buff ware, fabric B, splayed out lip, groove on the internal surface of the rim; hand made (2).

Type - 36 : Very shallow bowl, grey ware, fabric B, splayed out lip with clubbed rim; keel on the lower body. Faint marks of corrugation on the external surface of the lip; hand made (3) (Fig. 12:6).

Type - 36a : Very shallow bowl, Kaolin ware, fabric A, with rounded edge; keel present on the body; hand made (3) (Fig. 12:7).
Type - 36b: Wide mouthed, shallow bowl, buff ware, fabric B, with splayed lip and bevelled rim; carinated; hand made (2).

Type - 37: Wide mouthed, thick bowl, red ware, fabric B, with outturned rim grooved on its inner surface. The sides are less recurved; hand made (5) (Fig. 13:1).

Type - 38: Wide mouthed bowl, red ware, fabric B, grooved rim and externally thickened, short neck; hand made (3) (Fig. 13:2).

Type - 39: Shallow bowl, buff ware, fabric B, splayed out lip with externally thickened rim, grooved on its inner surface; Internal and external surfaces are without any treatment. Lower body showing parallel ribbed or basketry impression. This may be compared with the South East Asian typical basketry design executed on the pottery right from prehistoric to historic era; hand made (3) (Fig. 13:4).

Type - 40: Deep bowl, wide mouthed, buff ware, fabric B, flanged lip with beaded out rim, grooved on the internal surface of the lip; body showing more or less plano-convex profile; hand made (3) (Fig. 13:3).
Type - 41: Shallow bowl, buff ware, fabric B, bi-bevelled and thickened in rim; hand made (8) (Fig. 14:1).

Type - 42: Shallow bowl, buff ware, fabric B, rolled in rim; projection present on the body; hand made (8) (Fig. 14:2).

Type - 43: Wide mouthed bowl, red ware, fabric B, splayed lip with thickened rim; hand made (5) (Fig. 14:3).

Type - 43a: Wide mouthed bowl, red ware, fabric A, splayed out rim; basket impression all over the lower body; carinated. This impression may be compared with the design executed on the Banchiang culture sites pottery (Schauffler, 1976) that dates back to 0500 B.C.; hand made (3) (Fig. 14:4).

Type - 44: Deep bowl, wide mouthed, red ware, fabric B, splayed out rim, retaining grooves on its inner surface, the rim is bi-bevelled (externally); keel present on the body; wheel made (3) (Fig. 15:1).

Type - 44a: Deep bowl, wide mouthed, buff ware, fabric B, outturned lip with nailed rim; plano-convex body, keel present on the junction between lower body and upper body; wheel made (3) (Fig. 15:2).
Type - 45 : Medium deep bowl, wide mouthed, kaolin ware, fabric B, sharp outturned lip with grooved nailed rim showing groove on the junction of lip. Lip meets the plano-convex body; keel present on the junction of the upper and the lower body; wheel made (3) (Fig. 15:3).

Type - 45a : Shallow bowl, wide mouthed, red ware, fabric A, and other characters remains as same as Type-45*(3) (Fig. 15:4).

Type - 45b : Varient of type 45; Kaolin ware, fabric B (3).

Type - 45c : Varient of type 45; red ware, fabric B (3).

Type - 45d : Varient of type 45; red ware, fabric B (2).

Type - 45e : Varient of type 45; red ware, fabric B, (2).

Type-46 : Globular vessel, kaolin ware, fabric B, splayed lip with grooved rim. Body showing concavo-convex profile, plain body surface; wheel made (3) (Fig. 16:4).
Type - 46a : Variant of type 46; red ware, fabric A, decorated with a band of lozenes design (impressed) over the body; wheel made (3) (Fig.16:5).

Type - 47 : Rim part of a vessel; Kaolin ware, fabric B, flanged lip with grooved rim; corrugation present on the neck; wheel made (3).

Type - 48 : Medium neck vessel, red ware, fabric B, splayed lip with triangular rim; corrugation present on the neck; wheel made (3) (Fig.17:8).

Type - 48a : This type shares almost all the characters in common with the previous one; fabric A, wheel made (3) (Fig.17:9).

Type - 48b : Medium neck vessel, red ware, fabric B, splayed lip with triangular rim constricted throat; internally corrugated, externally smoothed; wheel made (3) (Fig.17:16).

Type - 48c : All characters remain same as Type-48, excepting the ware. Here, it is buff ware and fabric B; wheel made (3).

Type - 48d : Variant of type 48; splayed out lip with several bands of internal grooves; red ware, fabric B; wheel made (3) (Fig.17:17).
Type - 49: Medium neck vessel, buff ware, fabric A, slightly splayed lip with rectangular rim; externally smoothed and devoid of any further treatment. Faint marks of corrugation present on the internal surface; hand made (6) (Fig. 17:5).

Type - 50: Neck part and rim part of a pitcher, buff ware, fabric A, flanged lip with slightly incurved rim. This type of rim is reported from Lam Pao of Thailand where it dates back to Ayuthia period (Solheim, et al., 1966: 150); comparable types are reported from the present ethnographic context. Similar type of rim are manufactured by the Hira potters. hand made (5) (Fig.17:6).

Type - 50a: Variant of type 50; buff ware, fabric B, and in this case the rim is more developed and externally bevelled. hand made (3) (Fig.17:7).

Type - 51: Medium necked vessel, buff ware, fabric A, grooved rim; external and internal surfaces are without any further treatment (4) (Fig.17:8).

Type - 52: Constricted necked vessel, grey ware, fabric B, splayed out lip with markedly bi-furcated (flanged and inturned) rim; external and internal surfaces retain a sort of wash; wheel made (6) (Fig.17:1).
Type - 53 : More or less funnel necked vessel, red ware, fabric B, slightly splayed out lip with ledged rim; internal and external surfaces are plain; hand made (6) (Fig. 17:2).

Type - 54 : Short necked vessel, grey ware, fabric A, with splayed lip and beaked edge; external and internal surfaces are without any treatment, corrugation marks (faint) present on the external surface of the neck; wheel made (6) (Fig. 17:3).

Type - 55 : Short and constricted necked vessel, buff ware, fabric A, outgoing lip with externally grooved rim; the upper portion of the body and rim is treated with red slip while the neck is treated with slip whitish in colour. The upper body is externally grooved at regular intervals. This type may be compared to the type (XXXVII) of Hastinapura (period IV) (Lall, 1954-55); wheel made (4) (Fig. 17:4).

Type - 56 : Short necked vessel, buff ware, fabric A with splayed lip and rounded edge; step like formations on the internal surface of the lip; wheel made (2) (Fig. 18:1).
Type - 57: Short necked vessel, buff ware, fabric B, slightly out going lip with thickened in rim; concave neck; surfaces are without any treatment; wheel made (2) (Fig. 18:2).

Type - 58: Funnel necked vessel, buff ware, fabric B, concave neck with more or less straight lip with thickened in rim; internally corrugated; wheel made (3) (Fig. 18:3).

Type - 59: Globular vessel, kaolin ware, fabric A, funnel shaped neck; externally grooved rim; corrugation present on the internal surface; wheel made (3) (Fig. 18:4).

Type - 60: More or less short necked vessel, buff ware, fabric B, flanged lip showing rectangular rim; step like formations on its inner surface; wheel made (3) (Fig. 18:5).

Type - 61: Neck of a vessel, red ware, fabric 3, more or less out going lip with ledge, (2) (Fig. 18:9).

Type - 62: Rim of pitcher, red ware, fabric B, flanged lip with slightly incurved rim; funnel shaped neck; Hand made (2) (Fig. 18:6).
Type - 63 : Rim of a vessel, red ware, fabric B, externally thickened rim, externally slipped; corrugation marks present on the internal surface of the rim; wheel made (2) (Fig.18:7).

Type - 64 : Rim of a vessel, red ware, fabric B; more or less vertical neck with pronounced and oblique ledged like formation; wheel made (2) (Fig.18:8).

Type - 65 : Squat shaped vessel, Kaolin ware, fabric B; with funnel shaped lip, internally bevelled edge. Body showing concavo-convex profile. Ridge present on the body; cut marks and ripples at shorter interval on the bottom; wheel made. This type may be compared with the pottery collected from Bangarh occurring at Kushan-Gupta level (Goswami, 1948) (4) (Fig.19:2).

Type - 65a : Variant of type 65. Kaolin ware, fabric B; outturned (slightly) lip with clubbed rim; wheel made (3) (Fig.19:4).

Type - 65b : Variant of type 65. Kaolin ware, fabric B; wheel made (3) (Fig.19:7).

Type - 65c : Variant of type 65. Buff ware, fabric B; beaded rim; externally corrugated; wheel made (4) (Fig.19:1).
Type - 66 : Bi-conical vessel, kaolin ware, fabric A, funnel shaped neck; externally thickened rim; body showing more or less bi-conical profile; corrugations present on the outer and the inner surfaces of the pot; transverse base; wheel made (4) (Fig. 19:3).

Type - 67 : Hemispherical vessel, kaolin ware, fabric A; funnel shaped lip with rounded edge; ridge present on the upper body; externally and internally corrugated; wheel made (3) (Fig. 19:9).

Type - 68 : Neck and rim of a miniature vessel, grey ware, fabric A, constricted neck with splayed lip with more or less squared or rectangular edge; neck showing keel on its external surface and grooved on its base. Internally corrugated at short intervals; wheel made (3) (Fig. 19:10).

Type - 69 : Constricted neck squat shaped vessel, buff ware, fabric A, with flanged lip and markedly grooved rim; neck meets the squat shaped body; wheel made (3) (Fig. 19:10). (Body reconstructed with the same type of specimen preserved at the State Museum, Gauhati) (Pl. No. XIX).
Type – 70 : Lota, red ware, fabric B; slightly recurved neck with beaded out rim; body showing concavo-convex profile; externally smoothened; cut mark on the flat bottom base; wheel made (3) (Fig.16:3).

Type – 70a : Variant of type 70. Red ware, fabric A, with beaded rim; wheel made (3) (Fig.16:1).

Type – 71 : Small vase, red ware, fabric B; elongated neck, splayed out lip with beaded rim which is internally grooved; corrugation present all over the inner surface; transverse base; external surface is treated with red slipped. Wheel made (3) (Fig.16:2).

Type – 72 : Basin, red ware, fabric B, body showing convex profile; flanged out lip with externally bevelled edge; corrugation present on the inner surface of the body; wheel made (6) (Fig.20:1).

Type – 73 : Transverse, base of a pot, Kaolin ware, fabric B, internally corrugated surface; transverse base with cut marks. Wheel made (6) (Fig.19:5).

Type – 73a : Variant of type 73. Kaolin ware, fabric B, sides are more or less convex carrying corrugation marks on the external surface; wheel made (5) (Fig.19:6).
Type - 74: Shallow basin, buff ware, fabric B; rim is internally grooved (8) (Fig. 20:7).

Type - 75: Shallow plate, buff ware, fabric B; retaining corrugation marks on the internal surface; wheel made (5) (Fig. 20:8).

Type - 76: Plate, kaolin ware, fabric A; splayed sides with more or less rounded edge; corrugation present on the body; bottom base; wheel made (6) (Fig. 20:9).

Type - 77: Plate, kaolin ware, fabric A; splayed sides, transverse base carrying ripple marks on its base; wheel made (4) (Fig. 20:10).

Type - 78: Saucer shaped lid, kaolin ware, fabric B; cut marks present on the base; wheel made (2) (Fig. 20:2).

Type - 79: Ledged lid, red ware, fabric A; outer surface of the body exhibits keel or carination, finger impressions present on the outer and inner surfaces; hand made (5) (Fig. 21:1).

Type - 79a: Variant of type 79. Kaolin ware, fabric A; domical shaped body; hand made (3) (Fig. 21:2).
Type - 79b : Variant of type 79. Kaolin ware, fabric B; hand made (3) (Fig. 21:3).

Type - 79c : Variant of type 79. Kaolin ware, fabric B; variation that may be detected here is that the side wall is vertical and takes curve (inward); hand made; this type may be compared with the pottery from Nasik (period II & III; Sankalia, 1955) (3) (Fig. 21:4).

Type - 79d : Variant of type 79. Kaolin ware, fabric B; grooved is pronounced on the outer surface of the body; hand made (3) (Fig. 21:5).

Type - 79e : Variant of type 79. Kaolin ware, fabric B; here the lip has become markedly flanged and the rim curves inward; hand made (3) (Fig. 21:6).

Type - 79f : Variant of type 79. Kaolin ware, fabric B; without any keel or carination on the body; hand made (2) (Fig. 21:7).

Type - 79g : Variant of type 79. Kaolin ware, fabric B; faintly marked grooves on the external surface of the body; hand made (2) (Fig. 21:8).

Type - 80 : Base of a lamp stand, grey ware, fabric B; splayed lip with a groove at the base; stem originates from the base, lateral sides of the stem.
projects vertically leaving a groove in between the two; wheel made (6) (Fig.20:11).

**Type - 81**: Base of a stand; grey ware, fabric B; trumpeteted base, externally grooved on its splayed out portion, two sets of incised parallel lines joined to form angles on the stand. Internally grooved and faint marks of corrugation; wheel made (6) (Fig.19:8).

**Type - 82**: Stem of a lamp stand, buff ware, fabric B; broken at either ends; prominent keel present on the narrower end, lower part of the stem bulges out and it retains faint projection at the end of bulging portion; wheel made (4) (Fig.19:13).

**Type - 83**: Stem of a lamp stand, kaolin ware, fabric A; keel present at regular intervals; corrugations present on the external surface; wheel made (3) (Fig.19:11).

**Type - 84**: Stem of a lamp stand, kaolin ware, fabric B; lower part of the stand splayed out; keel present on the upper portion of the stand; corrugated; wheel made (3) (Fig.19:12).

**Type - 85**: Dish on stand, buff ware, fabric B; trumpeteted base with short stem; more or less flat dish placed on the stem; wheel made (3) (Fig.20:12).
Type - 86: Dish on stand, kaolin ware, fabric B; the colour has become slightly reddish due to its iron content. Trumpeted base with stem retaining flat dish; wheel made (3) (Fig. 20:6).

Type - 87: Knobbed lid, red ware, fabric B; the sides of the lid forms funnel shaped body; wheel made (4) (Fig. 20:3).

Type - 88: Knobbed lid, red ware, fabric A; stem of the knob handle originates from the base of the lid; the sides of the lid splayed out; wheel made (4) (Fig. 20:4).

Type - 88a: Variant of type 88. Red ware, fabric A; wheel made (2) (Fig. 20:5).

Type - 89: This type remains unclassified. Buff ware, fabric B; hand made (2) (Fig. 20:13).

Type - 90: A few sherds of celadon Chinese ware collected from the lower and upper limits of the layer (3). The ware shows greyish white section. Most part of the ware is covered with zade green glazed and the surface showing crackled marks.
Geladon ware were made principally in Chekiang province of China at Yueh Chou, Lung-Chuan Ch'u Chou. It was already in production before the end of the T'ang dynasty (A.D. 618 - 906). But it is specially characteristics of Sung and Yuan dynasties (A.D. 960 - 1368). The commercial circulation of this ware began before A.D. 883. This type of pottery was exported to India, Cylon and Persia (Wheeler, et al., 1946 : 91).

Type - 91: Muslim glazed wares consist of bowls with ring bottom and basin. The glazed surfaces show crackles mark. This may be taken as an indication of salt glazing. The colour of the ware ranges from blue to pink (2) (Pl. No. XX).

Decoration:

The designs used for decorations may be taken as a secondary basis for classification of pottery types. This may serve as an important criterion for cross study or comparison.

A number of designs have been identified in the collection. Most of them are executed in the form of embellishment consisting of limited patterns. These were
done in the prefiring stage. For the sake of comparison with the pottery collected from its neighbouring areas, the stratigraphic position and characteristics of the respective designs dealt here are shown in Table 7a,b,c, and d. Besides, I describe below the general characters of these designs.

(i) Ribbed or basketry: This design is characterized by roughly parallel or some convergent lines that resemble basketry impressions. On the sherds it gives an appearance of ribs. This term is borrowed from Solheim (1965). (PL. No. XvIIIb & XvIIIc).

(ii) Crossed: The designs are the result of the inter-section of parallel lines such that their inter-sections produce small parallelograms (Pl. No. XXIa). This pattern continued through all the phases of occupation at Ambari.

(iii) Combed: This design is formed by the intersection of parallel lines such that their intersections produce small squares or rectangles. This design has a distribution in South East Asia (Pl. No. XXIb).

(iv) Lozenges or Diamond: This design made its appearance towards the later phases of its development.
The shapes, as it appear from the very term, are mostly parallelographic on quadriangular in their formation. Sometimes these are bound by the vertical pannels of straight or oblique strokes or sometimes by several bands of lines (pl.No. XVIIIa).

(v) Floral design: Almost all the designs are executed in impressed form. They occur in the form of band or bands. Each of the embossed circle is very often encircled by the panels of straight radiating lines giving the appearance of radiating sun rays. These bands are frequently encircled by a set of incised lines (Pl.No.XXId).

(vi) Circular design: Here the bigger embossed circles are encircled by another set of comparatively smaller circles of identical nature. These are again surrounded by one or more impressed circles. All of these are engraved on the same stamp made of wood or clay (Pl.No. XXIIb).

(vii) Lotus design: Occurrence of these designs is very rare. Sometimes aesthetic value was given by distributing mica over this design. This was collected from the upper limit of this site (Pl.No. XXIIa).
(viii) Incised design: Incision as design appear to have been contemporary with the design mentioned above. In general this design is found to be invariably associated with the design mentioned in (v). When this design occurred independently, it is found either in the form of geometric lines, or in the form of wavy line (Pl. No. XXII b). It is supported by oblique or straight lines. For producing incised lines; some form of pointed tools also might have been used.

(ix) Applique: These are very few in number, but technologically these are different from the rest of the designs. Some parallel and vertical rolls (Pl. No. XXIIIa) of clay giving the appearance of ribbs were placed and pressed to fix on the body of the pottery. This was done when both of them (i.e. the pottery and the rolls) were in leather hard condition. Here it merits mentioning that this design dates back to the neolithic period in China (Cheng Te, Kun, 1959; Pl. XXV). This design collected from Ambari is more developed and finds its parallel in the pottery of Bau-Malaya pottery complex of Malaya (Solheim, 1961: 20; Pl. Vb).
### Table 7a

Pottery designs from Amberi Excavation and comparable designs from South East Asia & India.

<table>
<thead>
<tr>
<th>Pottery Designs and their characteristics</th>
<th>Layer</th>
<th>Compared Pottery &amp; their Characteristics</th>
<th>Place of Occurrence</th>
<th>Time/Period</th>
<th>Modern parallel, if any</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ribbed or basketry</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red ware</td>
<td>6,5,5</td>
<td>Sau-Malaya &amp; Sa-huynh-Kalanay pottery tradition</td>
<td>Borneo, Philippines,</td>
<td>Neolithic to 16th cent. A.D.</td>
<td>Thim potters of Nagaland, India.</td>
</tr>
<tr>
<td>Buff ware</td>
<td>7 &amp; 3</td>
<td>Slow wheel &amp; paddle and anvil used in manufacturing pottery (Solheim, 1961). Grey ware of Western Honan group (Wu, 1938). Grey &amp; Brown, carved beater &amp; paddle were used (Watson, 1971).</td>
<td>China, Sarawak.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaolin</td>
<td>9,6,10,2,8,6,3</td>
<td></td>
<td>Chinese central plain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey</td>
<td>3,7,7</td>
<td></td>
<td>Manipur, India.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 7b

<table>
<thead>
<tr>
<th>Crossed -</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Red ware</td>
<td>5,4,2,3</td>
<td>Sau-Malaya &amp; Sa-huynh-Kalanay pottery tradition; Indo-China</td>
<td>Southern Malaya</td>
<td>Neolithic to Iron Age.</td>
<td></td>
</tr>
<tr>
<td>Buff ware</td>
<td>6</td>
<td></td>
<td>Northern plains of Formosa (Solheim, ibid) Indo-China (James, 1947).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grey ware (Cheng-Ze-Kun, 1957); Soft grey &amp; brown pottery (Watson, 1971)</td>
<td>9,6</td>
<td></td>
<td>Szechwan, Shantung of China; Mainasati (Khan, 1963)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 7c
Pottery designs from Ambari Excavation and comparable designs from South East Asia & India

<table>
<thead>
<tr>
<th>Pottery designs and their characteristics</th>
<th>Layer</th>
<th>Compared Pottery &amp; their characteristics</th>
<th>Place of Occurrence</th>
<th>Time/Period</th>
<th>Modern parallel, if any</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Floral design</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red ware</td>
<td>5,4,3</td>
<td>Potsherd from Hatungan</td>
<td>Hasbata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaolin</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buff ware</td>
<td>5 &amp; 3</td>
<td>Perspetive, 1959; Fl. 11m</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sunray design</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red ware</td>
<td>4 3</td>
<td>Executed on the body of the pottery</td>
<td>Tobuk, West Bengal</td>
<td>Early Historic</td>
<td></td>
</tr>
<tr>
<td>Kaolin</td>
<td>2 2</td>
<td></td>
<td>India</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buff ware</td>
<td>5 3</td>
<td></td>
<td>1954.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diamond or Looms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red ware</td>
<td>3 2</td>
<td>Executed in form of stamped design, Buff</td>
<td>Hastiupur, North</td>
<td>Late Historic</td>
<td></td>
</tr>
<tr>
<td>Kaolin</td>
<td>3</td>
<td></td>
<td>India</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buff ware</td>
<td>3</td>
<td></td>
<td>1954-55.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Comparison and Relative Chronology:

The pottery traditions that developed at Ambari reflect both the regional and chronological differences. Here in this site, the pottery traditions did not develop in isolation. Its relation with coeval cultures is expressed in many ways. This becomes obvious when the pottery of this site are compared with the coeval pottery traditions of its neighbouring zones which include the Indian and South East Asian archaeological sites.

Such types of comparison enable us to determine the geographical limit of the pottery traditions found at Ambari. These are of importance as well for constructing the stage of evolution and relative chronology of the pottery traditions which flourished at this site. For determining the cultural parentage and the relationship of these pottery, an attempt has been made to make a comparative study of the neighbouring archaeological sites with special reference to their pottery assemblages.

A comparative study of the pottery of this place makes it equally imperative to study the pottery traditions of the Indian and South East Asian archaeological sites.
because of their relative geographical position. Firstly, an attempt is made to study the pottery traditions from Indian sites that are geographically close to this site, and later on we shall move on to the South East Asian sites with reference to their pottery traditions.

It is not possible to compare these pottery with any other pottery collected from the archaeological context of this province. This is because of the fact that, here, we have little antecedent study on the pottery collected from historical context. The little that we have at our disposal donot yield any positive information regarding its time of occurrence. So it may be better to compare these archaeological relics of pottery with those of the pottery collected from aforesaid cultural zones.

Bangarh is an early historical archaeological site in West Bengal (Goswami, 1948). It is divisible into five periods consisting of five layers. The pottery constitutes a major part of the collection, in addition to other associated materials like the coin, jewellery and so forth. The lowest limit (i.e., the 5th stratum) yields N.B.P. ware which is peculiar to Maryan period and other
utilitarian pottery like ashes of carved rim which are grey or black in colour and a pan with handle. The layer (4) is represented by a vase ribbed near the shoulder, saucers of carved rim and vases of red colour. These pots are invariably made of fine fabric.

The third layer (dated Kushan and Gupta period) represents squat vessels (ibid : Pl. XXX : 45) with wide mouths and rib on the body. This may be compared with the squat vessel found at the layers (4) and (3) of Ambari. The difference that both the pots collected from these two archaeological sites differ only in raw material and time sequence. The vessels collected from Ambari are generally made of Kaolin while the Bangarh ones/red in colour. The occurrence of this type of pot at Ambari is comparatively late and probably this type of pot is of Bangarh parentage. In general other pottery types of Bangarh carry some characters common to Ambari pottery as well.

The second stratum of Bangarh has yielded a number of jars and a number of fragmentary glazed or enamelled pottery of Muslim period. Similar pottery were also collected from the second layer at Ambari. These types of pot generally occurred in North and Eastern
Indian sites during C13th to 16th century A.D. Here too it occurred at a comparable period.

Dasgupta (1954) reported the occurrence of a fragmentary and decorated rim part of a pot from Tamluk, West Bengal which is assigned to early historic period. This sherd bears the impression of radiating panel of lines around some circular bands (ibid : 7). Comparable designs were found embossed on the rim of decorated dull red ware of Ambari. It occurred towards the upper limit of phase II in association with other pottery types.

The excavated monastery on Mainamati hills belongs to 7th to 12th century A.C. The dating is done basing on the copper plates, terracotta sealings, inscribed potsherds, gold and silver coins, bronze image, stone sculptures, terracotta plaque etc. (Khan, 1963).

In a preliminary report on Mainamati, Khan gives a clear picture of the cultural assemblages at this archaeological site. The site is divided into two cultural periods. The colour of the pottery ranges from white to pale red. The ware is characterized by soft and underbaked and medium textured fabric. The shallow cooking pots with incised decoration emerge as the main type, the other types
are vase, water pitcher, spouted vessels and sprinklers. These are often decorated with incised or relief patterns. These pots are often found in situ together with large covers with ringed knobs. Shallow dishes, bowls and oil lamp with saucer type body but without lips occur in abundance. Most of the lamps are fitted with long ornamental stands.

The nature of pottery assemblages from this period exhibits some similarities, in general, with the pottery traditions which flourished at Ambari. The designs that are found at this site include grid, herring bone, criss-cross and lotus flower. Almost all designs excepting herring bone are identified in the pottery tradition of Ambari and the same occurred at different phases of its development. From the Table 7a, b, c, and d, it appears that the design like grid appeared at Ambari earlier than that of the Mainamati ones.

The later period of this site shows some changes in pottery traditions and marks the arrival of some new types which were replacing certain earlier dominant types. These new types are fine textured, medium thick fabric and grey pottery and include globular cooking pots, cups, bowls
and vases with ornamental necks.

It should be mentioned here that in certain respects both the sites exhibit some similarities. These similarities become evident at certain comparable periods of their development. These similarities becomes obvious towards the later phases of Ambari and early and late periods of Mainamati, whereas both the sites exhibited all the characters of religious complex. The uniformity in the nature of religious composition of both these sites made it possible for the comparable pottery types survive. At Mainamati this archaeological pottery tradition enters into the existing culture without showing much variations. It stands in the face of political and religious shifts which this province passed through. But at Ambari most of the pottery types lost their media in the existing population as soon as the aforesaid last phase broke off.

The pottery collected from early historic context of Rajsahi (now in Bangladesh) (Men. An. Arch. Rev. IND : Fl. XXVI) in general may be compared with the pottery of Ambari.

Sisupalgarh is one of the most important sites in Orissa. The excavation was conducted by Lall (1949).
The excavation was limited to three areas only. The occupational layers were divided into three periods. Each period is characterized by the presence of more or less different pottery types and other associated finds which helps us in dividing the total occupational layers so far excavated into three periods. These are: Early period (C 300 B.C). This period is marked by the presence of singularly plain and dull grey to red coloured pottery. Absence of structural remains marks this phase. Early Middle period (C 200 B.C. to 100 A.D.) is most developed and characterized by the sophisticated bright red ware and imported ware, like the rouletted ones which appeared in Arikamedu during the beginning of early Christian era (Wheeler, et al., 1946). In addition to these, from the lowest limit of this period 'Black and Red' ware which are peculiar to Indian megalithic culture were also discovered. Middle period (100 to 200 A.D) yields glass bangles and clay bullae imitating the Roman coin. Besides this, another copper coin of Hobiska was also collected from within this level. During this period, the bright red wares underwent deterioration and were replaced by the simple red ware.
The pottery collected from the lower limit of Ambari (i.e., Phase I) bear semblances with those of the pottery collected from the Middle period of Sisupalgarh. The pottery from the two sites vary in colour. The pottery collected from Ambari consist of buff ware whereas the Sisupalgarh ones are red in general. The homogeneity among certain types becomes more explicit when the ledged lids of these two sites are compared. Typologically these lids are homogeneous or very close. In respect of their time of occurrence these lids in all probabilities are contemporaneous to each other. This type of lids might have filtered into this site through its immediate neighbouring province; namely, West Bengal which includes Bangarh where from lids of comparable types of Kushan-Gupta level have been reported. Further, this type of lid has been reported from Arikamedu and may be assigned to early historic era (Wheeler, et al., 1946).

These similarities in characters speak of the fact that there might have been some kind of genetic link between Sisupalgarh and Ambari at a more or less comparable period. This relation perhaps was occasionally directly with Sisupalgarh or via Bangarh.
In general, the pottery of these two sites exhibit some colour differences as has been referred to above. Differences in the clay composition of these two areas may be accounted for by the variation in colour of pottery of these two sites.

According to the Mahabharata, the old epic, Ahichhatra is the capital of the North Panchala. It is situated about half mile off the north east of the village Ramnagar at Berili district, Uttar Pradesh. This was taken as the type site for this region for a long time (Sharma, 1953). The site represents nine periods. Period - I of the main excavated site dated back to a period prior to 300 B.C. During this period no structural remains were encountered. Period - II (300 to 200 B.C) reveals mud brick. Period - III is represented by N.B.P. ware and kiln burnt brick and pottery consisting of mainly plain and stamped design. During periods IV and V (C 100 B.C. to 100 A.D) the typical Kushan wares made their appearance and the Panchala coins were found. In addition to these Phalgunamitra and Bhumimira coins also occurred at these periods. Period - VI (C 100 - 350 A.D) yielded plain pottery, potsherds with impressed design. From the
same period some Kushan coins were also collected.

Period VII (350 - 750 A.D) yielded some vessels (Sharma, 1953 : 138; Fig. 9) which closely resemble the vessels found at Ambari during the formation of layers (4) and (3).

The lower level of Ahichhatra yielded coin of Achya, identified with that of Achyata defeated by Samudragupta (ibid : 140). Periods VIII and IX are assigned to 750 to 850 A.D. and 850 to 1100 A.D. respectively. These phases are characterized by the plain pottery types and with impressed design as well. The pottery of this period may be compared with the pottery collected from layers (4) and (3) of Ambari. The spouted vessels (Ghosh, 1946; Fig. 62 & 68) occurred during 750 to 850 A.D. and 850 - 1100 A.D. may be compared with the spouted vessels occurring at Ambari at a comparable time in association with 'Muslim glazed' ware.

Hastinapur is the legendary capital of the Kings of the Mahabharata. It is identified with a village and its neighbouring mounds in Meerut district bear the same name. It is situated on a deserted bank of the river Ganga. The ceramic sequences that this site reveals, more or less, correspond to the ceramics sequence of Ahichhatra.
The site was excavated by Lall (1955-56). This site yields the exact position of painted grey ware. The whole occupational periods of this site is divided into five periods. The first two periods are characterized by ill fired ochre coloured pottery and Painted grey wares respectively. The second period came to an end as a result of a deluge. Period III (early 6th - 3rd century B.C) exhibits a large number of punch marked coins, copper and iron implements along with 'North Indian Black Polished' ware. The entire township was destroyed by furious conflagration. The site was reoccupied after a temporary break and marked the beginning of Period IV (C 2nd century B.C. - 3rd century A.D.). Coins of Sunga and Mathura rulers were also discovered from the lower level. Towards the upper level red ware made on wheel and black and red painted ware are also found.

After a long interval, a new settlement started here that marks the beginning of the Period V (C 1100 to 1500 A.D.). In the mid level of this period, a coin belonging to Balban (C 1266 to 1287 A.D.) was collected and the upper limit of this period yielded 'Pre-Mughal glazed' ware. The pottery collected from the last phase of Ambari bear in general, a semblance with the pottery collected
from this period (Period V) of Hastinapur. In this regard, it may be mentioned here, that the lid, bowls and shallow dish collected from the last phase of Ambari find their parallel in the pottery occurring during the last period of Hastinapur. In addition to the above similarities, some designs of this period may be compared to the designs occurring during the last phase of Ambari. It merits mentioning that in respect of their time of development, both the sites appear to be more or less contemporary.

Stratigraphically and stylistically Nasik pottery may be grouped into four periods. These are: Period - I (Protohistoric), Period - II (Early historic), Period - III (Roman Contact) and Period - IV (Early Muslim and Maratha).

Pottery from each period is characterized by its own features. Pottery from Period - I markedly differs from Period - II, III and IV in respect of its colour, fabric and shape. The O.C.P. or orange colour pottery may be taken as a diagnostic pottery types for Period - I. Besides, this period contains the spouted vessels and carinated pots.

Period - II presents N.B.P., the Black and Red burnished ware. The red wares were mostly used for
utilitarian purpose. The ordinary black ware are not uncommon. Period - III is characterized by the presence of rouletted wares, a sherd of the lusturous Samian ware and imitation of red polished wares. The pottery of Period - IV is mostly ordinary black or red ware 'Celadon ware' was encountered at this period.

It should be mentioned here that the ledged lids (Fig. 78) which occurred here may be compared with the pottery found at Ambari where they occurred in the layers (5), (4) and (3). Ware of similar types reported to occur at Nasik in Period II and III respectively (Sankalia, 1955).

In South East Asia, several pottery traditions viz. the Sa-huyn'h-Kalanay, Bau-Malaya (Solheim II, 1961) and Gua Cha (ibid, 1959) are recognized as some of the distinct traditions. All of them are of prehistoric origin and some of them have been continuing till date. Each tradition has distinct ecological identity. As a result of their juxtaposition and parallel existence for long period, some of the elements were diffused over each other in course of time (ibid, 1961).

In addition to the aforesaid traditions, there
are some other distinct contemporary traditions in different parts of South East Asia. These are: Site like Sai-yok (Heekeren, 1967), Bankao (Sorensen, 1967) in Thailand; Niah in Sarawak (Solheim II, et al., 1961) etc.

The Sahuynh-Kalanay pottery tradition was given by Solheim II (1964: 376). Initially Sahuynh and Kalanay were considered as two different traditions. As more evidences were forthcoming from the different sites of South East Asia, it was observed that both the traditions shared more similarities in common than differences. The related complexes were the Sahuynh in Vietnam and the Kalanay in central Philippines, the Gua-Cha in Northern Malaya and Niah in Sarawak (Solheim, 1961). The pottery of these traditions are much more sophisticated and technologically developed. Besides, these are characterized by their variations in form and decorations. From the surface marking of these pottery, it can be asserted that some form of slow wheel, paddle and anvil were also used in manufacturing the pot. Decoration consists of cross, ribbed, incision, impression painting and carving. The use of basketry and wrapped paddle is less common in this tradition (ibid, 1961: 183). But the initial development of this pottery tradition includes cord
wrapped paddles (Solheim, 1964). In addition to these designs some pots bear simple tool impression and punching circles. The designs like the chevrons, meander, zigzag, triangular are also common (ibid, 1961: 18-20). The distinctiveness of the Sahuynh-Kalanay pottery tradition becomes apparent when the general characters and shapes are considered (ibid, 1961a: 97-108; 176-188; 1961b: 157-165).

The distribution of this tradition was identified in central coast of Annam - central Phillipine, Northern Malaya, Thailand, Sarawak, Celebes etc. The dates of occurrence of the pottery of this tradition vary from place to place (ibid, 1961; 1961b). It reached to Borneo, Palawan and Visayan island of Phillipine by 750 B.C. In Malaya this pottery is reported from Late Neolithic context (ibid, 1964: 383). The same is the case in Sarawak (1965). In Thailand and in other sites the pottery of this tradition was found in association with bronze and iron. In Indo-china, Malaya and Thailand this tradition preceded the Chinese and the Hindu influence (ibid, 1961: 17). In some places this tradition continued upto 1000 A.D. as a distinct pottery tradition (ibid, 1961: 16). This tradition retains some elements similar to that of
the Lungshang pottery tradition of North China (Solheim, 1964 : 376).

Besides, there is another tradition namely Bau-Malaya of South East Asia which is widely distributed in South East Asian region. The pottery of Bau-Malaya tradition is in many ways practically opposite to Sa-huyng-Kalanay tradition (ibid, 1961 : 20). This is less sophisticated than that of the Sa-huyng-Kalanay pottery tradition and characterized by ribbed and crossed design. From these patterns, the geometric pattern developed. This pattern (i.e., geometric) became more complex and finally gave rise to floral ones. Besides, the vertical ribbing was done by gouging (carving), appliqueing, modelling etc. Applique became more common in the pottery produced lately; the same is the case with incision which appears to be late in this tradition (ibid, 1961).

At first the carved patterns were simple, like those of the Early Sa-huyng-Kalanay (ibid, 1964 : 376). The distribution of this tradition is both archaeological and ethnological (ibid, 1961 : 21). It was found in association with the geometric pottery of South China where it dated back to C 1500 B.C., and thence from it reached to Formosa by 1000 B.C. Pottery of this tradition
has further been encountered in the archaeological sites of Northern Indo-China, in Palawan, Bicol and Mindana in the Philippines Islands, in Borneo, Java, Malaya and Southern Thailand. Ethnological collection and description indicate that this pottery has been made in the last century in Formosa, Luzon, Mindonao in the Philippines, Borneo, Sumatra, Malaya, Thailand, Laos, Cambodia, Vietnam etc.

Solheim argued that the population bearing this tradition started dispersing from China over the areas under the pressure created by Ch'in and Early Han. They reached these areas at different periods of time. In course of their migration, they imbibed certain local elements of pottery from the cultures they came in contact with (Solheim, 1964: 366-376; 383-384).

Some elements from the traditions already mentioned filtered, in all likelihood, into the pottery traditions of Ambari. Ambari site lies in the periphery of South East Asian region where the pottery traditions flourished must have also found its way to Assam through the North-eastern corridor. It is worth mentioning in this context that ethnically the original inhabitants of South East Asia including undivided Assam are predominantly
Mongoloid in origin. The economic basis of their means of subsistence is nearly the same. Movements forward and backward of the people throughout this region are historically and empirically well known facts. These are: ribbed or imperfect form of woven basketry and crossed designs. The infiltration of these two designs are noticed right from the inception of the habitational layer (i.e., from the layer (9). What is more these two designs consistently continue throughout the habitational layers.

These two designs represent the Sa-huynh-Kalanay pottery and Bau-Malaya pottery traditions. Though these traditions exhibit some commonness in their characters, but in details the differences are pronounced. Practically, in certain respects, they contrast with each other. Within their centre of origin these designs underwent variations and development; these variations, sometime, ranged in their forms or in their techniques of manufacturing. The above mentioned designs that this site (i.e., Ambari) exhibits from these centres are not many; these are limited to a few ones only. These two designs, nodoubt, received circulation during almost all the cultural phases; but showed no variations or evolutionary changes.
In fact, all the elements found in Sa-huyhn-Kalanay and Bau-Malaya did not reach here. The acceptance was more selective than indiscriminate. The reasons as to why two pottery elements were acceptable and why others were not accepted or rejected are not clear from the data at our disposal. The selective acceptance of these designs by the potters and their prolific circulation make the situation interesting and problematic as well. To meet this situation, it is better to consider the dimensions of time and space, besides considering the socio-economic conditions which provided platform for these pottery.

The ribbed and crossed designs in Bau-Malaya pottery (which is a counterpart to Sa-huyhn-Kalanay tradition) underwent transformation and gave rise to geometric and floral designs in course of time. These designs here (i.e., Ambari) remained unchanged due to two reasons. May it be that the potters did not find further incentive to modify these designs as the other designs were more or less equal in circulation. This might have inhibited the potters from modifying these designs.

The applique that developed lately in Bau-Malaya finds its parallel in some potsherds collected from the layer (4) of this site. It should be mentioned
here that a complete vessel of comparable design is preserved in the State Museum of Assam. The occurrence of this type of sherd or pottery at this site is extremely limited and this leads us to assume that this reached here from the centres/its production by way of trade like that of the celadon ware. Probably, their arrival at this site (in particular) was contemporary with that of the celadon ware from China.

The site Ban-kao is situated in the western part of central Thailand. The absolute chronology of this site is yet to be determined. The same problem is also for pottery that occurred in association with the cemetery as grave goods. The pottery that are found in association with the stone axes are described as neolithic pottery. Similarly the association of iron artefacts in other graves put the pottery in iron age.

The line that differentiates the pottery into two periods is arbitrarily defined and flexible in nature as it discounts the possibility of juxtaposition of metal and stone using peoples. The main object of this type of tentative division aims at evolving some working terminology for the pottery of this site. The distributions and characters of the pottery remain almost same in both the
types of graves (i.e., stone using and iron using grave). This shows continuity in respect of pottery traditions throughout the ages. Introduction of metals did not bring about any major change in the pottery tradition. This continued uninterruptedly.

The pottery collected from both the types of sites are invariably hand made. These are mostly wide mouthed bowl types which are sometimes provided with stands (peculiar to South East Asian Pottery tradition) or without any stand; but all are invariably cordmarked. The absence and the presence of stands in these bowls did not affect their general characters.

The second group consists of the vessels. These are sometimes provided with ring stand or are without any. Most of them exhibit plain surface and the texture of the clay is coarse. The presence and the absence of the ring stands do not alter the general characters of the vessels as has been observed in case of the bowls (Ier Sorensen, 1967).

The changes mentioned above alter the functional nature of these pots though their general morphological character remained unaltered. This is an example to explain as to how the pottery types of this site got itself
adjusted with the varying functional needs.

The pottery that were collected from Ambari towards its upper limit bear some similarities with the bowls without legs collected from Iron Age burials of Ban-kao (Per Sorensen, 1967: pl. 24, 28a, 29a & b). The pottery collected from Iron Age burials is a continuation of neolithic ones with its unaltered forms. The ridge is found to be present on the pottery from both these sites. The bowls having ridge on their body stand as a distinct group in the pottery assemblages of Ambari.

All these similarities point towards the idea of making bowl of this type (Pl. 13:4) might have filtered into Ambari from Thailand. The variation that the pots of this site exhibit are primarily due to the local influences received in courses of time. The same phenomenon was observed at Hou-Chia Chuang of Northern Honan group in China. There the string impressions, peculiar to prehistoric pottery of Northern Honan group, were used as a design on the wheel made pottery as well. It is to be noted here that the pottery bearing this design were not prehistoric (Wu, 1938: 27-34). Continuity of this design may be taken merely as an example of a survival of prehistoric tradition.
Solheim and others (1966) carried salvage excavation in the Northern part of Thailand. The ribbed and combed designs were collected from the Bronze and Iron Age sites of Lam Pla Ptemg and Lam Fao respectively. These designs may be compared with the ribbed and combed designs of Ambari.

The criss-crossed design may be obtained by alternating the arrangement of the lines (that usually produce ribbed or basketry pattern) while engraving on the paddle. This design is reported from the prehistoric Malaya (Peacock, 1953), Northern Thailand (Solheim, et al., 1966) and Manipur (Singh, 1972) – an Indian site and nearest to this site. It lies adjacent to South East Asian cultural pools. What is assumed here is that these designs might have made their way to this site (i.e., Ambari) from the areas mentioned above through Burma and via Manipur.

The salvage programme carried at North-eastern Thailand (ibid) yielded some ledged or grooved rim (ibid: 139, 144 & 150) may be compared with the rims (Fig. 17:6) collected from Ambari occurring at layer (3) and (4) respectively. In these aforesaid sites of Thailand the rims of this type are reported from Iron Age context.
The occurrence of this type of rims at this site is comparatively later than that of Thailand.

Considering the above evidences it may be surmised that the pottery traditions at Ambari were no doubt, heterogeneous in their composition and character. These traditions bear the stamp of Indian as well as South East Asian traditions at different phases of development. Sometimes, their appearance is synchronous; at other times it exhibits differences in time of appearance. These traditions are very often characterized by their juxtaposition and point out their distinct identities.

This does not mean that the pottery traditions at this site are merely a product of the influence of the two traditions mentioned above. They have their own peculiarities that become evident when these are compared with and studied against the aforesaid traditions. So far, we have focussed upon the elements which the pottery of this site possesses in common with other traditions mentioned in the foregoing pages. This may give an impression that the pottery industry was non-existent before the arrival of these foreign traditions. Prior to the infiltration of these foreign elements, there must have existed some local
pottery industries. This becomes evident from a comparative study with the traditions mentioned earlier. As regards their probable date of origin, our speculation suffers from limitations. The little evidences emerging out of the fragmentary nature of sherds reveal the application of wheel in manufacturing these pots. This at the same time does not rule out the possibility of hand made method which also plays a substantial role in the formation of the pottery industry. The pottery made by this technique multiplied in number towards the end of the first phase and continued onwards.

The presence of the foreign elements does not necessarily mean that the local traditions were completely replaced by these traditions. It was a matter of transfusion of some selective elements into the pre-existing pottery traditions. This got an upperhand towards the later phases of the development of this site. These types of selective combination of the different elements gave a new configuration to the pottery industries of this site. This is common to all the cultural sites which become heterogeneous in character.
Location of Site: under study

Pl. No. XVI
Plan - 2

Excavated Areas at Ambari
Pl. No. XVIIa - Ambari: Trench - I

Pl. No. XVIIb - Ambari: Trench - III

STRATIGRAPHY: SECTION
WEST BONG AMB-I
SCALE 1:CM=1M

4. Section: Ambari (AMB-I)
FIG. 8

POTTERY TYPES
POTTERY TYPES

FIG 12
FIG. 15

POTTERY TYPES
POTTERY TYPES

FIG 16