

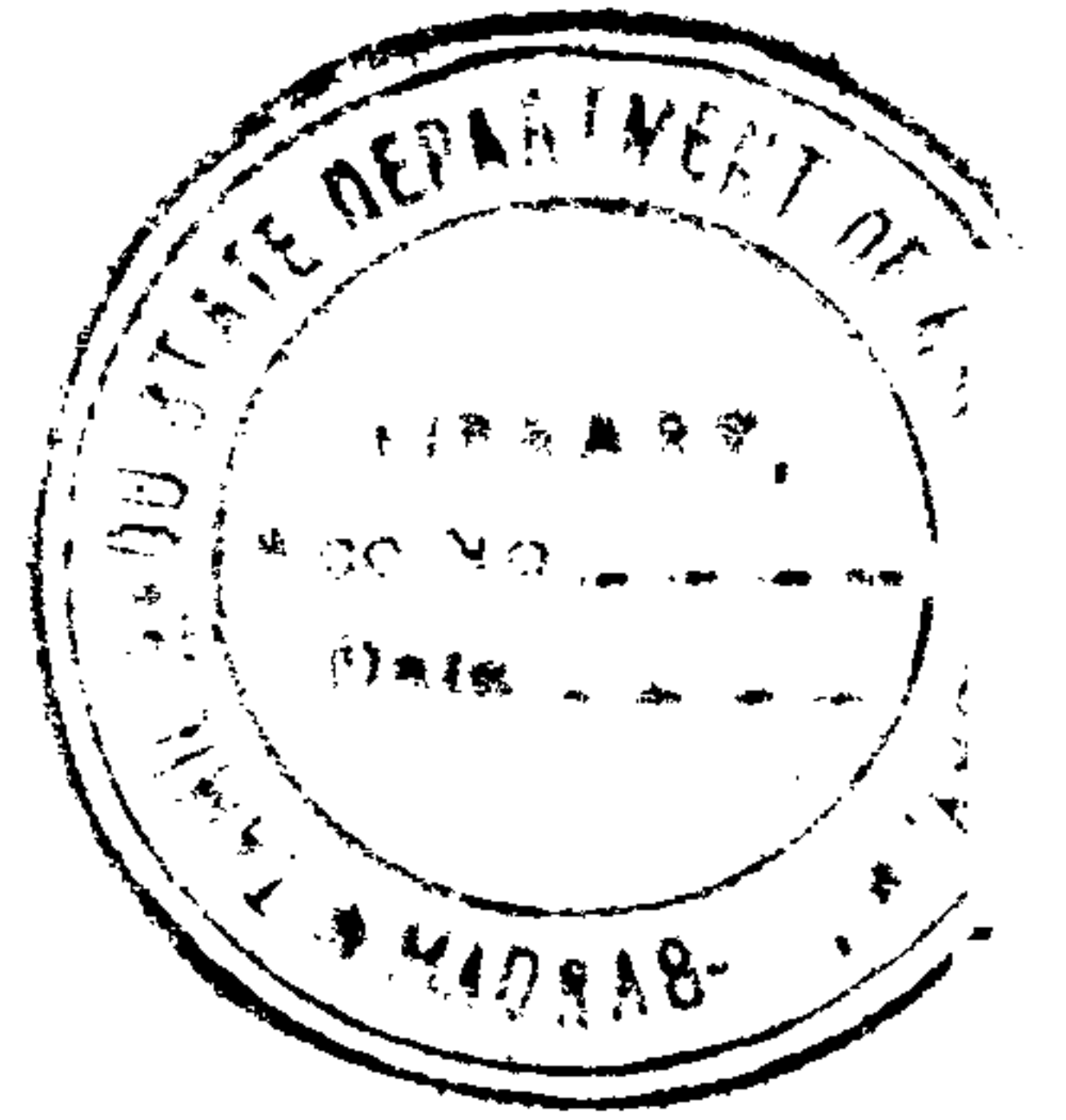
EXCAVATION OF ARCHAEOLOGICAL SITES IN TAMIL NADU

ALAGANKULAM

**AN ANCIENT ROMAN PORT CITY
OF TAMIL NADU**

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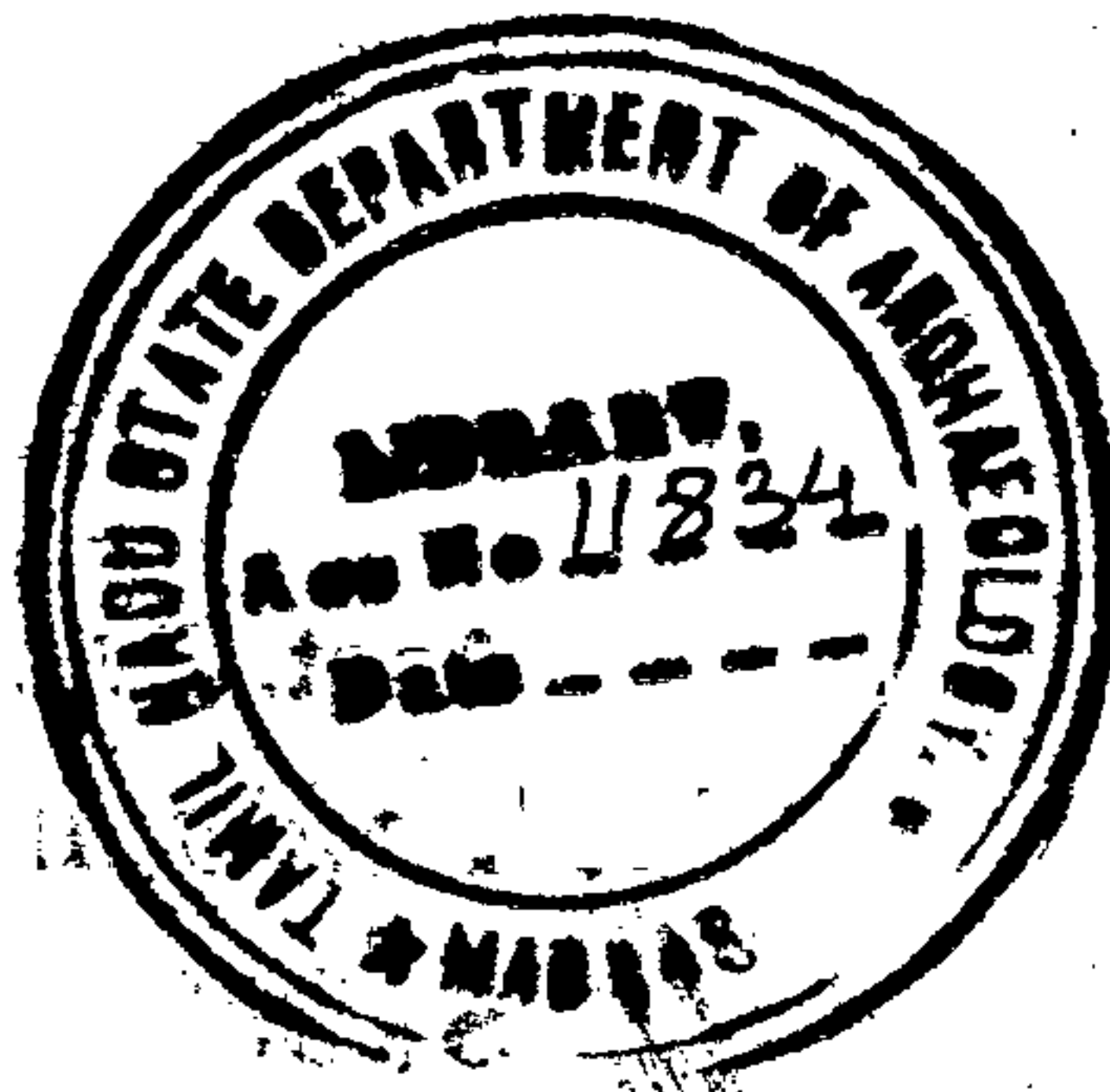
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AN ANCIENT ROMAN PORT CITY

OF TAMIL NADU

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PREFACE

The ancient Tamil land extended from “Vadavenkadam” or Tirupati in the North to “Tenkumari” or Kanyakumari in the south of the Indian peninsula. The Cheras, the Cholas and the Pandyas, ruled the then Tamil Nadu. There are many literary, inscriptional and archaeological evidences about the existence of these kingdoms. Among the three, the Pandyas ruled the Southern part of Dravida nadu. The artifacts found at Alagankulam reveal that it was once a flourishing trade center under the Pandyas.

The Pandya kings and their kingdom are mentioned in the two epics, the Ramayana and the Mahabharata. The poet Valmiki of Ramayana listed the kingdoms south of Vindhya, including that of the Andhras, the Pundras, the Cholas, the Pandyas and the Keralas. In Mahabharata there is a reference about a Pandya king who is said to have been present at the time of Draupadi's Swayamvara, and another Pandya king is also said to have taken part in the great Bharata battle. Kautilya's Arthashastra describes the trade between Northern and Southern India and speaks of the pearls and muslins being exchanged from the Pandyan country.

Madurai, the capital of the Pandyas was once a famous seat of learning. According to tradition, three different Tamil Sangams, (academies of learned men) existed in ancient Tamil Nadu. The first

of these was at Tenmadurai, the old capital of the Pandyas, which was believed to be submerged in the sea; the second at Kapatapuram was also swept under the sea and the third Sangam was held at the present town of Madurai called Vadamadurai (North) (to distinguish it from the submerged Tenmadurai (South)). The Tamil kings especially the Pandyas patronized the sangam poets. The anthologies known as *Ettuttogai*, which includes *Narrinai*, *Kuruntogai*, *Aingurunuru*, *Padirruppattu*, *Paripadal*, *Kalithogai*, *Agananuru*, *Purananuru*, and the *Ten Idylls* or *Pattuppattu* as well as the *Tolkappiyam* of 100 BCE – 300 CE give vivid references of Pandya territory and their port towns.

Apart from the above said literature there are many references about the Pandya kingdom in the Ceylonese chronicle *Mahavamsa*. The king of Ceylon Vijaya married the daughter of a Pandya king of Daccina (South) Madurai. The Pandyas and their capital city Madurai were well known to the ancient Greeks and Romans. The inordinate love of importation of luxuries from the east by the Romans enormously increased the trade with India; therefore the Roman merchants made their centres of trade in the seaport towns of the west and east coast, sending Indian products to Rome and receiving in return Roman goods. After the establishment of the Roman Empire, and the advent of the direct sea route there was a greater demand for the products from Southeast Asian countries, especially India. This had been linked to a vast network stretching from Western

Europe, via the Mediterranean basin, the Persian Gulf and the Red sea, to India, South East Asian countries and China. Indo- Roman commercial undertaking seems to have been highly organized and is well documented in classical writing dating from the second century CE; this is well attested by the finding in the excavations at archaeological sites. The rising demands for exotic and prestigious items like spices, perfumes, precious stones and pearls, silks and muslin, tortoise shell, ivory and rhinoceros horns, dyes and unguents, lac, were for consumption and adornment in the sophisticated urban civilizations of the Mediterranean basin, from India and China. The trade activities of the Romans and Greeks were also mentioned by the foreign authors like Strabo (25 BCE) who states that a Pandya king sent an embassy to the Roman Emperor Augustus probably in 22 BCE. Pliny (75 CE) mentions the Pandae, (the king Pandion) and his "Mediterranean emporium of Modoura" He also recommends to the Romans a geographical study of the route to India, which he says is a very important subject because 'in no year does India drain our Empire of less than 550 millions of sesterces, giving back her own wares in exchange'. This was attested by the Statement of Periplus of the Erythrean sea. A generation before the Periplus, in 22 C.E., this was made the subject of a letter from the emperor Tiberius to the Rome Senate: "If a reform is in truth intended, where must it began. And how am I to restore the simplicity of ancient times?.... How shall we reform the taste for dress?.... How are we to deal with the peculiar article of feminine vanity, and in particular with that rage for jewels and precious trinkets, which drains the empire of its wealth, and sends, in exchange for baubles, the money of the

commonwealth to foreign nations, and even to the enemies of Rome". Ptolemy (130CE) also describes the interior of the Tamil country and mentions a number of inland cities of the Pandionoi, i.e., Pandyan country. The amphorae Italian Arretine ware, gold, silver, and copper Roman coins were also found on the South Indian coast. The Yavanas or foreigners were employed as bodyguards to Tamil rulers. There were regular Yavana settlements on the coast at Kaveripoompattinam and Muziri. A temple to Augustus was built at Muziri.

There are a number of epigraphical references about the Pandyas and their kingdom. The Ashoka second and thirteenth minor rock edicts at Maski in Raichur district, and Erragudi (Suvarnagiri) in Chitaldurg districts respectively give details of the South Indian kingdoms and Ceylon. The list in the second edict is comprehensive and includes the names of Chola, Pandya, Satiyaputra, Keralaputra and Tamraparni (Ceylon). These countries are distinctly stated to have lain outside the empire of Ashoka. Another Hathigumpha (elephant cave) inscription of Kharavela, who ruled the Kalinga country, makes references to the Pandya country and to a confederacy of Tamil states (Tramiradesasanghatam). This epigraph also records that the pearls, horses, elephants, jewels and rubies were brought from the Pandya country to Kalinga. Apart from the above said inscriptional evidences a number of caverns with Brahmi inscriptions have been found in and around Madurai region. Of these, Tirupparankunram, Anaimalai, Konkarpuliyamkulam, Alagarmalai, Sittanavasal, Muttuppatti and Meenakshipuram are to be specially

mentioned. The caverns with the Tamil Brahmi inscriptions have a special significance since they are the earliest stone monuments of the Tamil country. Palaeographically these inscriptions were assigned to 3rd century to 2nd century BCE. Thus the literary and inscriptional evidences throw valuable light on the political condition of ancient Pandya kingdom. Likewise, the excavations carried out at Korkai, Alagankulam, and other places in the Pandya region, revealed the socio-economic condition of the people during the Pandya rule. through the material evidences.

At Arikamedu near Pondicherry, a Roman settlement was excavated and the site yielded large number of Mediterranean Potteries like amphora and Arretine wares of Imperial Rome. It is believed that the trade contact with Rome and other Mediterranean countries lasted only upto 1st and 2nd centuries of the Common Era. But the archaeological excavations at Alagankulam and the findings have opened a new chapter on Roman trade in the far South which continued up to 4th - 5th Century CE.

On the basis of the occurrence of the potsherds of Mediterranean origin and the coins of Roman Emperors, it can be presumed that a Roman settlement might have existed at Alagankulam in the early centuries of Common Era, as at Arikamedu. The fine variety of Northern Black Polished potsherds of the Mauryan Empire unearthed from this site reveals that a cordial and commercial relationship was prevalent between Tamils and the people of Gangetic plain.

The occurrence of terracotta figurine with Hellenistic influence, and a Rouletted shard with ship symbol are outstanding examples of

the influence of Western Kingdoms in the material culture of the ancient Tamils. The reading of the inscribed potsherds from Alagankulam excavations clearly reveals the close contact of Tamils with Sri Lanka. The letter and symbols found in the inscribed potsherds at Alagankulam digs resemble that of the letters and symbols of inscriptions present in the caves of Sri Lanka. This in fact reveals not only the commercial activity between Alagankulam and Sri Lanka but also the cultural and social contacts between the two countries. Manthai the ancient Sri Lanka port Mahatotta, lies just across the sea from Alagankulam in the Palk Strait; it helped to interlink Sri Lanka with Tamilnadu and also bridge the trade activities of South-East Asia and the West. Alagankulam in the east coast might have served as a center or a warehouse for the exchange of goods from Western countries to Eastern lands and Sri Lanka after the advent of the sea route. Naturally, after the decline and fall of the Roman Empire, the commercial activities collapsed, and Alagankulam lost its importance after 5th century CE.

The department of Archaeology has explored and excavated various historical sites in Tamil Nadu for the past 34 years. Among the excavated sites, Korkai in Thottukudi district, Karur in Karur district, Gangaikondacholapuram in Perambalur district, and Alagankulam in Ramanathapuram district are some of the more important locations, which have yielded excellent artifacts. The excavations confirm the location of the ancient capitals, their relationship between South India and North India and between Tamil

Nadu and Rome. The result of excavations of eleven sites was published as one book entitled 'Archaeological excavation of Tamil Nadu' (1965-1998) in 2004. The department is now bringing out a report on Alagankulam excavations, which will definitely be of a great interest to the general readers and the scholars in the field of Archaeology. The excavations were conducted during six seasons spreading over several years (1986-87, 1990-91, 1993-94, 1995-96, 1996-97, 1997-1998) and nineteen trenches were laid. I am grateful to the Dept of TDC&RE in allocating funds for this activity. I wish to place on record the dedicated efforts taken by Smt. S. Vasanthi, Msrs D.Thulasiraman S.Selvaraj and R.Selvaraj who participated in the field enterprise. I wish to thank Msrs D.Thulasiraman, Curator, Poondi Pre Historic Museum, S.Selvaraj, Archaeological Officer, Dharmapuri, S.Vasanthi, Archaeologist and S.Sreekumar, Technical Assistant, Chennai who rendered invaluable assistance in the preparation of this document. I would also like to acknowledge the assistance given by Mr.M.T.Sridharan in providing photographs and Smt. B.Valarmathi, Steno Typist in the preparation of this report.

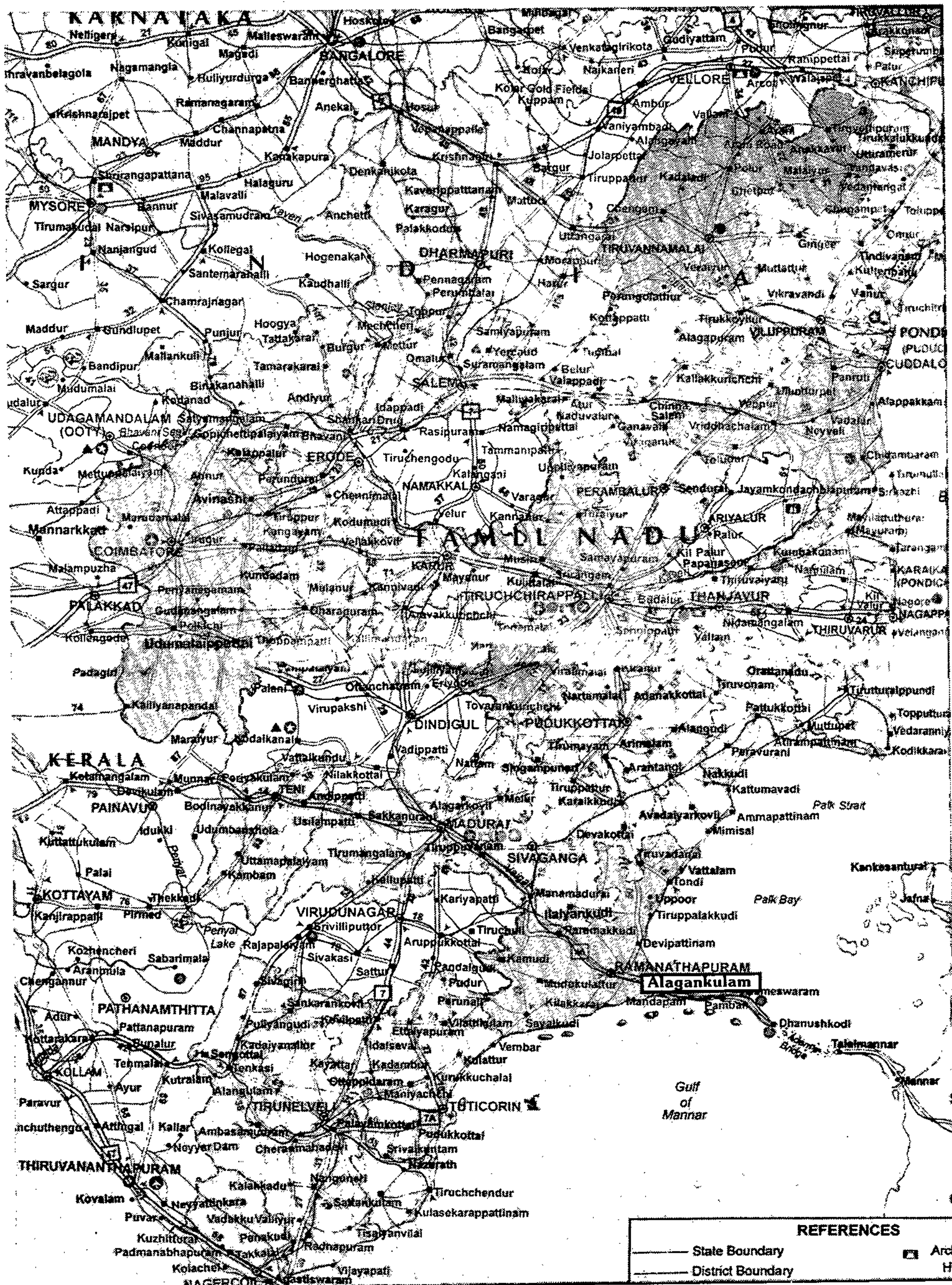


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Chennai-113

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MAP SHOWING THE LOCATION OF ALAGANKULAM

I. INTRODUCTION

The Tamil Nadu State Department of Archaeology located a Roman site - in the course of exploration by its Excavation Branch - in the month of September 1983, at a huge mound covering an area of nearly 15 to 20 acres known as "Kottaimedu" (mound of fort) near Alagankulam, a riverine village situated on the Coromandal Coast in Ramanathapuram District. This place was excavated during the years 1986-87, 1990-91, 1993-94, 1995-96, 1996-97, and 1997-1998. Totally, nineteen trenches were laid at Alagankulam mound and at *Pudukudieruppu*.

River Vaigai

The River Vaigai passes through the city of Madurai, the ancient capital of the Pandyas. It was a mighty river which emptied itself into a big tank near Ramanathapuram town; but now it is dry for nearly half of the year and beyond that town, the river bed has dried up totally; only traces of the bed passing through Alagankulam and joining the sea at *Attankarai* are visible, to show that it reached the sea some centuries ago.

However, there are copious references in the Sangam Tamil literature to this river since it passed through the Pandya capital Madurai. The Pandyas were called the ruler of the Vaigai, *Vaigai Koman*, just as the Cholas were called the ruler of the Kaveri. The Sangam work *Madurai Kanchi*, calls it a perennial river (line 356).

The commentator *Naccinarkkiniyar* also confirms it. The Tamil epic *Silappadhikaram* also refers to its perennial nature, the river that fed people of the earth with its various products and provided immense pleasure to those who courted her company. The poets showered praise on her, calling it the standard of the *Pandyakula*, *Pandyakulak Kodi*. Its greatness, particularly its floods which afforded the citizens of Madurai opportunity to indulge in all the pleasures of water sports, came in for repeated praise in the *Paripadal*, another anthology in the Sangam works. The *Paripadal* says that the river Vaigai joined the sea. The commentator, *Parimelalagar*, devotes as many as eight full poems (6,7,10,11,12,16,20 and 22) to this river and the water sports.

River Vaigai

The *Paripadal* (no.11), says that it starts in the Sahyadri mountain, and brings floods in the rainy seasons-*Karkalam*, (August and September)- when the water used to be muddy. In the *Ilavenil* season (*Chittirai* and *Vaikasi* months corresponding to April-May) the water is clear. There was also water in the winter months. From this, it is evident that the river had water even at the height of summer.

By the 12th Century CE (or even earlier) it had ceased to join the sea. *Ottakkuttan*, a poet in the court of the Chola emperor *Rajaraja-II*, mentions in his work *Takkayagapparan* that Vaigai does not join the sea. The learned commentator says that Vaigai is not a *Samudragamini* i.e. it does not join the sea, but joins the river *Pamparu*, which falls into the sea, and has dried up to a great extent.

Attankarai

The confluence of the river Vaigai with Bay of Bengal is very close to Alagankulam. River Vaigai runs between Alagankulam and Periapattinam, which was another port city during the 10th century CE.

Attankarai, is the place where the river Vaigai joins the sea, deep cuts are seen on the shore. These cuts seem to have been made for the convenience of the ships to anchor. So, it is presumed that this place might have played an important role as a seaport for exporting the commodities of Southern Tamil Nadu.

II. HISTORICAL BACKGROUND

Alagankulam (literally means the tank of *Alagan*) a small village about 24 km east of Ramanathapuram, town on the northern bank of Vaigai; it was once a port on the eastern coast of Tamil Nadu, during 500 BCE to 1200 CE.

Barring the archaeological artifacts, there is no direct evidence about this village either from literature or from inscriptions. However, the Sangam literature and the account of Ptolemy mention a few places in the vicinity as important seaports that played a significant role in the trade contacts between Tamil Nadu, the Far East, and the Far West. In ancient times, seaports were situated at the confluence of the rivers that flow near the Capital cities of reputed empires which ultimately merges with the sea. Because, the goods that were imported and those that required to be exported would be easily transported by boats with rivers serving as inland waterways.

The famous seaport Kaveripoompattinam was situated at the confluence of the river Kaveri with the sea, the river which flows near Uraiyur, the Sangam Chola Capital city. Likewise, the Chera port city Musiri, was on the western coast, where the river Periyar flowing near Vanji, the Chera capital city, joins the sea. Therefore, there should be an active seaport at the confluence of the river Vaigai, which runs through the Pandya Capital city, Madurai, with the sea.

In the first century CE, there was very close commercial contact between Rome and Tamil Country. Sangam literature and the

accounts of foreign writers like Pliny, Ptolemy and the author of Periplus give ample evidence about the several activities of Romans in ancient Tamil Nadu.

Strabo says that Pandyas had sent two embassies to the Roman Emperors Augustus, Clandius Caesar. Roman soldiers were enlisted in the armies of certain Pandya Kings. There are references in Sangam works about Roman guards at the palace of the Pandya King Nedunchezhian.

Purananuru speaks about the Pandya Kings who consumed the delicious wine imported from Rome. The close relationship of Pandyas with the Roman Kings might have led to the establishment of a Roman colony and a seaport at Alagankulam.

The Pandyas had two port cities (I-e) Korkai and Saliyur or Marungoorpattinam on the Coromandal coast. Korkai was well identified by the Archaeological excavations at Korkai Village near Srivaikundam in Thottukudi District. But, Saliyur is yet to be identified by the scholars.

The Tamil Sangam Classic "*Madurai Kanchi*" refers to a Pandya seaport called "*Nellinoor*" situated in the east coast. Ptolemy mentions a seaport called "Saliyur Emporium" situated north of Korkai in Pandya country. E.H.Warmington, an authority on Roman maritime studies, also cites that the port Saliyur might have been situated at north of Korkai and just opposite the northern tip of Srilanka. 'Sali' means paddy (Nel) in Tamil. So, it may be concluded that Nellinoor and Saliyur are one and the same place. Alagankulam is about 80 kms

north of Korkai and situated opposite to the northern tip of Ceylon. The antiquities from the excavation like Roman coins, pot sherds of Mediterranean Origin, semi-precious stone beads and conch bangle pieces prove that Alagankulam was none other than Saliyur or Marungoorpattinam, the ancient seaport referred to in Sangam Literature.

Ahananuru, one of the Sangam works refers to two places *Unur* and *Marungurppattinam*, which appear to have been in close proximity to the present Alagankulam, according to the descriptions found in it. *Nellin Unur* is identified with *Nellin Ur* of *Maduraikkanchi* wherein the place is portrayed as a very busy port to which a number of ships used to bring articles from different countries. The waiting ships at this port have been compared with the group of mountains that are about to seize the flood (*Maduraikkanchi*, 75-88).

Marungurpattinam was divided into two parts namely *Unur* and *Marungur*. *Marungur* was the seashore area while *Unur* was lying on the western part of it. It seems that these places were similar to those of *Maruvurpakkam* and *Pattinappakkam* of *Kaviripumpattinam*. This *Unur* also seems to have been surrounded by fort wall as that of *Pattinappakkam* in *Kaviripumpattinam*. *Ahananuru* (227:18-20) gives an elaborate description of this *Unur* and *Marungurpattinam* as follows:

“கடிமதல் வரைப்பின் ஊனூர் உம்பர்
விழுந்த் துஞ்சம் வீறு பேறு திருநகர்
இருங்கழிப் படப்பை மருங்கூர்ப் பட்டினம்”

In another poem of *Ahananuru*, *Unur* is described as a place, which was abundant with paddy.

முழங்கு கடல் ஓதம் காலைச் சொட்கும்
பழம்பல் நெல்லின் ஊனூர்

(அகம் : 220)

If the above identifications are taken into consideration one could unhesitatingly locate the present Alagankulam with the ancient *Unur* and *Marungurppattinam* as they were believed to be situated between Tondi and Korkai on the eastern coast. Mayilai Seeni Venkatasami locates this *Marungur* in between Tondi and Korkai.

It is understood from the local legend that this village was ruled by a king known as Alagendran. He built a beautiful palace and a strong fort surrounded by a deep moat in this village. Hence, this village was called Alagendramangalam, which in course of time changed as Alagankulam. A late Tamil ballad called *Nalumandirakkummi* gives a vivid description about this village and the ruler.

In Alagankulam, there is a small mound known as *Kottaimedu* covering an area of nearly 15 to 20 acres on the western side. This mound is divided into two parts by a tar road leading to this village. On the northern part of this mound, there is a High school. The southern part is virtually barren except for some thorny bushes.

III. CULTURAL SEQUENCE AND CHRONOLOGY

Totally nineteen trenches were laid at different places of *Kottaimedu* and at *Pudukudiyerruppu* (*Amman Kudiyerruppu*) to assess the habitational deposits, and to determine their cultural sequence and chronology. Based on the study of the stratigraphy, pottery types and other minor antiquities, four successive occupational periods are determined. Radio Carbon 14 dating also served as an absolute evidence to fix the earliest date for rouletted ware. The early three periods (Period-I, II, III) are well represented in eighteen trenches dug at different points of *Kottaimedu*. The last period (Period-IV) formed in the trench AGM-19 only. It was laid on a mound at *Pudukudiyirruppu* (*Amman Kudiyirruppu*), which is situated 1 km. away from *Kottaimedu* in the northeastern side, where the sea is very near. The archaeological excavations at *Alagankulam* showed, that the people occupied the *Kottaimedu* area first and slowly shifted to *Pudukudiyirruppu* in later times (medieval period). The reasons for abandoning the settlement at *Kottaimedu* could not be ascertained from the excavation. However, it might have happened due to receding of the sea.

Period-I represents the first phase of early historical culture. The ceramic tradition of this period included Black and Red

ware, Grey ware, Red ware, Mat-Designed pottery, and Northern Black Polished ware (N.B.P). In the lower level Red ware and Black and Red ware were found in large numbers. In the middle level along with the above potteries Grey ware and Mat-Designed potteries appeared in bulk. The occurrence of N.B.P ware was a remarkable discovery in the upper level. Shell bangle pieces, Terracotta beads, Iron Objects, pot sherds with Graffiti marks, Inscribed sherds, Bone arrow heads and Terracotta Hopscotches are some of the notable antiquities of this period.

Period-II represents the second phase of early historical culture. It is characterized by the occurrence of Red ware, Black and Red ware, Mat-Design pottery, Grey ware and Inscribed sherds. The appearance of Amphorae pieces, Stamped sherds and Rouletted ware in bulk quantity was a special feature of this period. A few N.B.P sherds also occurred in the early phase of this period. Other notable antiquities are grooved roofing tiles, beads made of stones, glass, shell, coral and terracotta beads, terracotta games man, terracotta spindle whorls, terracotta spouted knobs and Conch bangle pieces, etc., A graffiti marked Rouletted sherd with a mule rider, Pandya square copper

coins and a few Punch marked coins are the outstanding findings of this period. The upper level of this period also yielded a few Arretine sherds.

Period-III also represents post-early historical culture. The appearance of Red rouletted ware is the only difference between Period-II and III. It is distinguished by the occurrence of Black and Red ware, Red ware, Grey ware, Mat-Designed pottery, Stamped sherds, Inscribed sherds, Amphorae pieces and Rouletted ware. The red rouletted ware began to occur in this period in profuse quantity. The usage of grooved roofing tiles also continued in this period. The upper level of this period yielded 'L' shaped roofing tiles; semi-Precious stone beads and shell bangle pieces. A rouletted sherd with a ship symbol, terracotta dice, rouletted sherds with elephant and bull symbols, and Roman coins were the noteworthy findings of this period.

Period-IV represents early medieval culture. It is distinguished by the occurrence in bulk quantity of coarse red ware without any slip. The Chinese celadon ware and porcelain ware also appeared in this period. Along with the shell bangle pieces, black glass bangle pieces were also obtained.

Chronological chart of Alagankulam

Period & Date	Pottery types	Dominant Pottery
Period I 500 BCE to 300 BCE	Red ware Black and Red ware Mat-design pottery Northern Black Polished ware (N.B.P) Greyware	Black and Red ware
Period II 300 BCE to 100 CE	Red ware Black and Red ware Rouletted ware Mat-design pottery Grey ware Inscribed sherds Stamped sherds Amphorae sherds	Rouletted ware
Period III 100CE to 500 CE.	Red ware Black and Red ware Amphorae sherds Rouletted ware Alagankulam –Red Rouletted ware Grey ware Stamped sherds Mat-design ware	Alagankulam Red Rouletted ware.
Period IV 500 CE to 1200 CE	Coarse red ware, Celadon ware Porcelain ware,	Coarse red ware

IV. TRENCHES

In order to examine the archaeological potentialities of Alagankulam actual excavation was started in the year 1986-87 by the Tamil Nadu State Department of Archaeology; the excavations continued for five seasons during the years 1990-91, 1993-94, 1995-96, 1996-97 and 1997-98. Totally nineteen trenches were laid bare and were named as AGM with trench number.

AGM-1

It was laid bare on the top most portion of the mound, north of Government High School. The measurement of this trench was 4 X 4 m lying in north-south orientation. The actual digging was carried out in the south eastern side of the trench in between pegs I and II, covering an area of 2 X 2 m. Digging was stopped at the depth of 5.10 m due to the occurrence of mortar flooring.

Further digging was started on the northeastern side of the trench on the eastern part in between pegs II and IV. Digging at this portion reached up to the depth of 3.85m. Then in order to examine the flooring portion excavation was carried out in a part of the flooring side. After having reached the depth of 4.95m, the digging was made in the whole eastern part of the trench in between O to IV pegs. It went up to 5.25m. Sensing the danger of landslide, digging was shifted to the western portion of the trench in between the pegs position of O' to IV'. At the depth of 6.35m. natural soil occurred in this position.

Nine layers were noticed in this trench; being the first layer, it was made up of grey loose clay mixed with sand extending up to 1.90 m. From this depth the second layer forming slightly hard clay in grey colour mixed with sand started extending to the depth of 3 m. The third layer was of grey hard clay occurring to the depth of 4.10 m while the fourth layer was made up of grey loose clay mixed with a few brick bats. It was found up to the depth of 4.45 metre. Afterwards, the formation of grey loose sand appeared as layer fifth reaching the depth of 4.60 m. The sixth layer consisting of yellow hard clay occurred till 5.10 m. Slightly dust in grey colour forming as layer seven was noticed upto the depth of 5.60m. Then began the eighth layer made up of grey loose clay reaching to the depth of 6.05 m. The Ninth layer was formed of white loose sand extending to the depth of 6.25 m.

At the depth of 5.25 m a highly polished black ware known as N.B.P. ware was unearthed; the date of this ware is probably assignable to 400 B.C.

AGM-2

This trench was cut covering an area of 3 x 3.5 m reaching to the depth of 3.40 m between the pegs I-II and I' - II' on the southern side between the pegs 0-1 and 0' - 1'. The digging was possible to reach the natural soil at 4.85m. in a small portion on the eastern side of the trench in between I' and II'. Due to the occurrence of a mud floor at the depth of 3.40m, the excavation was not carried out.

in that portion. Similarly, at the depth of 2.35 m., between the pegs 0-1 and 0'-I' mortar flooring occurred below the level of charcoal deposits. Hence the digging could not be continued in that area.

Totally, this trench revealed six layers made of different texture. First layer was characterized with the grey loose soil mixed with sand, while the second layer was made of brownish loose soil associated with large number of brick bats and tile pieces. Third layer was of brown hard sand. Fourth layer was formed of yellow hard sand while the fifth layer was slightly differed by containing a few brick-bats. The sixth layer was made up of yellow loose sand.

At the depth of 1.00m, a dump filled with brick bats, tile pieces and potsherds appeared between the pegs of II and III. Occurrence of grooved tile pieces in large number was noticed from the level of 0.90m. depth to 1.90 m depth in the eastern part of the trench.

At the depth of 1.85 m a pit was noticed at the eastern portion of the trench containing a large number of sawed conches, brickbats and grooved tile pieces. Another interesting feature of this trench was the appearance of black band of carbon running on all sides indicating the occurrence of fire at the depth of 1.55 m. The burned wood identified belongs to Palmyra tree.

Another pit was noticed at the depth of 2.40 m. It contained shell pieces and a few black and red sherds in well-preserved condition, retaining the original shine.

AGM-3 Block

In AGM block 3, the trench AGM 3/A1 was laid out on the eastern side of AGM1 measuring to the extent of 4X4 m. It was dug upto the depth of 0.80 m where a lime mortar was met extending in north south orientation of the trench. Here, the digging was stopped at this level to examine the flooring.

At the depth of 0.45 m a dice or a weight with four sides made up of the rim portion of a rouletted ware bearing symbols was found. Another important find is a small round copper coin of Arcadius I, a Roman King (395-408 A.D). A rouletted pot, sherd was also found with ancient Tamil Brahmi script which reads as 'Sirita' at the depth of 0.50 m.

On the eastern side of this trench block AGM 3/A2 was laid bare in order to assess the extension of the flooring that occurred in Block AGM 3/A1. The measurement of this trench also was 4X4 m. It reached to the depth of 6.40 m. Five layers were noticed in this trench.

A hearth was noticed near the eastern wall of this block in layer 3. In the same level two post noles were also found, in the north eastern and south eastern corner of this Block. The distance between the two post-holes was 4.50 m. In the upper level of this layer where the hearth and post holes occurred, a heap of brick bats not in alignment was also noticed. It runs from the northeastern corner of the wall towards western corner in a zig-zag fashion. In the whole

trench the brickbats were seen in a scattered manner at this level. The occurrence of postholes and hearth indicate the existence of dwelling huts made up of wooden posts and thatched roofs. This was the first phase of the dwelling. At the beginning of this layer a huge amount of brickbats were noticed. The occurrence of brickbats and iron nails at this level leads one to think that the people used the burnt bricks and iron nails for construction of their dwellings in later period. Hence, it seems to be the second phase of the dwelling. The lime mortar flooring noticed in Block AGM 3/A1 and AGM 3/B1 appears to be the third phase of the dwelling.

A square copper coin was found in layer 4. The coin may belong to Pandyas of Sangam age. A gold ring which is spiral in form was found in layer 5. Three copper coins, a circular metallic weight and a copper ring were also unearthed in this block.

Another trench called block AGM 3/B1 was cut on the Northern side of Block AGM 3/A1 in order to find out if the lime mortar floor extents towards north also. The area of this trench was also 4X4 m. At the depth of 0.85 m the same lime mortar floor was met. Hence, the excavation was stopped at this level in this trench also. There were traces of the existence of a mud wall in this level at the eastern side of this block.

AGM-4

This trench was marked about 20 m north of AGM-1 measuring to 4 X 3 m. It revealed six layers reaching natural soil at the depth of 6.40 m.

AGM-5

This trench was laid in the eastern side of Kottaimedu to know the extension of habitation deposit of the site. It measured 4 X 4 m and represented ten layers. A Rouletted sherd with human figure (Depth: 70 cm layer no-(1) and another Rouletted sherd with elephant figure (Depth: 1.60 m Layer no;(3)) were important antiquities recovered from this trench. The natural was found at a depth of the 5.60 m.

AGM-6

It was laid at the eastern side of the mound to know the thickness of its habitation deposit. It measured 4 X 4 m and yielded only seven layers.

AGM-7

This trench is laid at the southern side of Govt.High School of Alagankulam and eastern side of *Kottai Muneeswaran temple*. It was oriented East-West direction and measured 5 X 4 m. Pegs are planted for every 1 one metre on both sides of the trench and marked as 0, I, II, III, IV at southern side and as O', I', II', III', IV' at northern side; after leaving 50 cm gap at southern and northern sides of the trench from the pegs, the actual area of digging is demarked as 4 X 4 m. It was excavated up to the natural soil and 6 layers were identified. The outstanding antiquity recovered from this trench was a Rouletted sherd with ship symbol. It was collected at the depth of 1.12 m in the layer number (3) (Period-III).

AGM-8

This trench was laid at the northern side of the Kottaimedu after removing the dense thorny bushes. It measured 4 X 4 m and oriented East-West direction. The pegs were planted at the northern and southern side of the trench at one metre interval. Totally seven layers were represented in this trench. This trench yielded a Black and Red ware sherd of a vase with three Brahmi letters in the depth of 70 cm in layer number (2). It reads as 'aaram'. It means sandalwood in Tamil. There is a reference in the Epic *Silapadikaram* about the several imported items from Savagam (Modern Indonesia) to ancient seaport Thondi on eastern coast. Aaram was one of the imported items along with *Agil*, *Thugil*, *Vasam*, and *Karpooram* from *Savagam*. The sandalwood from Savagam was white in colour and superior in quality and smell. Thondi is about sixty kilometer east of Alagankulam. This small vase might have been used to keep the sandal wood paste.

AGM-9

It was laid near *Kottai Muneeswaran temple* at the southern side of the previous trench (AGM-7) to collect more antiquities like graffiti and inscribed sherds. AGM-7 yielded a rouletted sherd with ship symbol. It is the first time this type of sherd with ship symbol is noticed. This find created great sensation and eagerness among the scholars about ancient Tamil navigation.

AGM-10

This trench was laid at the northern side of Kottaimedu. It measured 4 X 4 m. This trench exposed ten layers. The first layer

was found in all sides of the trench. The soil was compact, grey in colour and mixed with large number of potsherds. The average thickness of the layer was 60 cm. The second layer was also compact in nature, dark grey in colour and mixed with large number of potsherds. The average thickness of the layer was 65 cm. The third layer was slightly compact soil, pale grey in colour and mixed with potsherds and a few brickbats. It was not seen in the southern and eastern sections. The average thickness was 35 cm. The fourth layer was slightly loose soil, pale brownish in colour and mixed with potsherds, large number of conch pieces and a few brickbats. It was absent in the northern section. The average thickness was 45 cm. The fifth layer was of compact soil, pale yellow in colour mixed with large number of potsherds and brickbats. The average thickness was 65 cm. The sixth layer was slightly loose in nature, pale yellow in colour with potsherds and conch pieces. The average thickness was 90 cm. The seventh layer was loose yellowish soil. The eighth, ninth and tenth layers were very loose brownish soil mixed with a less number of potsherds and a few conch pieces. The natural soil was obtained at the depth of 5.70 m. It was river sand.

A water channel was noticed in the second layer (60 cm) which goes down upto the end of seventh layer (3.90 m). The width of the channel was 1.50 m. A small dump filled with lime stone pieces appeared below the water channel in the layer number (8) at the northern section. The width of the dump was 70 cm and thickness was 15 cm.

AGM-11

It was laid at the northern side of the trench AGM-11 with a measurement of 4 X 4 m and represented eight layers. The first four layers were compact and pale grey in colour mixed with large number of potsherds. The layers from fifth to eighth were of loose soil, yellow in colour and mixed with potsherds, brickbats etc;. The natural soil occurred at the depth of 4.65 m below the layer number (8). A small dump filled with sawed off conch pieces were seen at the northern section of the trench in the depth of 2.60 m in layer number (3). The width of the dump was 55 cm and thickness was 18 cm.

AGM-12

It was laid in the northern slope of the mound to assess the northern extension of its habitation deposits. It measured 4 X 4 m and met with nine layers. This trench yielded large number of stone beads along with potsherds. The natural soil was noticed at the depth of 4.60 m. It was river sand.

AGM-13

It was laid at the western side of the AGM-12 and oriented in north-south direction. This trench represented eight layers and with a less number of potsherds. It showed north-western end of the mound. Natural soil occurred in the depth of 4.50 m. This trench yielded a red rouletted sherd with elephant figure made post-firing. It is seen standing in-between the trees.

AGM-14

This was laid at the northwestern side of the *Kottaimedu*. It was oriented north-south direction with the measurement of 4 X 4

m. Totally eight layers were seen in the trench. It yielded some interesting antiquities like several type of bead and roofing tiles. A grey potsherd with a bull figure was an outstanding find from the trench. The bull figure within a circle was impressed before firing.

AGM-15

It measured 4X4 m and oriented north-south direction. It represented six layers and the natural soil was obtained at the depths of 4.80 m. A copper bangle piece (Depth. 3.85 m-Layer No.6) and an ornamented aquamarine bead (Depth: 2.85 m Layer no:5) were some of the interesting antiquities from this trench.

AGM-16

This trench was laid at the northwestern side of the mound and at the eastern side of AGM-15. It measured 4X4 m and oriented north-south direction. Totally seven layers were seen in this trench and the natural soil was obtained in the depth 4.50 m. A terracotta gamesman (Depth; 1.35 m Layer No:(3)), a copper ring (Depth: 1.65 m Layer No:(4)), an Amphorae handle portion (Depth:2.20mtr Layer No(4)), a cornelian stud (Depth: 3.05 m Layer No:(5)), an iron nail, an iron ring (Both from the depth:3.55 m Layer No (6)) and two copper objects (Depth:3.55 m Layer No:(6)) were some of the important antiquities obtained from this trench.

AGM- 17

This trench was laid out in the north western corner of the *Kottaimedu* mound near Panchayat Union School and measured 4

X 4 m. Five layers were identified in this trench and the natural soil was found at the depth of 4.35 m. A copper bead (Depth: 90 cm Layer No:(2)), a spindle whorl (Depth: 1.05 m Layer No: (2)) , a ship symbol engraved on a Red ware sherd (Depth: 2.45 mtr Layer No:(4)), a N.B.P potsherd (Depth:3.05 m Layer No: (5)) were some of the important antiquities recovered from this trench.

AGM-18

This trench was laid out at the eastern slope of the mound near Alagankulam Telephone exchange. It covered an area of 4 X 4 m and excavated upto the natural soil, which was obtained at a depth of 4.10 m. Six layers were identified in this trench. A carnelian ring (Depth: 75 cm, Layer No: (2)), a crystal stud (Depth: 2.10 m, Layer No: (4)) were the important antiquities obtained from this trench.

AGM-19

A habitation mound was located at *Amman Kudiyiruppu* (Near Pudukudiyiruppu). It is situated one kilometer from Alagankulam in the northeastern side. The sea (Bay of Bengal) is just 1/2 km from this place. An intensive surface exploration on this mound yielded Coarse Red Ware sherds and porcelain sherds. The trench AGM-19 was laid on this mound to know the nature of the habitation deposit of the place. It was covering an area of 4 x 4 m and excavated up to the natural soil which was reached at a depth of 3.25 m. Four layers were identified in this trench. It yielded porcelain potsherds, coarse red ware sherds along with shell and glass bangle pieces.

V. POTTERY

Large number of pot sherds of Black Rouletted ware, Red Rouletted ware, a few pieces of Amphorae of seemingly Mediterranean origin, stamped sherds and N.B.P. sherds were the most remarkable ceramic findings of this excavation. Besides these sherds, many indigenous wares such as Black and Red ware, Grey ware, Mat-design pottery, spouted red ware, black ware, Red slipped ware and Coarse red ware were also collected from the excavations.

1. Arretine ware: (Pl. 1)

The Arretine ware, a red-glazed ware, varying from sealing-wax to deep orange-red in colour, derives its name from the place of its manufacture Arretium, modern Arezzo in Italy. It belongs to a class of pottery known as terra sigillata, 'the stamped pottery', because it is decorated by being pressed into a stamped mould. Terra sigillata in the Mediterranean region in the 2nd century BCE and continued till later times. The Arretine ware representing the highest category of terra sigillata had its origin probably in the 2nd century BCE and disappeared in about CE 50. It was widely traded outside the Roman Empire as well as within it. In India it was for the first time discovered at Arikamedu, where a date of 20-50 CE has been proposed.

Only three Arretine sherds were recovered from the trench AGM-8 in the upper level of Period-II. A small broken piece of Arretine ware has its potter's mark and ends with CAH.

2. Rouletted ware: (Pl. 2,3, and 8)

Period II and III yielded a considerable number of rouletted ware sherds. It is a fine ware, wheel turned, fired under reducing conditions. Mostly shapes of dishes with a beaked rim and decorated with rouletted designs appear on the inner side of the base. Due to slip and inverted firing, it would be turned black inside and red or brown outside.

Totally eight different types of rouletted patterns are noticed in this ware. Almost all the patterns are similar to the patterns of Arikamedu.

Rouletted Patterns:

- Pattern-1 - is seen in an interesting potsherd which has brown glazing on the inner side and black glazing on the external side. The rouletted pattern is the *hyphen* marks in a row of eight lines one above the other.
- Pattern-2 - is seen on black dish, where the rouletted pattern has concentric rings with dots.
- Pattern-3 - is seen on the black sherd. A row of wavy lines within wavy bands in between concentric rings with *hyphen* marks is found.
- Pattern-4 - is seen on a cream coloured ware which has the glazing in the inner side. The rouletted pattern is that of concentric rings with slanting lines.

- Pattern-5 - is seen on a black ware with simple concentric lines one above the other.
- Pattern-6 - is seen on a coloured ware in the inner side of which are three concentric lines with straight hyphen marks.
- Pattern-7 - has the concentric rings of wavy lines.
- Pattern-8 - is seen on a fine glazing variety of black sherd where the concentric circles of five numbers with rectangular dots one above the other are found.

Layer (5) of AGM-1 (Period-II) yielded an interesting sherd of this variety with a scratch figure of a man riding on the back of mule. It is authenticated material evidence from the stratigraphical context for the usage of mule as vehicle in Tamil Nadu from the early centuries of Common era as gleaned from the Sangam literature.

Wheeler and Casal state that this rouletted ware was imported to South India from the West. Dr. Vimala Begley however has a different view. She opines that the rouletted ware was of indigenous origin, but the rouletting technique seems to have been introduced from the Mediterranean region, since it was not known to the cultures of South India at that time.

3. Red Rouletted Ware:

A large number of peculiar red polished fragments were collected from the Period III of Alagankulam. At first, it was believed that these

sherds were Arretine ware. When compared with the Arikamedu Arretine sherds, these appeared different. These sherds are neither referred to by Wheeler in his report of Arikamedu excavations nor are available in the Pondichery Museum Collection. It also seems that this ware is not yet reported from other sites in South India. The pattern and fabric of this ware are different from the other local wares. It is a fine ware made of well-levigated clay and looks reddish in colour due to the reduced firing. The common shape of this ware appears to be footless dish. The notable feature of these sherds is the bearing of various rouletted designs on the interior base of the ware. As large quantity of this type of pottery occurs first in Alagankulam, this may hereafter be called as ***“Alagankulam Red Rouletted ware.”***

Dr.T.N.Potter, of the Department of Pre-historic and Roman-British Antiquities of British Museum, identified this pottery as "Late African Red Slipped ware", its probable place of origin being Tunisia. But, the recent researches prove that both black and red rouletted wares were most probably made locally, but were almost influenced and inspired by Hellenistic-Roman pottery. This view is well established by the occurrence of large number of these potsherds from the excavations at Alagankulam. In a small area of digging (4 X 4m & 4 X 3 m) nearly 3000 potsherds of this variety were collected. It seems that this place might have been a production centre for this kind of pottery. However, some of the fine sherds of this pottery from Alagankulam are genuine and might have been brought from Mediterranean region.

4. Amphorae: (Pl. 4)

Some handles, neck and bottom portions of the imported Amphorae jars were obtained from the excavations in Period-II and III. These jars were used to store wine or olive oil. An Amphorae piece obtained from Karur excavation (KRR-6) contained dark traces of some resin; on chemical analysis at our departmental laboratory, it was revealed that the Amphorae jars were used for importing olive oil or wine from Rome around the 1st century BCE. The olive oil might have been used in Tamil Nadu for medical purposes.

5. Stamped Pottery: (Pl. 5)

Alagankulam, the port city has yielded a number of stamped potsherds. These are in the shape of cup or small bowl, greyish pink or black and red in colour with fine fabric. It is well black, grey slipped inside and pink or grey out side. It has a flat base and tapering profile. A row of stamped motifs is running around the inner portion of the vessels between the two bands of multiple grooves. Inside of the base a band of concentric grooves are also seen. The motifs represent dove, peacock, fish, parrot and floral designs. The concentric grooves were made in the wheel whereas the motifs were stamped after the wheel. Rarely some vessels are having grooves on the out side.

A rare dish with out-turned flanged rim and flat bottom and a round foot ring was collected. The inner base is having a number of grooves. Over the grooves, a leaf motif is impressed deeply. These motifs also look like blossomed lotus.

It seems that the stamped pottery was not produced locally, and none from the sites located in the interior regions of Tamil Nadu. Only two sites viz. Arikamedu and Alagankulam have reported this pottery. The patterns generated by the stamped pottery from both these sites reveals a common origin. Thus the pottery found at both the port sites is certainly imported from a common foreign source, probably from Rome. It is likely that Roman traders who stayed temporarily in these port settlements might have used this ware.

The stamped pottery seems to have started arriving in south India right from 500 BCE. At Arikamedu this pottery was found in the Pre -Arretine layers which were datable to first century BCE. The stamped pottery was unearthed at Alagankulam in the cultural deposits of Period-II and III.

6. Northern Black Polished Ware (NBP): (Pl. 6)

Period-I and early phase of Period-II of Alagankulam excavations have yielded a few black sherds of highly polished ware with fine fabric. These sherds were identified by scholars as N.B.P.ware. Similar sherds had also occurred in the excavations at Korkai, an ancient Pandya seaport in Thottukudi District. The date of this pottery is probably assignable to 400 BCE. This ware is supposed to occur even before the period of Mauryas and ended in circa 100 BCE. It was in use at Taxila, Bhirmound, Hasthinapur, Atranjikhhera and Ahichatra, and found as far south as Amaravathi. A considerable number of N.B.P sherds occurring at Alagankulam make it now more than certain that this ware was in use in the extreme south of India.

Some scholars opine that the N.B.P ware is the associated ware of the Painted Grey ware (P.G.Ware) and hence they date it to 600 BCE. The common shape of this pottery is bowls and dishes.

7. Grey ware:

A considerable number of Grey ware sherds, treated with a grayish chalky slip and with basket patterns impressed deliberately or accidentally, were collected from Period II and III of Alagankulam. They are very similar to the sherds occurring in Pre-Arretine layers of Arikamedu excavations. Some coarse sherds of this variety were also collected from the upper level of Period-I.

A few fragments of grey ware with lustrous black surface were collected from Period-III. The shape is a dish with a flaring rim and a ring-foot base and is decorated with a row of nicks at the rim and a stamped leaf motif around grooved circles on the base. It seems to be very similar to type 141 of Arikamedu.

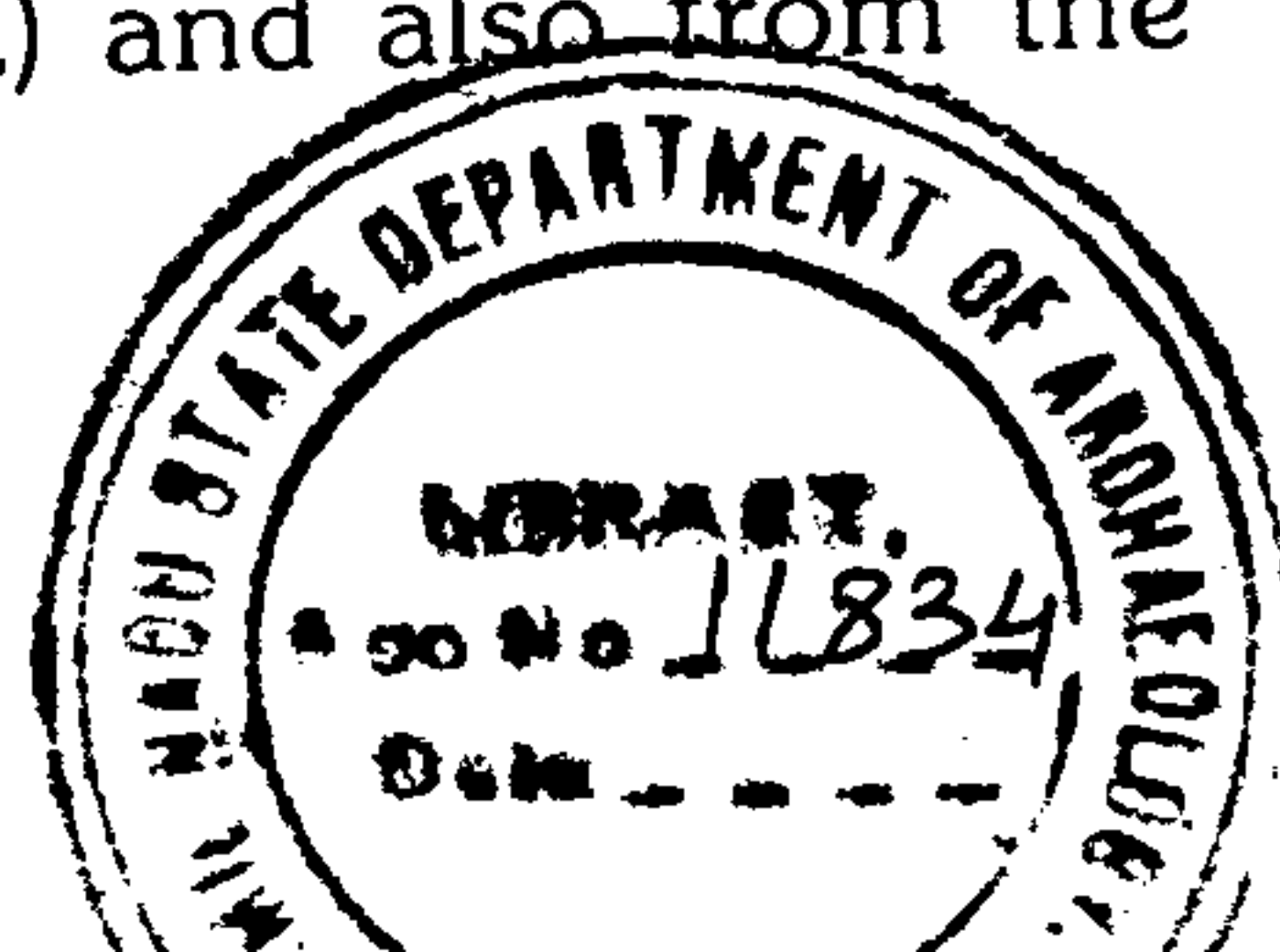
Period-I - Bowls and Small Pots

Period-II - Bowls, Basins, Pots and Dishes

Period-III - Bowls, Basins, Pots and Dishes

8. Mat-designed Pottery: (Pl. 7)

Mat-design sherds of light red ware with criss-cross pattern were also picked up at Alagankulam. They are similar to the potsherds collected from the Pre-Arretine layers of the Arikamedu excavations (late 1st Century BCE to early 1st Century CE) and also from the



Period II (200 BCE to 200 CE) of Karur excavations. The common shapes of the ware are pots of different sizes and big sized vases.

9. Glazed ware

Potsherds, light buff in colour and with a heavy turquoise blue glaze, have been found. This pottery has been dated to the Kushan period. There is a reddish buff Kushan ware, which abounds around Mathura and is completely different from the later day medieval (Islamic) glazed ware.

10. Black and Red ware

This ware was the predominant type of pottery found during the excavations and they occur in all the Iron Age settlement of megalithic and early historic period in South India. It is made of fine well lavigated clay. The inverted firing technique was used for firing these kinds of potteries. The pots were placed up side down in the kiln with a fair quantity of carbonaceous matter stuffed inside. As a result, the whole of the interior and the rim portion of the exterior, which came in to contact with the fuel, turned jet black and the remaining portions of the exterior became red under oxidizing condition. The cultural deposits of Period-I, II and early phase of Period-III yielded fine variety of this ware whereas the late phase of Period-III revealed coarse variety of this pottery. The shapes of this ware are as follows:

Period-I - Dishes, Basins and Bowls

Period-II - Dishes, Basins and Bowls

Period-III - Dishes, Basins, Bowls and Pots

11. Russet coated painted ware

The cultural deposits of Period-II have revealed limited sherds of the russet coated and painted red ware. The painted designs were made by the application of kaolin on basic red slip. Designs include wavy bands, curves, oblique lines and criss-cross pattern.

12. Black Ware

Both interior and exterior of this ware are black in colour. It occurs in thin polished variety and a thick and less polished variety. The main shapes are as follows:-

Period-I - bowls, Lids and Stands

Period-II - basins and Stands

Period-III - basins and Stands

13. Red Slipped ware

It was made out of fine clay. This ware was identical to the Russet coated ware, except for the design with white Kaolin painting drawn over the surface of the pottery. The slip was thick paste of fine clay. Some times the pottery is decorated with nail impression and dot designs. The shapes are as follows:-

Period-I - Lids, Dishes, Basins and Small pots

Period-II - Lids, Small pots, and Dishes

Period-III - Basins and Pots

14. Coarse red ware

This was the predominant variety found in large number in all levels of the excavations conducted in Tamil Nadu. It was a dull red ware made of impure clay mixed with sand and grass. The surface was rough and was not uniformly fired. The shapes are as follows:

Period-I - Vessels, Storage pots, Basins, Lids and Water pots

Period-II - Vessels, Storage pots, Basins, Lids and Water pots

Period-III - Vessels, Storage pots, Basins, Lids and Water pots

Period-IV - Vessels, Storage pots, Basins, Lids and Water pots

15. Perforated sherds (Pl. 9)

The perforated sherds were of regular occurrence at all the Sangam period sites in Tamil Nadu. Because they were all fragmentary, it is difficult to find out the actual shape of the vessel. All the four periods of Alagankulam yielded this pottery. Usually the holes would be made from outside with the help of a small metal needle by the potter immediately after removing from the wheel when it was wet.

The perforated ware was used to steam the food. Cooking the food with steam using perforated vessel is a recognized practice of Tamil people from very ancient times.

16. Spouted vessels (Pl. 10 and 11)

Several decorated terracotta spouted knobs were recovered from Alagankulam excavations from all the four periods. These spouts were found in two types. In the first type the spout with wide-collared

mouth would be made along with vessel itself. Usually the mouth of spouts would be seen next to the rim. This type of spout would be made in the basins only. Some spouts would be slightly projected out of the basins and in some other basins the spouts would be made in the collar itself. In Alagankulam, the excavations have yielded several coarse red ware basins with this type of spouts. This shows that this type of spouted basins have been widely used by the common people of this region.

Four varieties of knobs are noticed in the second type of spouted vessels (Kenty)

1. Plain tubular channel with a thin perforation
2. A crudely modeled tubular spout with a small perforation and slightly raised collar in the edge.
3. Exquisitely modeled tubular spout with prominent perforation and a collar at the mouth. Below the collar there is a prominent zig-zag decoration.
4. A crudely modeled tubular spout with two lines of grooves with small perforation.

The above four varieties of tubular spouts were separately made and fixed at the shoulder portion of the vessels. They are round shaped tiny vessel with small mouth. Most of the spouted vessels are

found in coarse red ware and red slipped ware. A few cream ware and grey ware vessels are also obtained in the excavation.

17. Terracotta Knobs of lids

All the four Periods of Alagankulam excavations have yielded the lids.

In ancient times usually the earthen vessels were covered with lids. The larger vessels were covered with ordinary plain lids whereas the smaller tableware was covered with the decorated lids. Most of this type of small lids is having artistic knobs. They are with animals, birds or other decorative figurines. The excavations at Adichanallur and at Teriruvelli have yielded this type of lids with ram, dove and parrot figurine knobs in the megalithic levels. But, in Alagankulam, only decorated knobs are obtained. They are of three varieties.

1. Coarse red ware- slightly elevated knob without collar (5.5 cm Diameter)
2. Redslipped ware-prominent knob with slightly projected collar and semi-spherical top
3. Red slipped ware-prominent semi-spherical top with a groove.
4. A steatite knob of the same variety.

Terracotta handle:

1. A broken Terracotta handle portion was collected in Period-III. It might be a handle portion of a cup or kettle.

18. Pot sherds with Graffiti marks

The occurrence of graffiti marks in potsherds has an important role in archaeological excavations. Almost all the early historical sites in Tamil Nadu have yielded several pottery pieces with graffiti marks. As these marks are found on broken pottery pieces, it is not possible to get all the graffiti marks in their full form. The sites that have a large number of graffiti bearing pottery pieces like Karur, Korkai, Tirukampuliyur, Alagarai, Kodumanal, Uraiyur, Kanchipuram, Kaveripoompattinam, Mangudi, Perur, etc., have yielded full shaped and meaningful graffiti marks. The ancient people began to sketch their thoughts in the form of graffiti marks on the easily available materials like earthen wares. The practice of scratching graffiti marks on pottery was earlier than alphabetical writing. All the excavations yielded sherds with graffiti marks along with inscribed sherds in the same levels. It shows that even after alphabetical writing came into vogue, the earlier form of pictographic writing survived for some time, perhaps among a different stratum of society, and gradually faded away.

Hence, the study of pottery is very essential in the field of archaeological excavations, because everybody knows that pottery was the common man's property in ancient society.

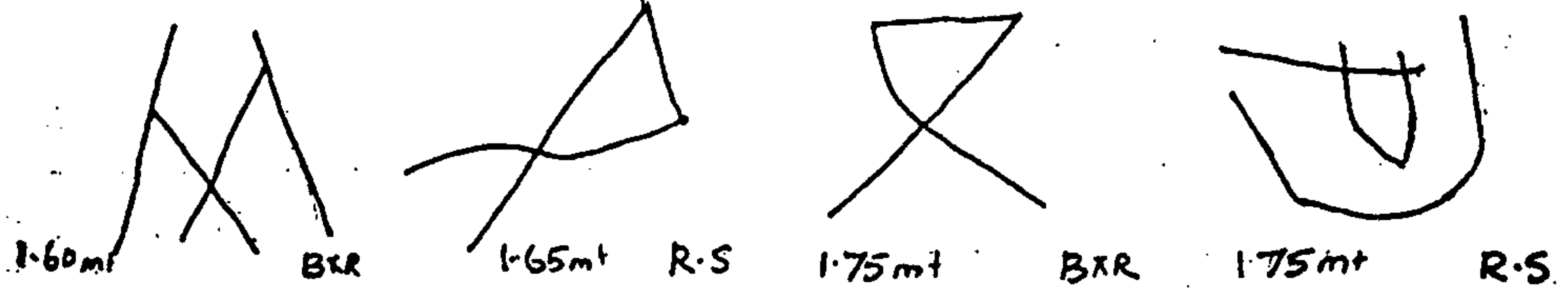
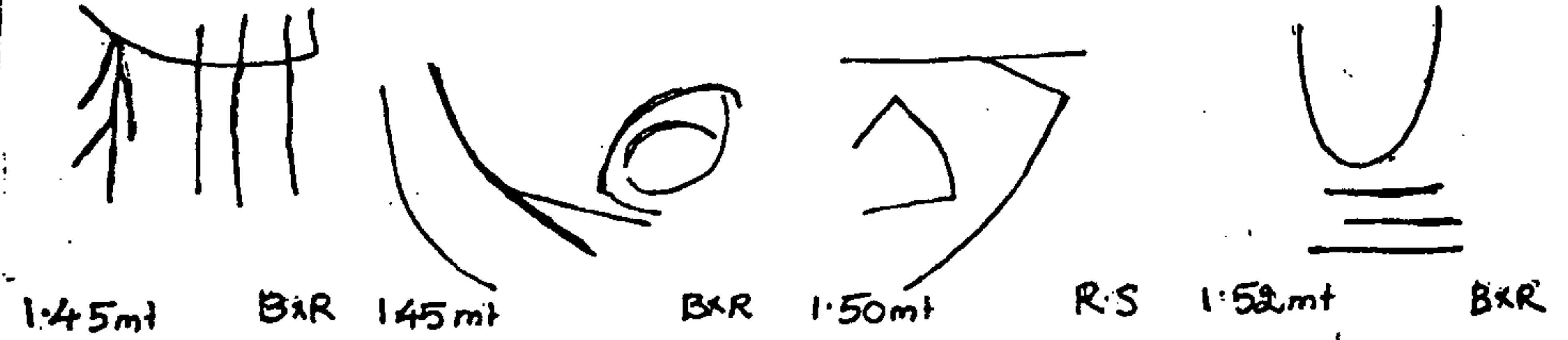
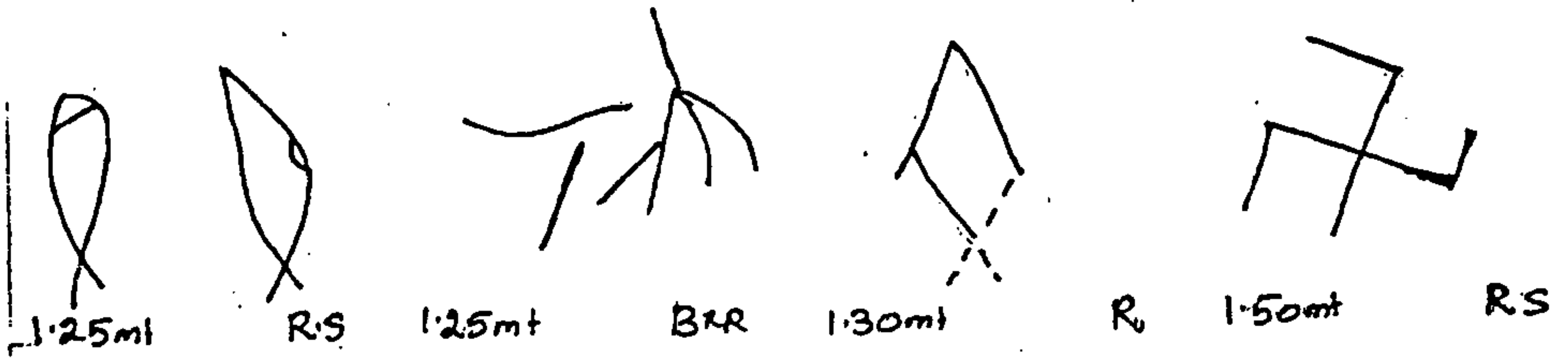
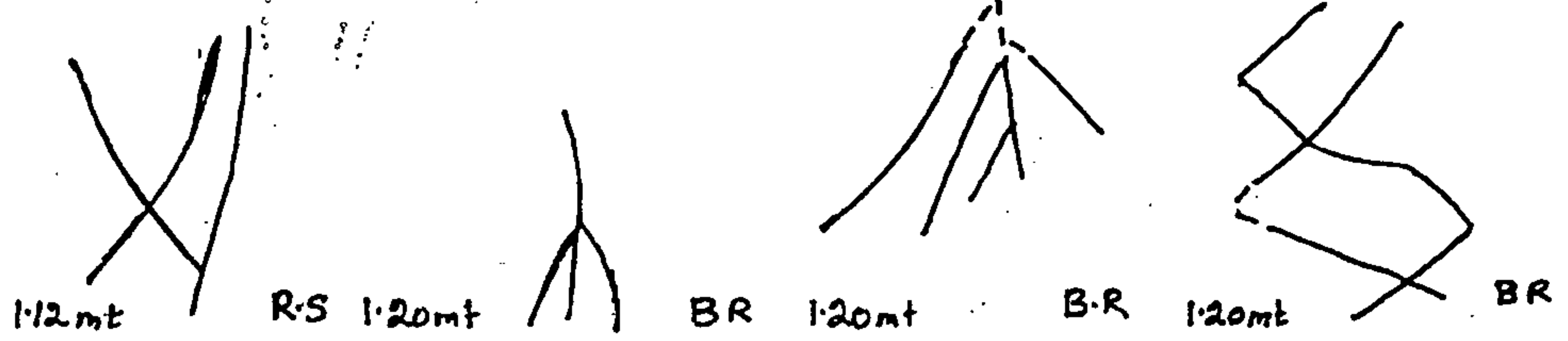
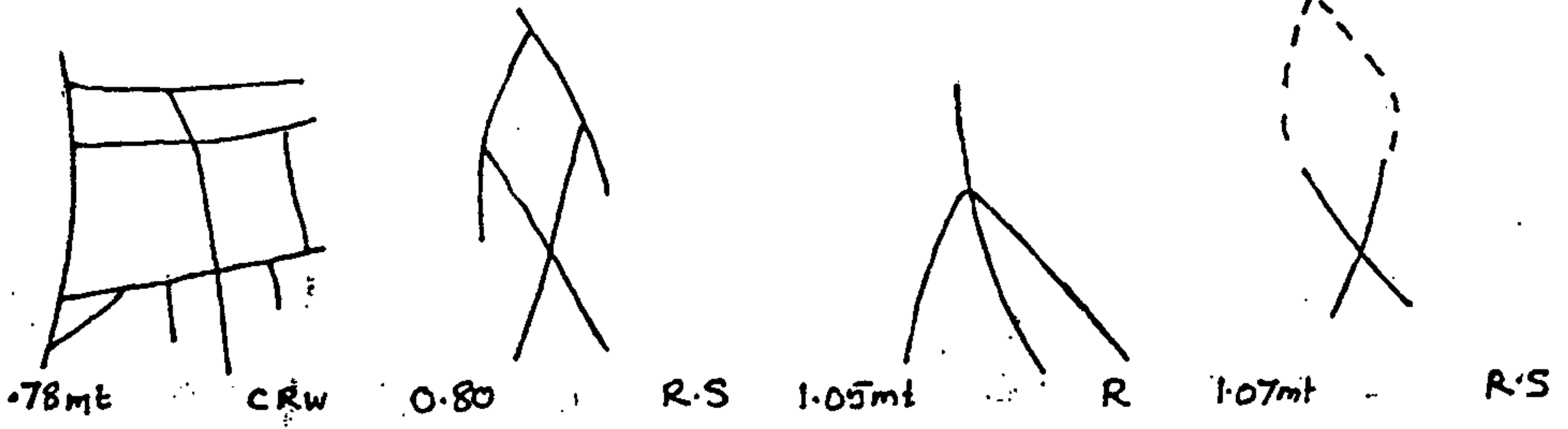
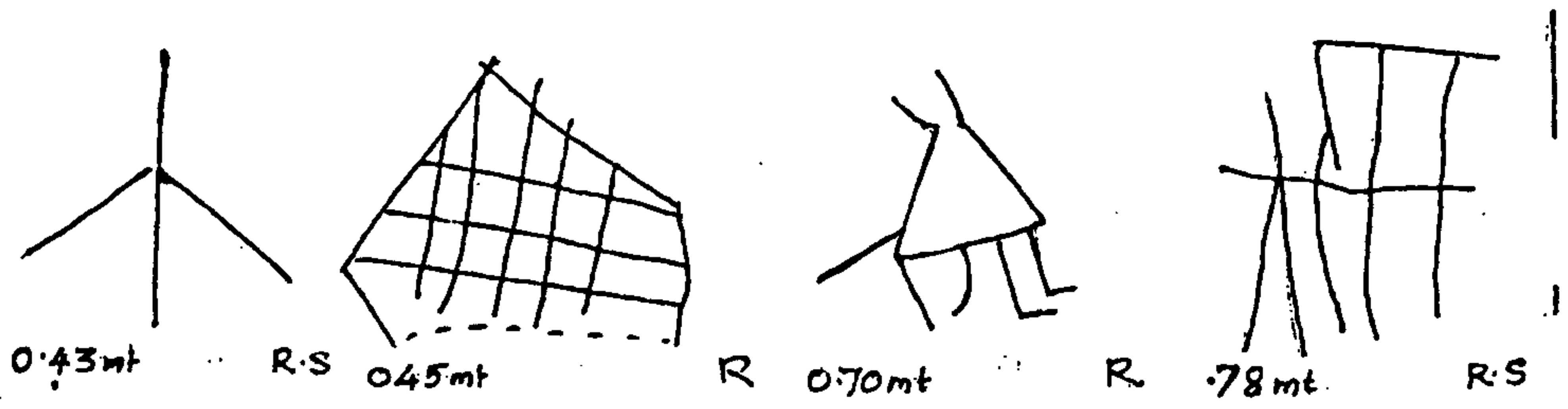
The graffiti marks on earthen vessels were scratched both pre-firing and post-firing. The bulk of the graffiti are post firing and there

are only few pre- firing graffiti. The Alagankulam excavations have yielded only post - firing graffiti marks. At Alagankulam, mostly the graffiti marks occur on the outer shoulder portion of the earthen vessels. A few wares bear these marks on their neck, belly and base. The classifications of Alagankulam graffiti marks show the existence of single and ligature forms. Single graffiti marks are in large number and the ligature graffiti marks are in lesser number. **The special features of Alagankulam graffiti are the occurrence of animals and human figures in the graffiti form.**

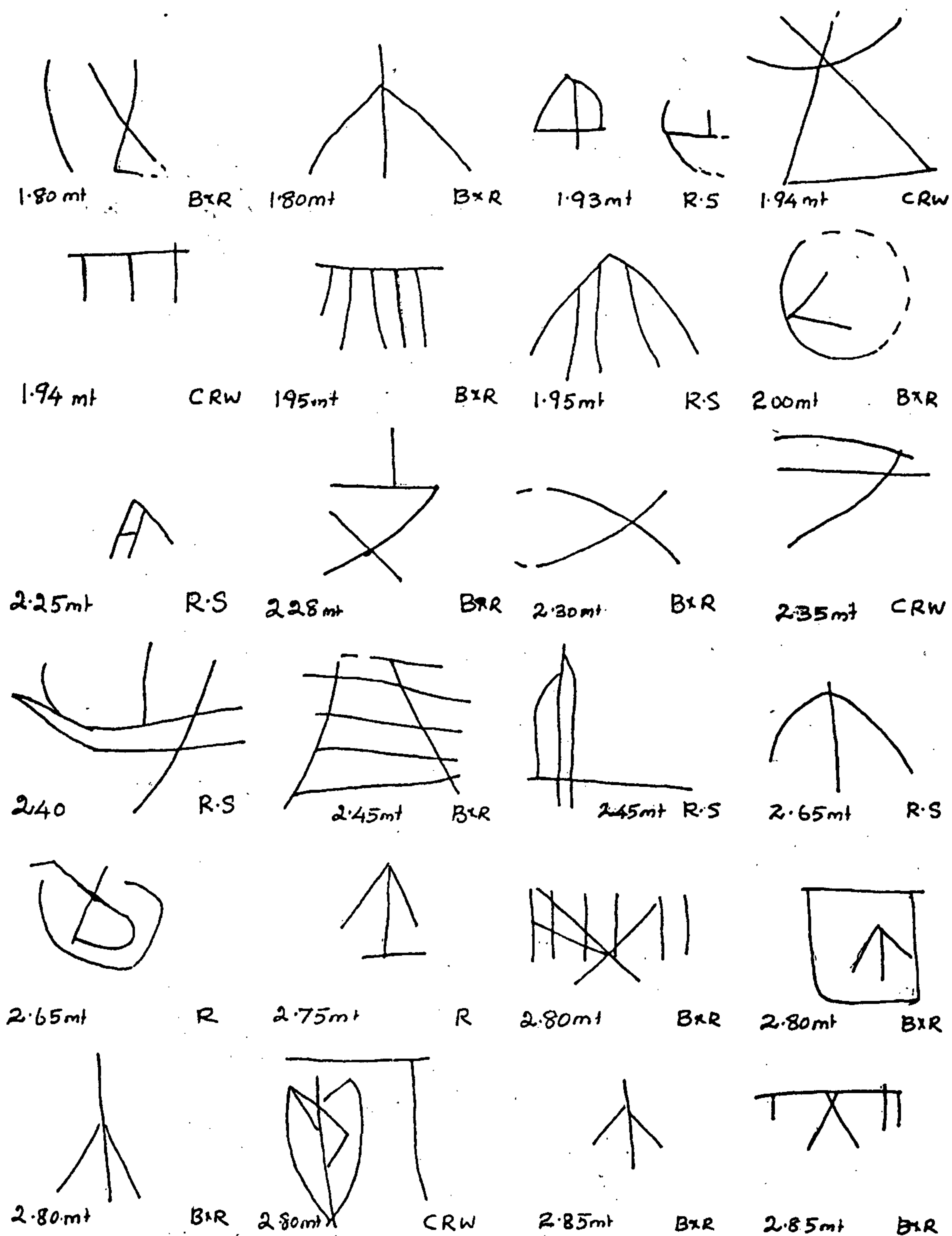
The occurrence of rouletted sherd with ten signs is a remarkable find from Alagankulam. This sherd shows a big sign encircled by nine small signs. It comes under the ligature graffiti form. This type of sherds with ten symbols is rare and not yet reported from any other site in Tamil Nadu. Most of the graffiti marks are seen only in the small tablewares. Alagankulam excavation has revealed 193 sherds with graffiti marks. These are seen on the black and red ware, black ware, red ware, grey ware and rouletted ware. **For the first time, Alagankulam excavations have yielded graffiti bearing rouletted sherds.**

Swastika, trident, ladder, square, circle, boat, pyramid, comb, sun, fish, hill, river, arrow and triangle are the graffiti marks that occur in full form at Alagankulam.

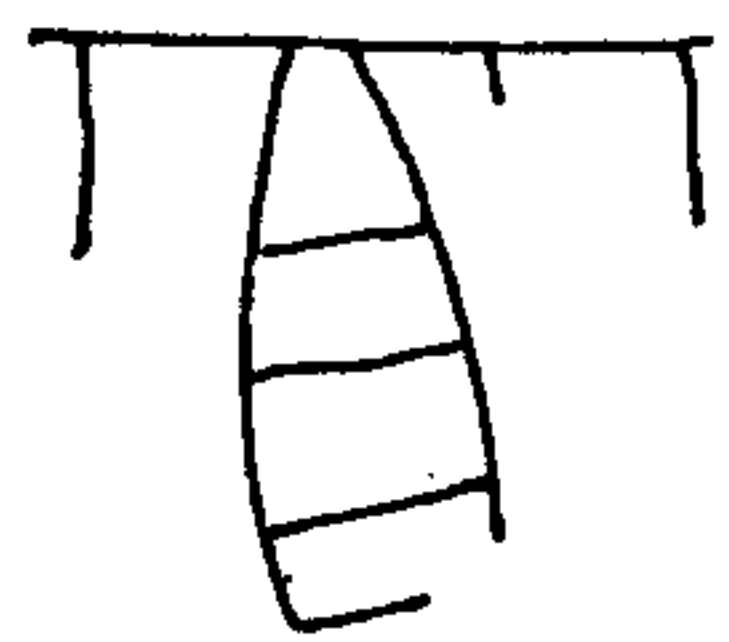
Alagankulam Graffiti



Alagankulam Graffiti



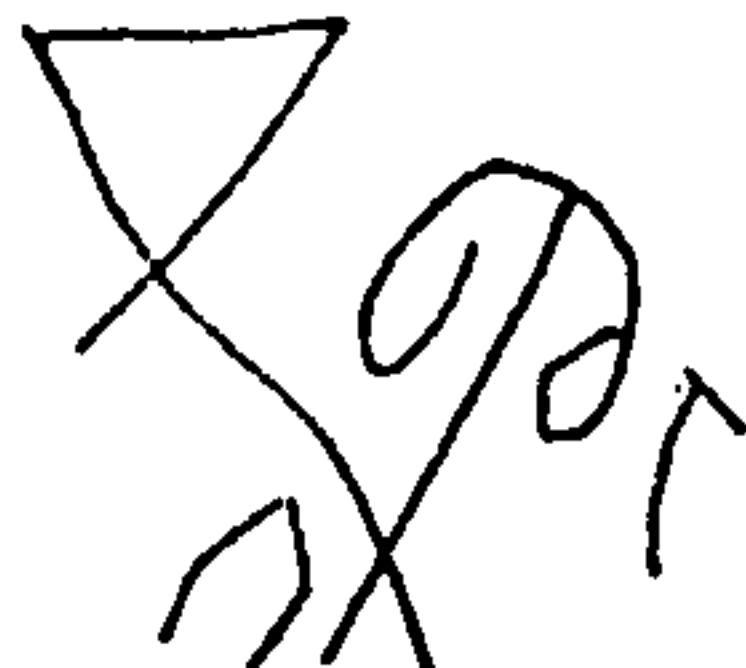
Alagankulam Graffiti



2.90mt BxR



2.90mt CRW



2.95mt R.S



3.00mt R.S



3.00mt



R.S



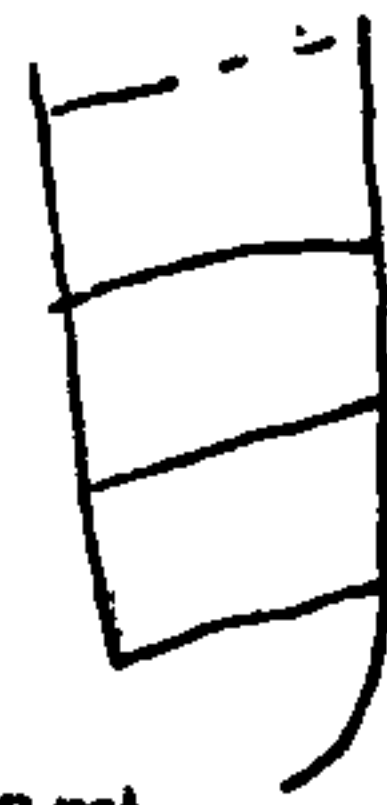
3.00mt CRW



3.05mt R.S



3.05mt BxR



3.10mt

R.S



3.10mt

R.S



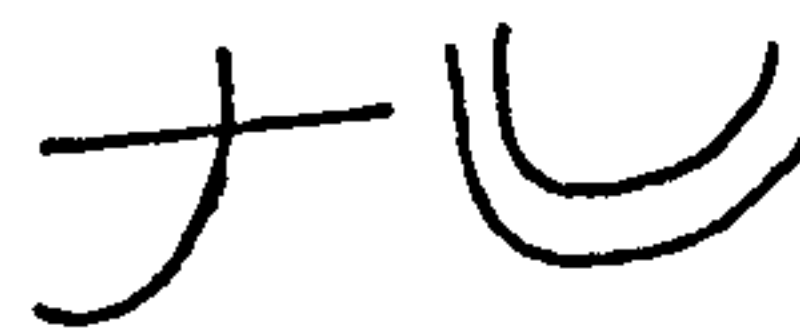
3.10mt BxR



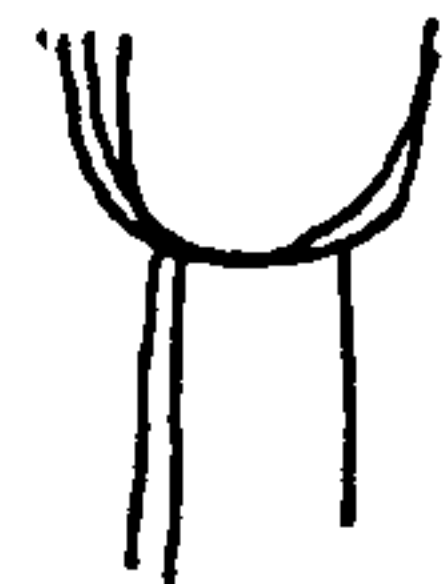
3.10mt BxR



3.15mt R.S



3.20mt BxR

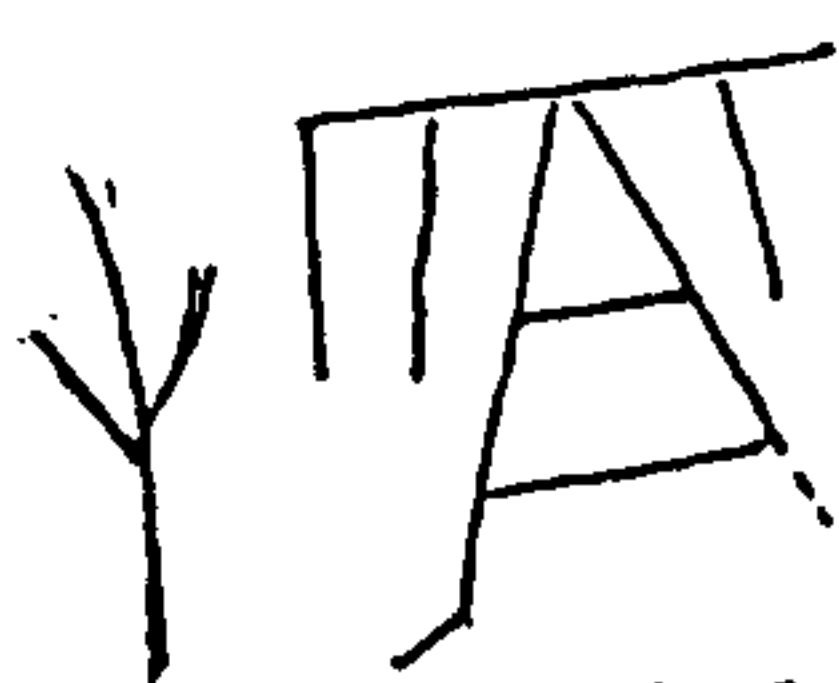


3.25mt

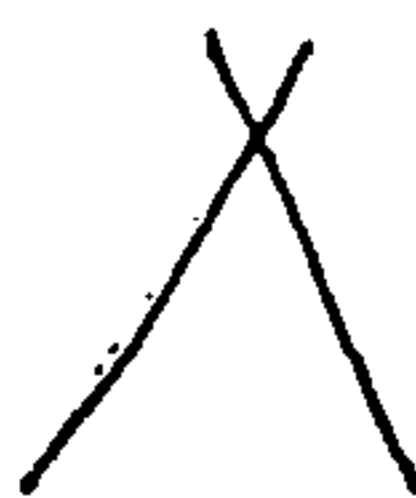
R.S



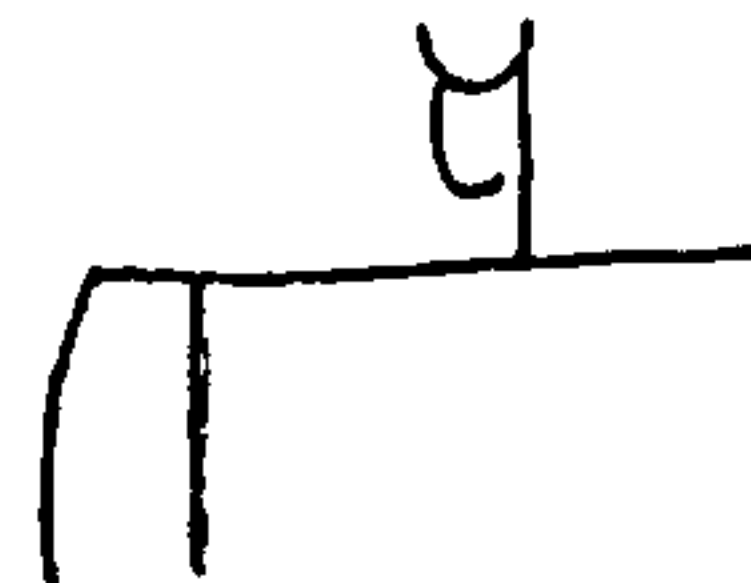
3.25mt BxR



3.35mt BxR



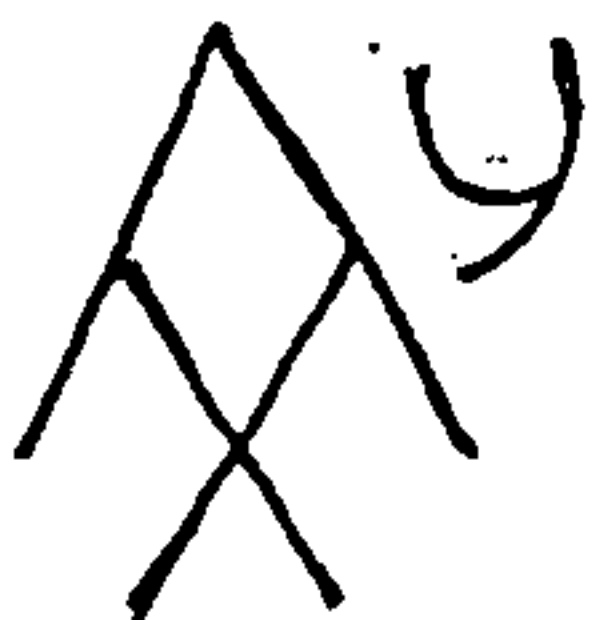
3.35mt R.S



3.35mt R.S



3.40mt BxR



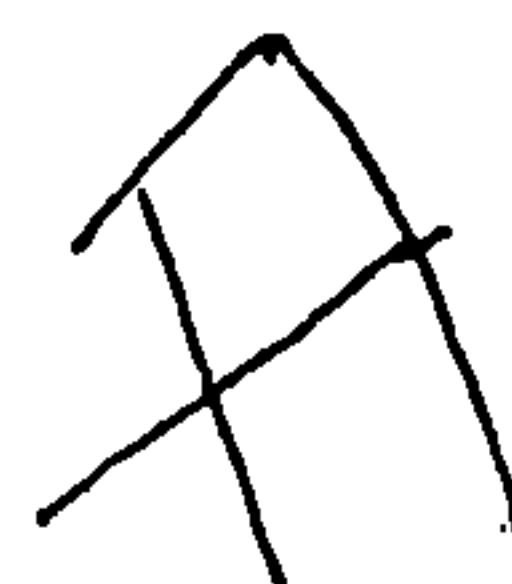
3.40mt M



3.40mt R.S



3.40 BxR

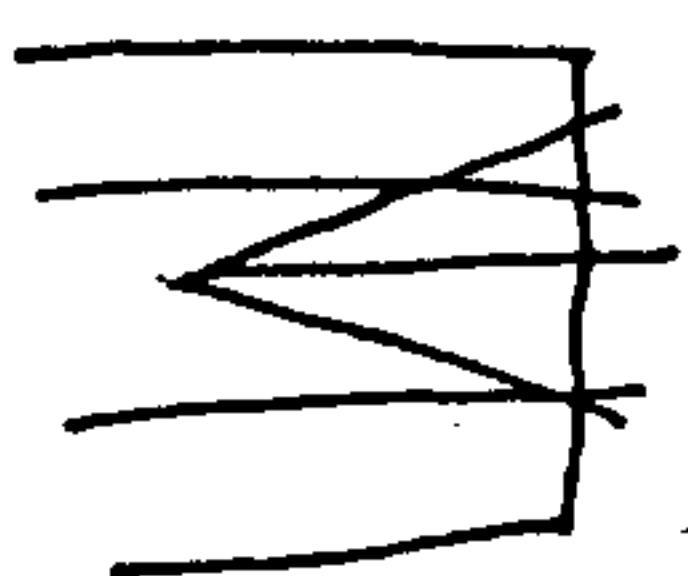


3.45mt CRW

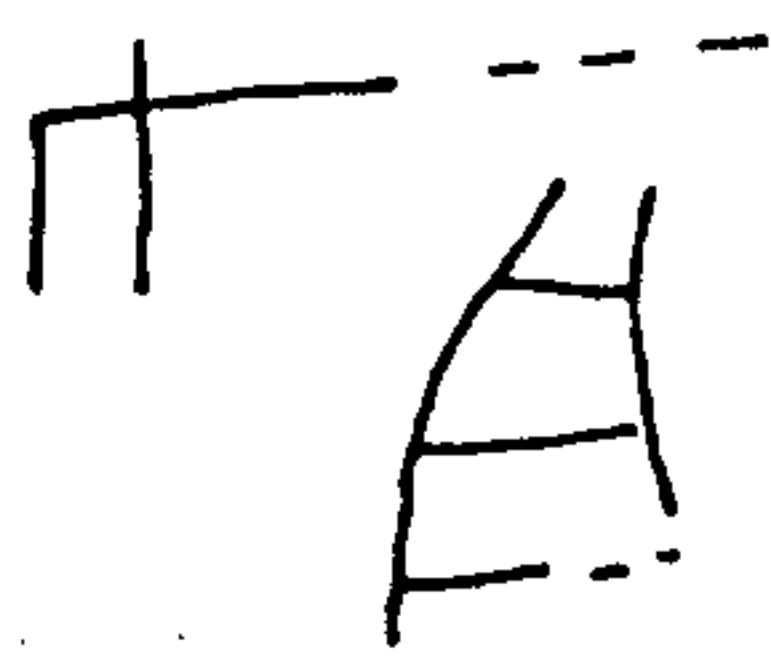


3.50mt

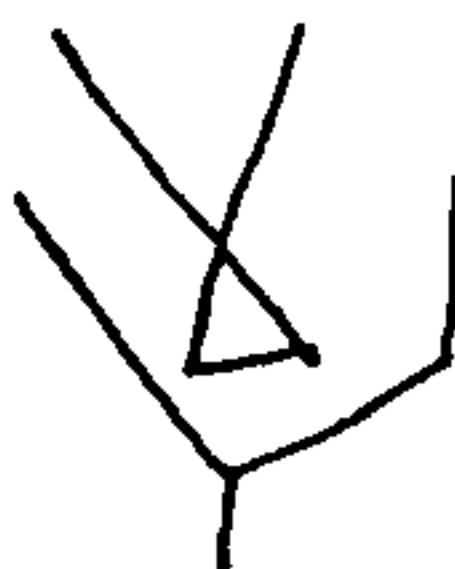
BxR



3.50mt R



3.60mt BxR

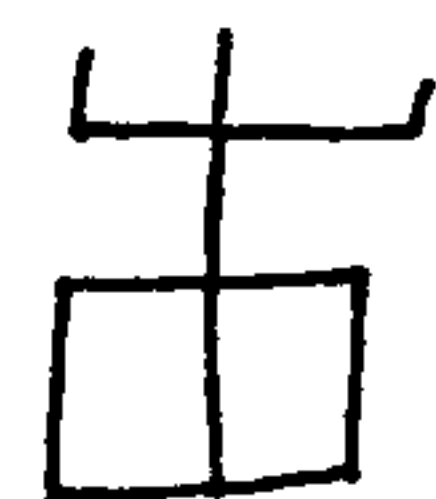


3.65mt BxR



3.70mt

BxR

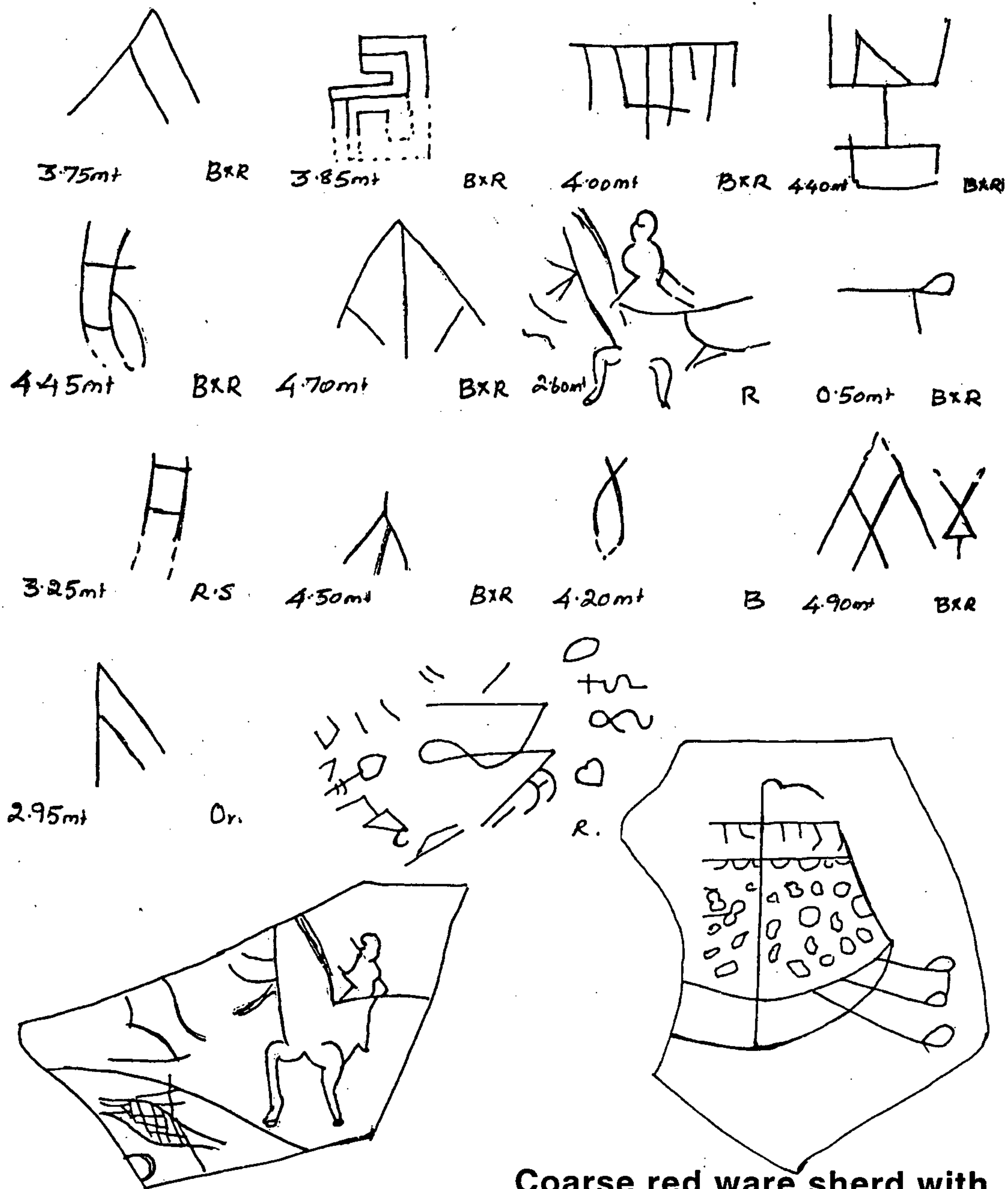


3.75mt

CRW



Alagankulam Graffiti



19. Inscribed pot sherds:

This site has yielded a few inscribed potsherds (Black and Red ware and Rouletted ware) with Tamil Brahmi scripts assignable to 1st Century BCE.

Concerning the script on the potsherds obtained from the excavations at Alagankulam it is certain that all the writing were post-firing. The script scratched on the surface of the pottery belonging to the coarse variety lacks clarity. In contrast to this, the script scratched on the surface of odd potteries with fine texture like rouletted ware, etc., is elegant with fine curves.

It seems that both types of scribes i.e. calligraphers patronized by elite people and scribes who were not trained properly, were employed for writing on the pottery.

All the scripts can be classified as belonging to the same period but some sort of evolution can be deduced from the study of scripts. For example the Tamil Brahmi letter is written in both forms. the loops in a curved manner in the first type, and in an angular and slanting position in the second type. Special letters of Tamil Brahmi like (na, ra, la) find place in the writing. But, the letter (la) is not found in the inscriptions so far. The Asokan Brahmi letters Ga, Ja, Ba, Ra, Sa, Ha which is common to the Tamil Brahmi cave inscriptions is conspicuous by its absence in the Alagankulam pottery

inscriptions. Instead of this Sa, Ga and Sha are used as in the Brahmi inscriptions of Sri Lanka. A symbol of a numeral, probably representing the value 408 is found on a rouletted pottery.

As the potsherds are broken pieces the inscription is seen to be incomplete. A unit having two letters and brief single worded line are common. We have not come across a single inscription having a complete meaningful sentence.

Majority of the words seem to be the names of individuals. Place names and names of clans seems to have been prefixed with some of the names. For example the name *Atan* is inscribed on a pottery.

Names of individual are both of Tamil and Prakrit origin. Some of the Prakrit names have been Tamilised. We can cite the names (Kotai, ceraman Attan) for the Tamil names and (Utira an tica an) in the Tamilised form. Similarly Araha, Pusa, Cirita, Latiba, Datusa, Rutta, Rutasa, Rataga, Rakitasa or some of the Prakrit names in their original forms.

The abundance of such prakrit names might have been due to the influence of Sinhalese Prakrit which was the lingua franca on the opposite sea coast. Two words i.e (Janajo) and (camutaha) are inscribed on two potsherds. These words seem to represent a clan, guild or a society set up.

On a broken lid the word (Pitiuray) is inscribed upside down. This may be interpreted as a sheath used as a lid. The names (Ta ni ya ce ra man) and (pa tu mar ko tai) indicate the affinity of the individual with the Chera dynasty. One Chera king by name who has been sung in the Ten decades was the son of Velir princess by name Velaikkoman paduman dev. So, this individual might have been a Chera king.

To sum up it can be emphasized that Alagankulam was an important port city where people of different religion, races and languages converged and functioned as members of guild as well as in the individual capacity. These potsherds were utilized for personal use and for expressing their affluence.


In Alagankulam excavation we have collected sixty numbers of inscribed potsherds. In almost all the trenches these inscribed sherds were present. It occurs on black and red ware, rouletted ware coarse red ware, redslipped ware and grey ware.

ALAGANKULAM INSCRIBED POT SHERDS

Fig Sl No	Trench No	Locus	Depth (Metre)	Stratum	Name of the Pottery	Reading
1	AGM -1	0'-II'	4.10	7	Rouletted	Pidiyuraiyu பிடி உறையு
2	AGM -2	0'-I'	1.40	2	Rouletted	8/100/4=408
3	AGM -3	II - II	0.80	1	Rouletted	Siritha சிரித
4.	AGM -3	II' - III'	1.45	3	Rouletted	Ka க
5.	AGM -3	0' - IV'	2.90	5	Black and Red	Sara சர
6	AGM -4	III' - IV'	5.45	9	Red Slipped	Tha த
7	AGM -5	II' - III'	1.45	3	Stamped Pot Sherd	Vadhumedha வாதுமேத
8	AGM -5	0' - II'	3.00	5	Black and Red	Ka.ran கரந்
9	AGM -5	0' - IV'	5.30	8	Black and Red	Sa ra La ஸரள
10	AGM -7	0 - IV	0.78	1	Coarse Red	Ka thi ka n க திக ந்
11	AGM -7	0' - IV'	0-81	1	Black and Red	Na ன் அ
12	AGM -7	0' - IV'	1.80	4	Black and Red	Kan கன்
13	AGM -7	0' - I'	1.94	4	Red Slipped	Padumarkothai பதுமாற் கோதை
14	AGM -7	I - II	1.94	4	Coarse red	Tha த
15	AGM -7	0 - I	2.30	4	Black and Red	Ven வேந்
16	AGM -7	0' - IV'	2.34	4	Coarse Red	Ne ணை
17	AGM -8	0' - IV'	0.70	1	Black and Red	Aaram ஆரம்

18	AGM -8	0' - IV'	0.70	1	Black and Red	Thiya திய
19	AGM -8	III - IV	1.05	1	Rouletted	Attansa அத்தன்சா
20	AGM -8	III - IV	3.35	5	Rouletted	Kuvirana குவிர்அன்அ
21	AGM -8	III - IV	3.70	6	Coarse Red	Than தன்
22	AGM -8	0' - I'	3.70	6	Rouletted	Thuka தூக
23	AGM -8	III - IV	3.85	6	Black and Red	Tha t tha தத்த
24	AGM -8	III' - IV'	3.85	6	Rouletted	Luvadiyi லுவடியி
25	AGM -8	III - IV	4.10	7	Black and Red	Pirurayi பிருராயி
26	AGM -8	0' - IV'	4.90	8	Black and Red	Kai கை
27	AGM-10	III' - IV'	2.15	3	Grey	Na ந
28	AGM - 10	II' - III'	2.25	4	Black and Red	Ruththa ருத்த
29	AGM - 10	III' - IV'	3.00	5	Black and Red	Van வான்
30	AGM - 10	I' - II'	3.05	5	Grey	Na ra னரா
31	AGM - 10	0 - I	3.10	5	Black and Red	Rithra ரித்ரா
32	AGM - 10	I' - II'	1.50	2	Grey	A na அ நா
33	AGM - 11	I - II	3.80	8	Grey	Maban மபான்
34	AGM - 11	0 - I	3.85	8	Black and Red	Rakithasa ரகித ஸ
35	AGM - 11	III - IV	4.50	9	Black and Red	A ma ya அமய

36	AGM -12	I' - II'	1.60	4	Grey	Ralautha ரலஊத
37	AGM-12	0' - I'	1.95	4	Grey	Janajo ஜநாஜோ
38	AGM -12	0 - I	2.35	4	Black and Red	Kai கை
39	AGM -12	II - III	2.35	4	Black and Red	Thu Sa துசா
40	AGM -12	0 - I	2.35	4	Black and Red	Thi ya திய
41	AGM -12	II' - III'	2.45	5	Black and Red	A Tha n அதன்
42	AGM -12	0 - I	2.60	5	Coarse red	Kon கோன்
43	AGM -12	0' - I'	2.75	5	Black and Red	Ku Tha Sa குதசா
44	AGM -14	II - III	1.40	2	Coarse red	Samsasera சம்ஸசேர
45	AGM -15	II' - III'	2.80	5	Rouletted	N Ran ன்றன்
46	AGM -16	I - II	1.60	3	Rouletted	N Than ந்தன்
47	AGM -16	0 - IV	1.80	3	Coarse red	Ma ம
48	AGM -16	II' - III'	3.35	6	Red Slipped	Ka thi காதி
49	AGM -17	I - II	0.45	1	Black and Red	Thaniyathu Seraman தானியது சேரமான்
50	AGM -17	II - III	0.60	1	Grey	Na Va Ka நவாக
51	AGM -17	0 - IV	3.05	5	Rouletted	U Thi ra an ஊதிர அன்
52	AGM -18	III - IV	1.00	2	Black and Red	Ka Ka Ra ககர
53	AGM -18	0 - I	1.10	2	Black and Red	Thi தி

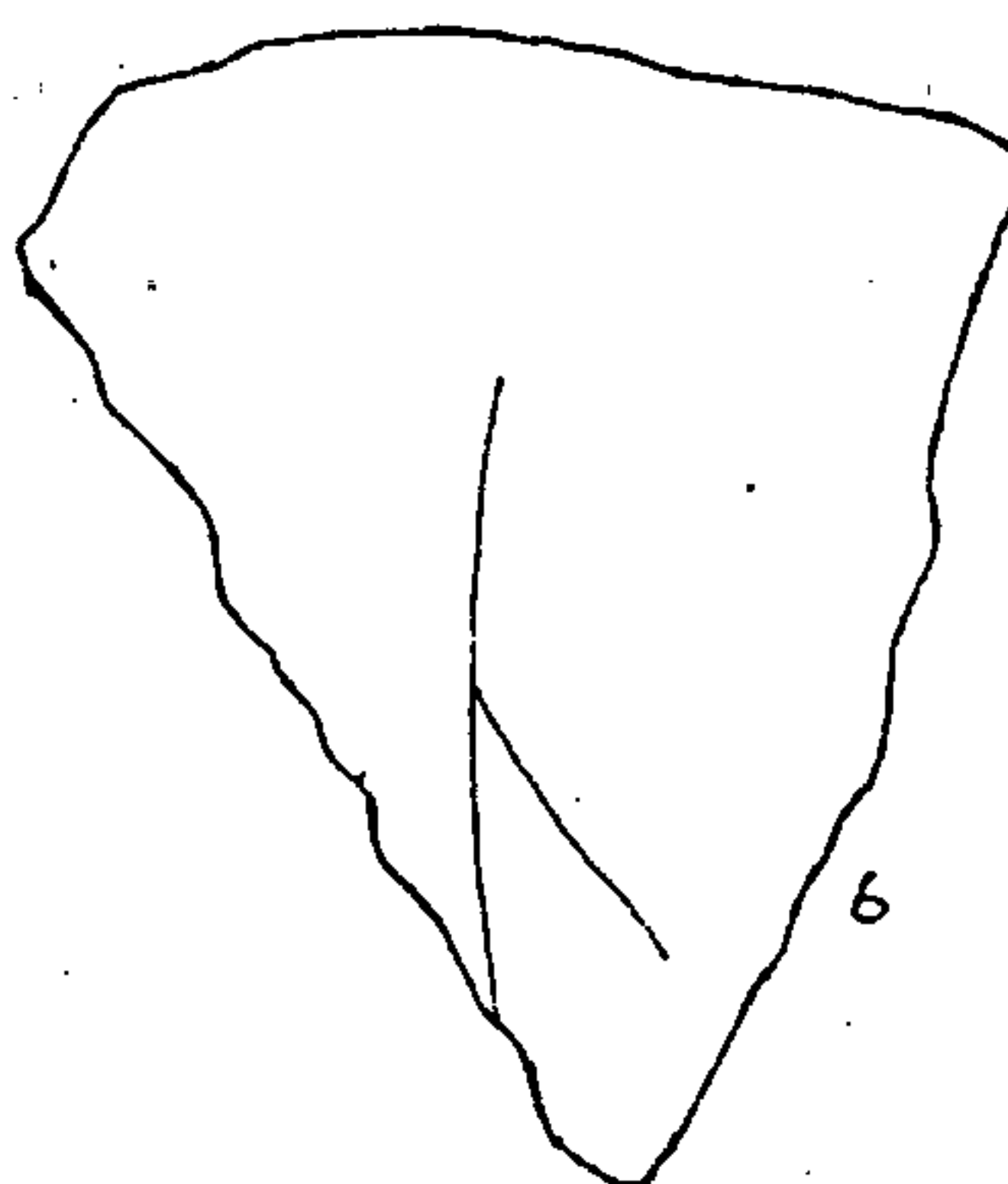
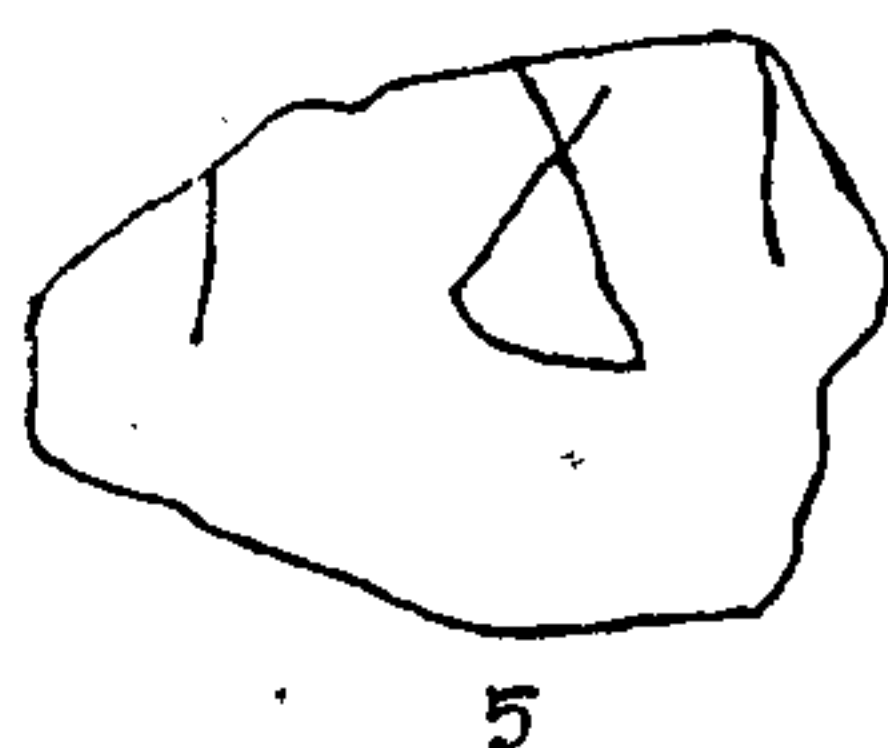
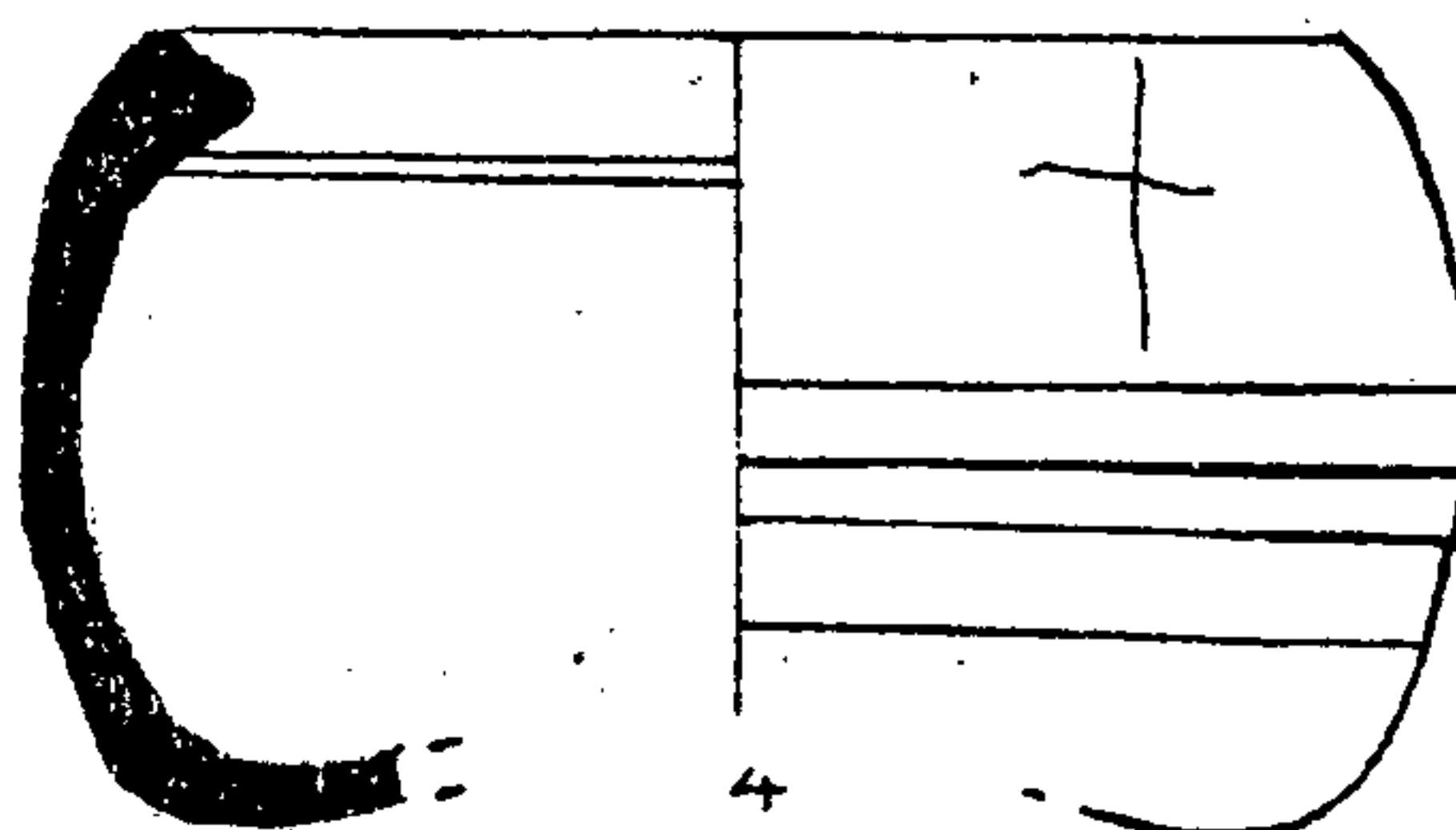
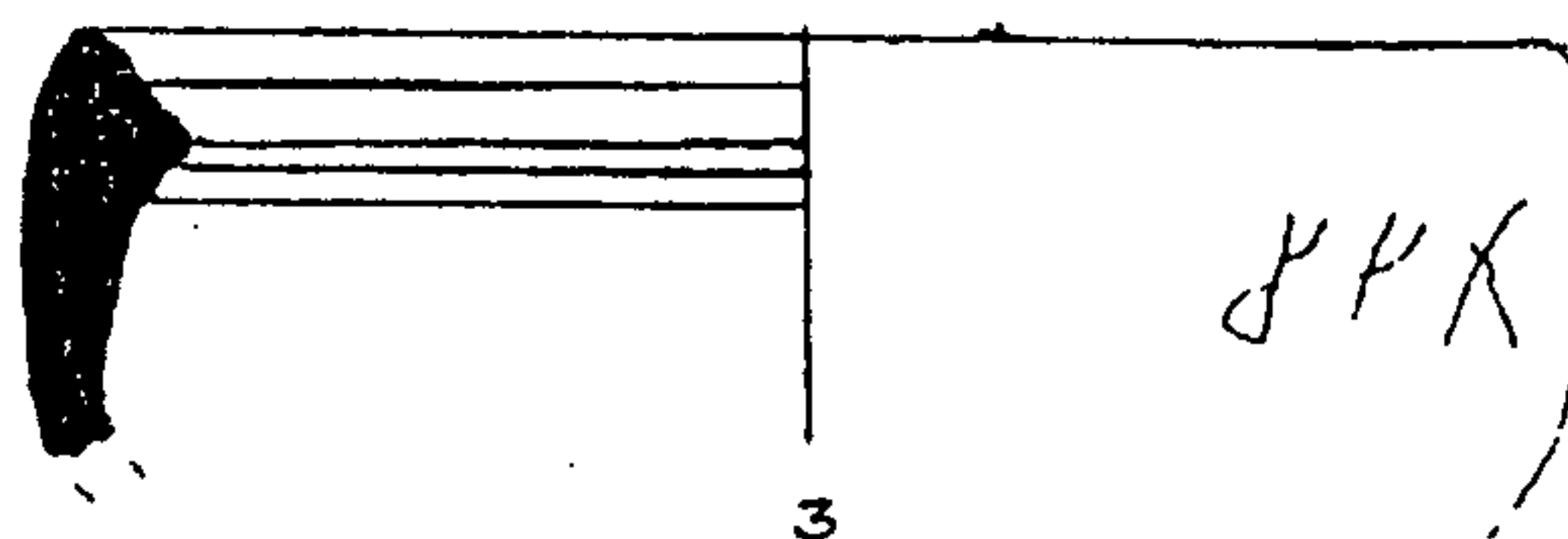
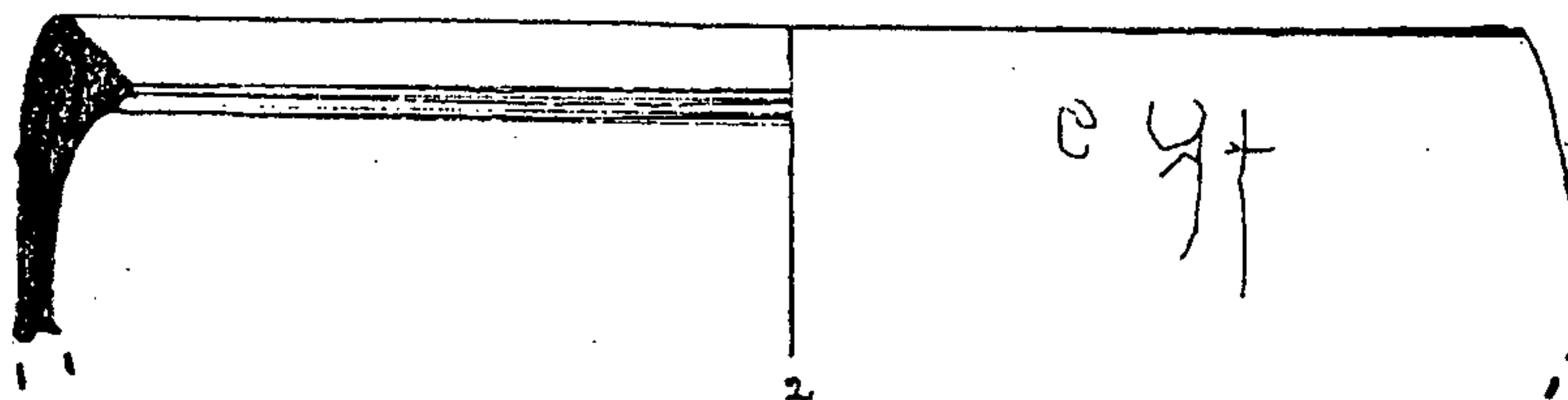
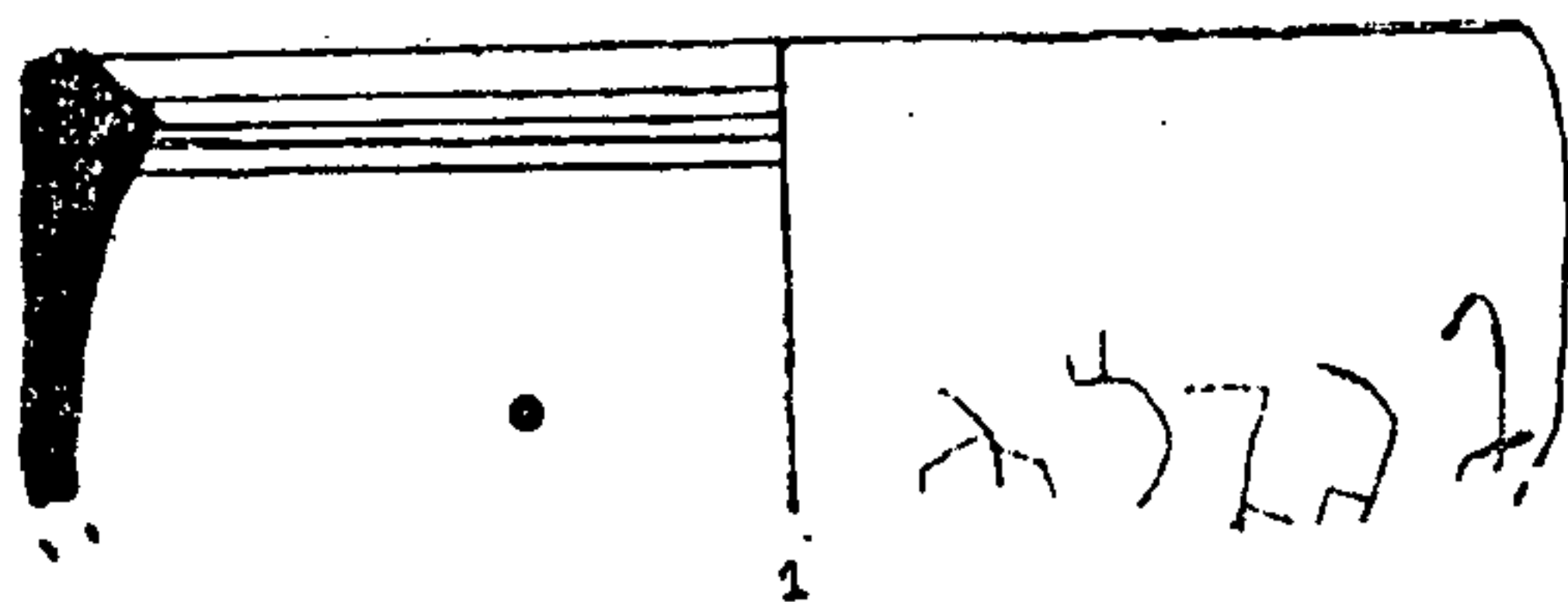
54	AGM -18	II' - III'	1.30	3	Red Slipped	Pa Thi பதி
55	AGM -18	I' - II'	1.50	2	Red Slipped	N Ka ங்கோ
56	AGM -18	I - II	2.40	3	Black and Red	Pa Vath பா உவத்
57	AGM -18	II' - III'	2.55	4	Red Slipped	Arapathu அரபாது
58	AGM -18	0' - I'	2.70	5	Red Slipped	Ma Pa Ma மபாம
59	AGM -18	0' - IV'	3.20	5	Black and Red	Ma ம 
60	AGM	SC			Grey	Sa Mu சமு
61	AGM	SC			Rouletted	Sa mu tha ha சாமுதஹ
62	AGM	SC			Rouletted	Thi Sa an திசான்
63	AGM	SC			Grey	Kommal கோம்மால்

20. Chinese Celadon Ware: (Pl. 13 & 14)

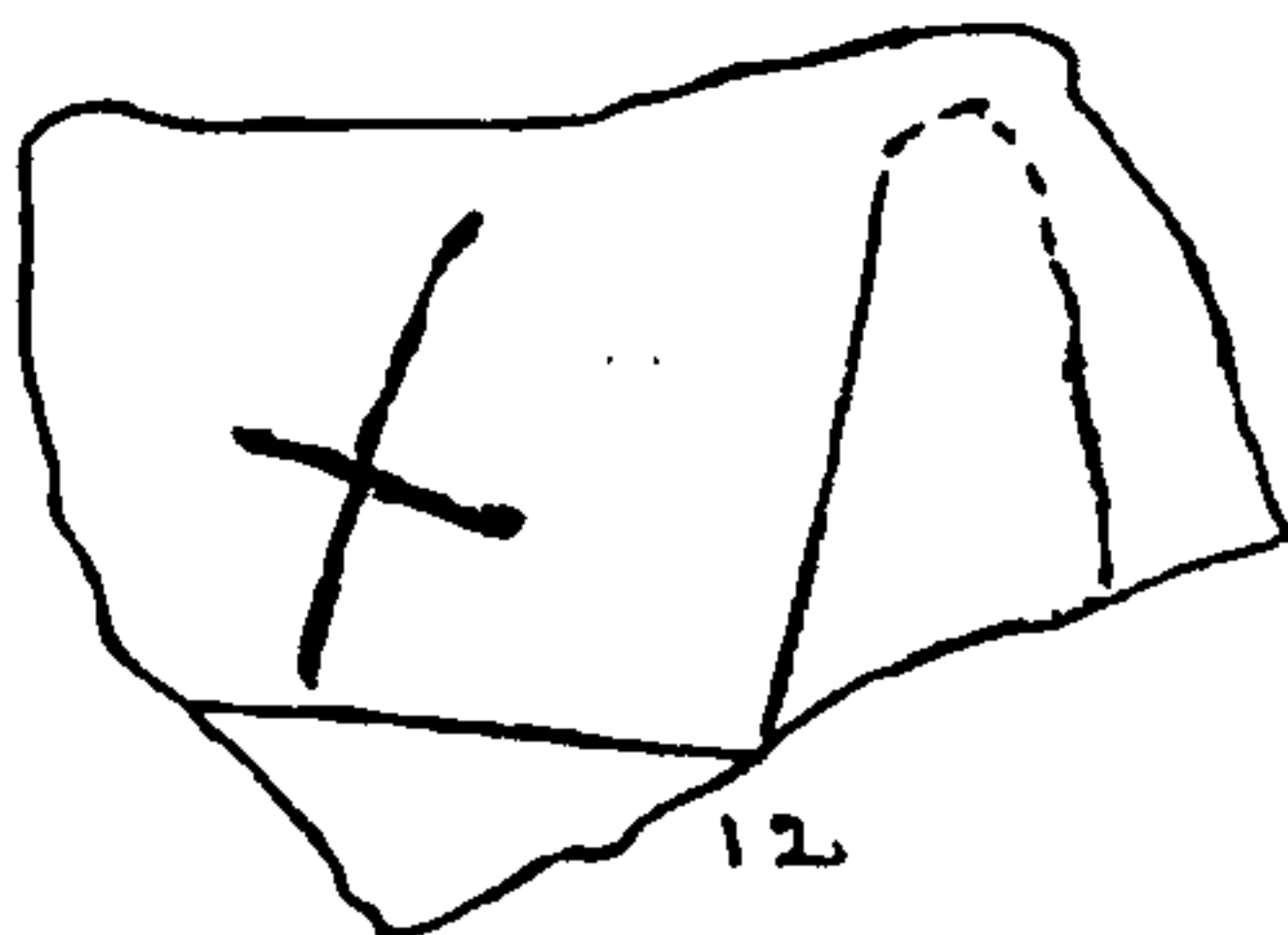
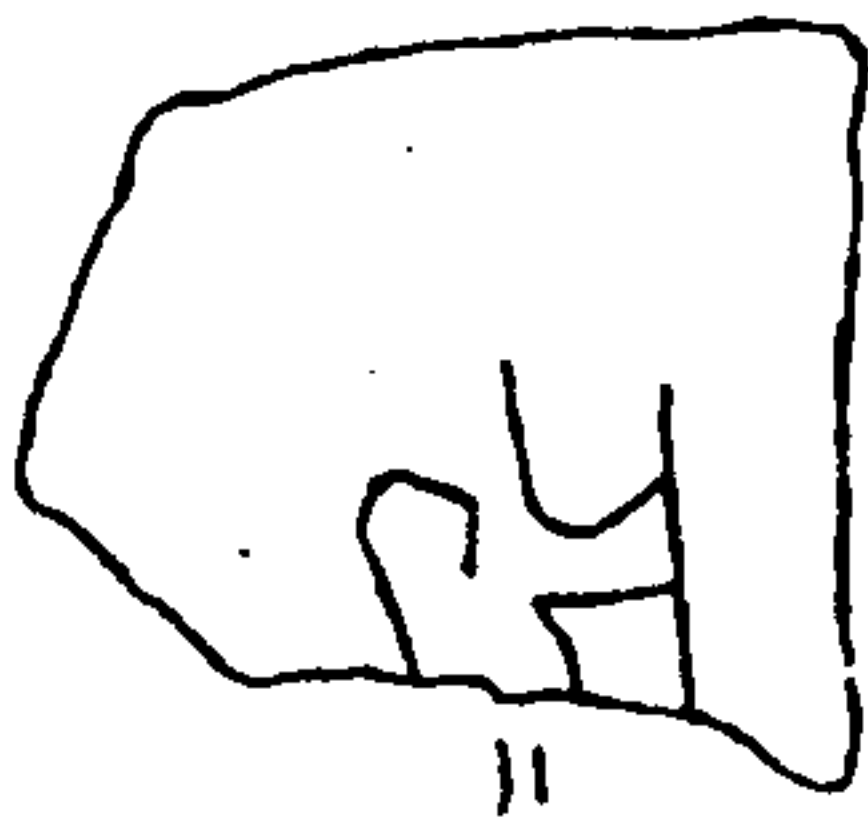
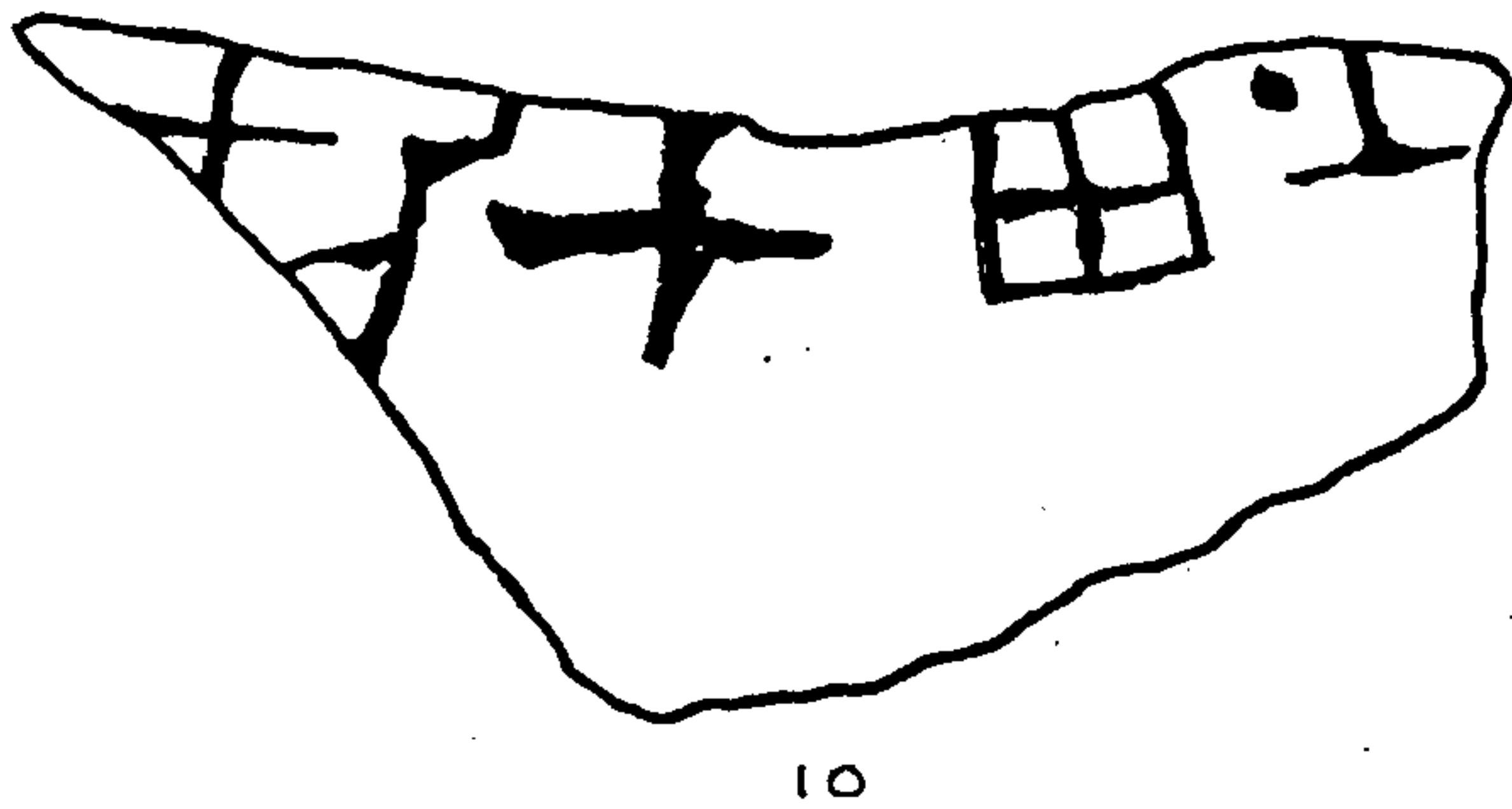
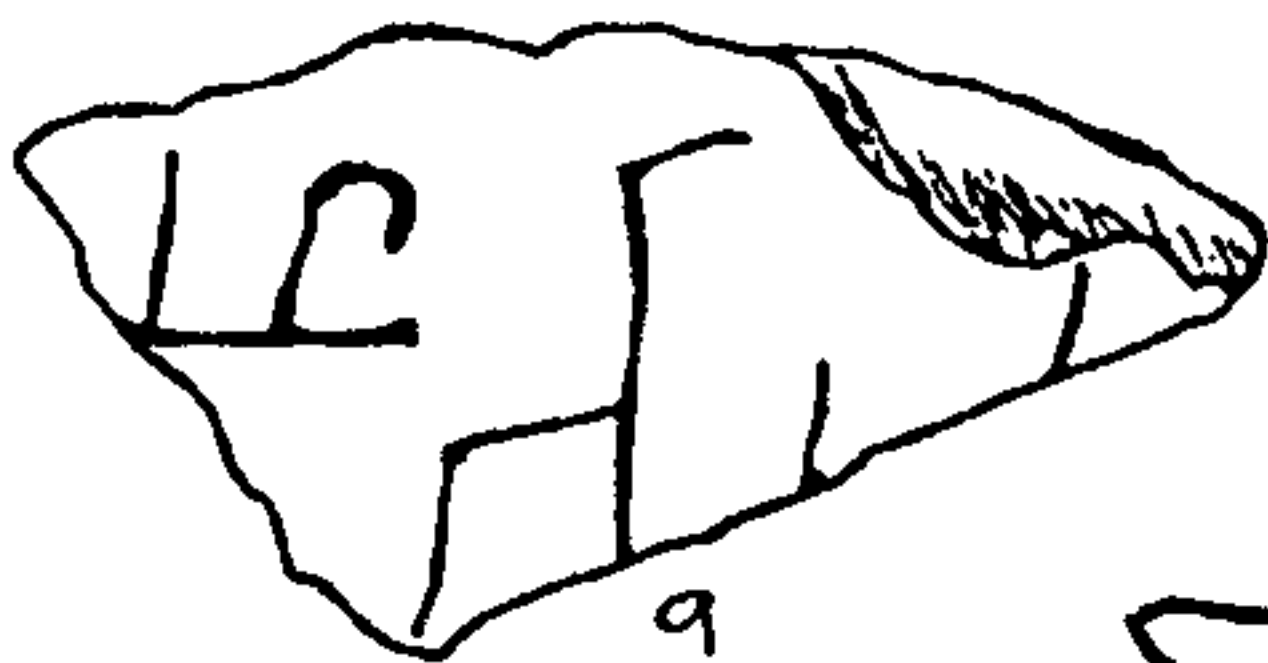
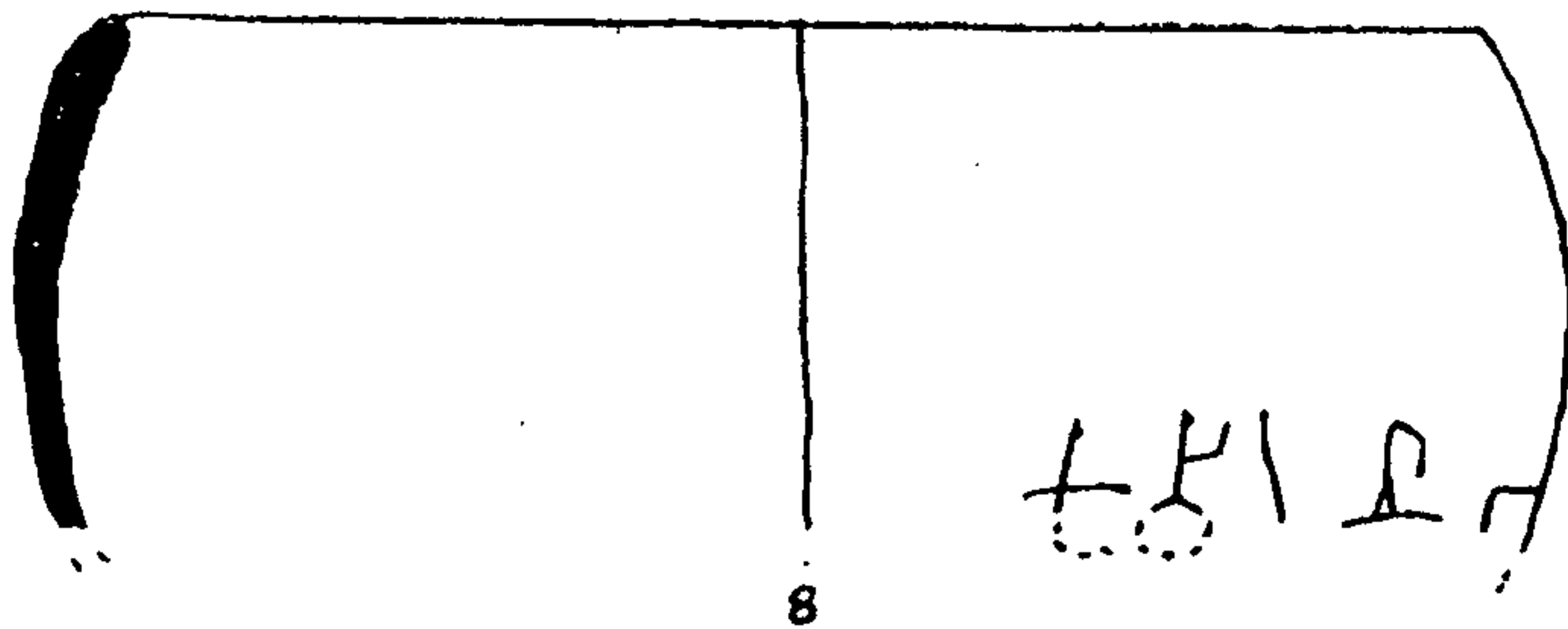
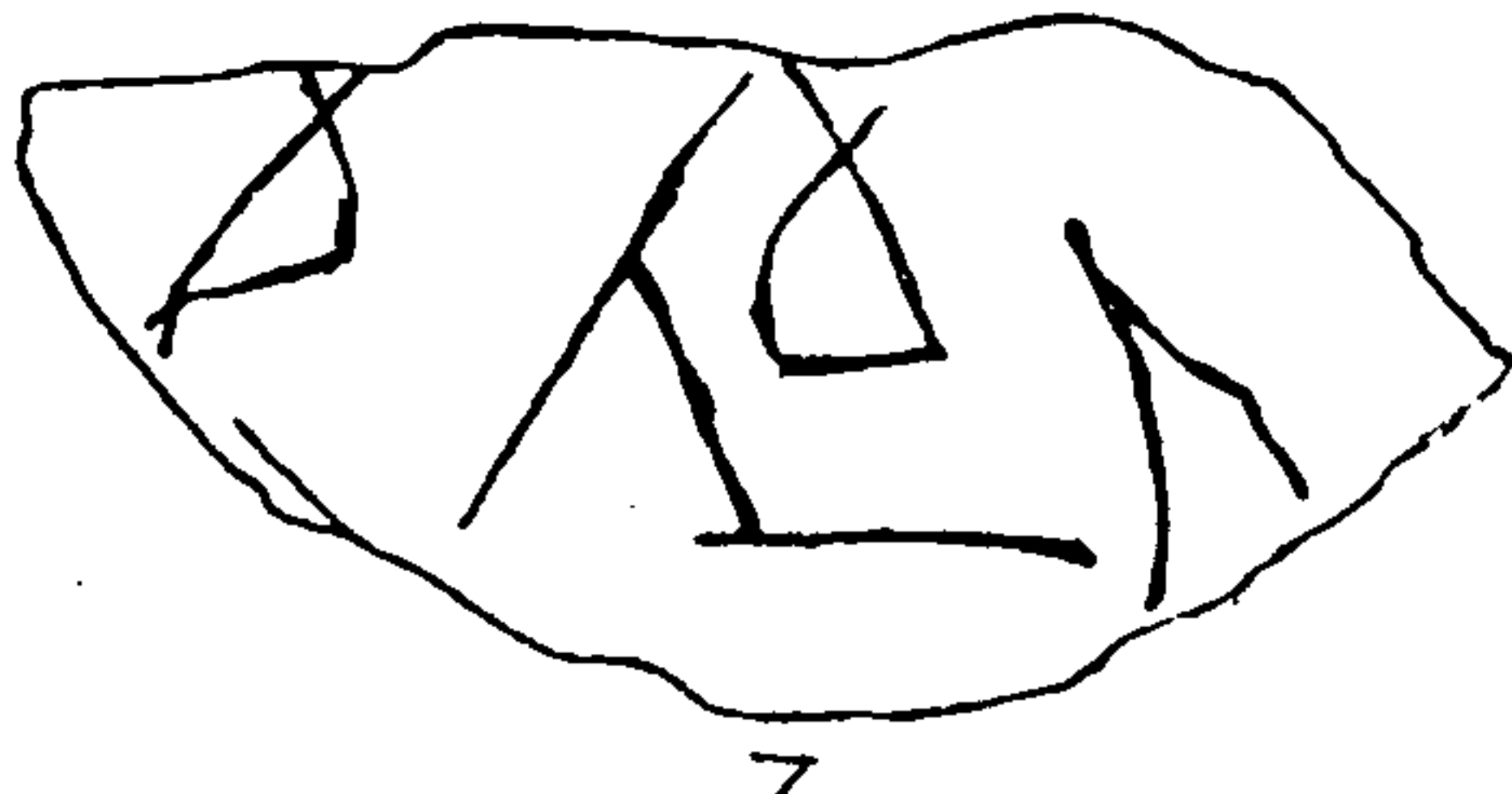
The explorations at Attankarai near Alagankulam yielded a large number of Chinese Celadon Ware. The fabric is fine with a light green glaze on both sides of the sherds. The excavation at a mound near *Pudukudiyerruppu* of Alagankulam has yielded several celadon potsherds. Similar sherds were found at Gangaikonda Cholapuram in Perambalur District and can be assigned to 10-11th Century CE.

It is named after Saladin of Egypt who sent some pieces of this ware to Nar-ud-din, Sultan of Damascus. This earthen ware - characteristic of the Sung (960-1279) and Yuan (1280-1368) dynasties in Chekiang province of China - found its way through trade routes to India, Ceylon and other countries. So, these are

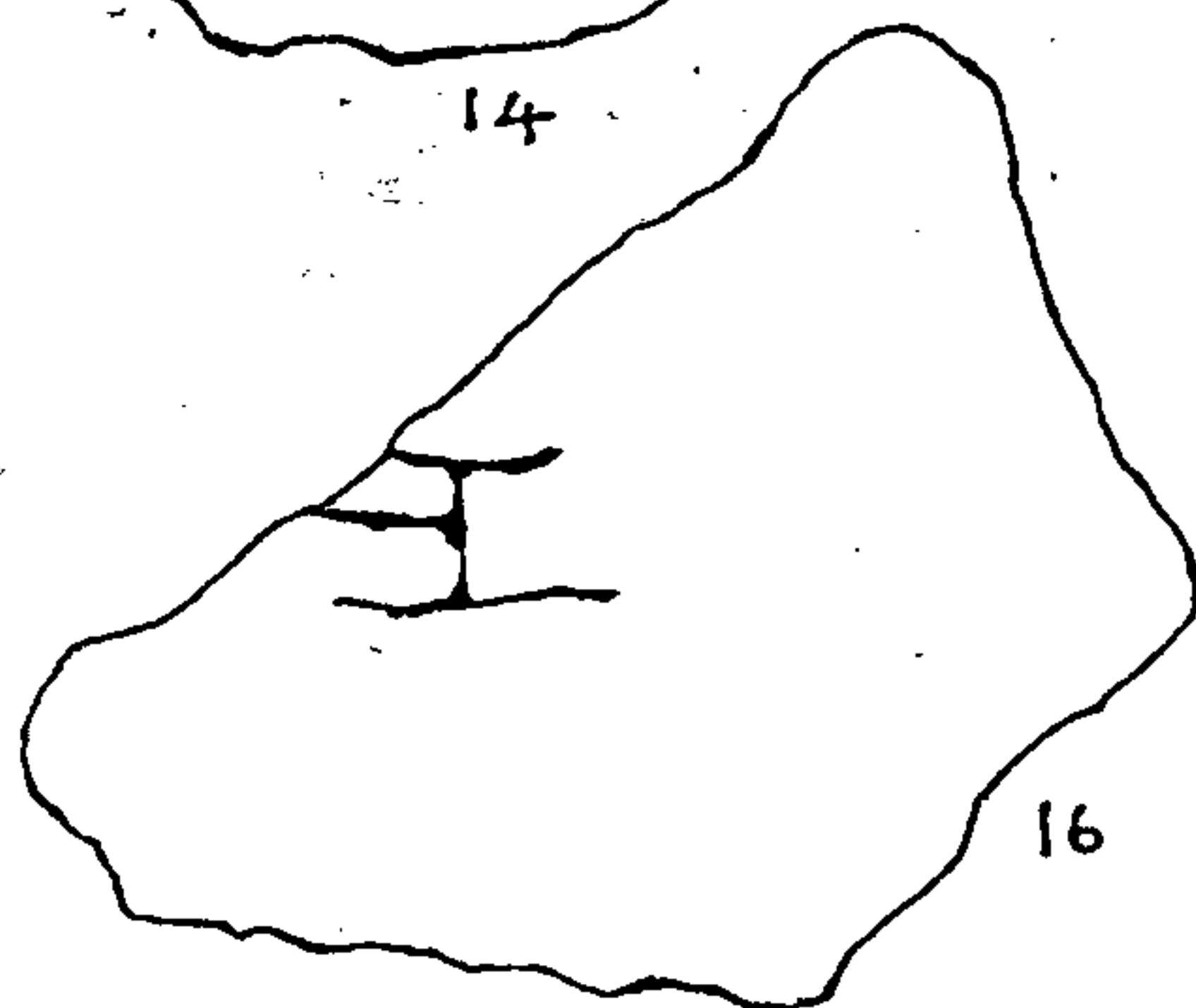
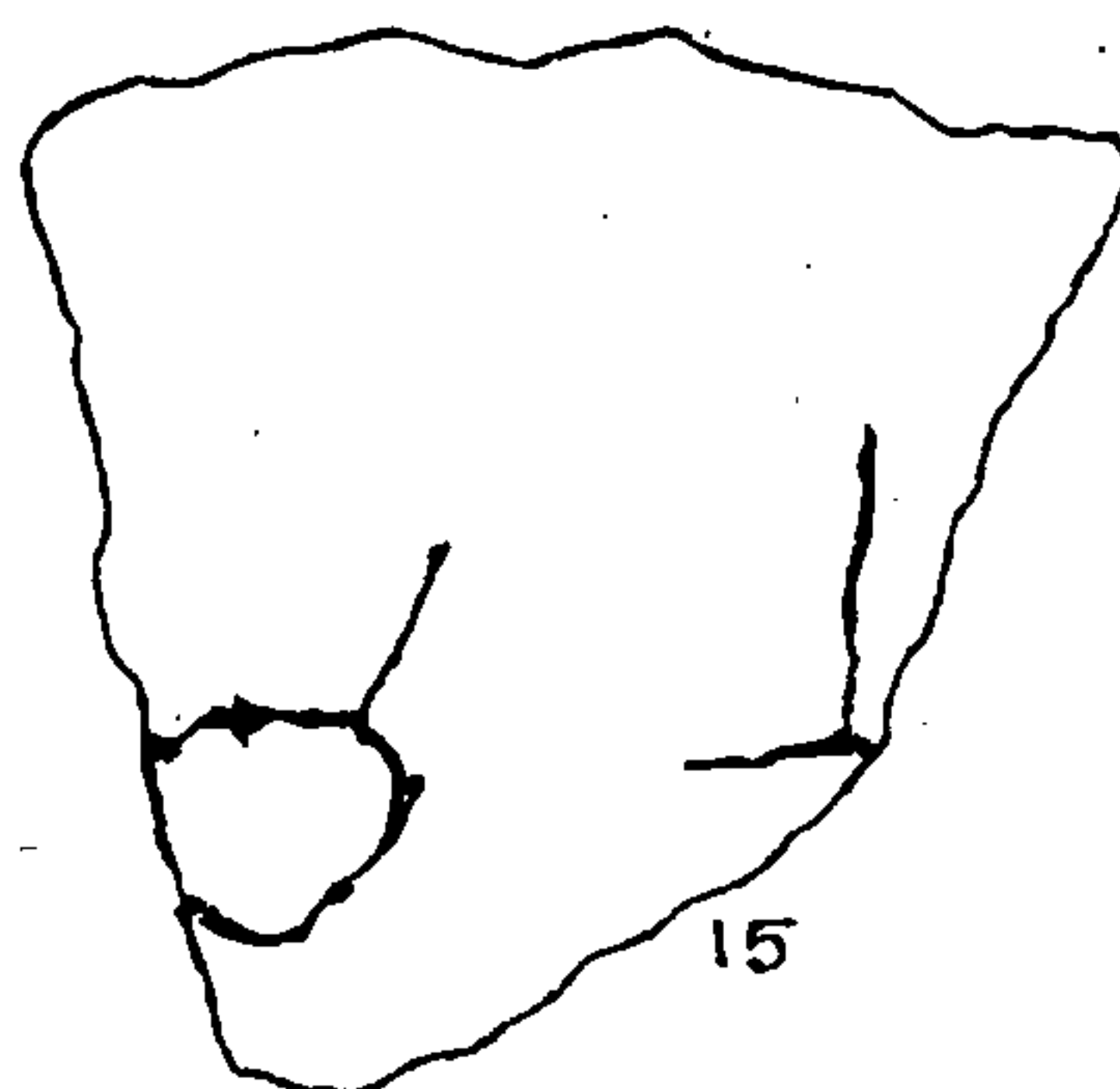
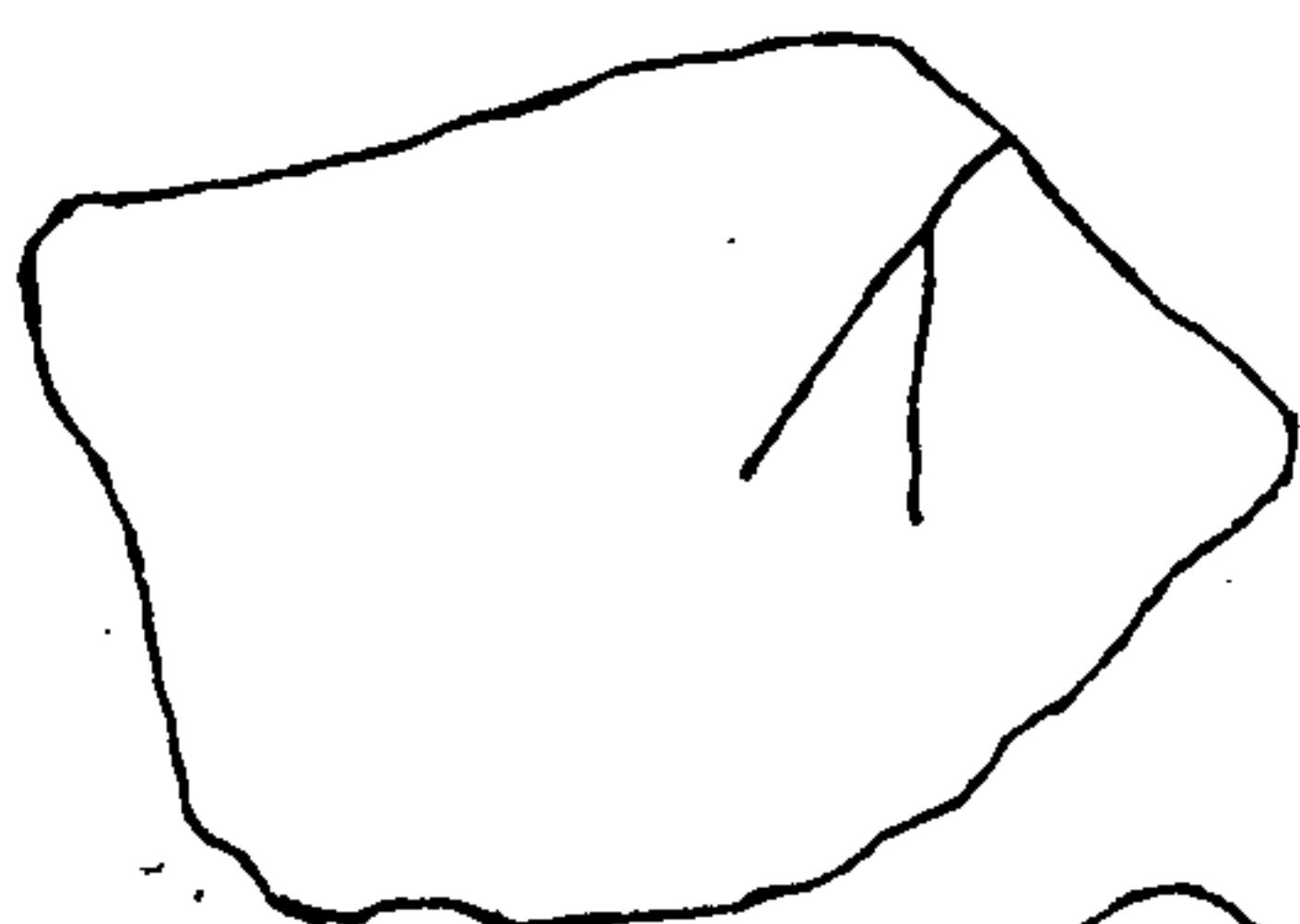
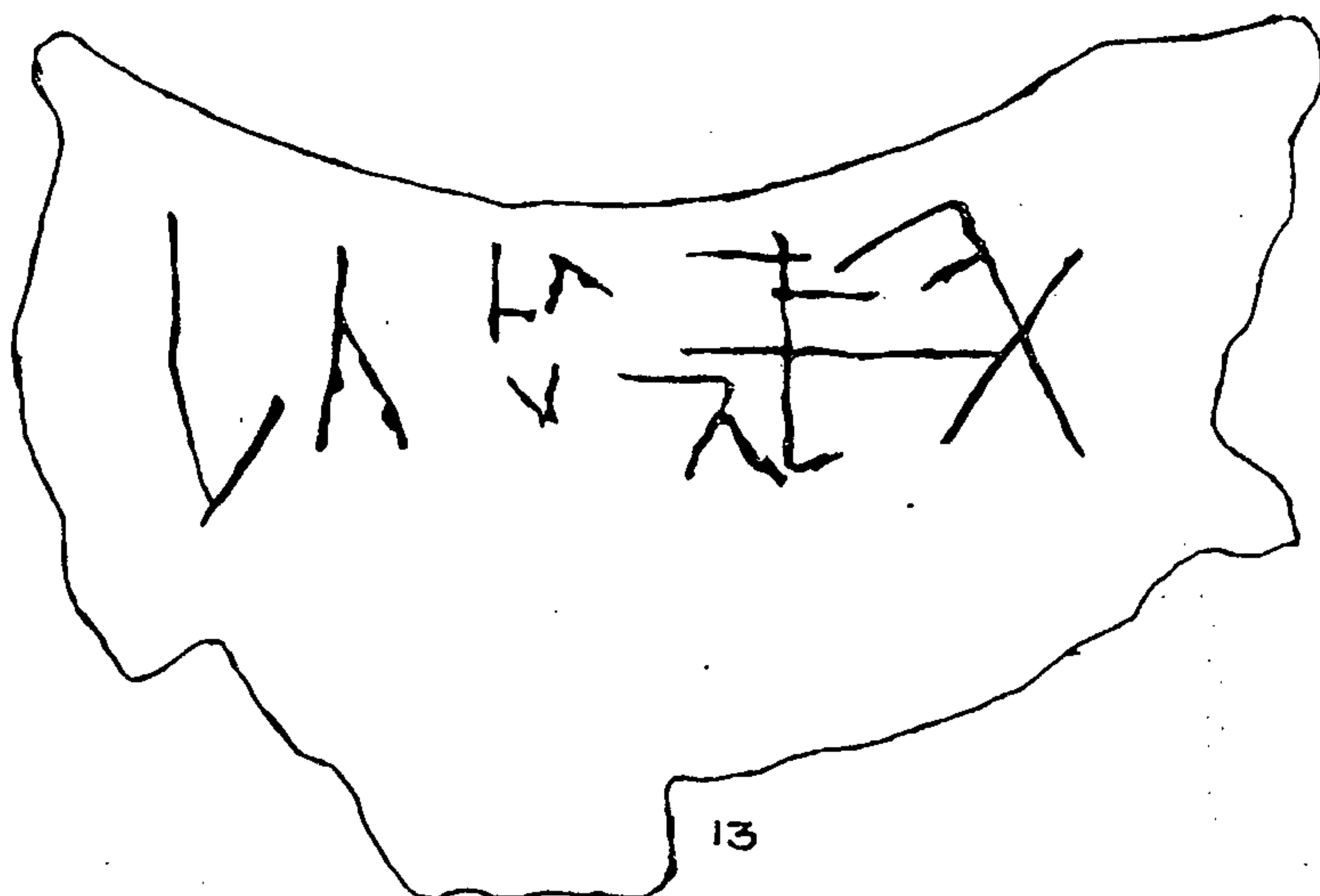
Alagankulam Inscribed Pot Sherds



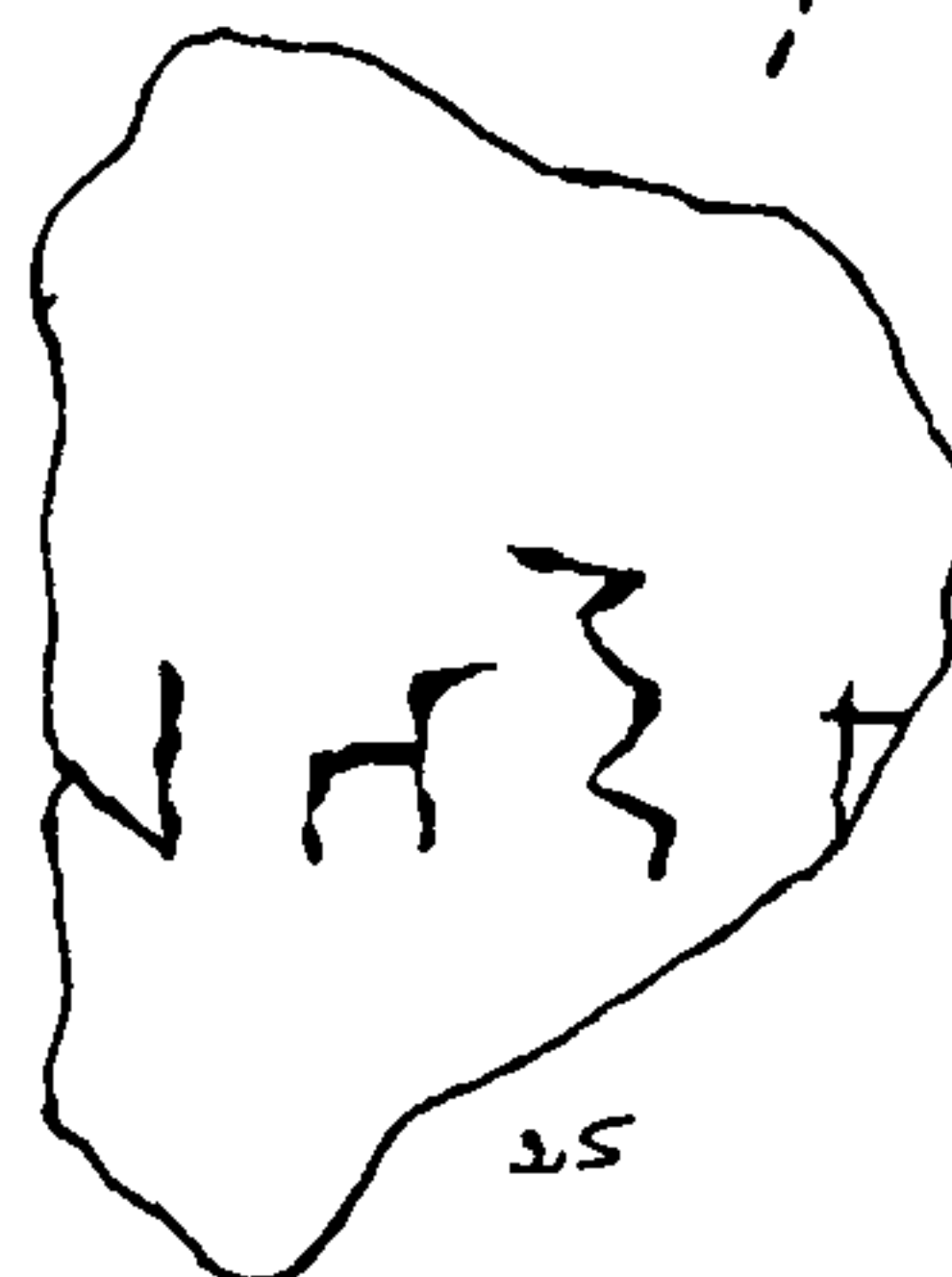
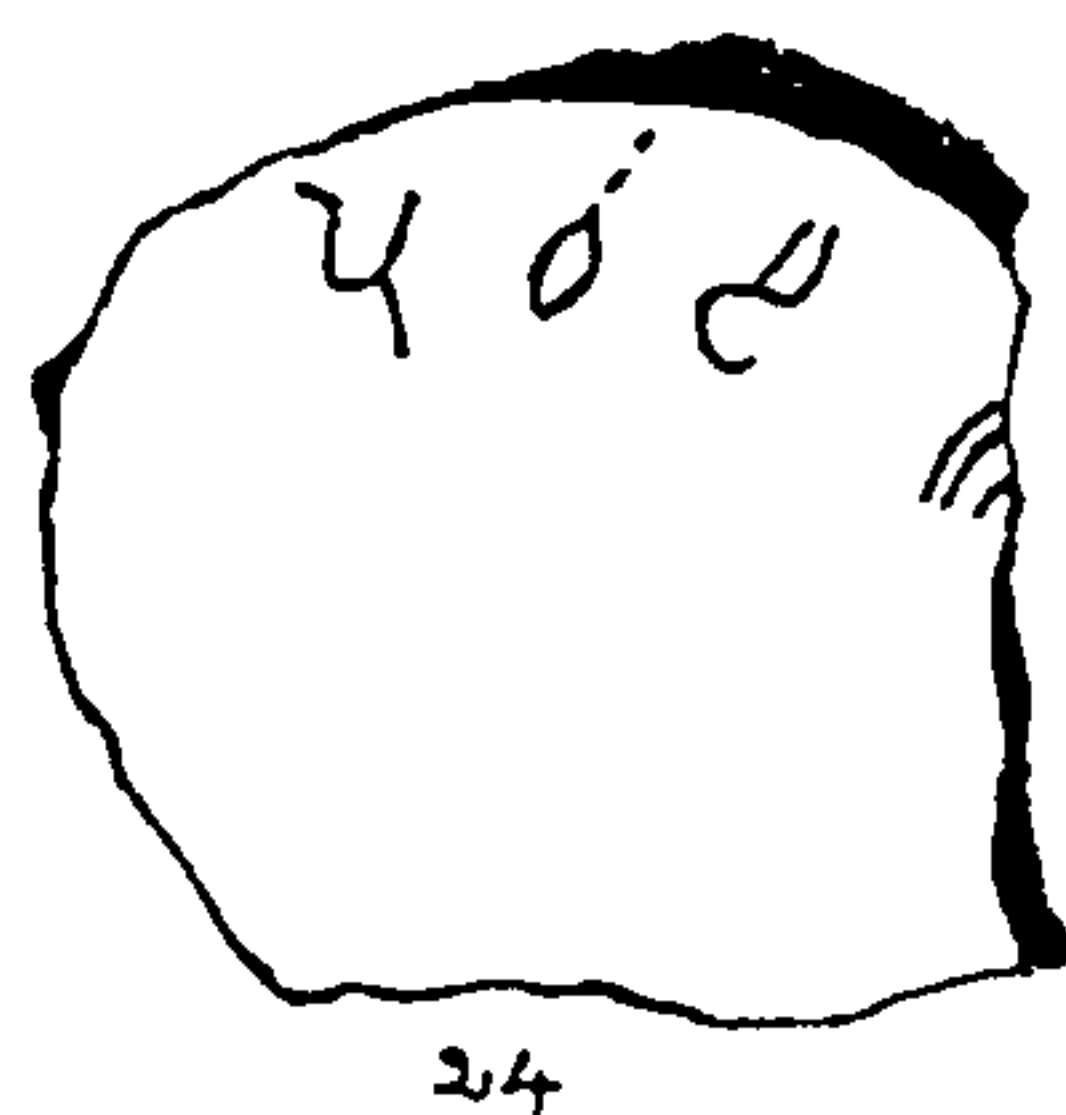
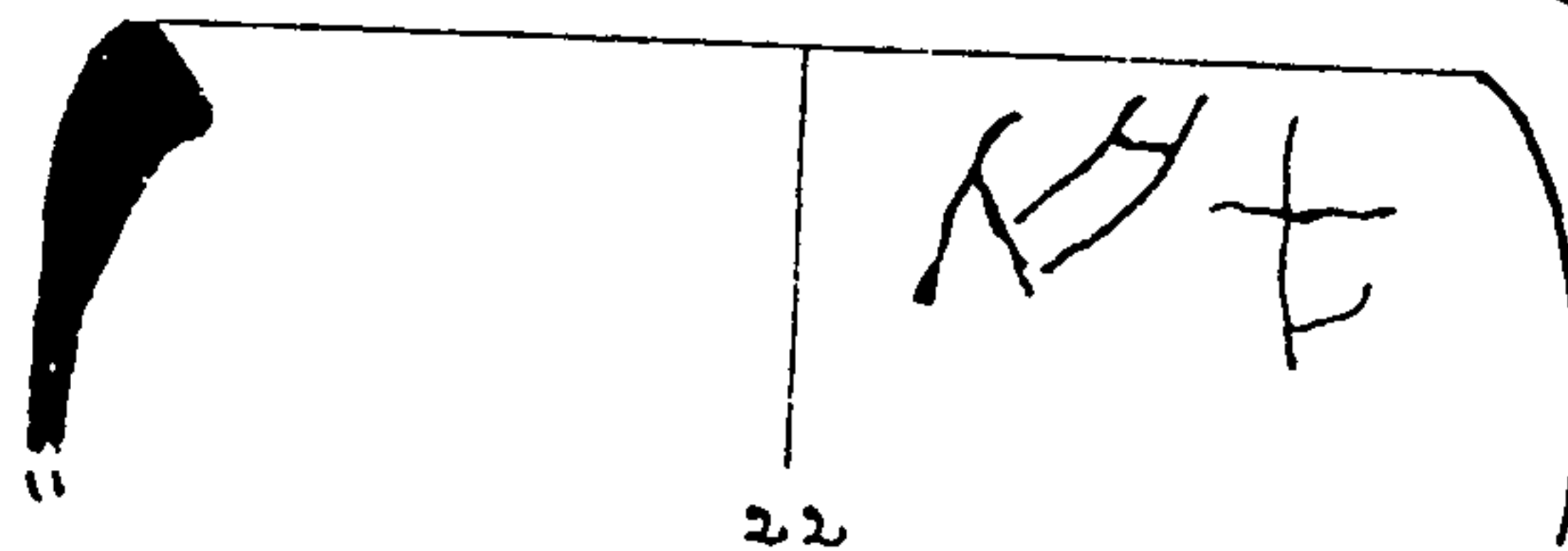
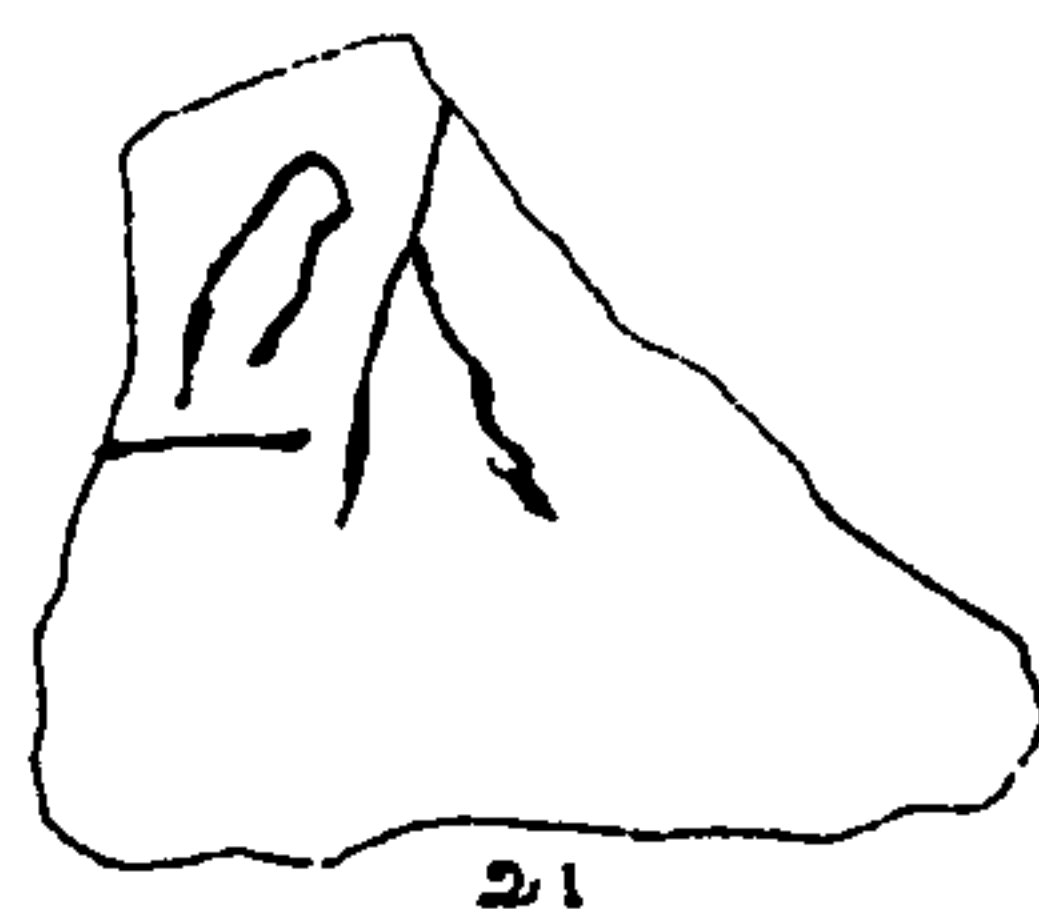
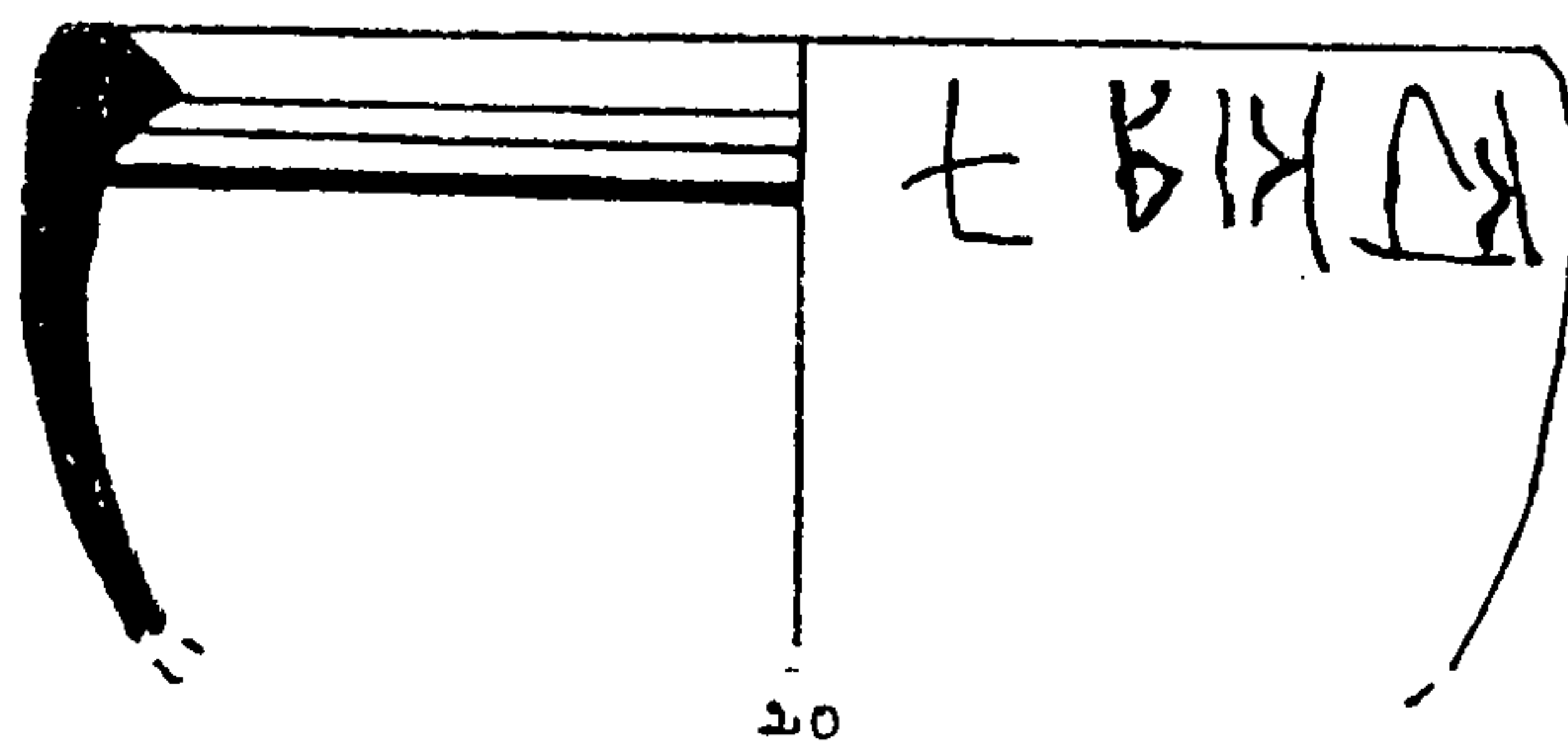
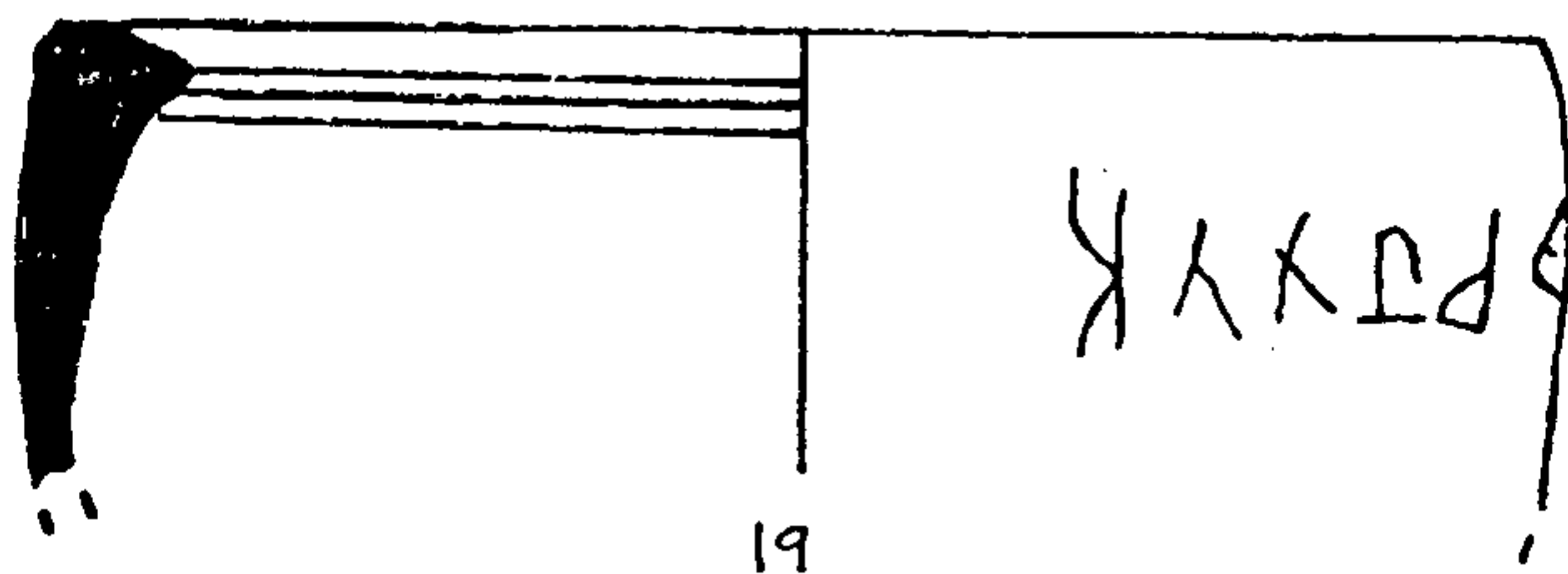
Alagankulam Inscribed Pot Sherds



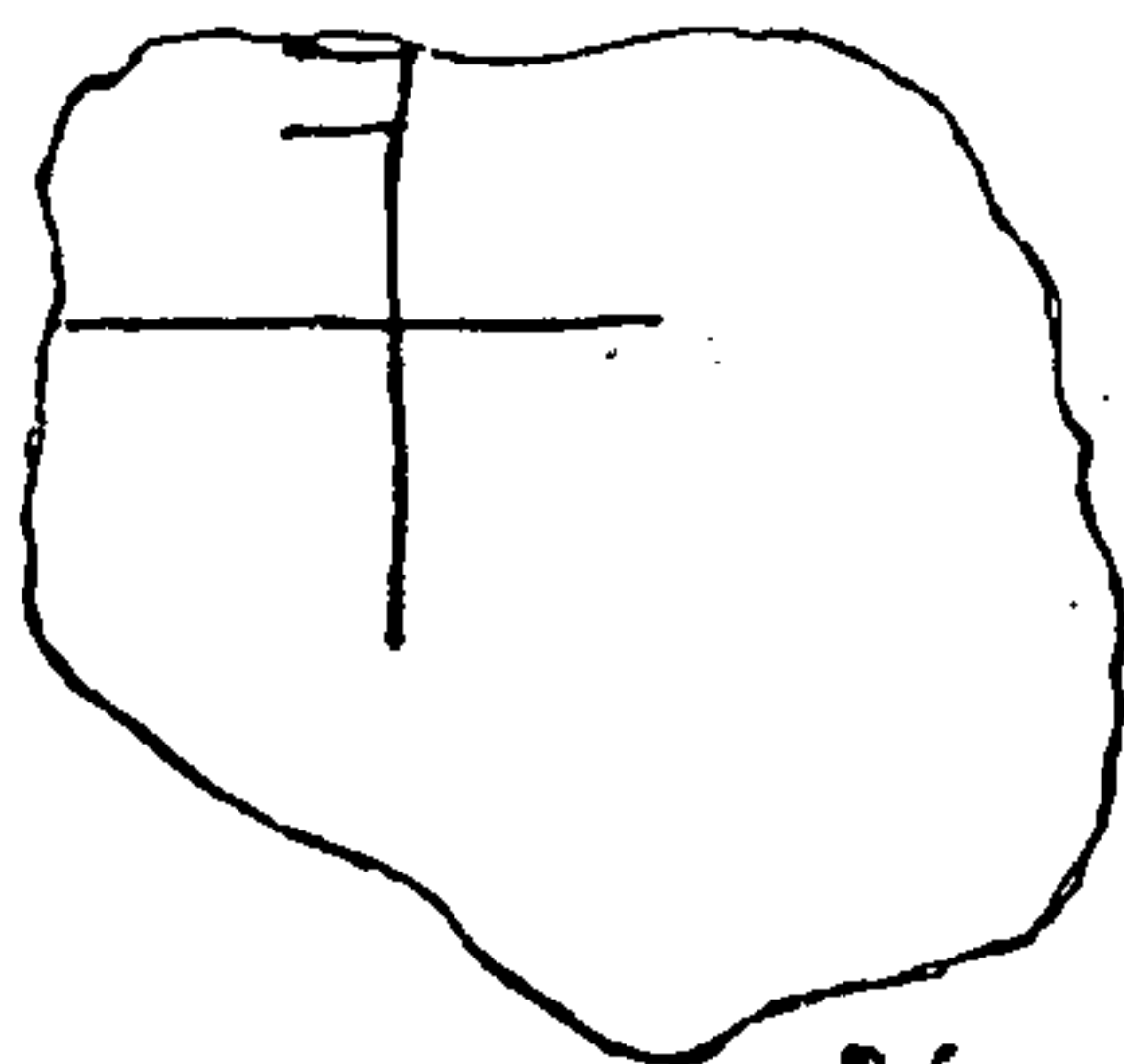
Alagankulam Inscribed Pot Sherds



Alagankulam Inscribed Pot Sherds



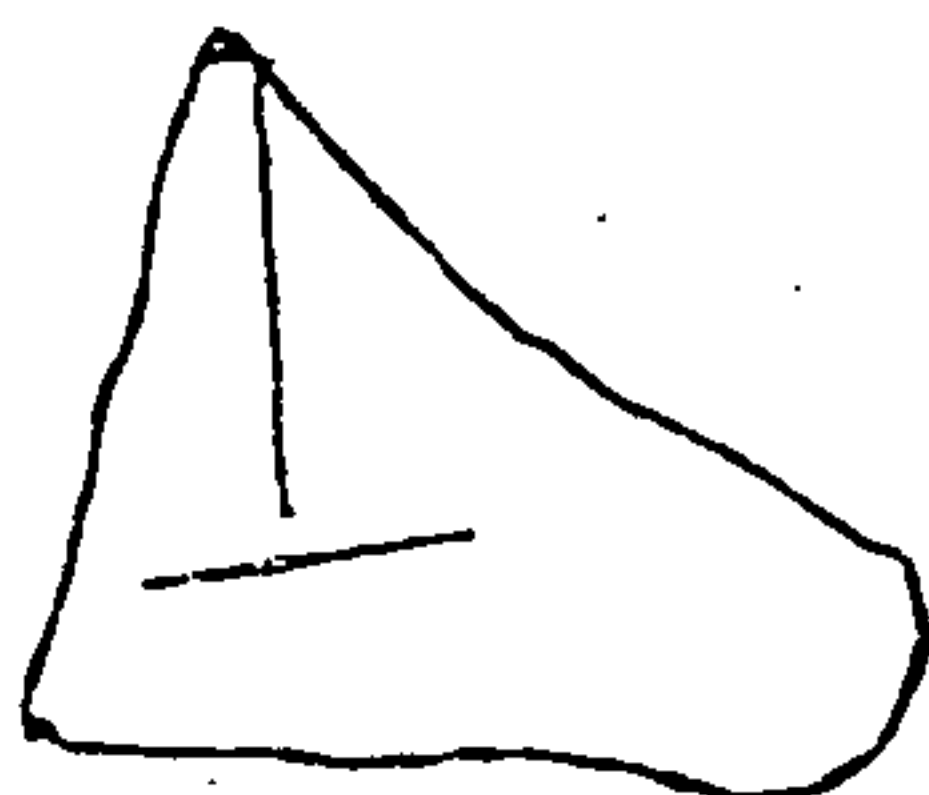
Alagankulam Inscribed Pot Sherds



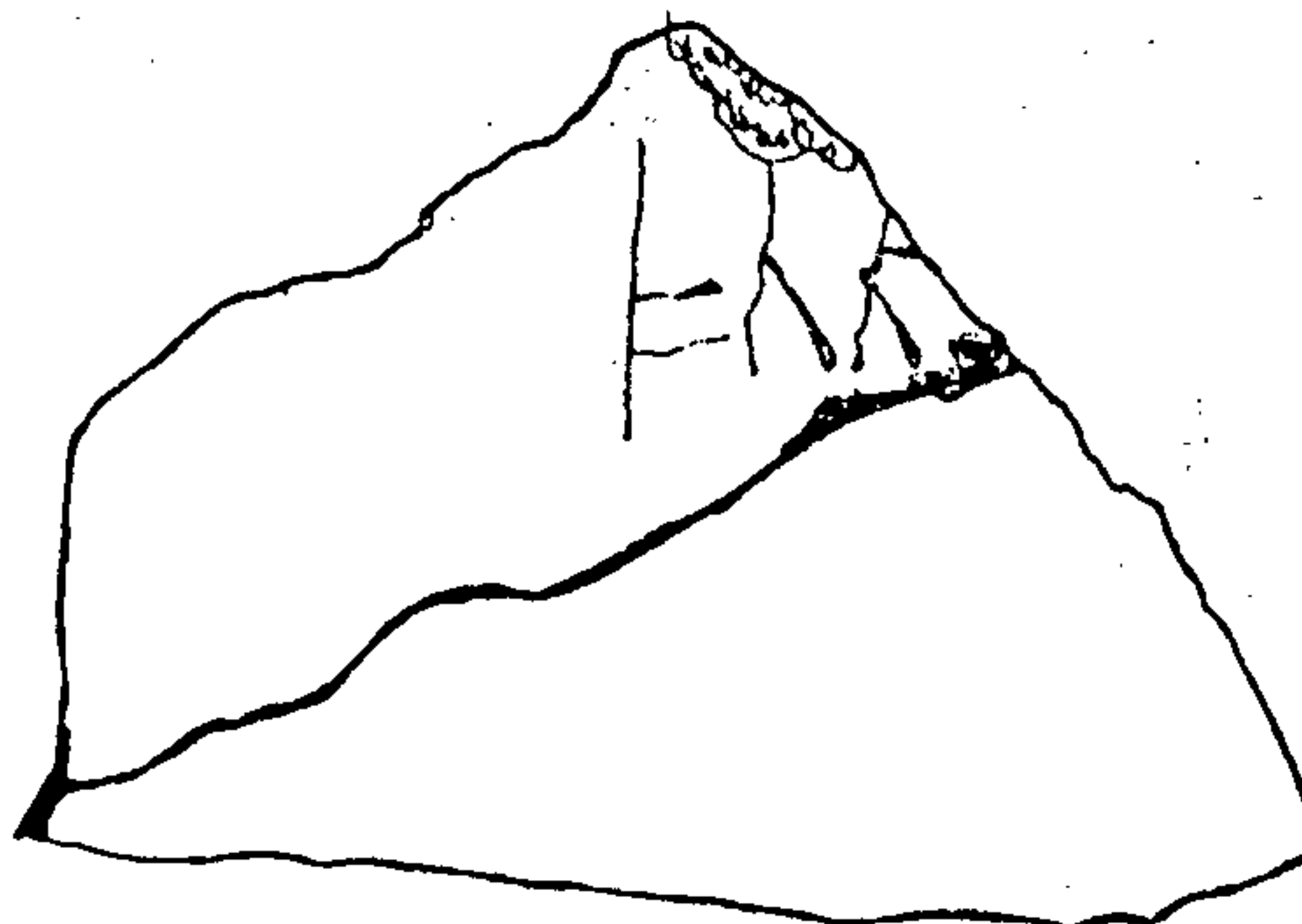
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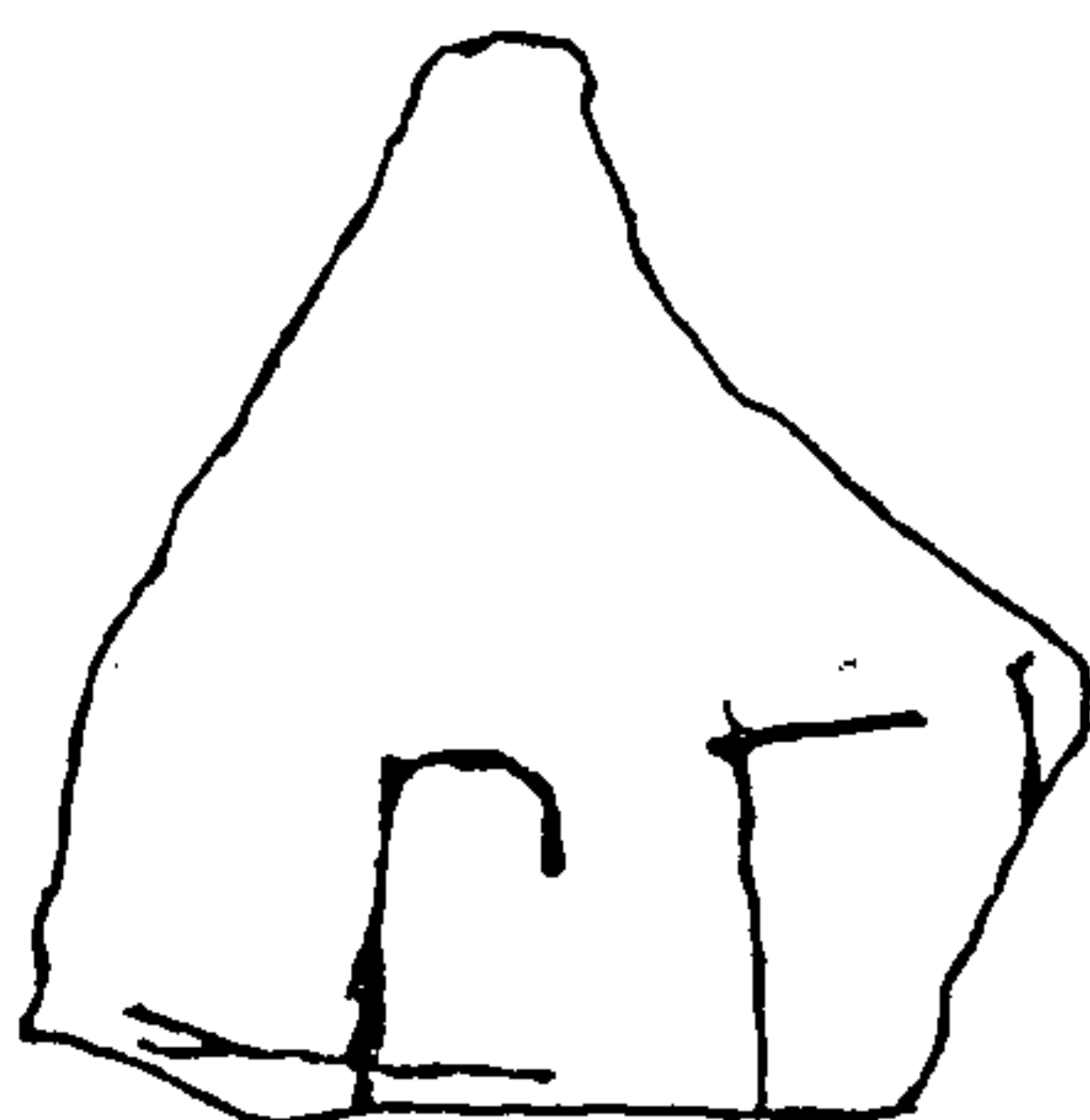
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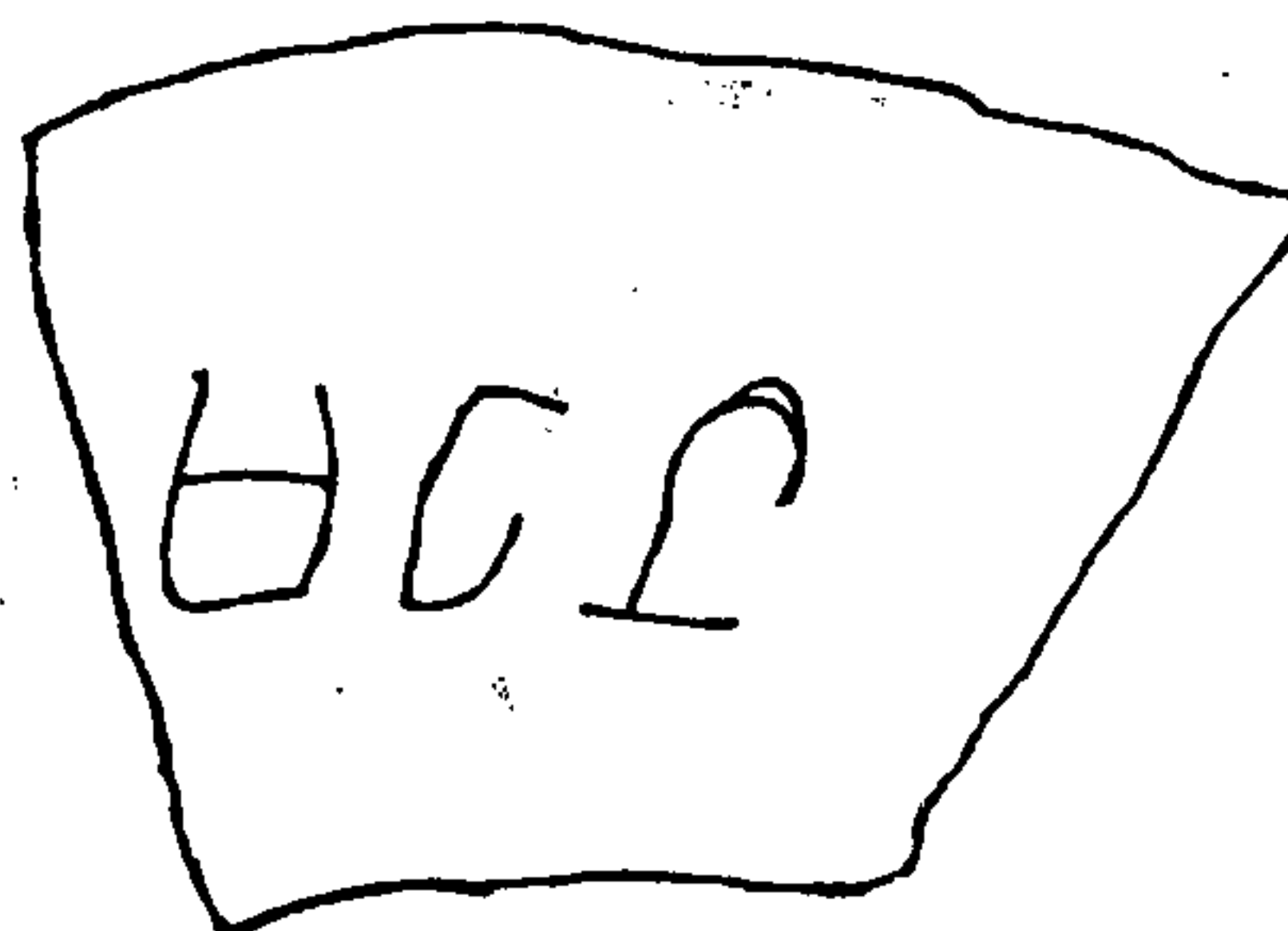
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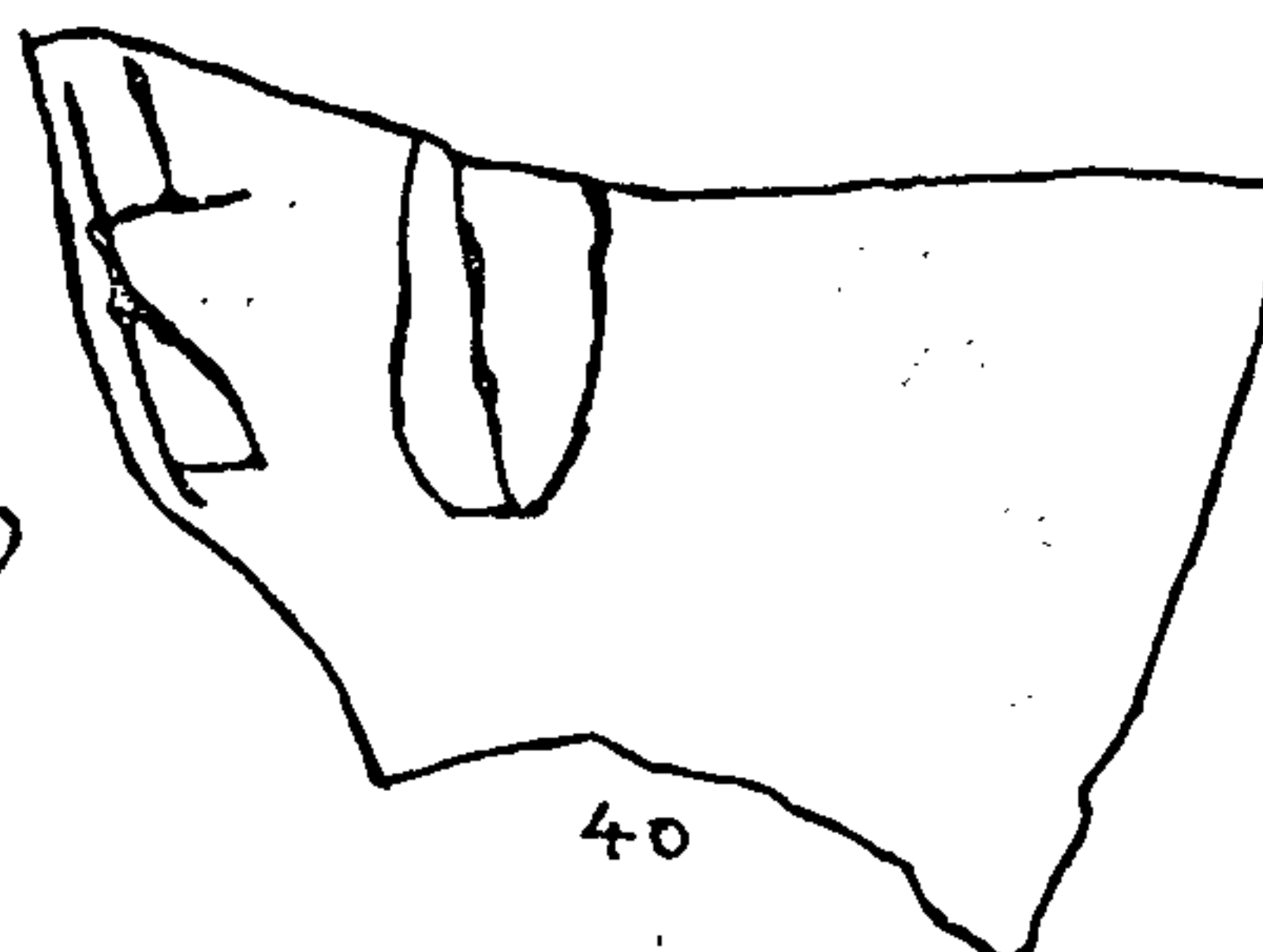
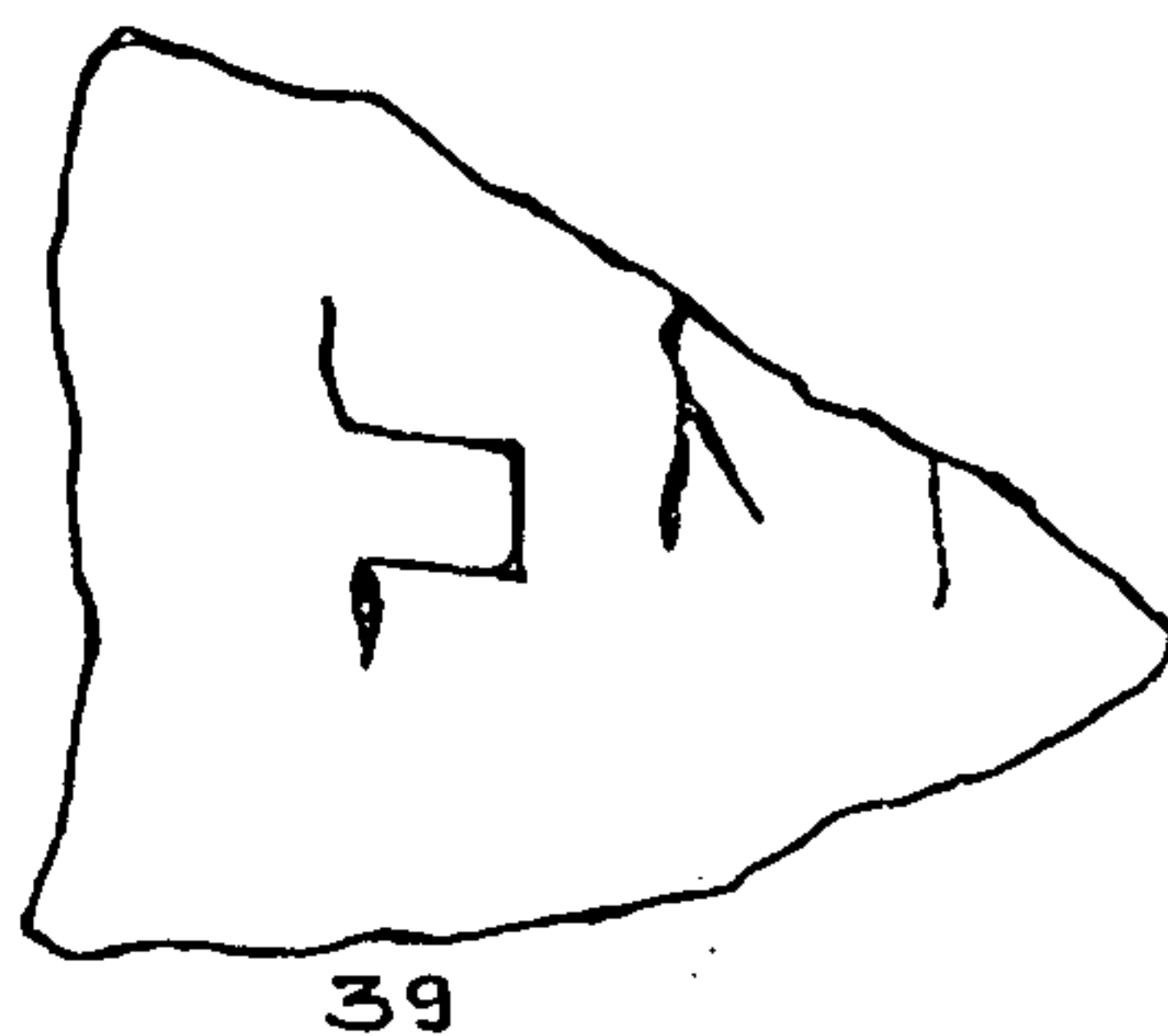
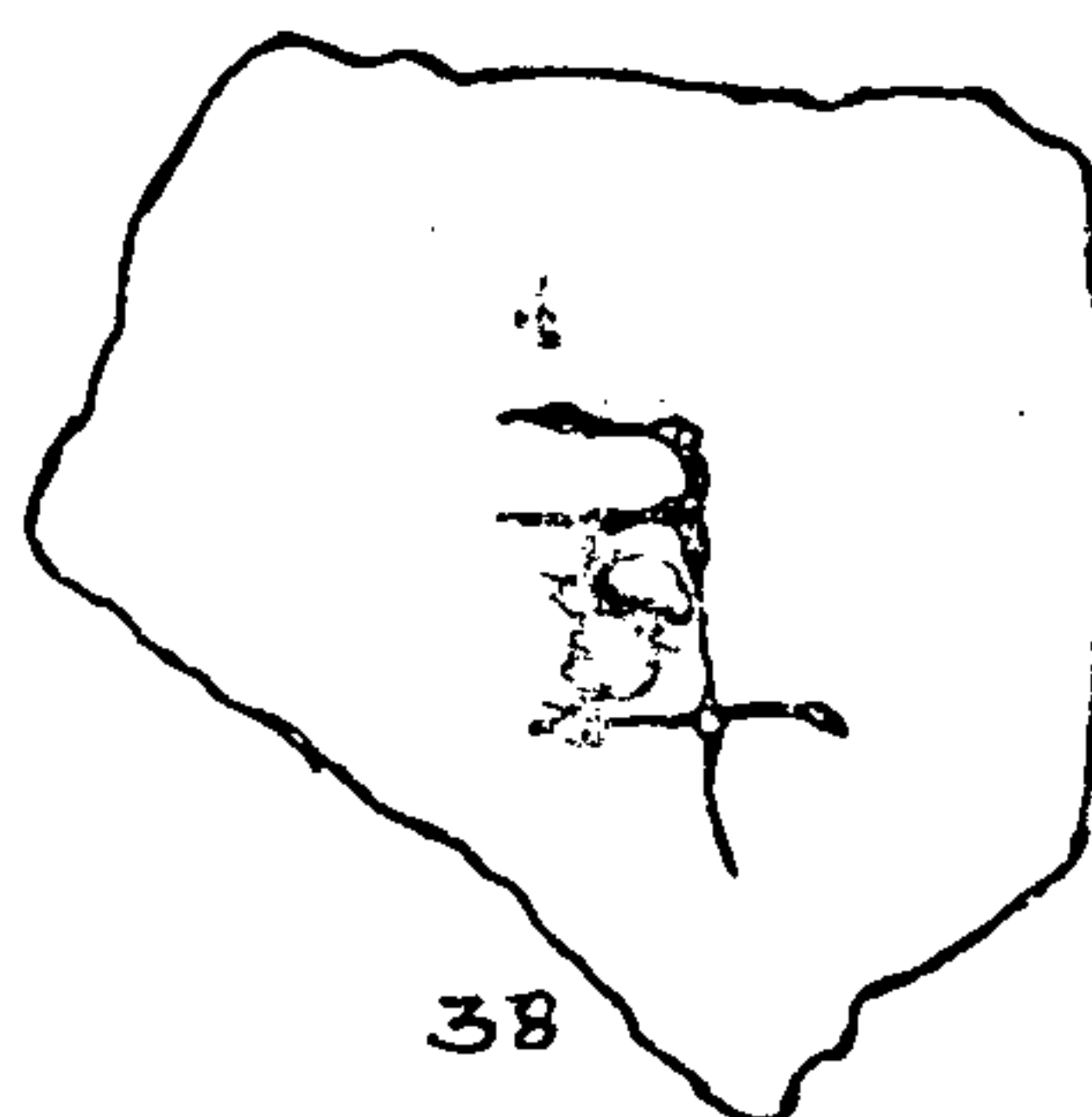
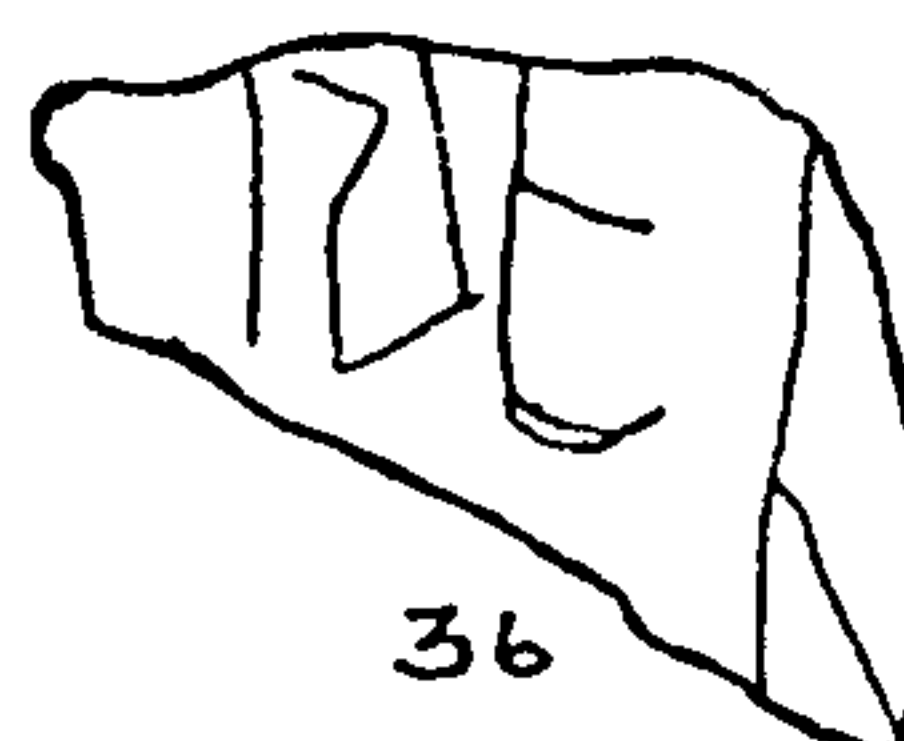
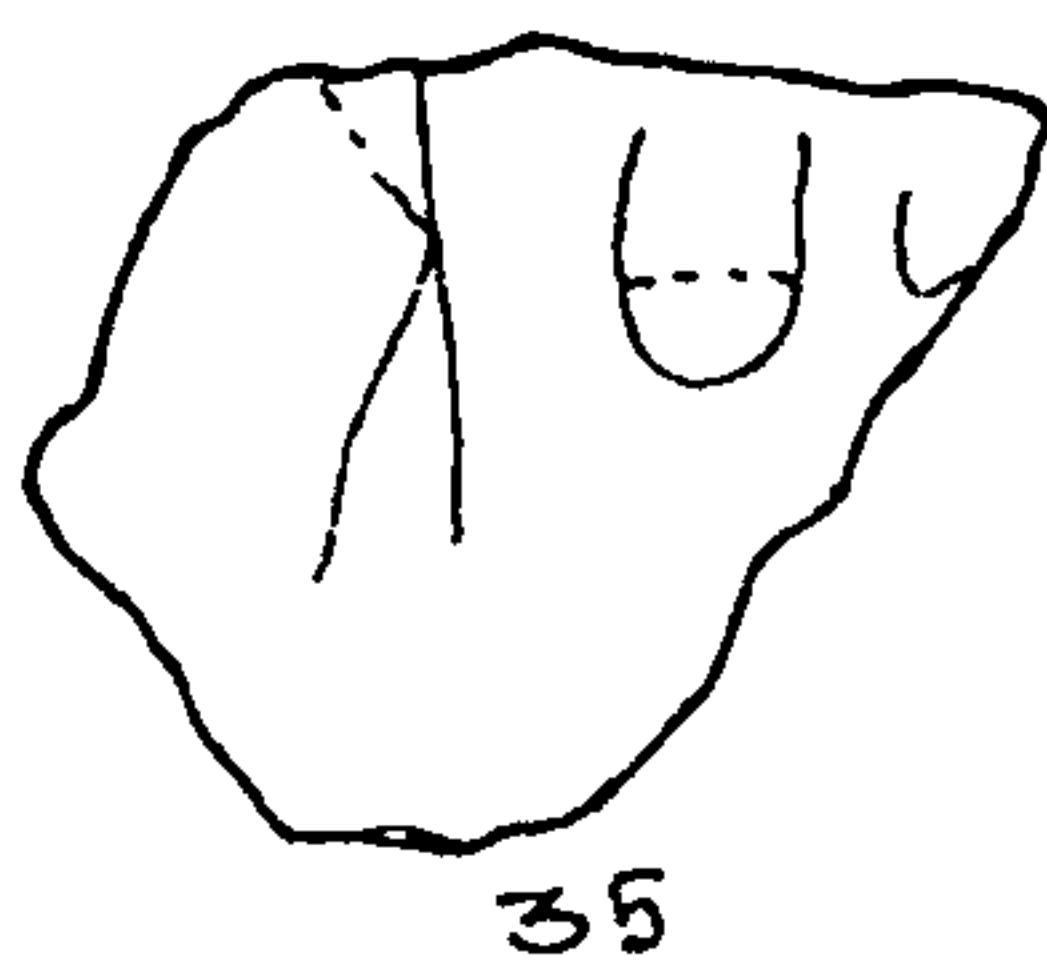
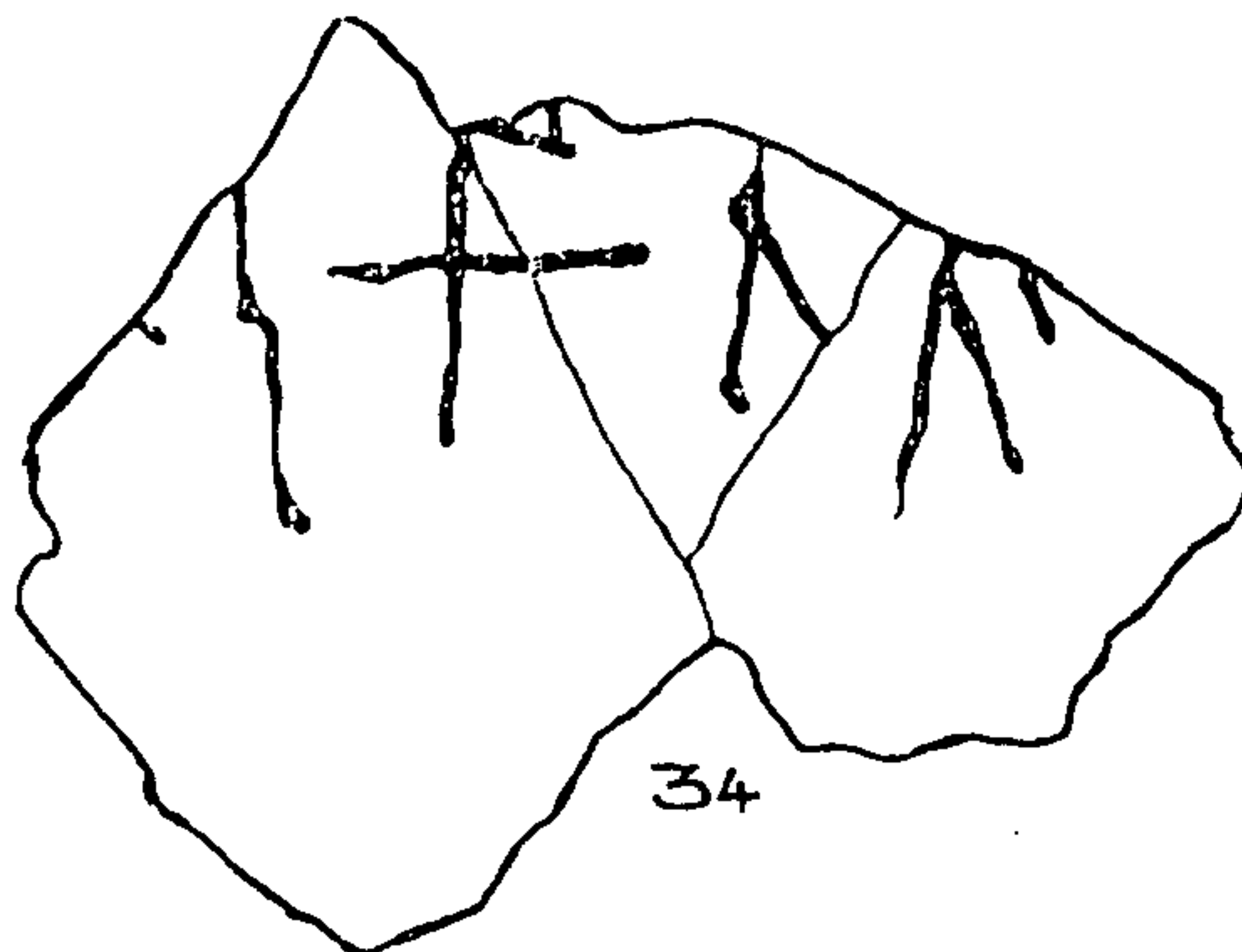


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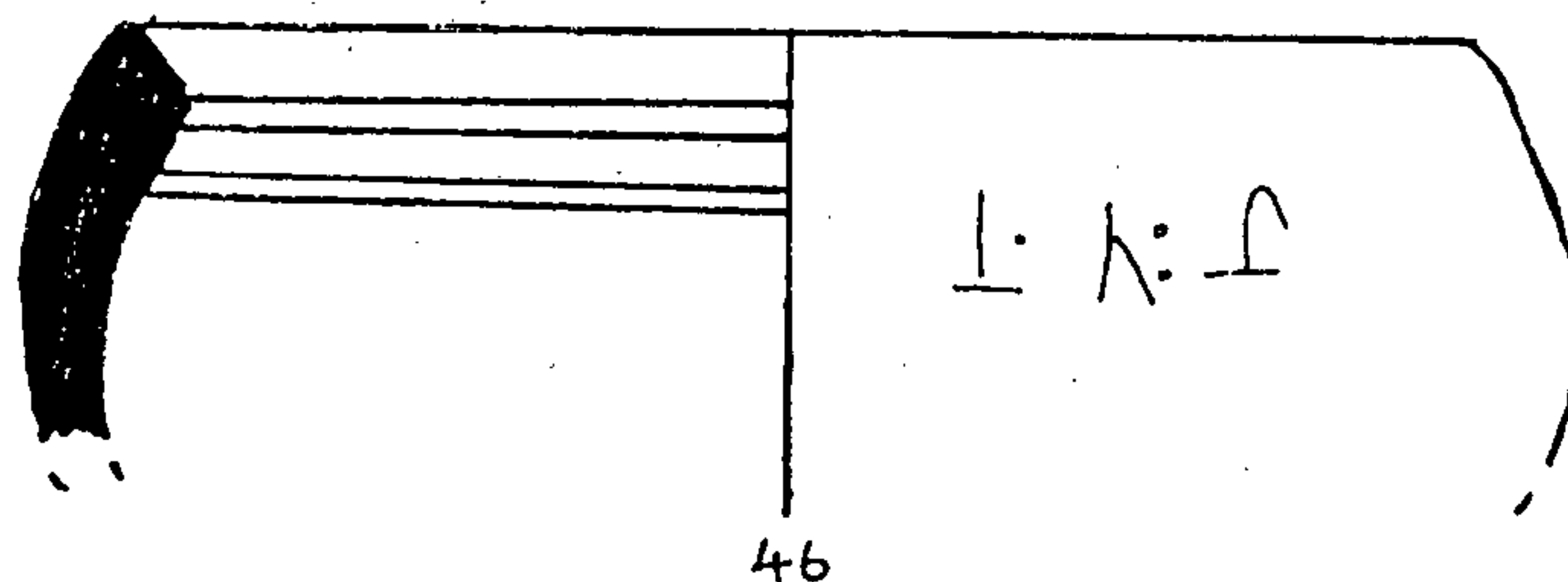
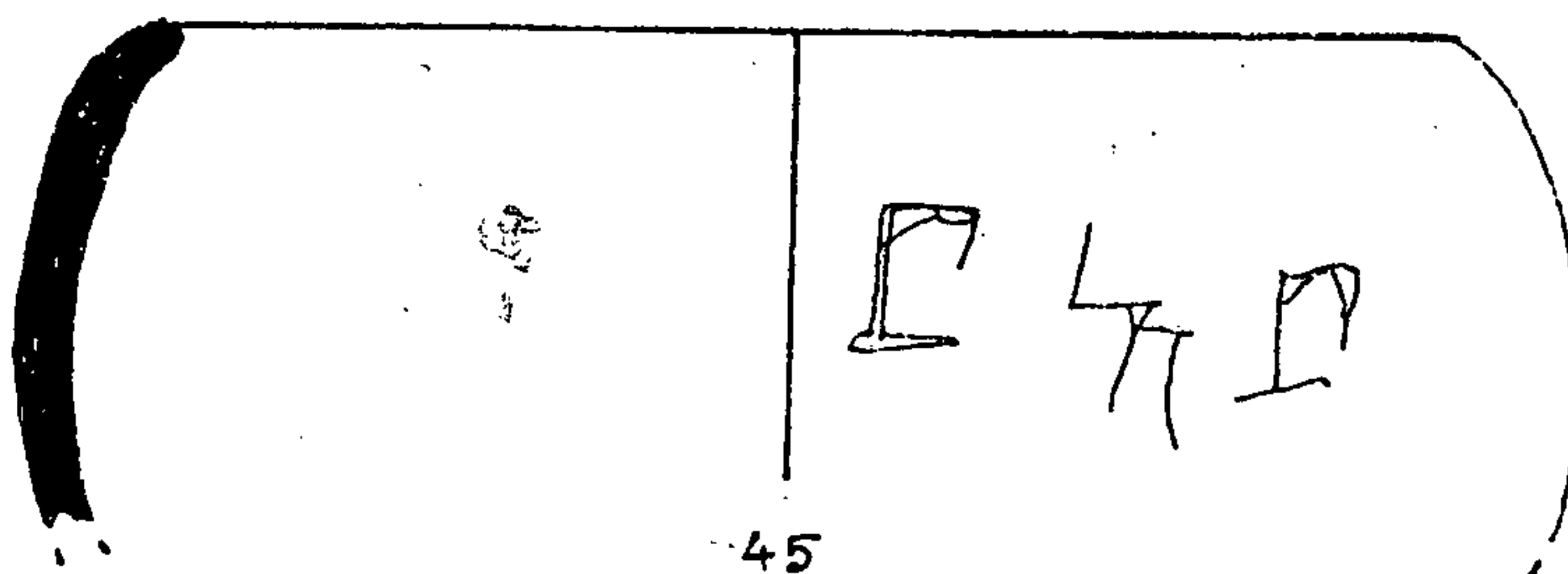
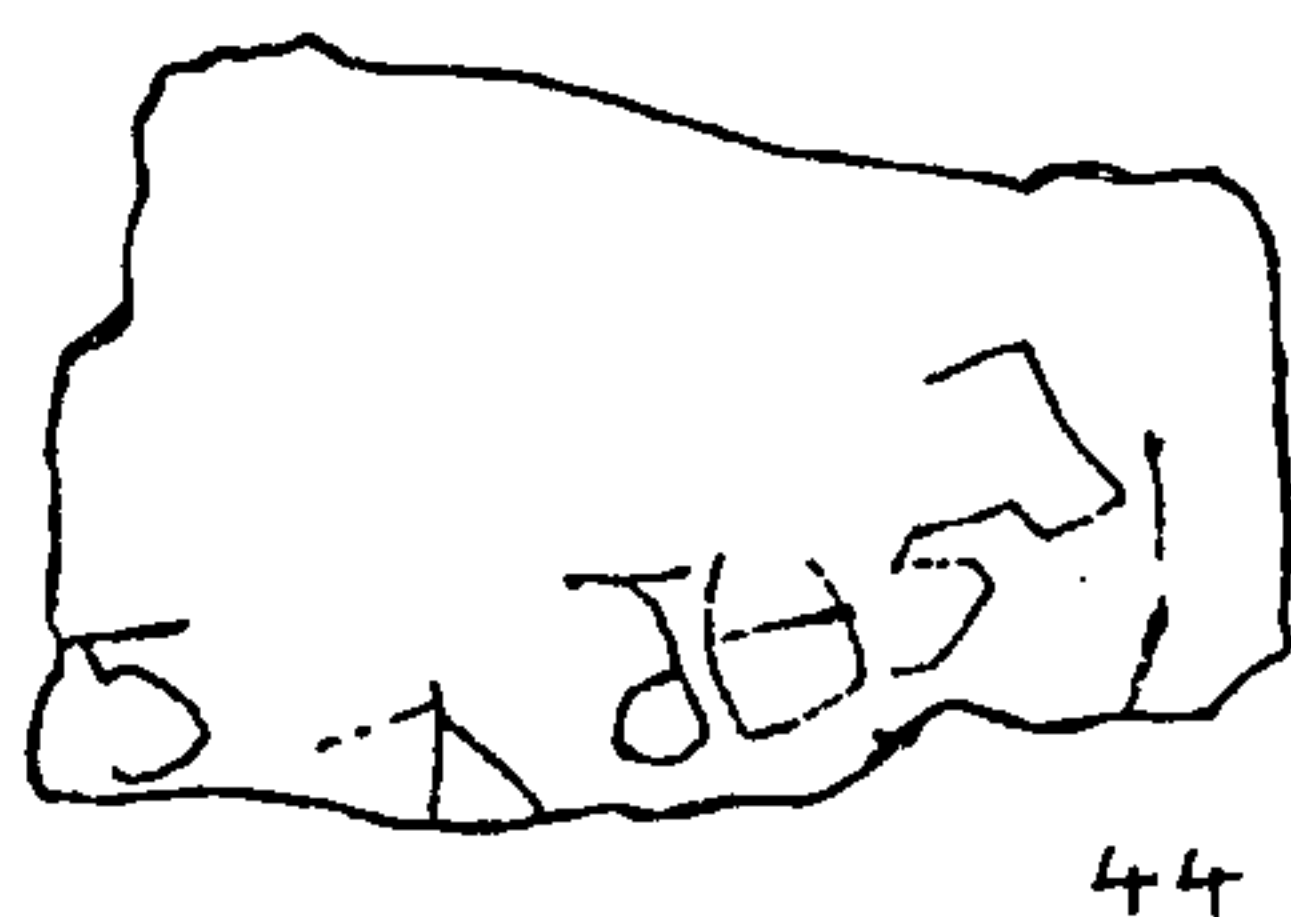


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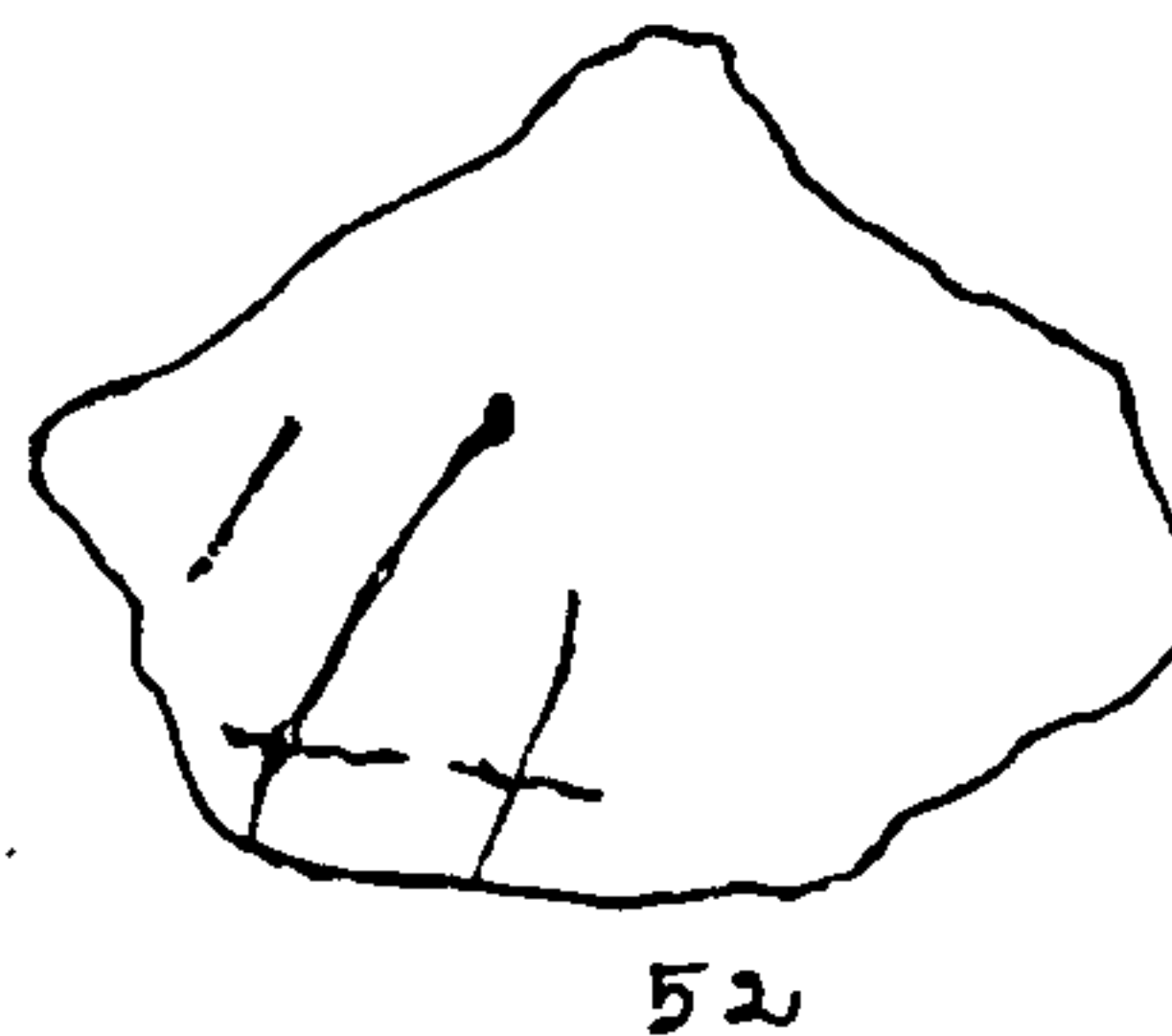
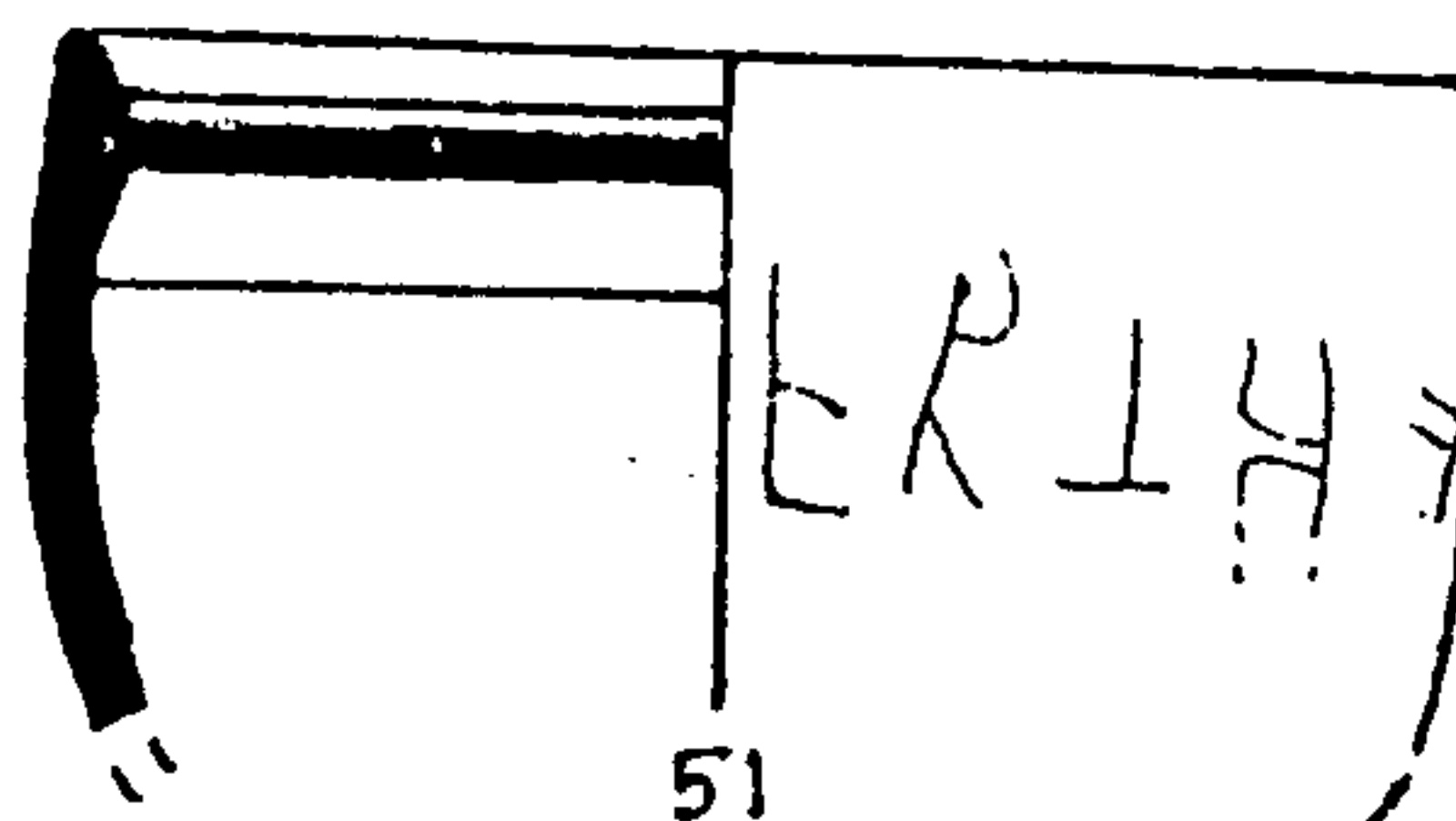
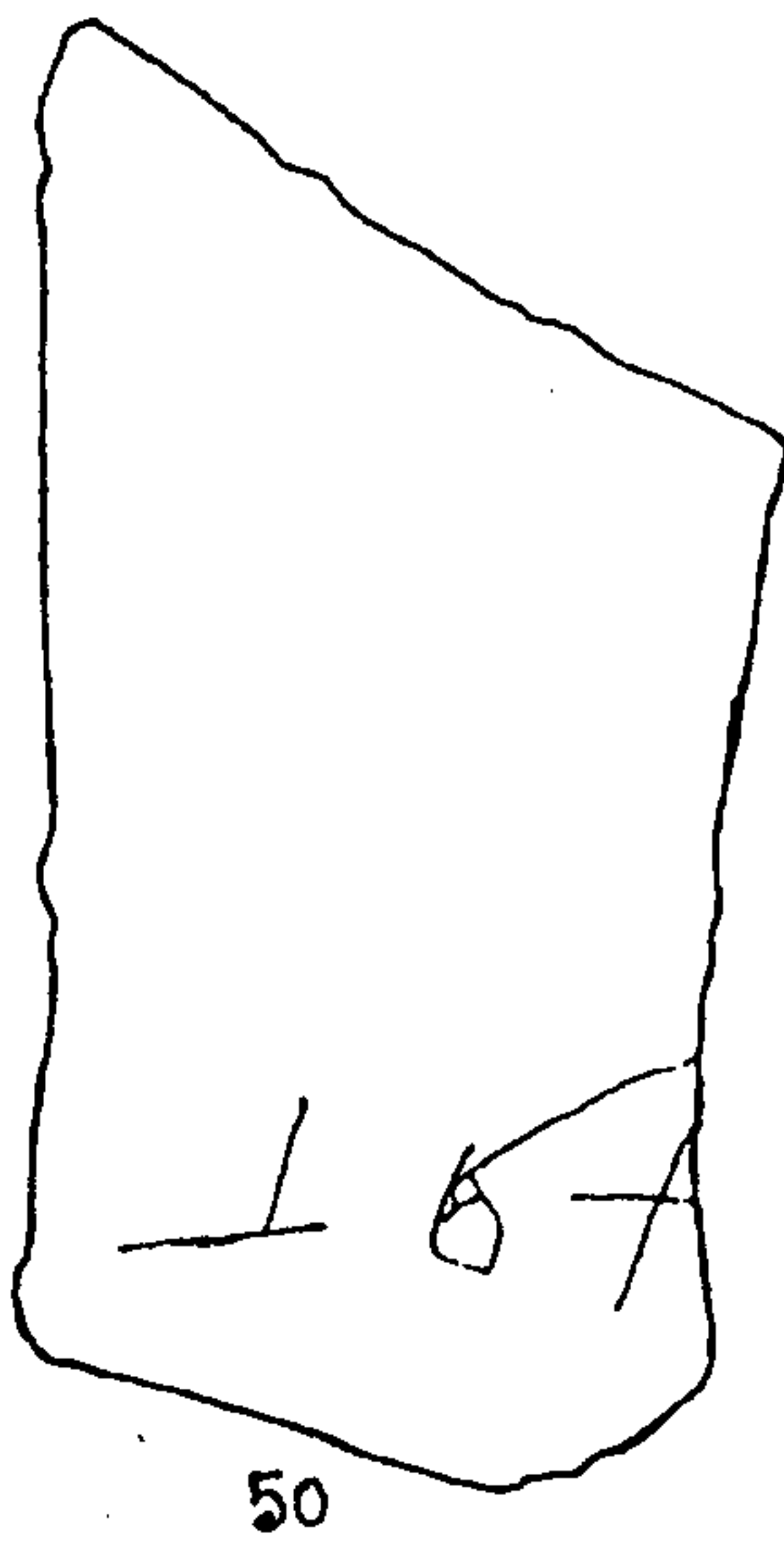
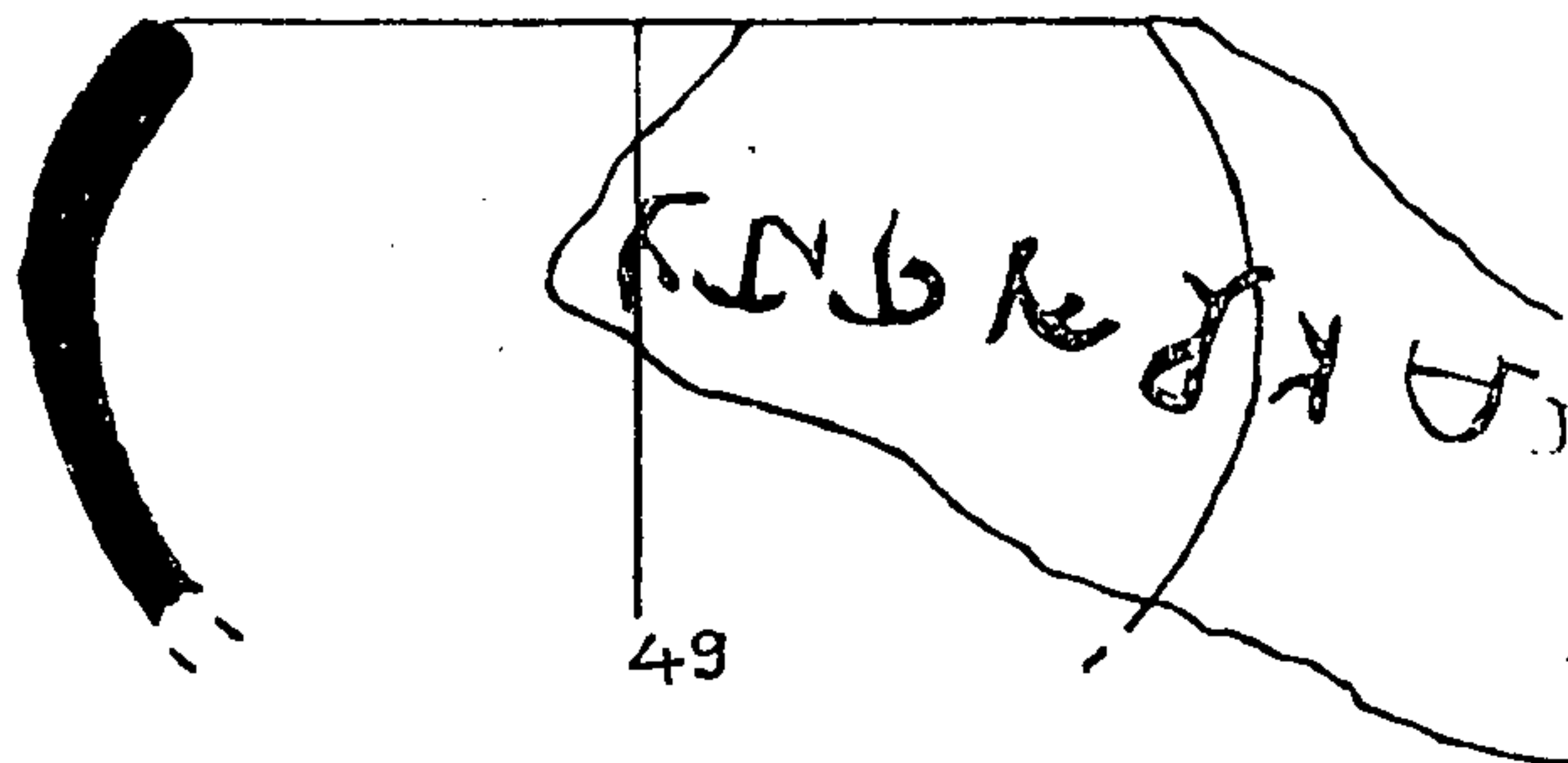
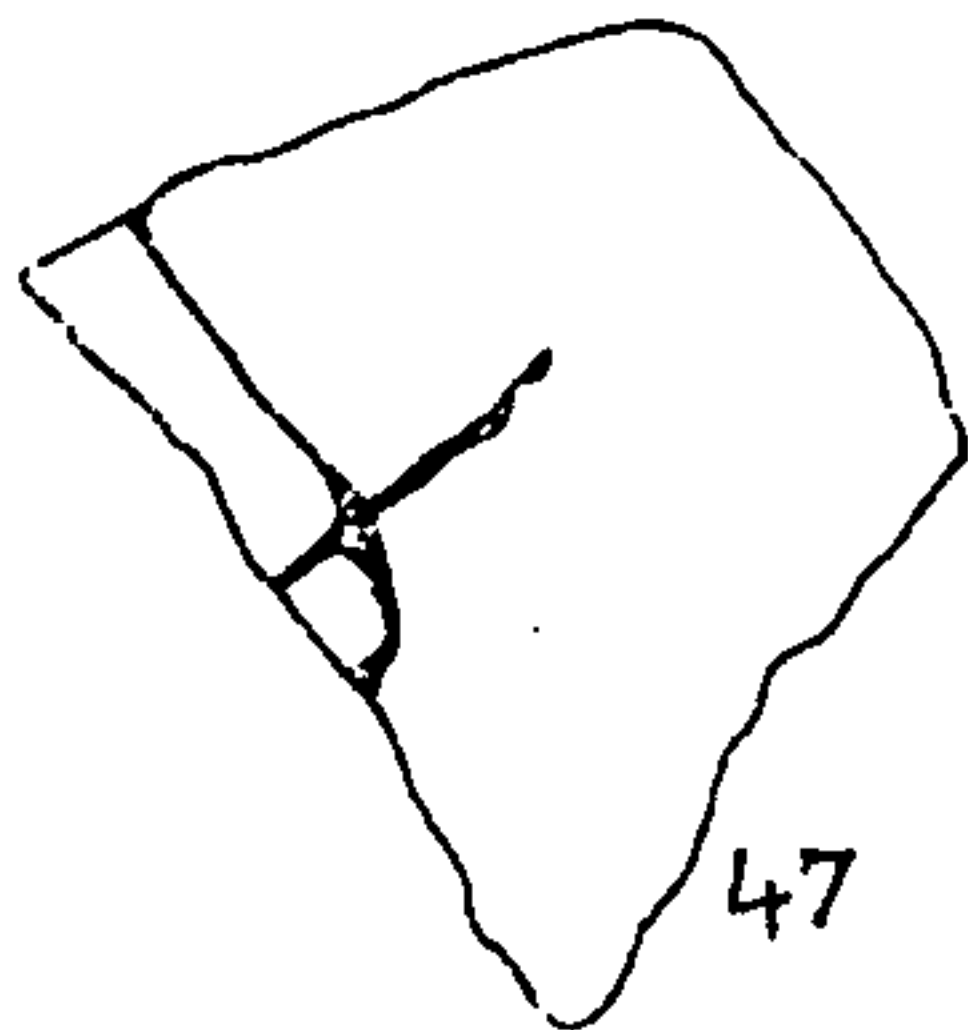
Alagankulam Inscribed Pot Sherds



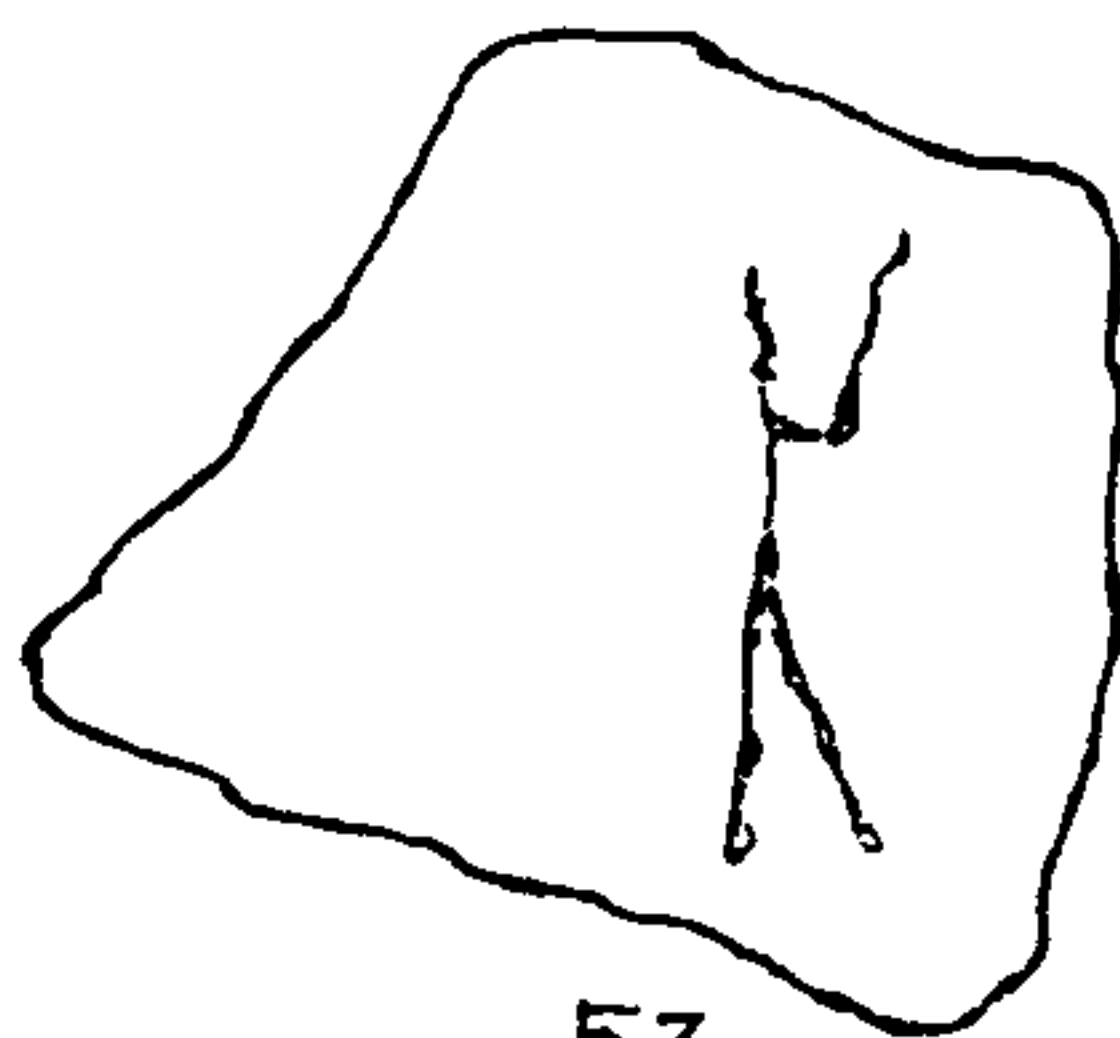
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Alagankulam Inscribed Pot Sherds



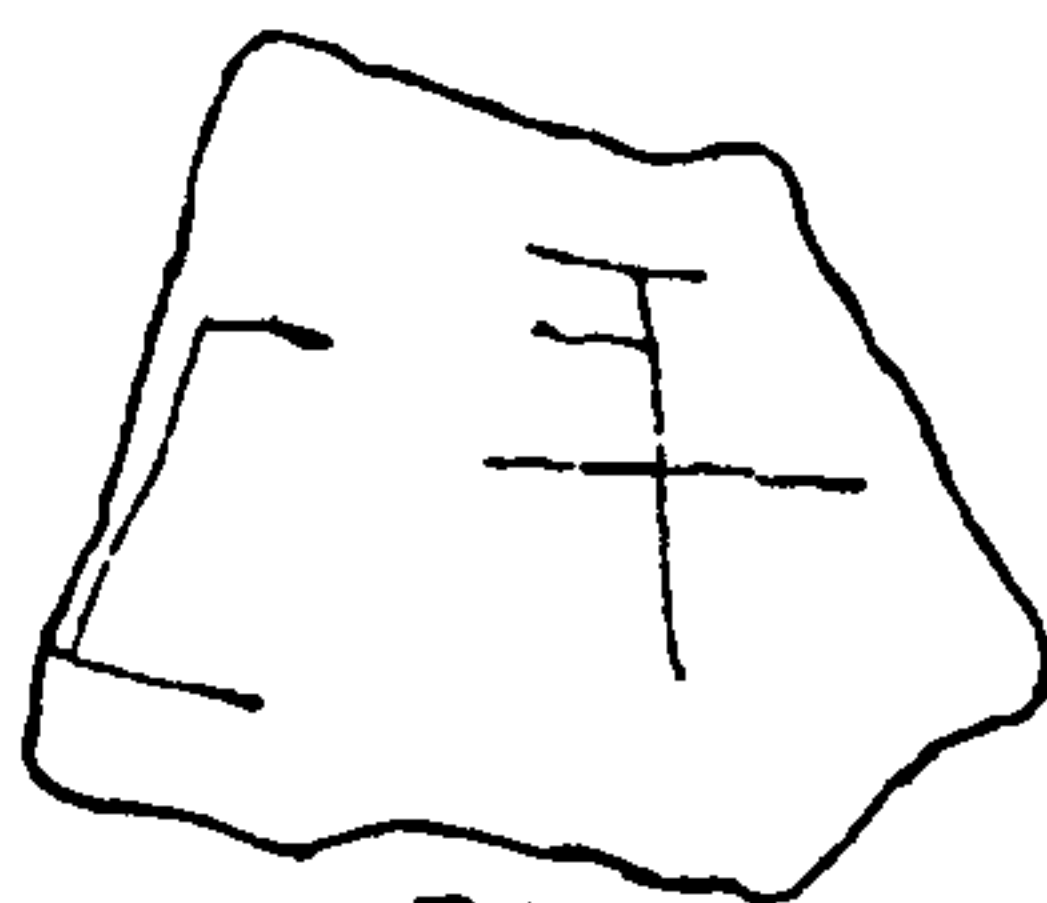
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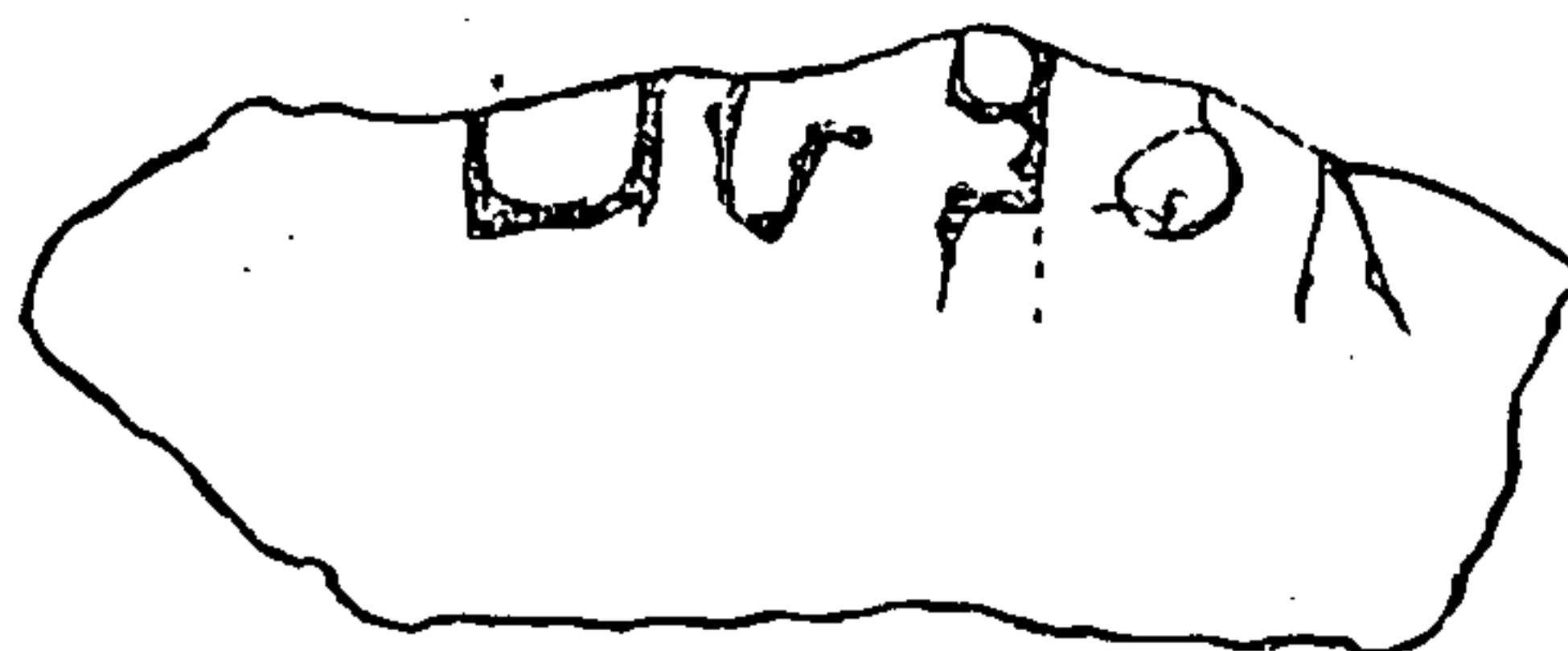
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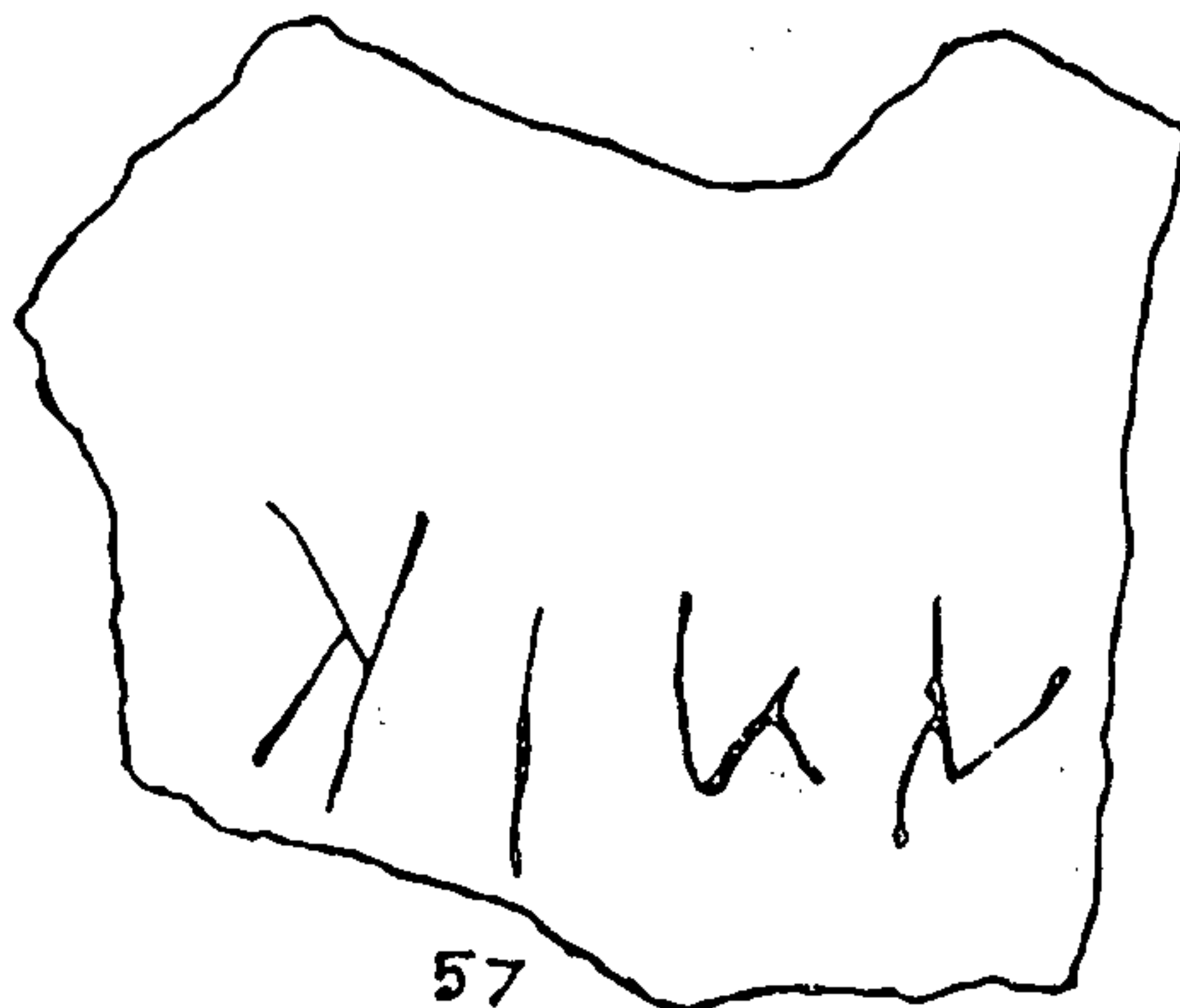
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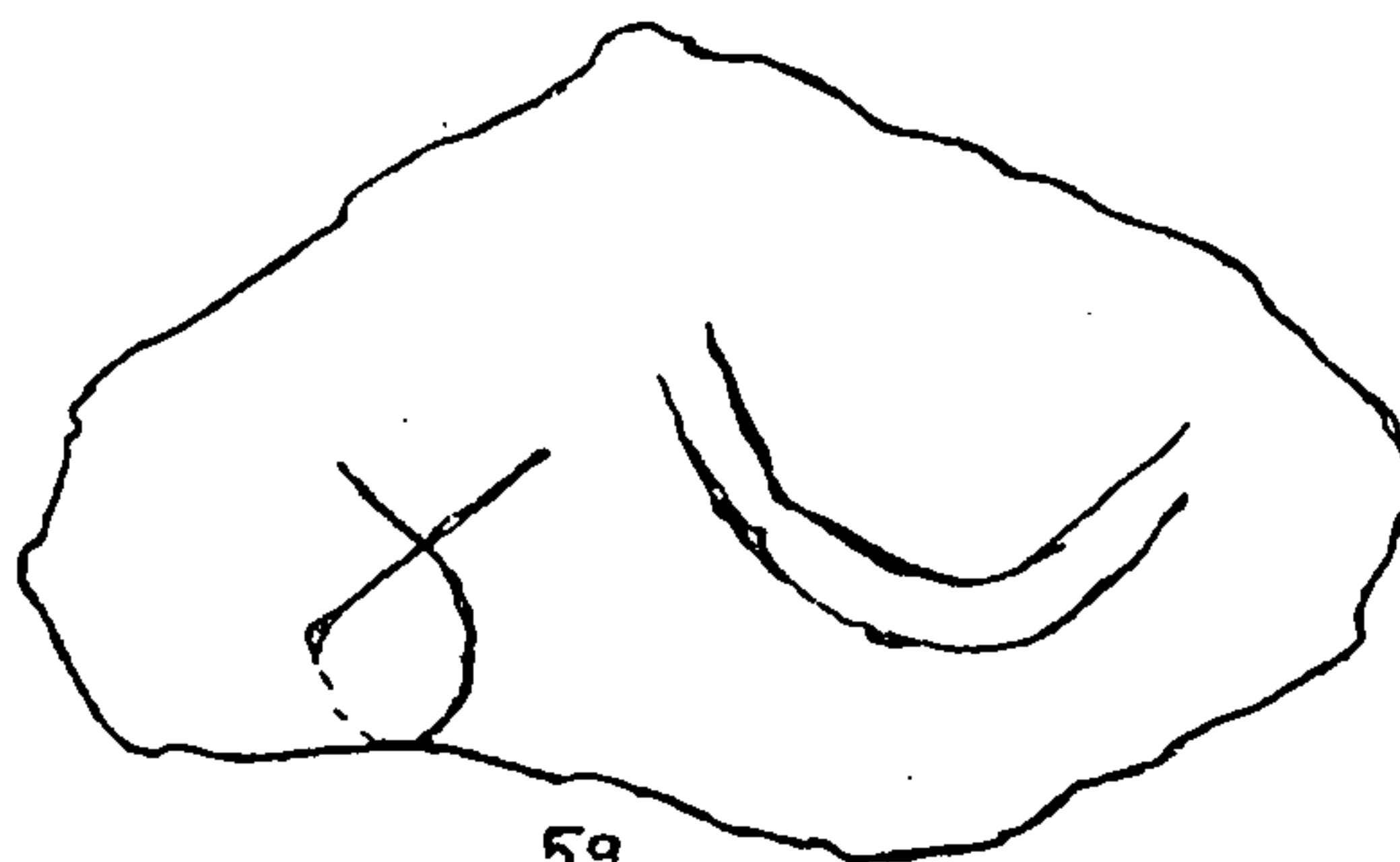
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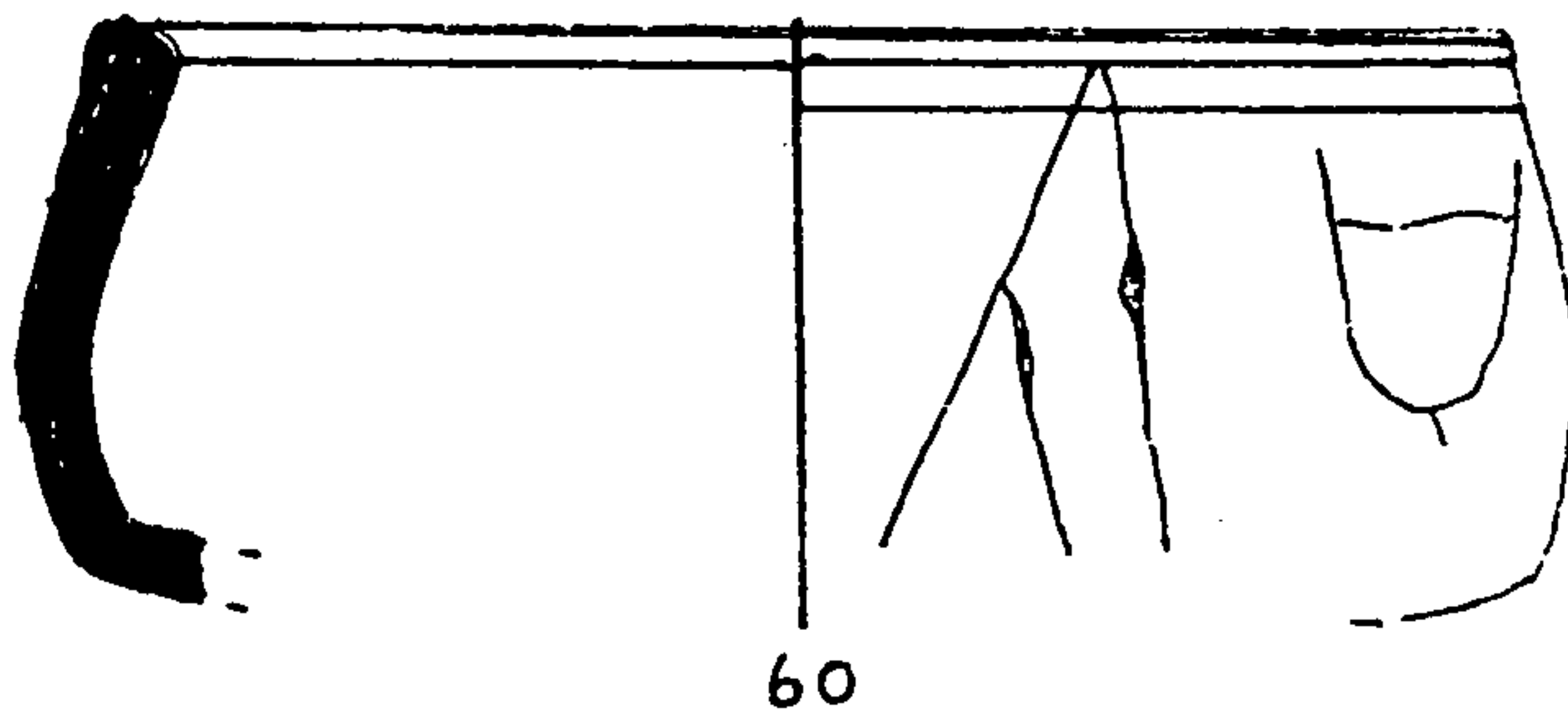
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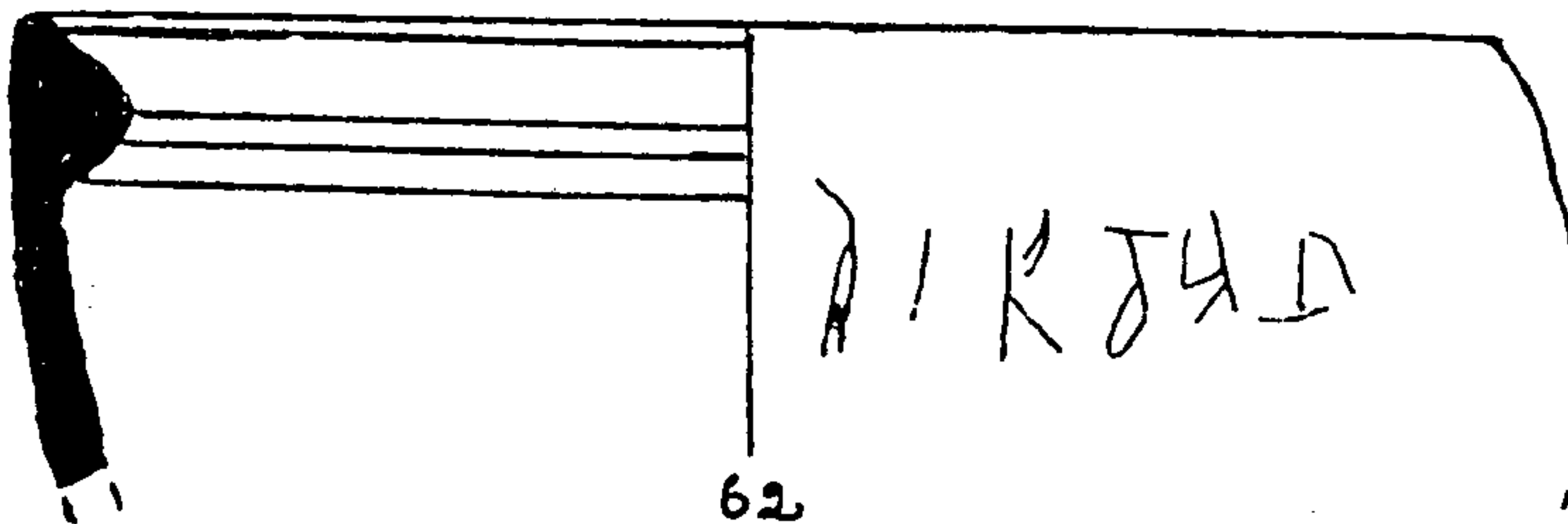
Alagankulam Inscribed Pot Sherds



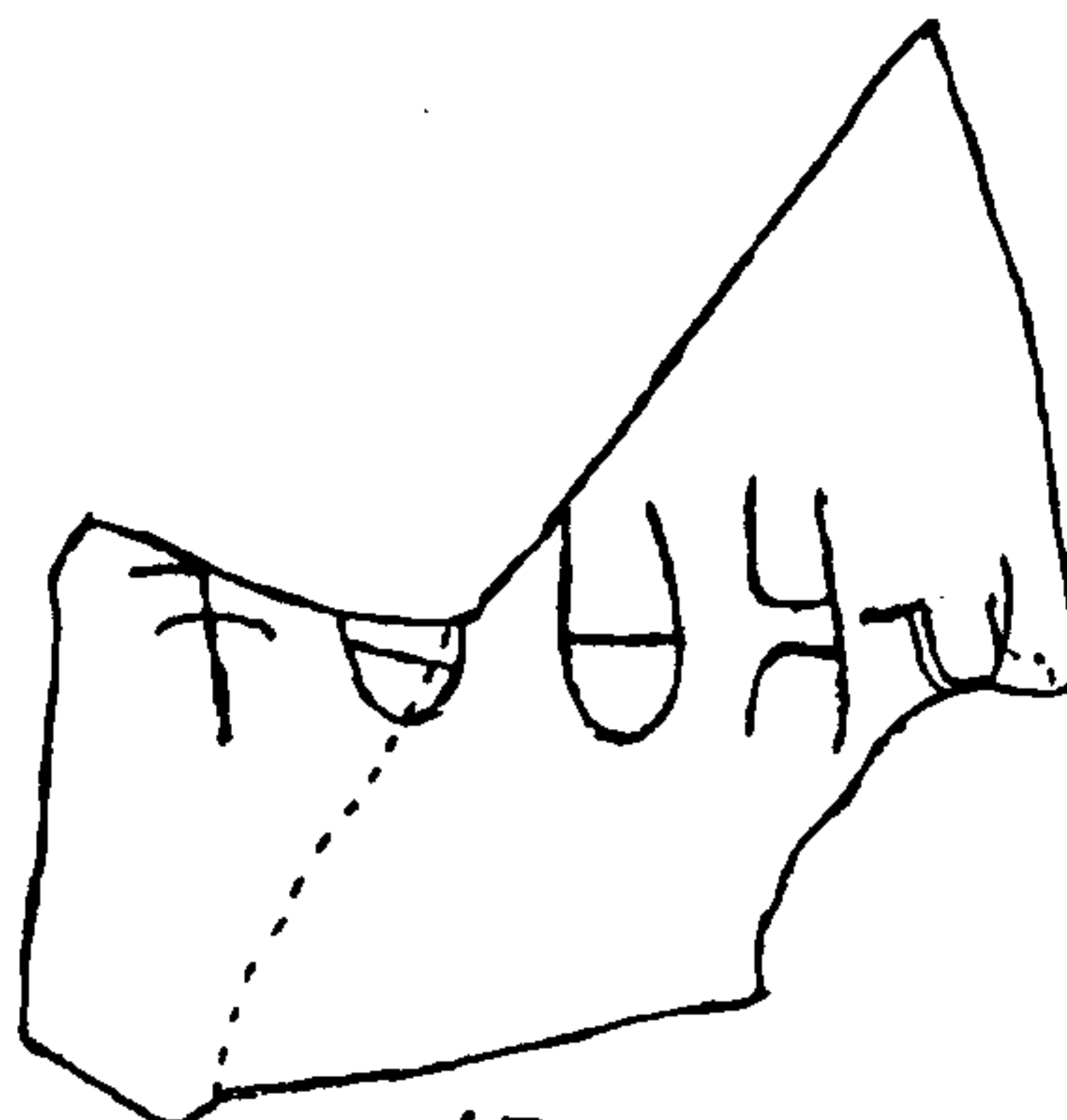
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commonly known as trade ware. Several sites in Malabar and Coromandal coasts have yielded a bulk quantity of this kind of pottery. In Alagankulam sixty sherds of this type of pottery were collected from period IV (ash mound of *Pudukudiyeruppu*).

Celadon vessels occurred in Pale green, dark green, grey and brown colours. The shapes are bowl, dishes, shallow cups and lids. Three broken handle portions were also picked up.

Celadon ware types

1. Fragment of a dark grey bowl with wide bulging body and 8 mm thick wall- ring foot base of bowl with 6 cm diameter and well polished.
2. Fragment of a pale green bowl with a wide bulging body and thin wall. 12 mm thick ring foot base of bowl with 4 cm diameter. The interior surface is smooth and slipped and outer surface is unslipped.
3. Fragment of a dull brown bowl with ring footed base. Only ring foot area is unpolished.
4. Fragment of a pale green bowl with smooth slipped ring foot base. Both the sides are well slipped.
5. Fragment of a green bowl with thick broad based and tapering top and with ring foot base. Both the sides are well polished.
6. Fragment of a green small bowl with thin ring foot with fine fabric. Both the sides are well polished.
7. Fragment of a dull brown bowl with thick slight tapering ring foot base and tapering top. The surface of the base is having a

few grooves. An unslipped band is running around the inner bottom portion of the bowl.

8. Fragment of a brown coloured bowl with thick base and tapering top and with well-polished thin foot ring. A shallow groove is running around the inner base.
9. Fragment of a dull green bowl with thin base and with flat thick ring foot. Except the ring foot other portion is well polished.
10. Fragment of a green bowl with thick base and with a small beaded foot ring.
11. Fragment of a green small bowl with thin base and with tapering ring foot. Both the sides are well polished.
12. Fragment of a brown big bowl with thick ring foot. The exterior surface of the bowl is with banded design and unslipped
13. Fragment of a green small pot with tiny mouth and with beaded rim. Slight grooves are seen in shoulder portion
14. Fragment of a brown small pot with tiny mouth with sharpened rim.
15. Fragment of a green cup with flat out turned sharpened rim and well polished.
16. Fragment of a green lid with out turned flanged rim and highly polished.
17. Fragment of a green lid with out turned flanged rim and well slipped.
18. Fragment of another type of green lid with fine fabric and sagger base less.

19. Fragment of a green lid with projected flattened top. The upper surface is well polished.
20. Fragment of a green celadon ware with highly lustrous polish. The actual shape is not known.

Handle portion of celadon ware

1. Fragment of a handle portion of a dark green celadon ware, well polished on the outer side.
2. Fragment of a handle portion of a dark green celadon ware, well polished on the outer side.
3. Fragment of a tiny handle portion of a dull red ware with thin hole.

21. Porcelain ware (Pl. 12)

Porcelain is Chinese ceramic ware with lustrous shine. It was manufactured by using white clay. This white porcelain is datable to 9-10th century CE. Most of the port cities so far excavated in Tamil Nadu have yielded several number of porcelain sherds. The cultural deposits of Period-IV of Alagankulam revealed these sherds in bulk quantity.

1. Fragment of white porcelain small cup with foot ring base and with fine fabric. The outer side of a cup is with the leaf motifs.
2. Fragment of a white porcelain lid with beaded rim.
3. Fragment of a white porcelain small cup with deep grooved rim. Floral Stamped design in the exterior are seen.

VI. ANTIQUITIES

1. Gamesman

These are simple gaming pieces, having flat circular disc base with pyramidal top. It is having grooved channel to differentiate the base and head. They are black in colour, made up of terracotta. This Gamesmen might have been used as coins to play games like chess or Dice (Thayam). In Alagankulam there three numbers of Terracotta Gamesmen in same shape with different sizes are unearthed from Period-III. They are measured from 3 cm to 4.5.cm in height. The diameter varied from 1cm to 2cm at the bottom. In Tamil Nadu several excavated sites yielded terracotta gamesmen, i.e., from Karur, Korkai, Kaveripattinam, Kanchipuram, Uraiyur, Gangaikondacholapuram and Boluvampatti. These sites have yielded only terracotta gamesmen. But, the sites like Atrinjikhera, Bahal, Nagda, Nasik, Nevasa, Lothal etc., in North India have yielded the gamesmen not only in terracotta but also in bone, ivory, conch and stone. In early historical period gamesmen were made in bone, ivory and terracotta. But the excavations at Tamil Nadu yielded only terracotta gamesmen.

The pastime of the people included the playing of chess of which gamesmen have been found both in terracotta and stone. These gamesmen were made of well-levigated clay. All the gamesmen were solid and well black polished.

Terracotta Dice (Pl. 15)

An object made of a potsherd is an interesting find of this site. It is made up of a rim portion of the rouletted ware having four sides. Three sides bear the symbols while the fourth side is plain. The first side is seen with a vertical line. The second side is marked with a symbol like tree in railing having a horizontal line on the left, while the third side is similar to the second with a slight variation having the horizontal line on the right. The fourth side is left plain. This leads one to believe that this might have been used as dice. If the identification is proved to be correct then the symbols found on the object are to be taken as numerals representing one, two and three on the three sides. The tree in railing symbol can be found on punch marked coins.

2. Arrow Head

Hunting also must have formed a favourite pastime of the more daring ones. Hunting and fishing also played a part in the economy of the people. These were put to a variety of uses in connection with domestic chores as well as out door activities like hunting and butchering wild animals. Our ancestors have used bow and arrow in battle-fields also.

Arrowheads were the most popular of war weapon; working on bone and ivory was also a sophisticated art. In Alagankulam six arrowheads were recovered from Period-II. One is in ivory and the others are of bones. They measured 9.5 cm and 4 cm (broken). The ivory arrowhead has a sharp point and line decorations in the body.

The bone arrowheads have a sharp point and rectangular section at the back and having lustrous surface. The same types of arrowheads were collected from the sites like Karur, Uraiyur, Kanchipuram, Vallam, Mangudi and Boluvampatti.

3. Deer horns

The deposits of Period-II and III had yielded four pieces of deer horns. The length of the horns varies from 11 cm to 14.5 cm. The deer horns might have been used for medical purpose. And these would have been one of the exported items from Alagankulam to Rome.

4. Hopscotches (Pl. 16)

Nearly forty hop scotches with well-finished edges were unearthed in all the four periods of this excavation. The diameter of the hop scotches measured from 1 cm to 6 cm. The maximum thickness of the hop scotches measured 1.05 cm. They were made out of the broken pieces of potsherds with polished edges. These circular shaped hop scotches were used to play games. These were found in all the excavated sites in Tamil Nadu. Their shape remains unchanged from the Harappan to the historical times. Most of the specimens were collected in the first to last layers. They were mostly made out of coarse red ware. But, at Alagankulam these were made from the potsherds of red slipped ware, rouletted ware and grey ware.

Hop skipping on one foot, then jumping from one end and pushing the disc over scotches to the other end is the objective of this game. So, the terracotta disc used in this game is called

hopscotches. Because of the occurrence of the hop scotches in bulk quantity, it is inferred that these might have been used as weights also.

5. Spindle whorls

Period-III of Alagankulam excavations yielded a number of spindle whorls made out of broken potsherds and thin brick pieces. They are circular in shape with a central hole. They are used as a flying wheel in spindle (*Thakili*). The hole was to fix the iron rod for spinning the cotton thread. Some pear shaped terracotta spindle whorls were also obtained. It is quite likely that terracotta objects identified bead shaped like an arecanut with a concave base. The first type of spindle whorls is of 2 cm to 6 cm diameter and the pear shaped spindle whorls are of 0.5 to 1 cm in height.—

6. Weights

The earliest evidence of the existence of the weights and measures, which indicate different methods of trade and commerce, goes back to Harappan times. Two terracotta and two stone weights were recovered from the excavations in Period-III. The terracotta weights are square whereas the stone weights are rectangular and circular in shape. The terracotta square weight is of 2.5 cm. The stone rectangular weight is of 2.5x 2.5 cm and the circular stone weight is of 1.5 cm diameter and 1 cm thickness.

7. Metal objects

Alagankulam excavations have yielded several metal objects viz. iron, copper and iron slags in Period-II and Period-III.

a. Iron objects: Nails, plate, rivet and chisel

1. Different sizes of nails varying from 4 cm to 11 cm were recovered. These might have been used for woodwork.
2. A rectangular plate with a nail, a broken square rivet and a broken piece of a chisel measured 4.5 cm were also collected.

b. Copper objects: (Pl. 17)

1. Two rings with 1 cm and 2 cm diameter were recovered. They are very thin and broken in condition.
2. A copper clamp measured 5 cm length and 1 cm breadth with a nail at one end and a slight bend at the other end was also collected.
3. A nail with 1.8 cm length and a small nail with a round head were noticed.
4. A broken piece of a bangle of 3 cm length was obtained. The diameter of this bangle might have been 8 cm.

8. Terracotta objects (Pl. 19)

a. Terracotta figurine :

A broken portion of a terracotta piece in solid nature represents a figure of a female was recovered from the trench AGM 8 in the depth of 2.28 m in layer no.3 of Period-III. Only the portion of the left leg from waist to the knee remains. It seems to be the left thigh of a lady. The frills of the sari worn by the lady are also shown in an elegant manner. A single foot with three anklets is all remains what may be termed as an infant, held by the lady on her hip. This type

of terracotta figurines could have been used either for worship or as toys for children.

b. Figures on potsherds (Pl. 20)

Two lady figures with Egyptian art influence:

1. An embossed figure on a potsherd of coarse variety of buff ware was obtained from the trench AGM 18 in the depth of 85 cm in layer no 2 of Period-III. Side profiles of two ladies impressed on the pottery which seems to have been embossed before firing. Both the ladies are shown in the standing posture facing each other. One lady seems to hold a mirror or a fan in her left hand; the other seems to hold a jar with long neck, which resembles a small Amphorae jar. Scholars opine that these figures are modeled after the Egyptian paintings. Small granule like motifs embossed all over the potsherd. This sherd might be dated to first or second century CE.

2. A rouletted sherd with mule rider figure: (Pl. 18)

A broken rouletted sherd of a dish was also dug out from the trench AGM 2 at a depth of 1.65 metre in layer No2 from period-II. The figure of a horse or a Mule is scribbled on the inner surface of the dish. It seems that a man is seated on the back of the animal. The mule has been referred to as *Attiri* in the Sangam literature. It is usually called as *Koveri Kazhuthai* in local Tamil, There are many literary references about the mule which belong to the family of horse and the royal and nobels used to ride on it.

3. Grey ware sherd with bull figure: (Pl. 21)

A Grey ware sherd was obtained from the trench AGM-14 in the depth of 90 cm in layer No.1 in period III. On the outer surface of the sherd a figure of a humped bull is impressed within a circle shown in between two grooved lines. It is inferred that such figures must have been impressed in a row throughout the outer surface of the shoulder portion of the vessel.

4. A red rouletted sherd with Elephant figure:

The trench AGM 13 yielded a red rouletted sherd with elephant figure at a depth of 1.40 m in layer No.2 from period III. It is the rim portion of the dish. The side profile of an elephant is shown in between trees. The figure has been drawn by scratching with a sharp metal device, probably a needle.

5. Potsherds with ship symbols:

(The remarkable evidences for ancient Tamil Navigation)

In Alagankulam two potsherds with ship symbols were unearthed in AGM-7 and AGM-17. One is on a rouletted sherd and another is on red slipped ware. Both the ships are different types in shape and model. The first ship symbol is shown with oar and ladder. This is identified as a Roman ship (Pl. 23). River voyage seems to have come into effect during Neolithic period for fishing. In the beginning the Neolithic man could have sailed only with the help of some floating wooden logs. Afterwards when the need arose for transport of products he might have used bigger size boats built of wooden planks.

True representation of boats are found drawn on rock surfaces in two places in Tamil Nadu: one at Karimaya Kavundanpatti in Madurai District, and another at Kilvalai in Villupuram District. The first drawing depicts a man sailing in a boat [Fig. 1] while the second portrays four men joining hands with each other to travel in a boat [Fig. 2] In the second drawing a long pole is also seen as if being used to move the craft. Both the boats are drawn in red ochre. On stylistic ground the figure of Karimaya Kavundanpatti appears to be earlier than the latter and is assignable to the end of the last phase of Neolithic period in Tamil Nadu i.e, 1000 BCE. The Kilvalai painting may belong to 700 BCE. The above two boats must have been used for river voyage.

During Sangam period (from 500 BCE to 300 CE) river voyage had become a routine function. The merchants traded their products either by going in boats on the river or by traveling in ships on sea. There are several references in Sangam literature about the mercantiles imported to Tamil Nadu and exported to East and West Asian countries.

To attest this fact, many recent discoveries are forthcoming: A test stone bearing the legend of 'Perumpatan Kal' [Fig. 3] meaning the test stone of master goldsmith; a square copper coin of Sangam age, and a copper coin bearing the figure of a two masted ship of Pallava period from Thailand [Fig.4]. The potsherds bearing the legends 'Catan', 'Kanan' [Fig.5] and 'Kora Puman' from the Egyptian ports situated on the bank of Red sea [Fig. 6] and the Tamil names

Velan and Ilam occurring in archaic Tamil script on the potsherds from Sri Lanka are the recent indisputable records for the sea voyage of ancient Tamils.

One more strong evidence comes from Alagankulam. A rouletted sherd bearing the figure of the ship (Fig. 7) on the shoulder portion has been unearthed during 1996-97, from period-III. The photograph of this sherd was sent to Dr. Vimala Begley of U.S.A., an eminent archaeologist. She in turn had referred it to Dr. Lionel Casson of New York University. He has studied the figure of this ship in detail by comparing with the ancient Roman ship found engraved in the Roman mosaic. Particularly, he compared with two well-known representations of typical large Roman ships of the period, one in a mosaic of Ca. 200 CE found at Ostia, the port of Rome, and the other in a mosaic of the third century CE found in a house at Rome. The following account is in his own words:-

1. The graffiti has a well-rounded stern, exactly as on both ships in fig. 8
2. The latticed construction that extends outward and upward from the tip of the stern on the graffiti reproduces in clumsy fashion the stern that is a standard feature of large Greco-Roman sailing ships, e.g., as on the ship to the left in fig. 8.
3. The crude tingle that sits upon the tip of the stern in the graffiti reproduces in systematic fashion a goose head stern with a pole carrying a banner rising above it, a combination that appears in fig. 8.

4. The mast that appears in the graffito is an after mast as on the ship to the left in fig.8.
5. The two lines that slant upward towards the right are lines from the rigging of the main mast similar to the upward slanting lines in another ship of other photograph.

We must assume that the complete graffito included a foremast, as on both ships in fig.8, since it was an indispensable part of the rig of a sailing ship of any size. In other words, graffito portrays a three-masted sailing ship, like the ship to the left in fig.8. Three-masted were the largest type of Greco-Roman merchantman afloat and were doubtless among the ships used on the long and demanding route between Greco-Roman Egypt and India. The Graffito may well be a portrayal of one such ship that the artist saw in an Indian Port.

Fig.8 and numerous other similar representations date from the first three centuries CE; however, the sort of ships they show may well have existed in Hellenistic times, the third to first centuries BCE, we lack proof, since no useful representations from this period have survived".

The excavation at Alagankulam also yielded two more potsherds of coarse red ware bearing the graffito of a boat. The practice of engraving ship figure on the pot sherds seems to have been prevalent in other countries also as vouched by Archaeologists who came across a pot sherd with the figure of a ship, during their excavation at Berenike situated in Egyptian Red sea coast, in the year 1995.

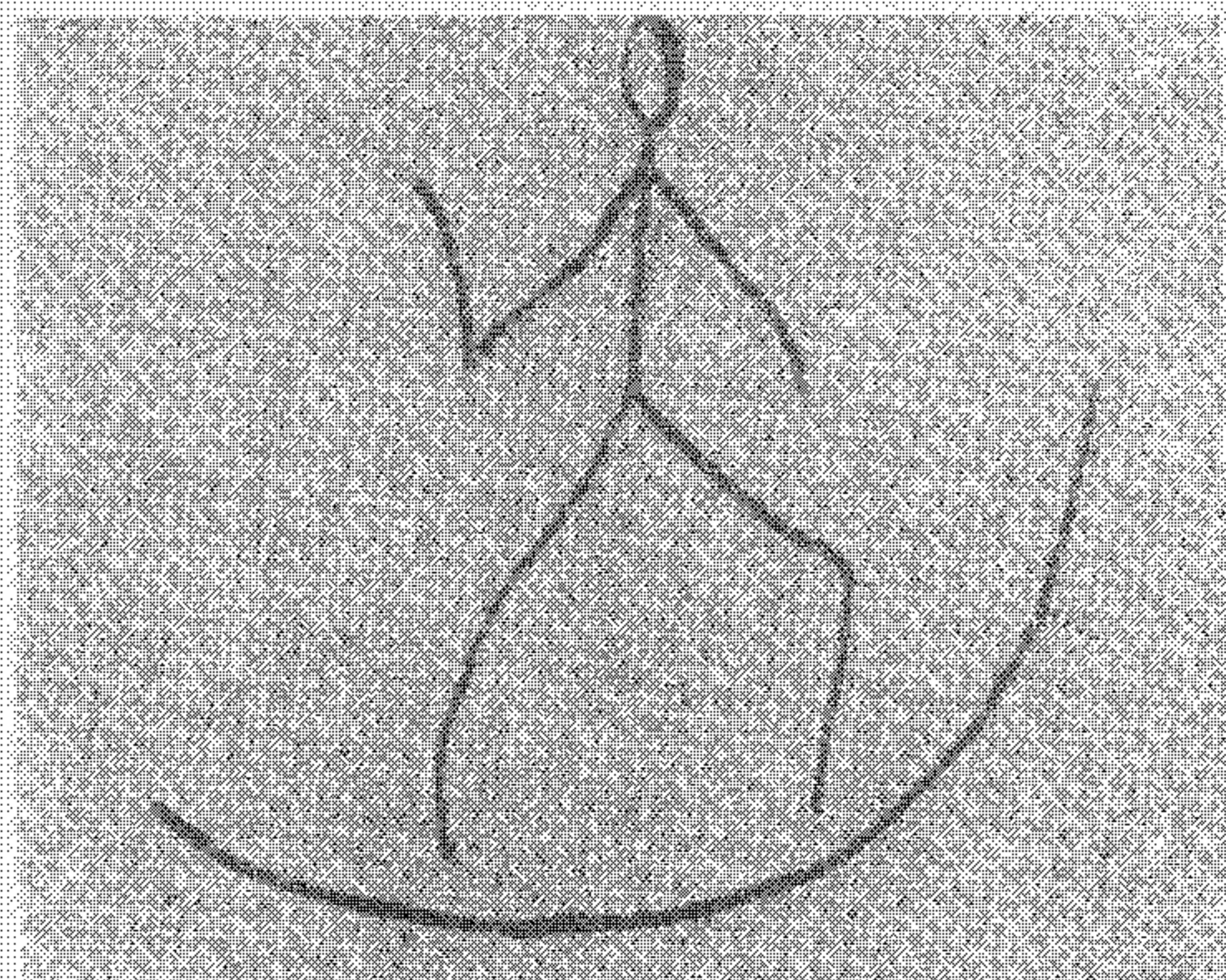


Fig.1. Boat and its sailor, Karimaya Kavundanpatti Neolithic period, Century 1500 BCE

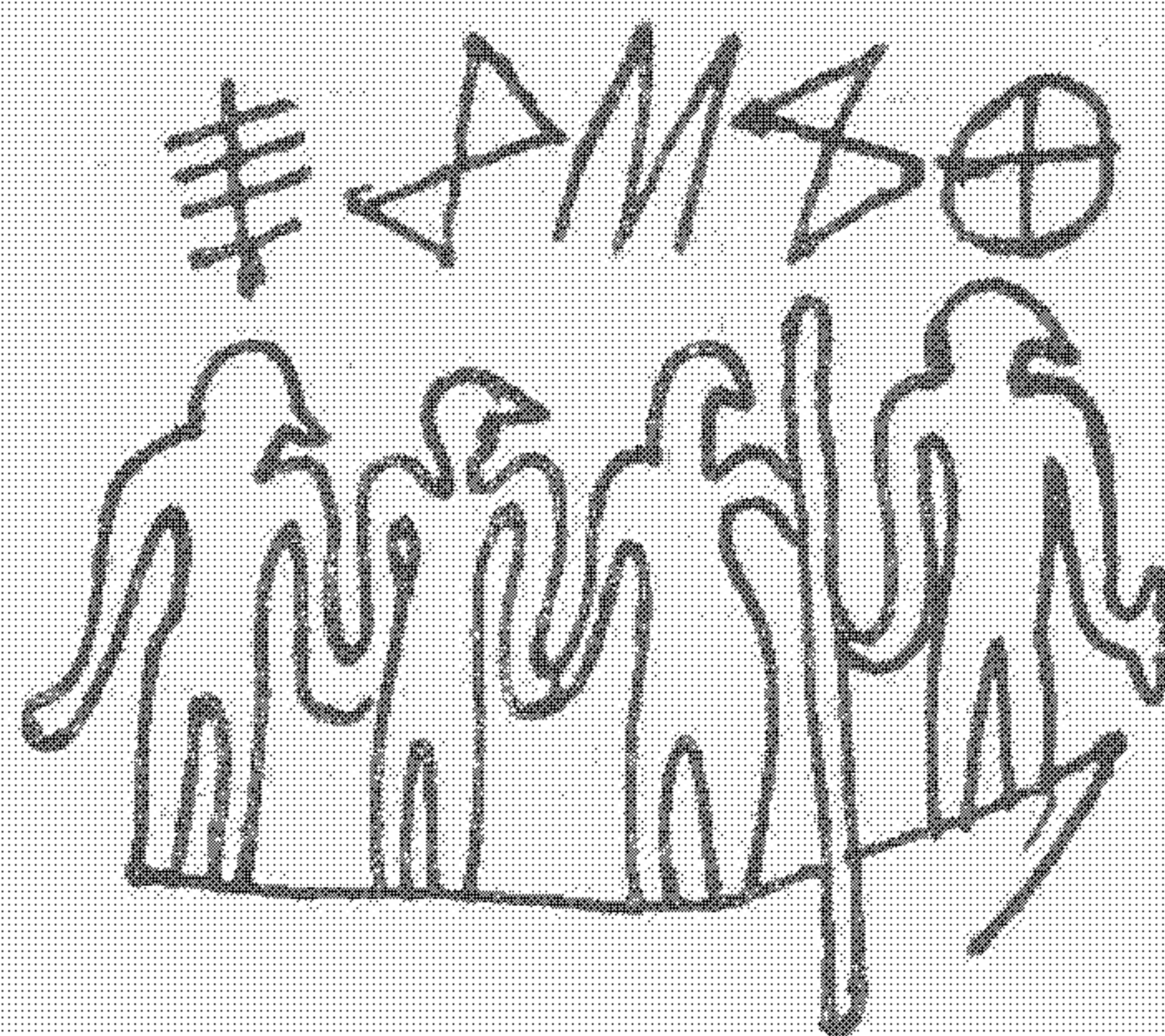


Fig.2. Paintings of a ship with four sailors and pictographs, Kilvalai, 700 - 500 BCE

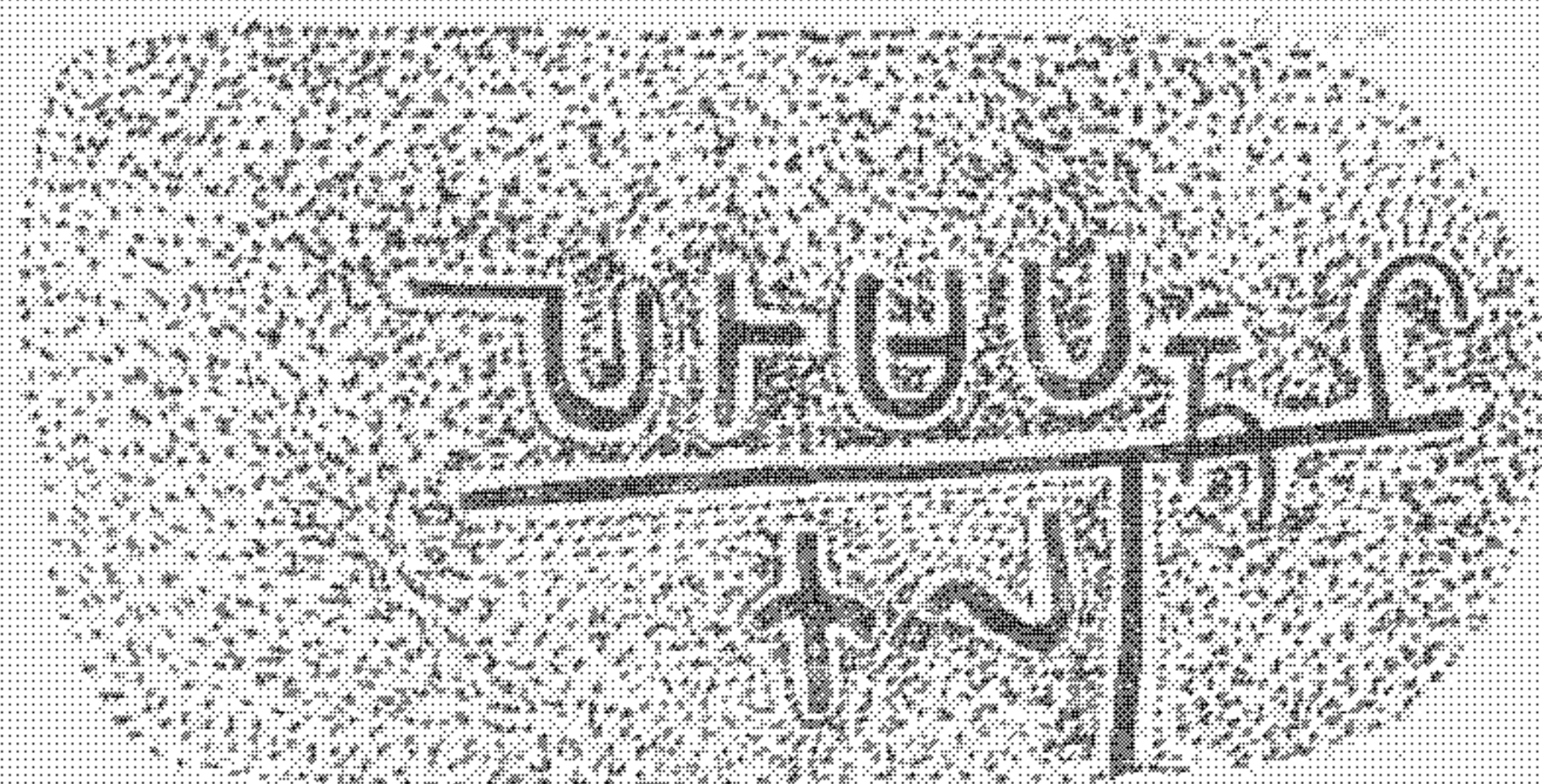


Fig.3. A test stone bearing the legend 'Perumpatankal', Thailand.

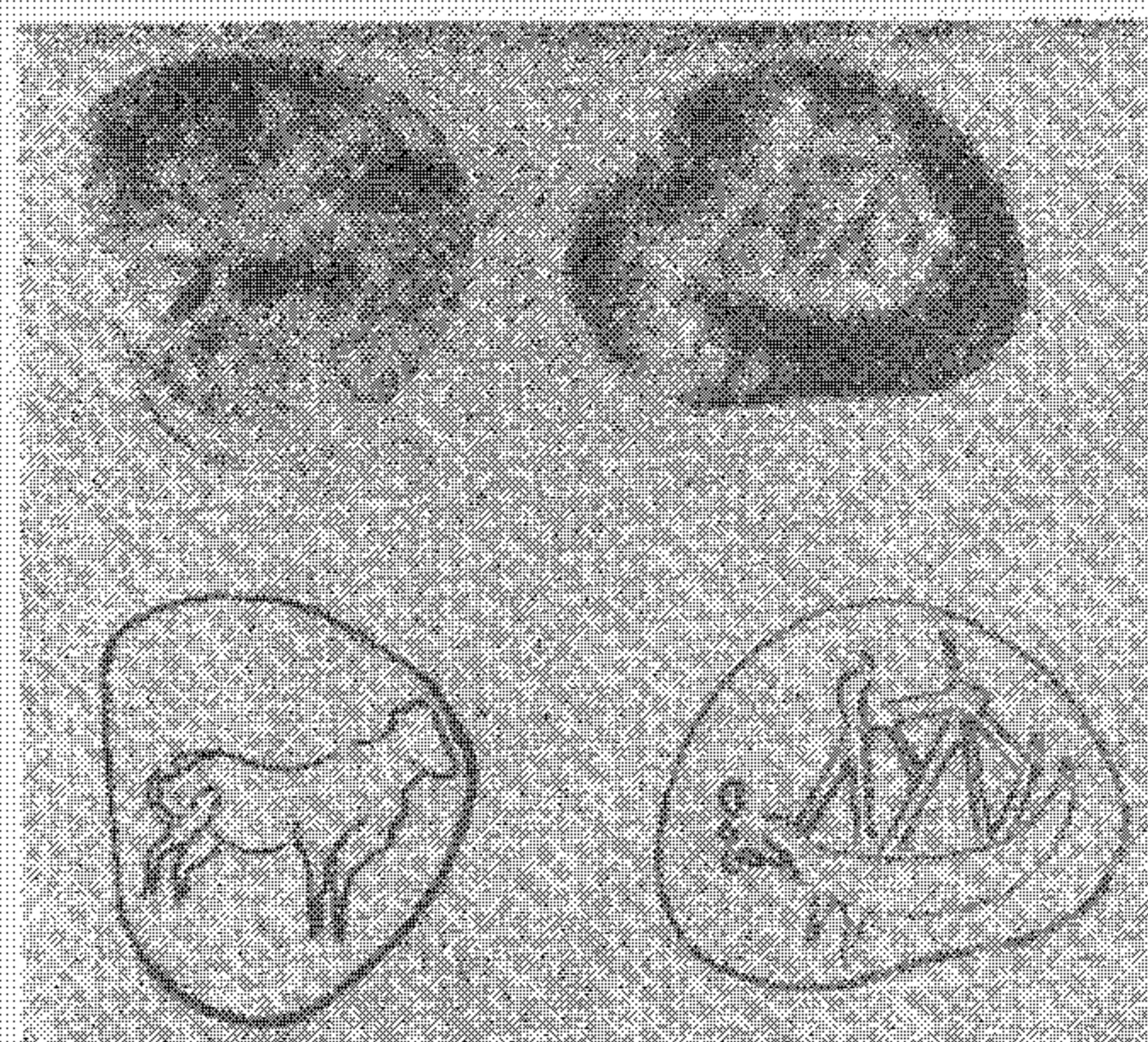


Fig.4. Figure of a ship on the reverse of a Pallava Coin - Thailand, 8th century CE

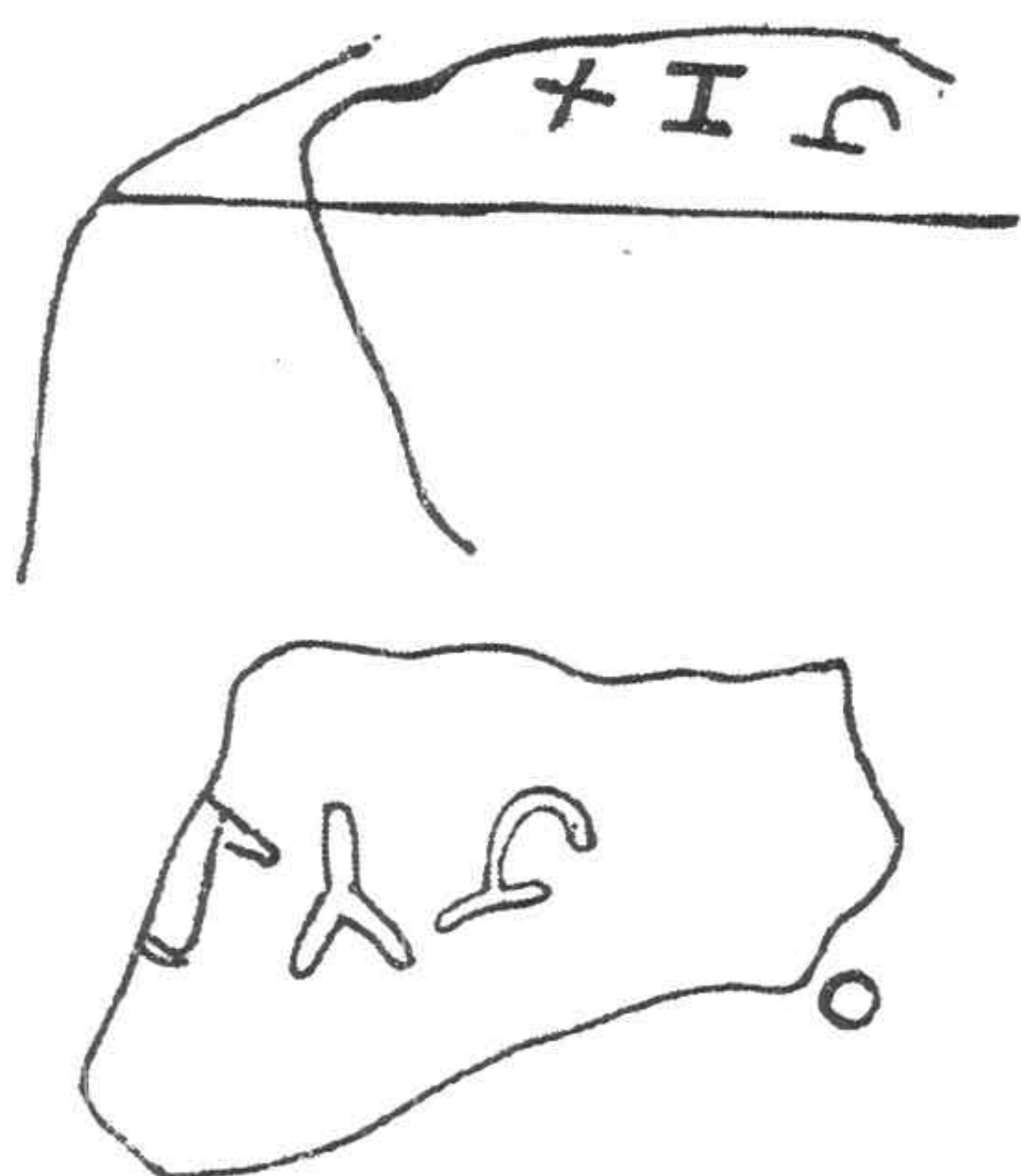


Fig.5. The Pot sherds bearing the legends 'Kanan, Catan' in archaic Tamil Character, Quseir al Quadim, Egypt.

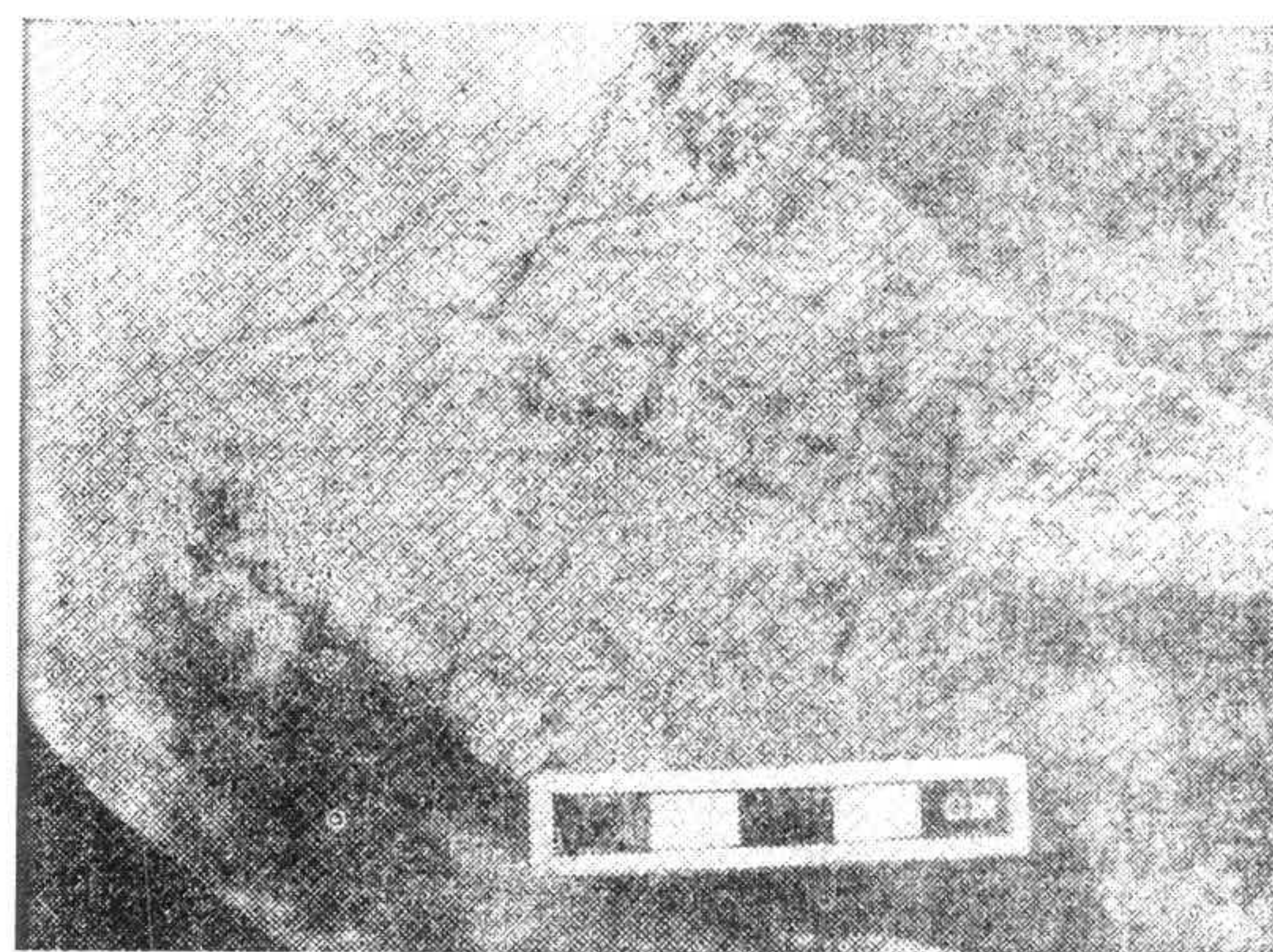


Fig.6. A sherd bearing the archaic Tamil legend, 'Korapumantor' found at Berenike, a port of Egypt - 1st Century CE

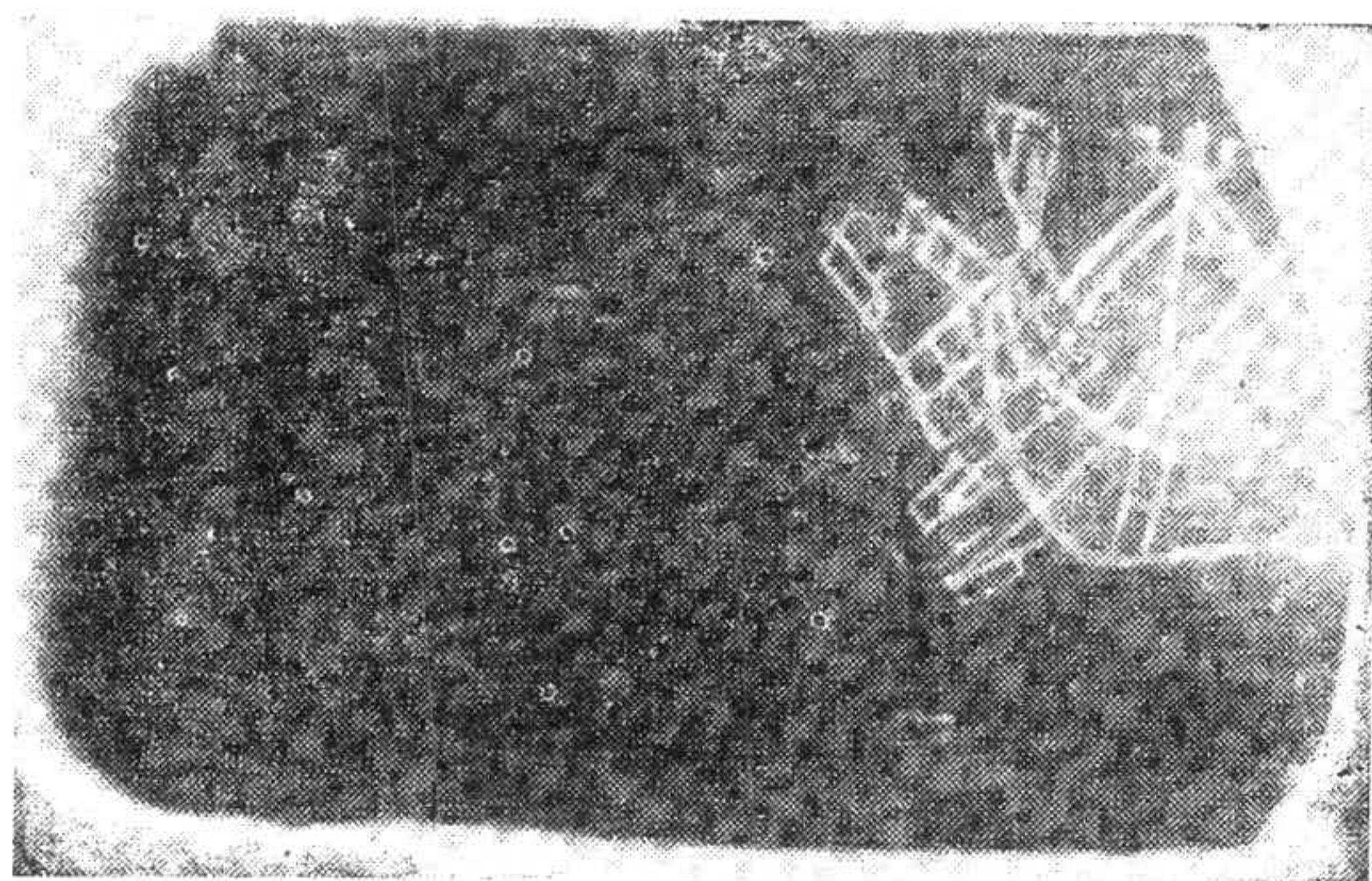


Fig.7. A rouletted sherd bearing, the Figure of the ship, Alagankulam, 1st - 2nd century CE

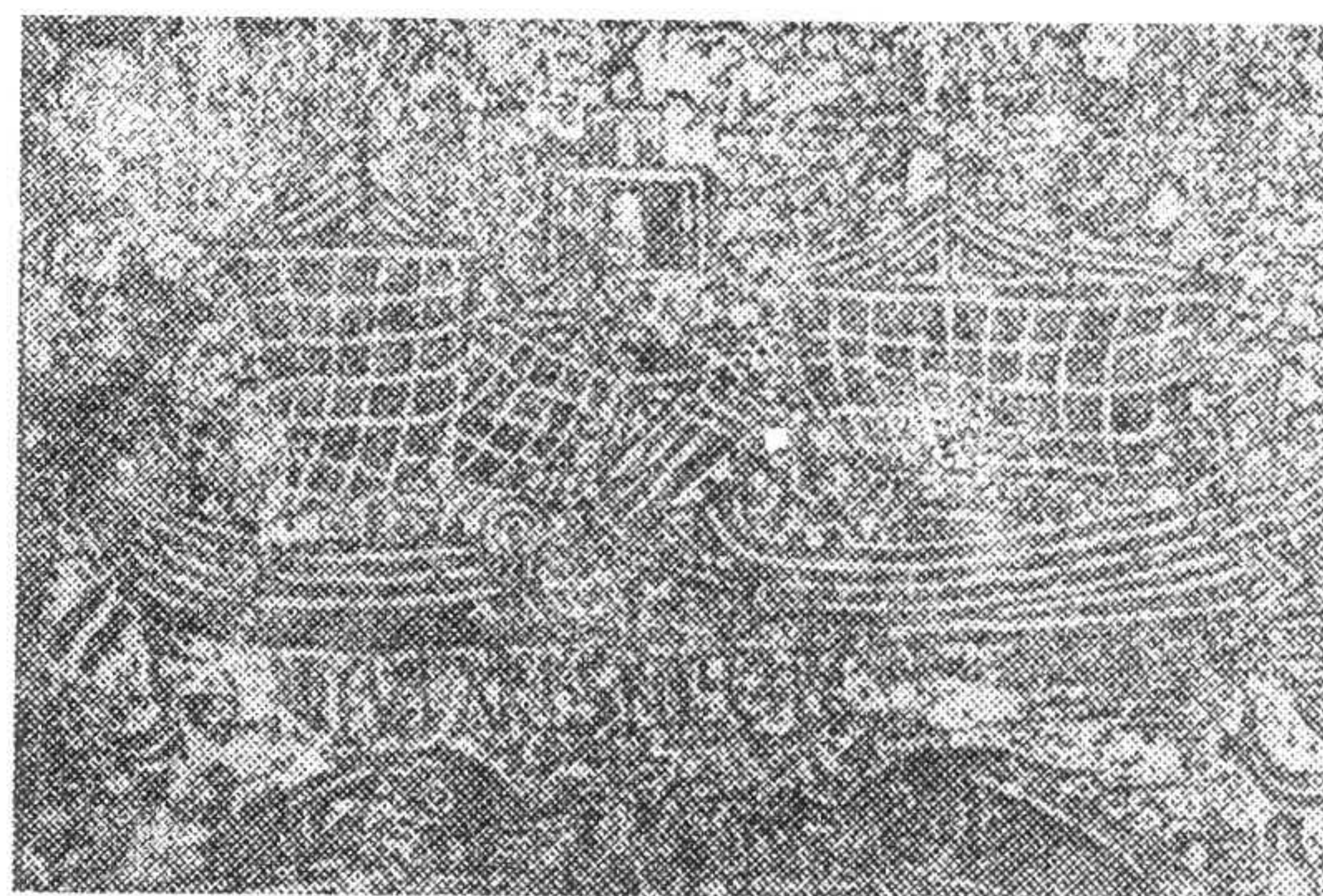


Fig.8. Engraving of ships on mosaics found at Ostia, a port and at a house - Rome, 2nd - 3rd centuries CE

It can be understood from the above illustrations that the origin of river voyage had begun from Neolithic period and the river voyage was the basis for sea voyage. In the beginning the transportation of merchandise was made through river since the human habitation was on the riverbanks. In course of time, when they moved to the seacoast they had to sail on sea seeking far off places. Though the sea voyage appears to have reached its zenith during Sangam age, there was a dearth of material evidence. To set right this lack a welcome light is shed in the form of drawing of a ship and a boat found on the potsherds from Alagankulam.

The second one (Pl. 24) is shown with mast and three oars. The mast is clearly seen with a flag. This boat was used by the local people and locally crafted. It is called as 'Paimarakkappal' in local Tamil. Recent excavations at Mangudi in Tirunelveli District also yielded a pot sherd with ship symbol.

C. Terracotta sling balls :

Terracotta balls in different sizes were recovered from the excavations in Period-II. These might have been used as sling balls in the Catapult.

D. Terracotta ring :

A broken piece of ring with 1.5 cm diameter was obtained in Period-III.

E. Terracotta crucibles :

The crucible is a heat-resistant container used for smelting and making glass. It was also used for converting wrought iron into steel.

Cultural deposits of Period-III of Alagankulam revealed an oval shaped terracotta crucible. Traces of copper are noted in this crucible.

F. Terracotta smoking pipes :

Broken portion of terracotta smoking pipes are collected from the Period- IV. They are of a round receptacle with a knobbed bottom. Outer portion of the receptacle is decorated by using grooves. The knob is having a stalk which functions as a pipe for smoking. A round receptacle and the knob are connected by a hole.

9. Roofing tiles :

Alagankulam excavations have yielded a large number of terracotta roof tiles. They are in two types 1. Grooved tiles, 2. 'L' shaped tiles.

a. Grooved tiles : (Pl. 25)

Rectangular tiles have a groove at one edge at the end on the upper surface, and a groove at the other edge on the lower surface of the tile and two circular holes at the top. The flat top portion with holes measured 1.5 cm in thickness and the lower portion is thin and semi-circular in shape. These tiles might have been used in the steeples like sloping roofs. The such tiles would be arranged in a row by placing one after another on the grooves. They would have been tied with wooden rafter by coir rope through the holes. This is because of the absence of the occurrence of iron ropes from this excavation. The rough surface of this tile shows that they were produced by un-lavigated clay. This type of tile is obtained from the period I, II and III.

The grooved tiles found here are red in colour and rectangular in shape. They have two circular holes at the top and deep grooves in the body. These tiles might have been used in the steeple-like sloping roofs. This type of tiles also occurred in the excavations at Vallam and at Kaveripoompattinam in the layers of Sangam age (200 BCE to 300 CE) and at Nagarjunakonda and at Nasik in the Ikshuvaku Period; at Salihundam and at Kolhapur in Satavahana levels. (100 BCE to 200 CE)

b. 'L' shaped tiles : (Pl. 26)

It is named after the shape of the tile. This type of tiles occurred only in the upper level of Period-IV and I of Alagankulam excavations. They were obtained in different sizes and made by fine clay and well burnt. They are having perfect edges and semicircular or triangular end. The thickness of the tiles varies from 5 mm to 10 mm. Full shaped tiles are not obtained in the excavation; so, we could not ascertain the exact length and breadth of the tiles. These tiles might have been used to fix the reapers running on the rafters.

A triangular terracotta object looks like tongue or leaf was collected from Period-III. It might have been used to fix in the front portion of the roof of a house. It is of flat surface in one end and the other end is sharpened with two lines (6 X 3 X 1 cm).

10. Sawed Conches and shell bangles: (Pl. 22,27,28)

Large quantity of different specimen of conch pieces have been obtained in Alagankulam excavations. These show the several stages

in the technique of manufacturing conch bangles and objects. Large number of broken conch bangle pieces were collected from all the trenches in the last four periods i.e., Period I, II, III and IV. Along with full shaped conches, sawed off conch cores were also collected. It is assumed that some uncut conches found unsuitable for making objects and bangles were thrown away by the cutters, other full shaped conches obtained from the excavation seems to be kept for cutting the bangles and other shell objects. The diameter of the conch bangles varies from 5 cm to 7 cm and thickness of the bangles are from 0.5 cm to 1.5 cm. They were of two varieties, the plain and the decorated ones. A sharp instrument might have been used to make the decorations on the bangles. The decorations are of simple geometric pattern and criss-cross designs. Some conch bangle pieces are having deep grooves. It is likely that these grooves were fitted with gold strings. The people of period II, III and IV of Alagankulam wore conch objects like bangles, beads, and studs, etc., in large number. The above materials confirm the several references made in the Sangam Tamil Classics about the conch bangles and other decorative objects.

Conch objects might have been one of the exported items from this seaport since a large number of bangle pieces are found here and the shell bangle manufacture appears to have been a popular industry in this place. Korkai, the famous seaport of the Sangam Pandya stated to have exported shell bangles, is not far from Alagankulam. Even now Ramanathapuram and Kilakarai near Alagankulam are the main trade centers for supplying fancy articles made out of conches to places all over India.

a. A relief embossed on a conch piece: (Pl. 29)

A relief embossed on a conch piece containing the figure of a horse was obtained from Period II of Alagankulam excavation. This object might have been used as a dye to be impressed on potteries then it was still in wet condition for decorative purpose.

b. An inscribed conch piece: (Pl. 30)

An inscribed piece was collected from the eastern slope of Kottaimedu in the surface exploration. It had two Arabic letters which reads as 'Theek' meaning a cock. This shows the cultural and commercial contact of the people of Alagankulam with ancient Arabs.

11. Glass objects:

1. A broken piece of a jar:

A broken neck portion of a jar is obtained in period-III. Below the neck portion two grooves are seen. Both surfaces are painted that are glittering. But, the actual usage of the jar cannot be ascertained.

2. Glass bangles:

A few glass bangle pieces are obtained from period-III and IV. They are all black in colour. Among the glass bangles specimen with circular and Plano-convex section are very common.

12. Beads:

The cultural deposits of Period-II and III of Alagankulam excavations have yielded more than two thousand beads of different varieties and sizes. In ancient times, the wearing of beads was a fancy

and desirable habit of all sects of people. Precious and semi-precious beads were worn by the wealthy people, whereas the beads made of glass, terracotta, paste, shell and bone were used by the common people. The beads are obtained from almost all the excavations conducted in Tamil Nadu in their early historical levels. But, the quantity of occurrence differs. In Alagankulam large quantity of beads occur along with cores and rough-cuts.

Precious and semiprecious stones constituted an important class of material for the bead making industry and artisans involved in making ornaments for the people. The occurrence of large number of semiprecious stone cores, unfinished beads of different stages, rough-outs and chips of semiprecious stones are the undisputable evidence to prove that this site might have had an industry manufacturing semiprecious stone beads. The people of Far East and Western countries were very much attracted by beads made of semiprecious stones and trinkets. So, a wide bead making industry would have been established and flourished here.

All type of semiprecious stone cores in the form of broken pieces in large quantity was collected from the excavations. In the first stage, different types of semiprecious stone cores in big sizes might have been brought from the areas where these types of stones were available in plenty. Then those stone cores might have been cut in to small pieces and shaped into different sizes to make beads. Before reaching the final stage, a hole in the center of the bead would be made on both sides simultaneously. After completing the making of hole the bead would attain the final shape. Lastly exterior rough

surface of the bead would be polished gradually by rubbing with the help of another semiprecious stone.

Alagankulam was probably an emporium of bead making industry; here not one but two industries flourished; one for making semiprecious stone beads and another for shell beads. This fact is established by the occurrence of huge quantity of sawed conches and full shaped conches that were unearthed in this excavation. Such quantities of cut off shells were not found from any other early historical sites. It might have been due to the fact that Alagankulam was an estuary where river Vaigai had its confluence with the sea.

From Alagankulam excavations the following types of beads were unearthed. (Pl. 31)

1. Semi-precious stone beads: They were made of Agate, Carnelian, Crystal (Quartz) Prase and Soapstone
 - a. Agate beads: Three white-banded agate beads in barrel circular shape.
 - b. Carnelian beads: More than forty carnelian beads occurred in the shapes of spheroid, circular, barrel, barrel faceted, long barrel, elliptical, flattened, and micro short oblate circular. A big sized stud is an important find of this variety.
 - c. Crystal (quartz): The crystal is generally free from any internal fractures and only the most transparent material is used for the beads. Forty-eight beads of this variety occurred in the shapes of long cylindrical, spherical, long barrel, circular, barrel faceted,

micro-short-oblate circular, and micro-short barrel faceted. The occurrence of four studs is of special interest.

- d. Prase: It is a variety of crystal with light green colour. Nearly ten beads of this stone are recovered in the shapes of long barrel faceted, spheroid, barrel circular and a stud in button shape.
- e. Soap stone: It is opaque in nature and in the shapes of faceted elliptical groove collared, long barrel groove collared, groove collared, elliptical and a long barrel faceted.

2. Shell beads: (Pl. 32)

More than thirty shell beads in different shapes were collected. The shapes are spheroid, long cylindrical circular, short barrel circular, groove collared elliptical and two studs. Nearly hundred tiny shell beads are also recovered from Period-III.

3. Terracotta beads:

Ten terracotta beads were unearthed. Most of them are big sized and black in colour. As they are baked under the high temperature, they became hard and without any slip. They are all in spherical and pear shaped.

4. Bone beads:

Wearing bone ornaments was a very old tradition from prehistoric times. This custom continued in the later times also. At Alagankulam, more than ten bone beads were collected. They are all in the shape of short barrel circular with a groove in the center.

5. Coral beads:

More than fifty coral beads were obtained. They are dark red in colour and tiny barrel circular in shape.

6. Paste beads: (Pl. 33)

Nearly two hundred paste beads were collected. They are in dark red and orange in colour and spheroid, Tubular, circular flattened and tiny barrel circular in shape.

7. Glass beads: (Pl. 34)

More than five hundred glass beads of various colours and shapes were collected from the excavations. They are in the shapes of spheroid, barrel, cylindrical, circular, bi-conical, collared and ovates. Most of the glass beads are in green colour and of different shapes ranging from yellow, blue, black and dark blue. Five violet coloured glass beads resembling amethyst and in shapes of circular flattened and barrel circular with grooved collar and green-coloured beads with eye motif are the most interesting finds.

The occurrence of glass beads in large number and their different shapes, manufacturing technique and distribution show the possibility of existence of glass beads making industry at Alagankulam.

VII. COINS

The Alagankulam excavation yielded a good number of coins. The cultural deposits of period-II revealed silver and copper punch marked coins and Sangam Pandya square copper coins whereas the period-III yielded Roman coins along with Pandya coins. No coins were recovered from Period-I and Period-IV. The details are given below:

I. Punch marked coins:

II. Pandya coins:

III. Roman coins:

1. Punch Marked Coins (Pl. 35)

Period-I (500 BCE to 300 BCE)

Coin-1

Shape : Rectangular

Metal : Silver

Description : Five figures

Coin-2

Shape : Rectangular

Metal : Copper

Description : A tree in railing

2. Pandya Coins (Pl. 36)

Coin-1

Shape : Rectangular

Metal : Copper

Period : III (100 CE TO 500 CE)

Obverse : Fish figure

Reverse : Bull figure- a tub is shown in front of the face of the bull

Coin-2

Shape : Square

Metal : Copper

Period : III (100 CE TO 500 CE)

Obverse : Elephant- a goad in front of the elephant Fish, Kandy(Kettle) and chakra(Wheel), symbols shown above the elephant

Reverse : Corroded

3. Roman coins

The discovery of Roman coins from excavations unmistakably show that Alagankulam must have been another Roman trading center.

1. A copper coin of Roman Emperor Valentine II (383-395 A.D). (Pl. 37) It was minted at Antioch. Other details of the coin are:

Metal : Copper
 Shape : Round
 Weight : 1.720 gm.
 Obverse : Head of the king with legend DN VALENTINIANVS
 PF AVG
 Reverse : Constantinopolis, helmeted, standing, head left,
 holding scepter in left hand holding victory in right
 hand; the legend reads

CONCORDIAVGGG (the concord of the 3 Augusti)

2. A copper coin of Arcadius (395 A.D- 408 A.D). The description of the coin is as follows:

Metal : Copper
 Shape : Round
 Weight : 1.236 gm.
 Obverse : Head of the king with legend (DNA) RCADIVS

Reverse: Corroded; victory advancing left holding trophy over shoulder in the Hand and dragging captive with left; type, SALUS REIPUBLICAE.

3. A round shaped copper coin of CONCORDIA AVG

Obverse : corroded
 Reverse : a cross within a wreath

4. A round copper coin of SALVS REIPVBLICAE (402-408 CE)

Obverse : corroded

Reverse : victory advancing left, with left hand dragging a captive.

This type was issued by: THEODOSIUS I, between 383-392 CE; THEODOSIUS I, VALENTINIAN II, ARCADIUS and by HONORIUS during the period 394-395 CE; ARCADIUS and HONORIUS during the period 395-402 CE and by ARCADIUS, HONORIUS and THEODOSIUS during 402-408 CE.

5. A copper coin of GLORIA ROMANORVM (402-408 CE)

Obverse : Emperor facing right

Reverse : Three emperors standing facing

This coin seems to be an imitation. Such imitations are very common in Sri Lanka.

6. A copper coin of GLORI AROMA NORVM (408-423 CE)

Obverse : Head of the Emperor (legend not visible)

Reverse : Two emperors standing each holding a spear and resting on the Shield. Two emperors here are HONORIUS and THEODOSIUS II.

This coin belongs to the Period 408-423 CE and was issued by: HONORIUS and THEODOSIUS II; HONORIUS, THEODOSIUS II and PULCHERIA in 408 -423 CE.

From the occurrence of these coins one point is now clear. Though the trade started on the western coast in the 1st-2nd century BCE, it seems to have extended its trade horizon to the eastern coast gradually in later centuries. This may be due to the increasing desire of the Romans to purchase pearls and shell products from South India.

VIII. RESULTS

The excavation at Alagankulam revealed beyond doubt that this place might have been an important port city as Kaveripoompattinam and Korkai were on the east coast. It is the first Roman site discovered in the Pandya country, which seems to have contributed to the sea trade and improvement of commerce of ancient Tamil Nadu. It appears that it was a very busy center, as busy as Arikamedu in the central part of Tamil Nadu. On the basis of the occurrence of the pot sherds of Mediterranean origin and the coins of Roman Emperors, it can be presumed with certainty that a Roman settlement existed in this place in the early centuries of Common Era as at Arikamedu.

To attest this fact we recovered a large number of rouletted sherds and what could be termed as Alagankulam potteries, which might have been manufactured either for the use of foreign settlers at Alagankulam or for exporting to Sri Lanka and the Far Eastern countries such as Java, Sumatra and Malaysia. The Alagankulam excavations also throw more light on the commercial and cultural contacts of Tamils with Rome and the Mediterranean region, and support the statements made in the Tamil Sangam literature and the writings of Ptolemy, Pliny and the foreign sailors of first and second centuries of Common Era.(e.g. Periplus of the Erythrean Sea)

The Pandya Kingdom is mentioned by Mauryan Emperor Asoka in his Edicts. The fine variety of N.B.P sherds that had been unearthed from this site strongly stresses the fact that a cordial and commercial

relationship was prevalent between Tamils and the people of Gangetic region. It is note worthy to say at this juncture that the excavation at Korkai, situated south of Alagankulam in Tuticorin district has also yielded a few pieces of N.B.P sherds.

Considering the occurrence of a large number of red rouletted and terracotta figurine with Greek art influence, one is led to think that the commercial contacts with the Hellenistic world had also some influences on the material culture of the Tamils.

The find of a Rouletted sherd with ship symbol is an outstanding evidence for the ancient Tamil navigation to Western and Eastern countries. The reading of the inscribed potsherds from Alagankulam excavations clearly revealed the close contact of Tamils with Sri Lanka. The international call port Manthai (the ancient Sri Lankan port Mahatotta) is located in the Mannar Gulf across the port of Alagankulam; it helped to interlink Sri Lanka with Tamil Nadu and also bridge the trade activities of South- East Asia and the West.

Annexure- I

1. Radio-carbon dates of Alagankulam

The Physical Research Laboratory, Ahmedabad has given the following Radiocarbon dates on the charcoal samples, collected from the Alagankulam excavations conducted in the year 1986-87.

"Alagankulam, District Ramanathapuram state Tamil Nadu: submitted by Dr.R.Nagaswamy, State Department of Archaeology, Mandavelli, Madras-600 028.

Comment:

Sample date sequence of the site.

1) PRL - 1296.

Black and Red ware levels.

Charcoal, Tr.AGM-2

Layer (2), Locus- I

Depth: 1.40m

- 2090 \pm 100

2) PRL-1297

Black and Red ware levels

Charcoal, Tr.AGM-2

Layer (3), Locus -01 -I

Depth: 1.55m

- 2140 \pm 100

3) PRL - 1298

Black and Red ware levels

Charcoal, Tr.AGM-2

Layer (3), Locus - 01-I

- 2240 ± 130

4) PRL-1299

Black and Red & Rouletted wares levels

Charcoal, Tr.AGM-2

Layer (5), Locus I' - II'

Depth: 2.80m

2260 ± 100

Annexure- II

NEW LIGHT ON ARCHAIC TAMIL INSCRIPTION

**NATANA.KASINATHAN,
DIRECTOR OF ARCHAEOLOGY, Retd.**

Recent excavations carried out from different parts of Tamilnadu yielded considerable number of inscribed potsherds and graffiti bearing potsherds. This author had already presented a paper on this subject at the 22 Annual Conference of Epigraphical Society of India held at Mysore in the year 1995. This present paper tries to bring put to the notice of the scholars about the recent discovery of the scholars about the recent discovery of the inscribed potsherds unearthed from Alagankulam and Kodumanal excavations.

During the excavation conducted in the year 1996-97 at Alagankulam and at Kodumanal, we were able to gather some potsherds bearing the legend written in Archaic Tamil character. Though we collect quite a number of sherds from both these sites, the sherds belonging to Kodumanal are more interesting for the study of the evolution of this script. On all the sherds of Kodumanal the letters are written in pot firing and in simple vertical and horizontal line, without giving room for curvature.

Another interesting feature that could be gauged is that the legends are found mostly on black and redware and russet-coated

ware except on a few of course redware. On the other hand the inscribed sherds of Alagankulam are found engraved on grey ware, black and redware, redslipped ware and coarse redware. The above fact reveal that in Kodumanal excavation no inscription has been found engraved on greyware whereas in Alagankulam no inscription is found on russet-coated ware. In Kodumanal inscribed potsherds starts to occur from layer No.(2) and continues to layer No.(3) (i.e. from 0.65 CM to 1M.20CM). As far as Alagankulam is concerned the inscribed sherds occur from the alyer No.(2) to Layer (5). Since the trenches have been laid bare at the habitation site in Kodumanal the sherds could not be assigned to a clear-cut date.

The earlier layer of Alagankulam had yielded Roman copper coin -5 Century A.D. In the trench AGM-12 at a depth of 1.50 meter in layer (3) a copper square Pandya coin was found. In layer (4) of AGM-10 a sherd of N.B.P. was collected. The layer (5) of it has yielded a punch marked coin at the depth of 3.00 meter. Hence the inscribed sherds found in layers (3) (4) and (5) of AGM-12 and AGM-10 could be dated to the period of Pandya coin, N.B.P. ware and Punch marked coin respectively. The punch marked coin found in the layer (5) of AGM-10 is believed to have been issued by the Nanda Kingdom and wa in circulation from 4 Century B.C. according to Thiru.R.Krishnamurthy, the eminent Numistatist of Tamilnadu. He has also pointed that this coin could have come to this part of India could indisputably be assignable to 3 Century B.C. But this punch marked coin has been found below the level of N.B.P. it could safely

be dated to even 4 Century B.C. Hence the inscribed sherds of these layers would be the sheet anchor for dating the inscriptions on potteries and also the rock bed inscriptions of future discoveries. The excavations conducted by the Tamil University in the years 1985, 1986, 1989 and 1990 had also thrown sufficient light on the date of the inscribed potsherds. On the basis of the associated findings of the Megalithic tombs and other artifacts they had dated the earliest occurrence of the potsherds bearing the Archaic Tamil inscriptions to 3rd Century B.C.

The Anuradhapura inscribed potteries have been dated to 750 B.C. by Carbon 14 dating method in a reputed institution at Florida in U.S.A. Korkai had also yielded a date of 785 B.C. to the layer of 2.69 meters depth where the inscribed potsherds of well lavigated Black and Red ware occurred. Dr. R. Nagasamy had himself given the date of 3rd Century B.C. to 2nd Century A.D. to the inscribed potsherds of Korkai. In the earlier excavations at Alagankulam Carbon was collected in the layer (5) of AGM 2 and was also dated to 3rd Century B.C. So in all probability the inscribed potsherds found in association with the potteries of Alagankulam are assignable to not later than 4th Century B.C.

The inscribed sherds of Kodumanal, as already stated, are found written in simple vertical and horizontal lines of the sherds. Of the sherds of this season one sherd reads 'ra' 'Ya' 'r' Makan. The stylistic form of 'Ya' 'ma' and 'ka' are more significant. Especially the letter 'ka' perplexes one and compel to compare with the Battiprolu

inscription. For letter 'r' the vowelless consonant, the dot is also seen. Another two sherds read the word "sula" suggesting to denote either to "Trisula" or "Sula Pani".

The language of the inscriptions of Alagankulam potsherds seems to have been more influenced by Prakrit due to its close proximity with Sri Lanka. Tisa, Dhatta and Kutasa are some of the words that depict the Prakrit character. This leads one to presume that either at Alagankulam or at its adjacent place a settlement of Buddhists should have been in existence. The recent discoveries of Buddha sculpture and Avalokitsvara bronze image near Rameswaram and the existence of a stupa during later Pandya period also at this holy place would strengthen this presumption.

Second phase of the excavation of the current season has begun at both the above sites. It is hoped that we could collect inscribed potsherds from still earlier levels of these sites. If it happens it would become the right tool for arriving to the correct date of the archaic Tamil inscriptions.


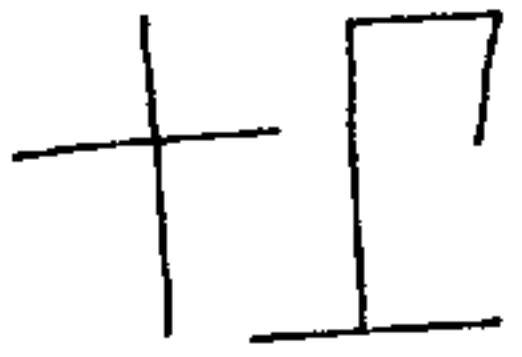


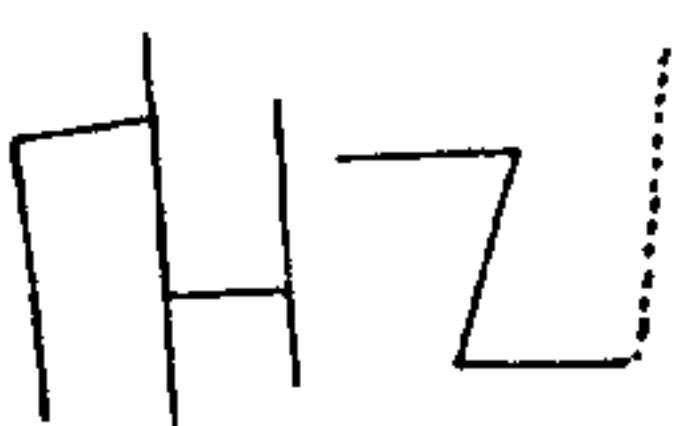
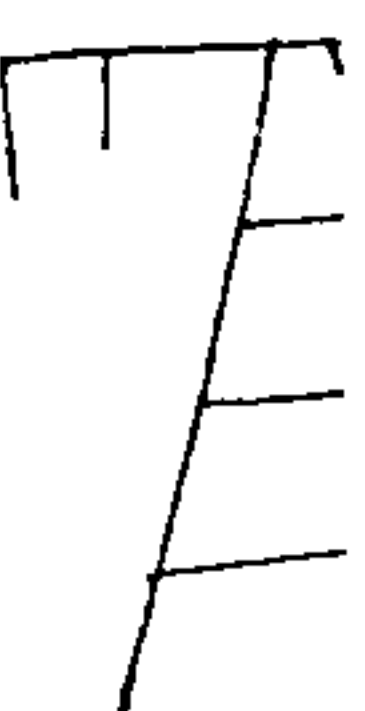
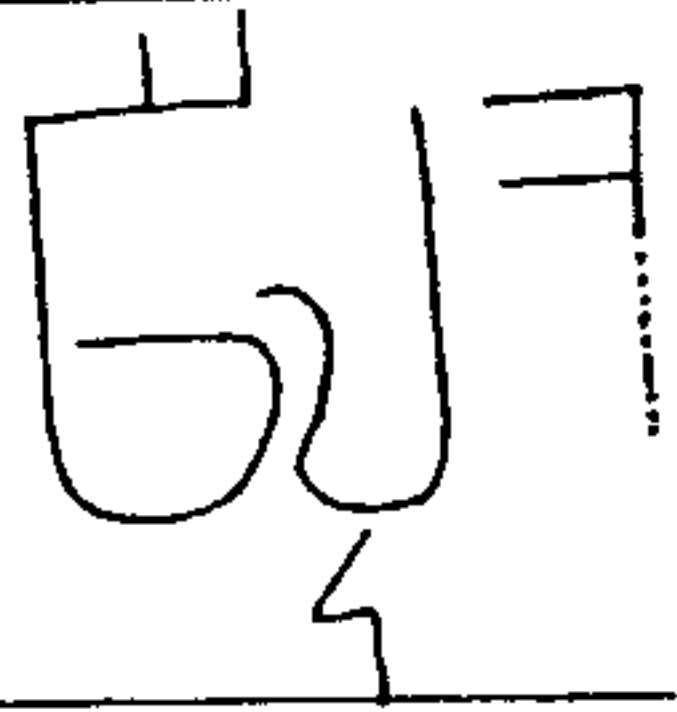
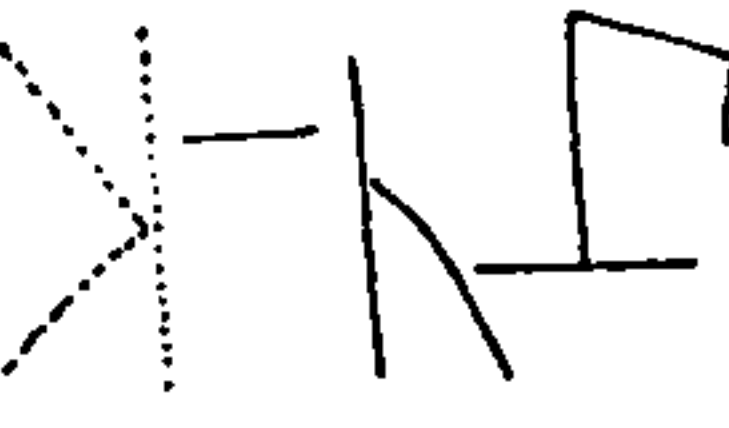

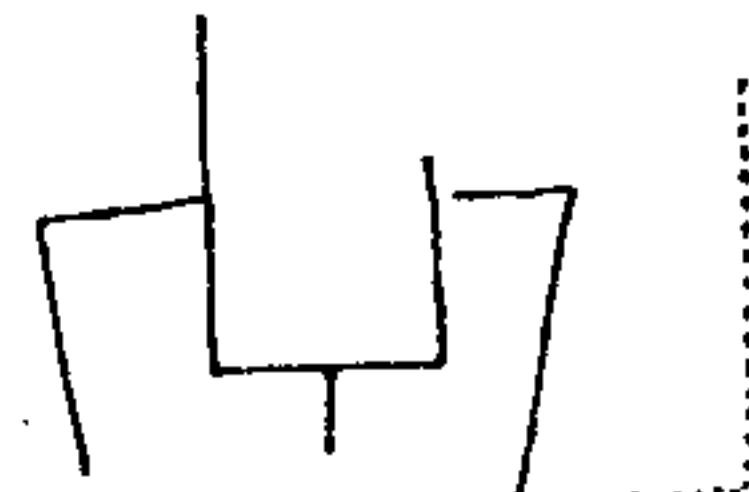
While discussing about the archaic Tamil inscriptions, it is imperative to deal with the graffiti bearing potsherds also. In all the historical places the inscribed potsherds occur either in the same level of the graffiti bearing sherds or in the overlying level of it. Hence the study of graffiti sherds may pave a way to solve the dating problem of archaic Tamil inscriptions. The graffiti found engraved on Kodumanal and Alagankulam potteries appear quite similar to the Harappan symbols. Of all the symbols of these sherds is so far

unnoticed or not recognized. This symbol is the frequently occurring symbol in association with the Unicorn Bull of the Harappan script. It is one of the basic signs listed in early Harappan period in Mr.N.Krishna Rao's book and deciphered by him as 'na'.

Therefore, there must have some close relation between the Harappan script and the graffiti. Still it is a puzzle if the archaic Tamil script and the Asokan Brahmi have evolved from these symbols or independently originated. It can be decided by the future discoveries only.

Archaic Tamil inscriptions on pot sherds

a. Kodumanal

<i>ti?yar ma ka n</i>		<i>ka n</i>	
			
<i>dī na ?</i>		<i>tā tai</i>	
		<i>Sūla</i>	
<i>Griffiti similar to Harappan symbol</i>		<i>Vēlū vai ?</i>	
		<i>Ātaṇ ?</i>	
<i>Griffiti similar to Harappan symbol</i>		<i>Sūla</i>	

b. Alagankulam

Utta

UAA

Kūtan

IAI

ana

AI

~~kōn~~ kūn

IF

ra l yā li ?

IAUK

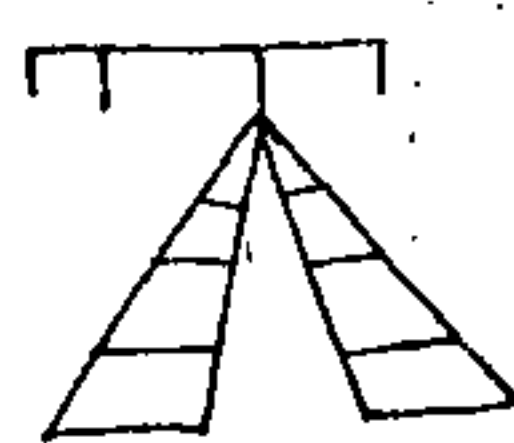
Kutta or kutasa

IAA

ya u w

IAU

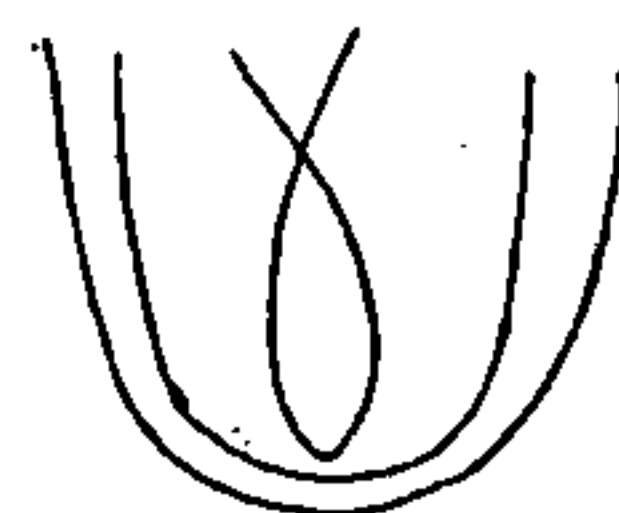
Graffiti similar to
Harappan symbol



dhatta

IAA

Graffiti similar to
Harappan symbol.



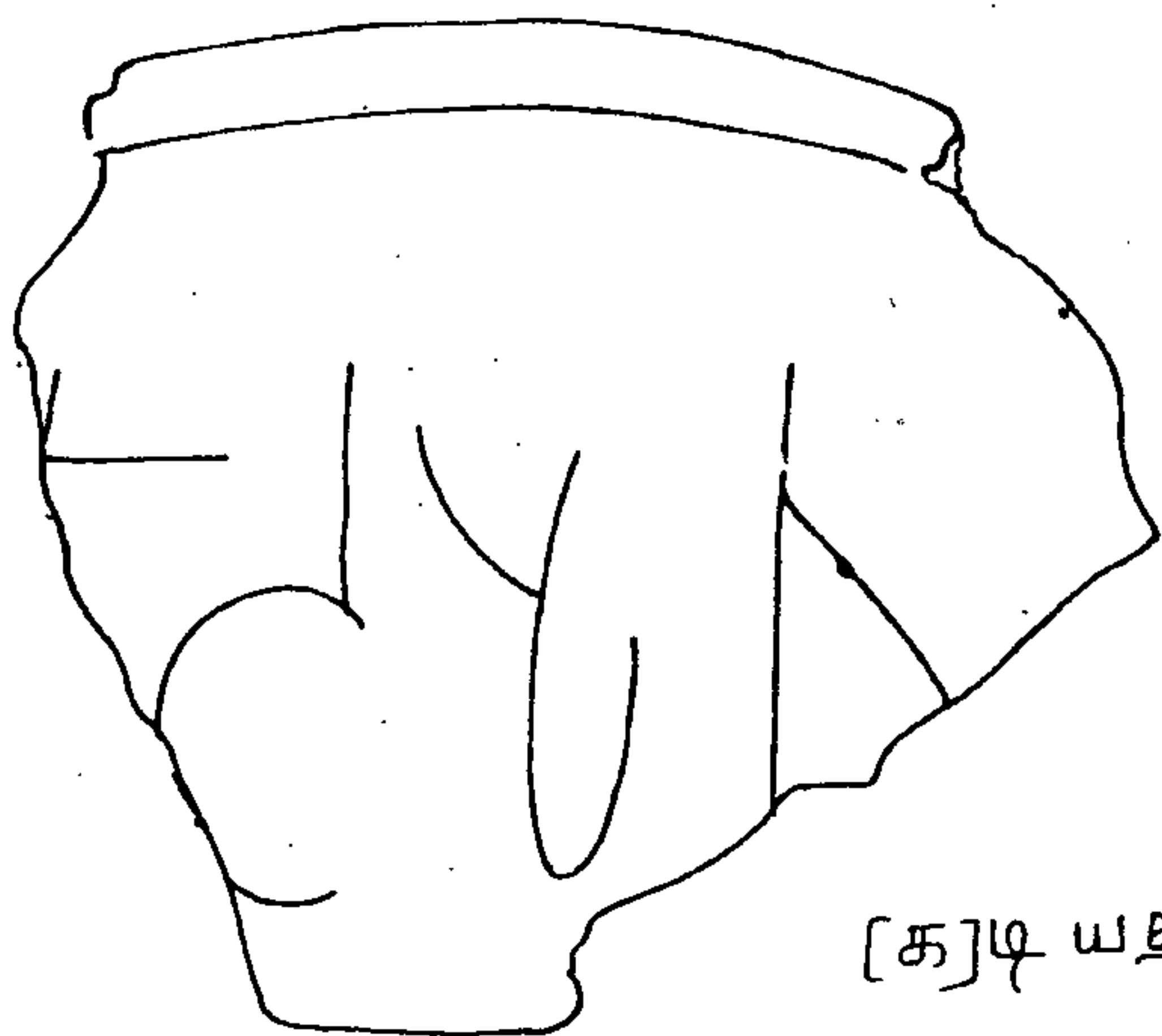
tesa

IAU

Ātan

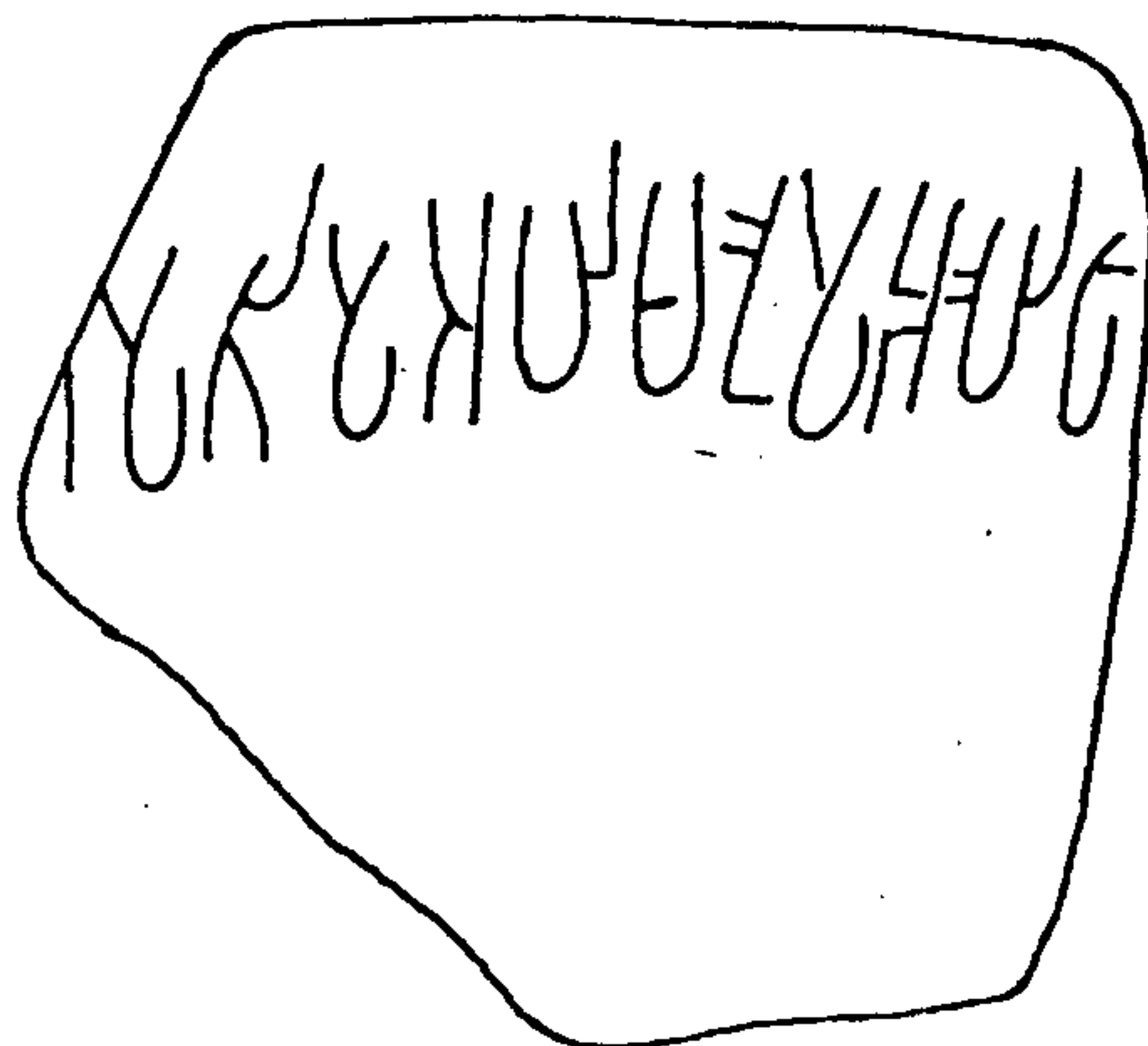
IAI

a. Kodumanal



①

[க]டி யத



②

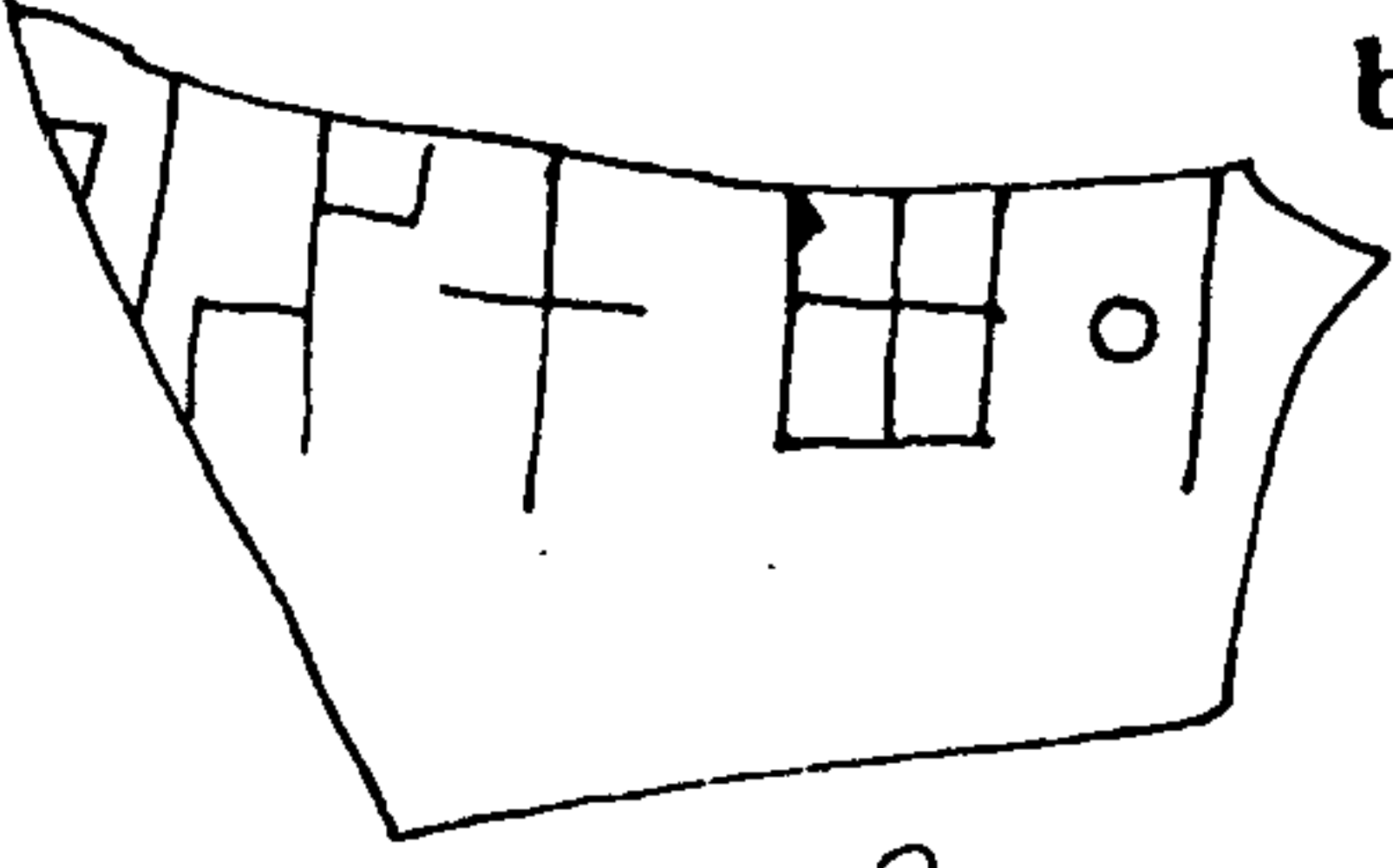
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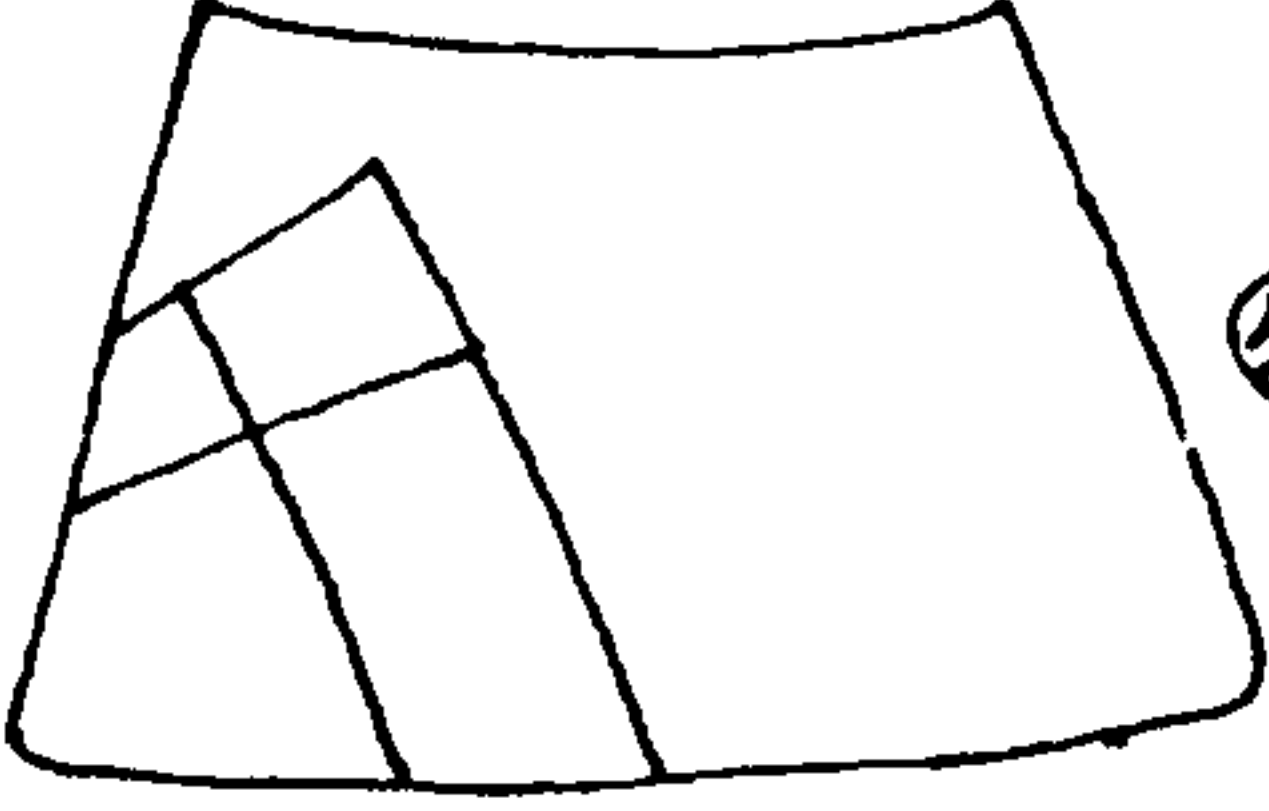
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தீ ல[ரே]

b. Alagankulam



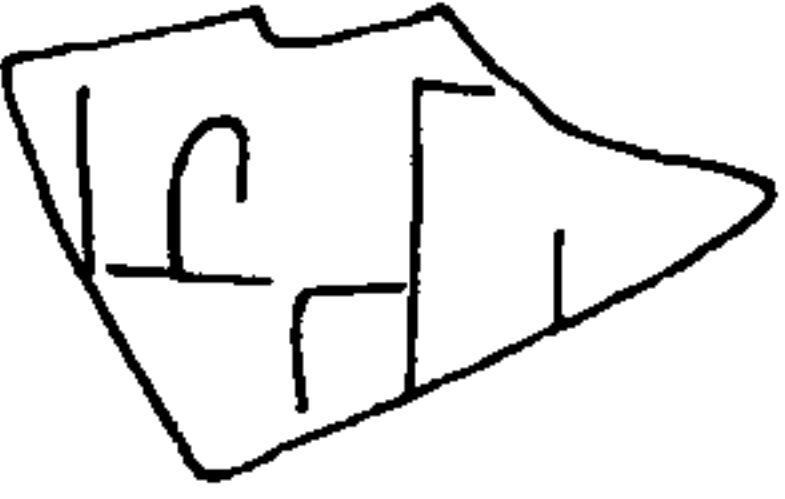
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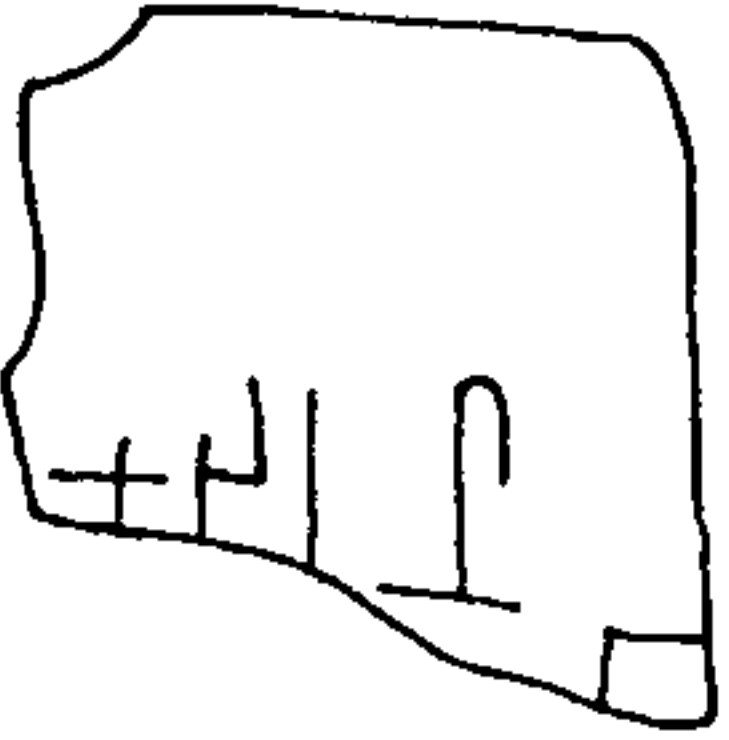
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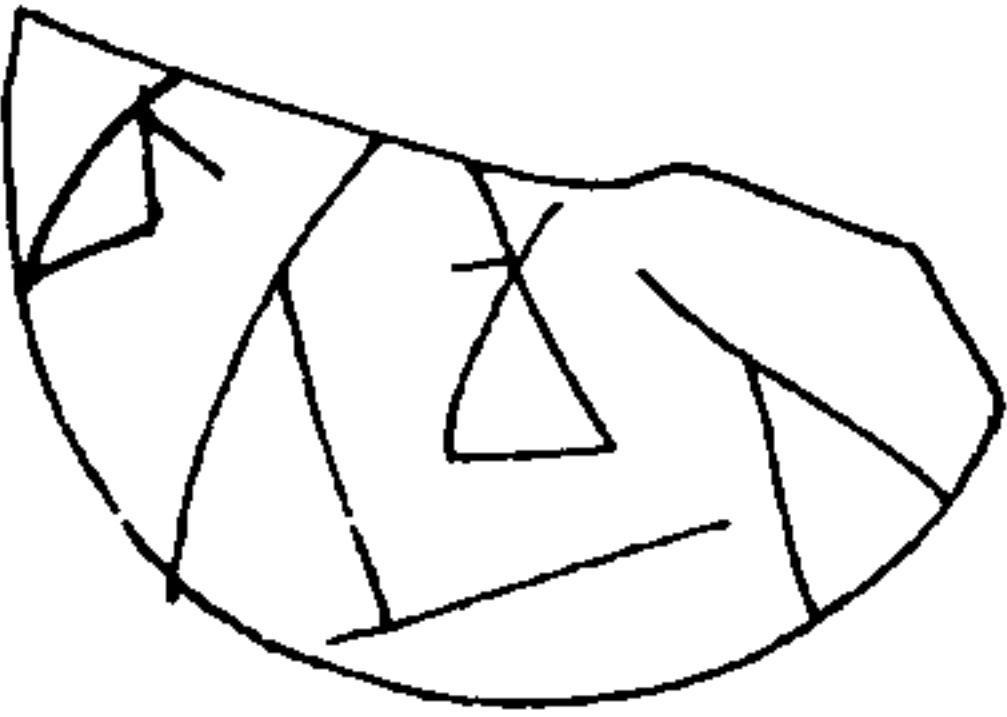
⑩ னரன்



⑪ ன ஹ ச



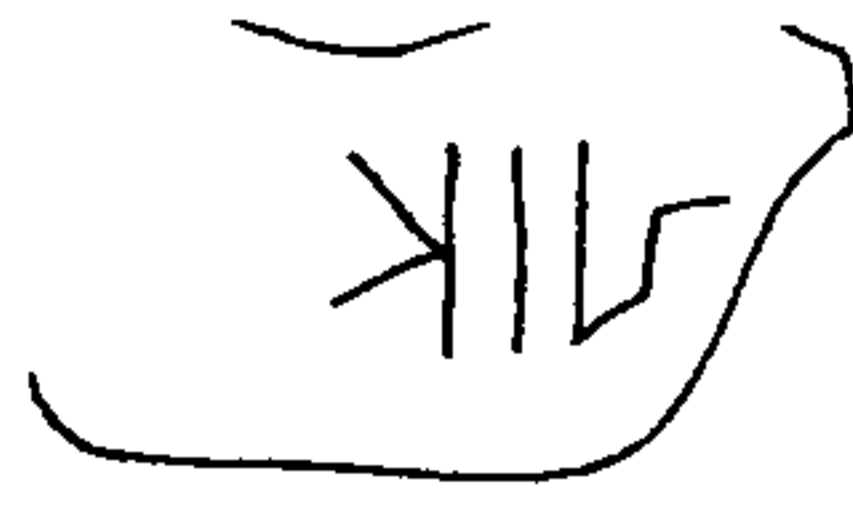
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⑬ வா து மே த



⑭ கு விர அன அ



⑥ அர ஹ



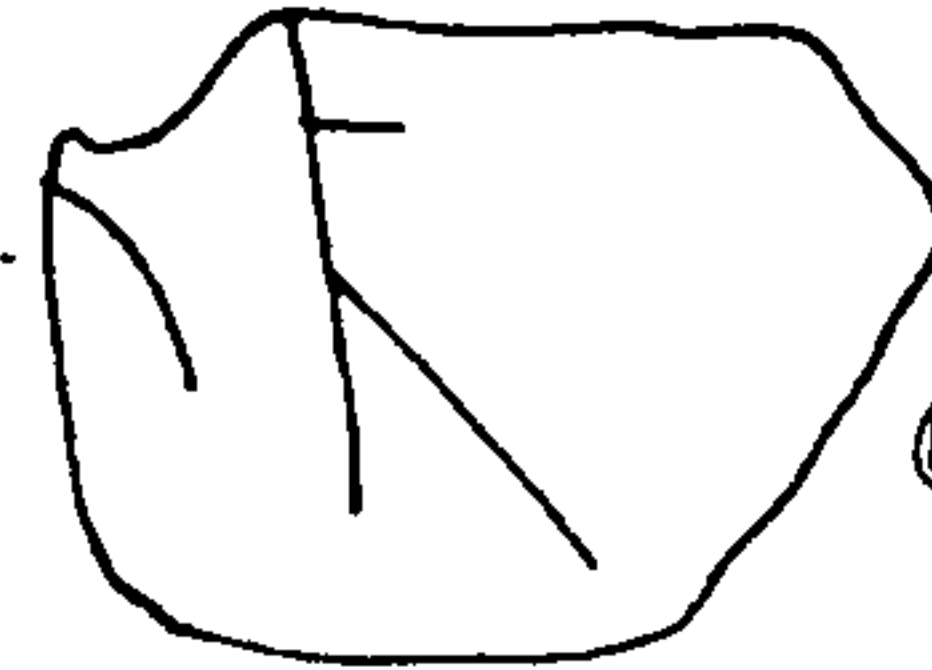
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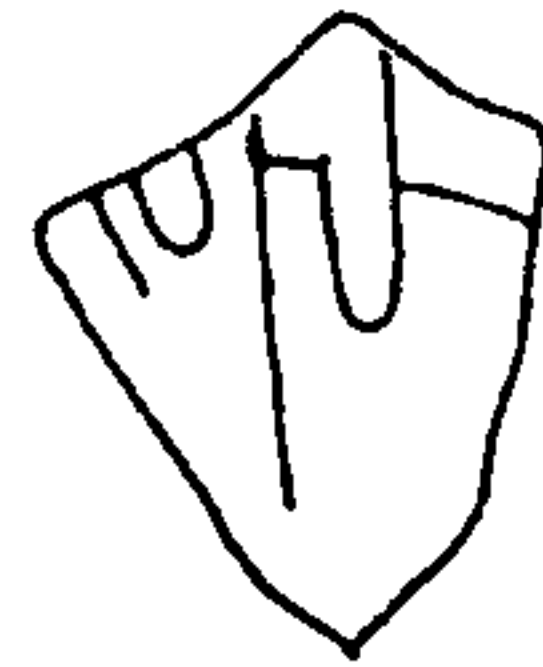
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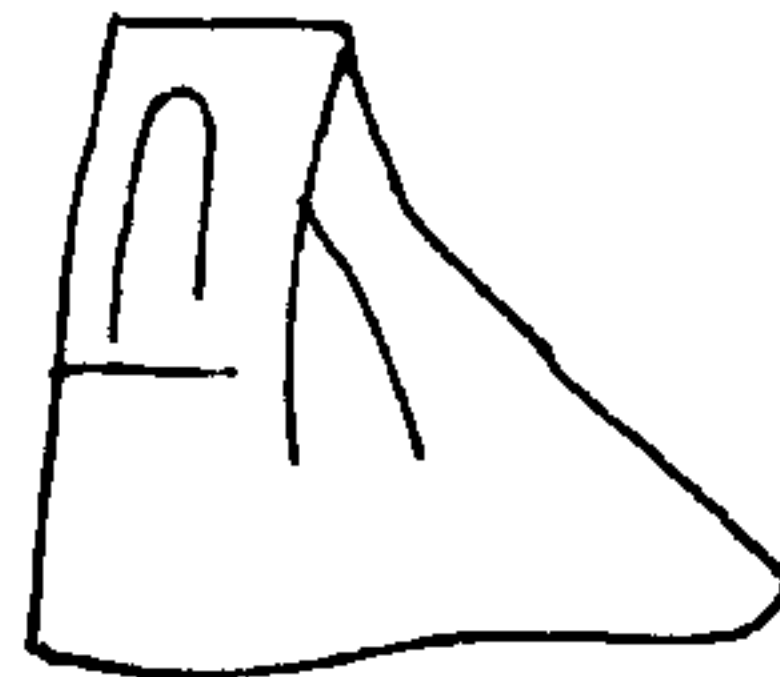
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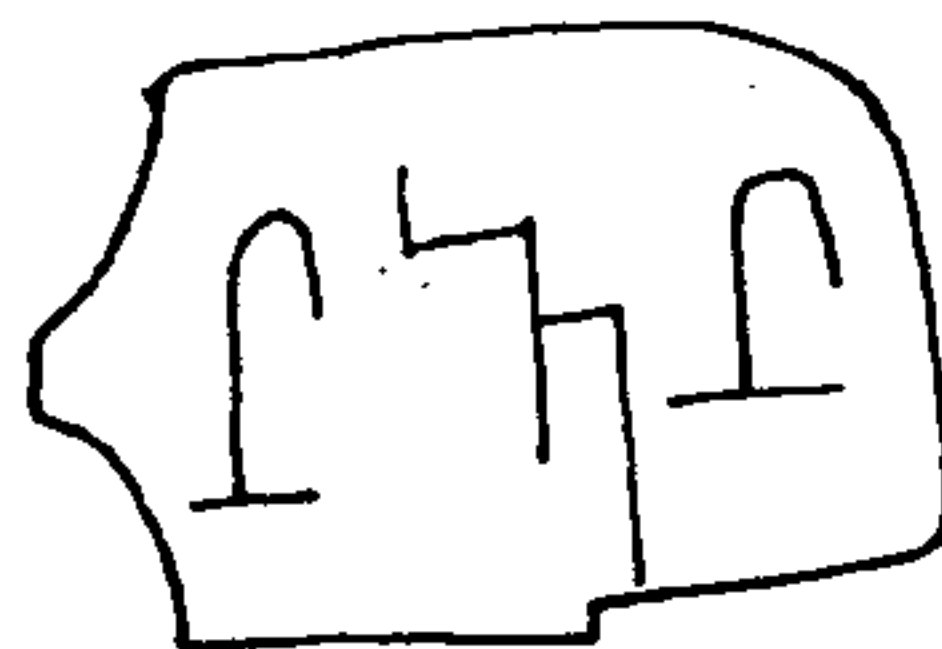
⑯ ன தா



⑰ ச ர ல



⑱ ன த



⑲ ன ற ன

Annexure- III

FTIR Studies of Some Archaeological Ceramics from Azhagankulam, Ramanathapuram District, Tamil Nadu

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INTRODUCTION

The mineralogical study of archaeological ceramics plays a vital role in unravelling the history of an ancient sherd, particularly by means that investigate the process of its production. In this study, potteries – AGMP1, AGMP2 and AGMP3 and clays – AGMC1 and AGMC2 were the representative samples collected from the State Archaeology Department of Tamil Nadu, Chennai and subjected to FTIR studies. Here the abbreviation AGM stands for the name of the place Azhagankulam which is located in Ramanathapuram District, where the samples were obtained in an excavation carried out by the State Archaeological Department of Tamil Nadu. Azhagankulam is historically an important place, which was ruled by the king called Azhagendran. All the three pottery samples AGMP1 (Black ware), AGMP2 (Red ware) and AGMP3 (Grey ware) were obtained in the same trench at a depth of 105 cm, 80 cm and 140 cm respectively. The clay samples AGMC1 and AGMC2, collected from two different sites of nearby region of Azhagankulam, were treated as model clays

for the mineralogical study of archaeological ceramics AGMP1, AGMP2 and AGMP3.

MATERIALS AND METHODS

The FTIR absorption spectra were recorded in the frequency region 4000-400 cm, using model Paragon 500, Perkin-Elmer spectrophotometer with 16 scan mode by using standard KBr pellet technique. The accuracy of the instrument is ± 4 cm in 4000 to cm region. Two model clay samples were heated to elevated temperature in steps of 50 upto 800 C. in laboratory conditions. Of these, AGMC2 was subjected to firing at 500 to 800C. The FTIR spectra were recorded for the three pottery samples in as received state and refired to 500 and 800C. The results obtained from the FTIR studies of clays were correlated with that of the FTIR studies of potteries in order to conclude the firing temperature, firing atmosphere and the type of clay used for the production of AGMP1, AGMP2 and AGMP3.

CONCLUSION

From the FTIR studies of clays AGMC1 and AGMC2, it was concluded that they belong to disordered kaolinite type. Also, it was concluded that AGMC1 was rich in iron content but poor in quartz content and AGMC2 was rich in quartz content but poor in iron content. From the FTIR studies of potteries, it was concluded that AGMP1 was made up of red clay and fired above 700 C under oxidized atmospheric condition and were made up of red and white clay respectively. The good quality potteries of Azhagankulam reflect the technological development (different firing atmospheres and colouration) of artisans during the period 3rd century CE.



Acknowledgement

Excavations Conducted under the guidance of

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2. Thiru. Natana. Kasinathan, then Director,
3. Thiru. A. Abdul Majeed, then Director,

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3.	Korkai	- Thottukudi	- 1969
4.	Vasuvassamudram	- Kachipuram	- 1969-70
5.	Pallavamedu	- Kanchipuram	- 1970-71
6.	Karur	- Karur	- 1973-79 1979-80
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8.	Kovalanopottal	- Madurai	- 1980
9.	Thondi	- Ramanathapuram	- 1980
10.	Bolvampatti	- Coimbatore	- 1980-81
11.	Gangaikonda cholapuram	- Perambalur	- 1980-81 1986-87
12.	Kannanur	- Tiruchirappalli	- 1982-83
13.	Palayarai	- Thanjavur	- 1984
14.	Kurumbamedu	- Thanjavur	- 1984

15.	Alagankulam	- Ramanathapuram	- 1986-87 1990-98
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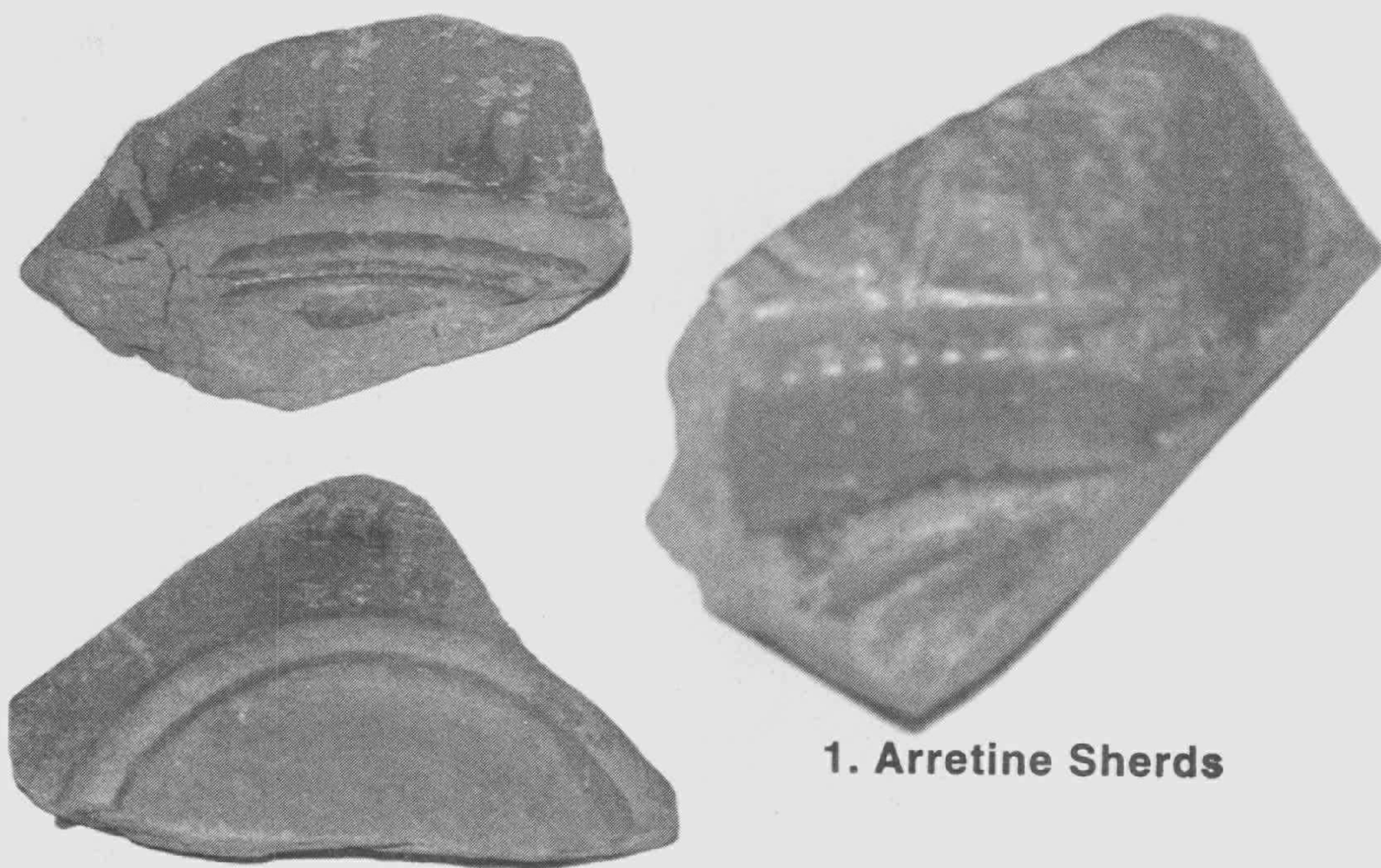
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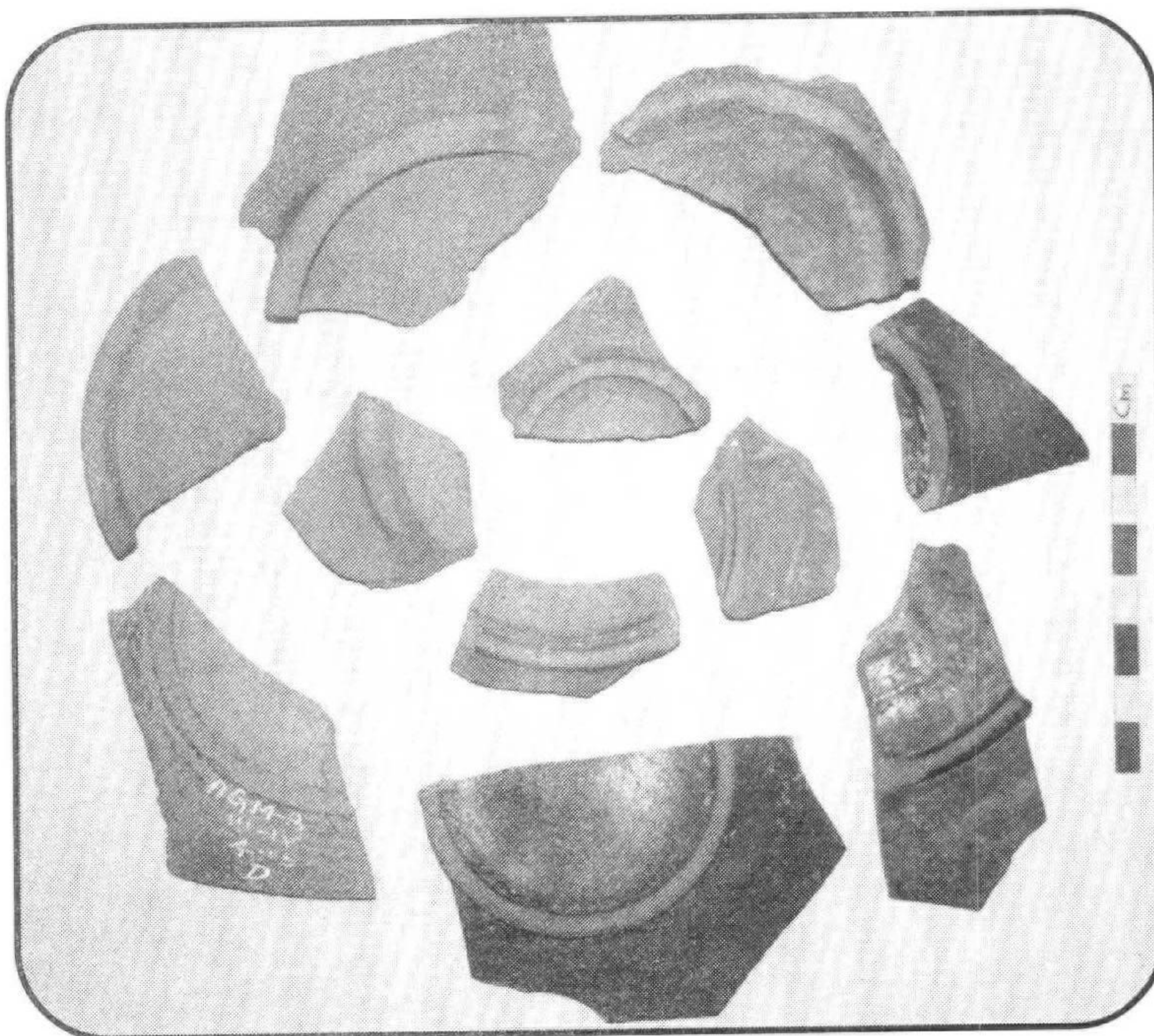
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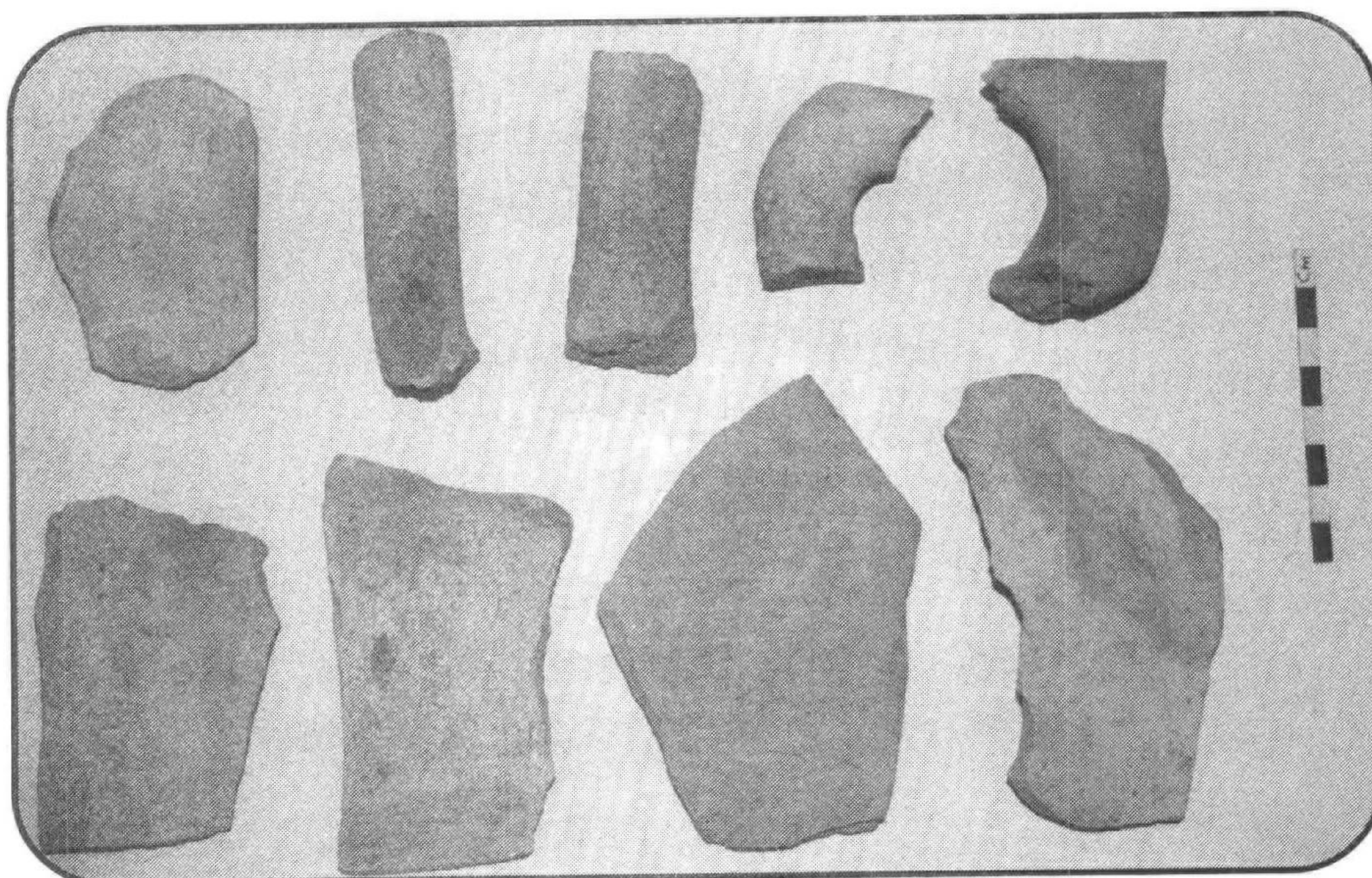
1. Arretine Sherds



2. A heap of Rouletted Sherds



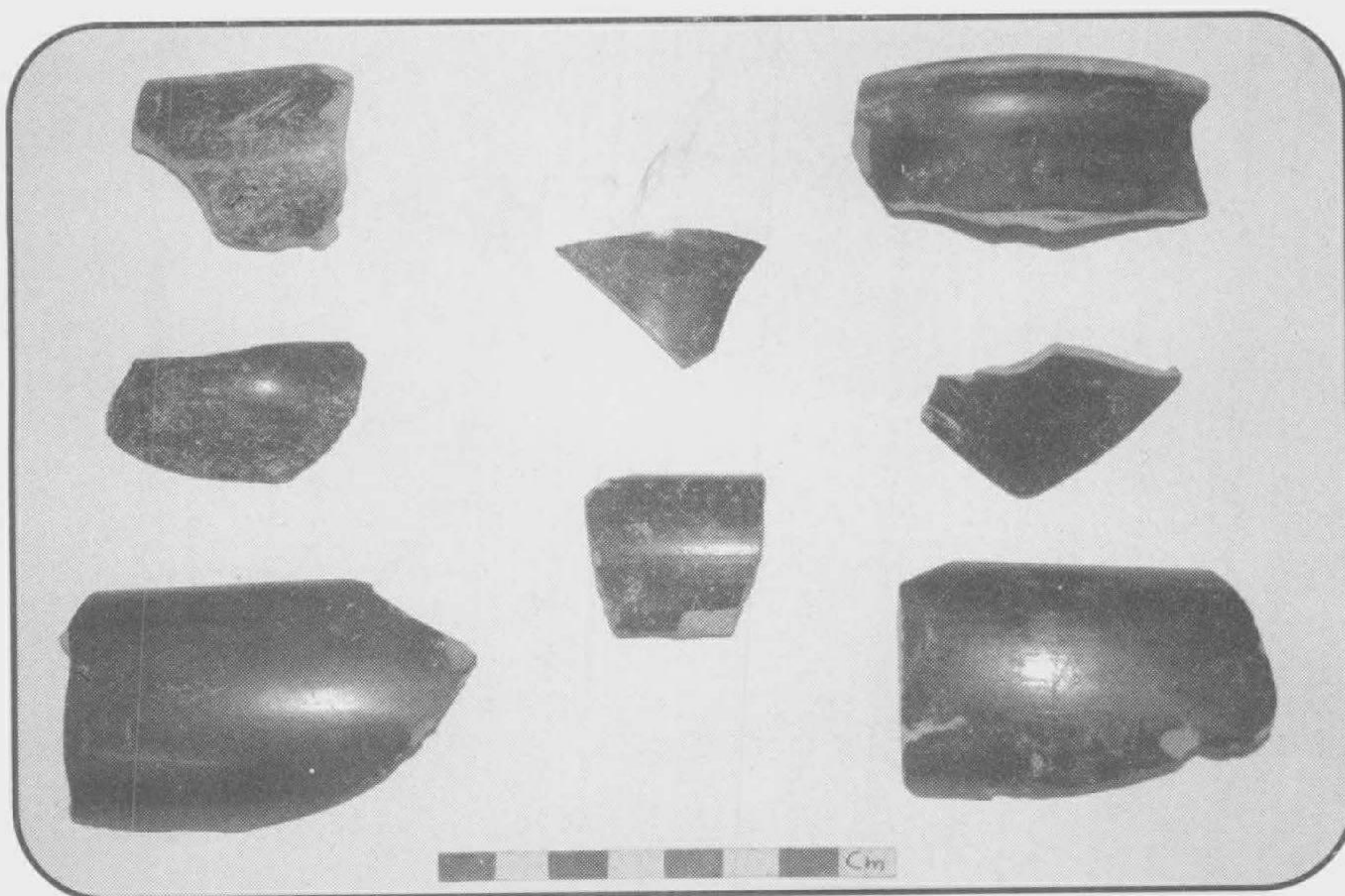
3. Base portions of Rouletted and Stamped wares



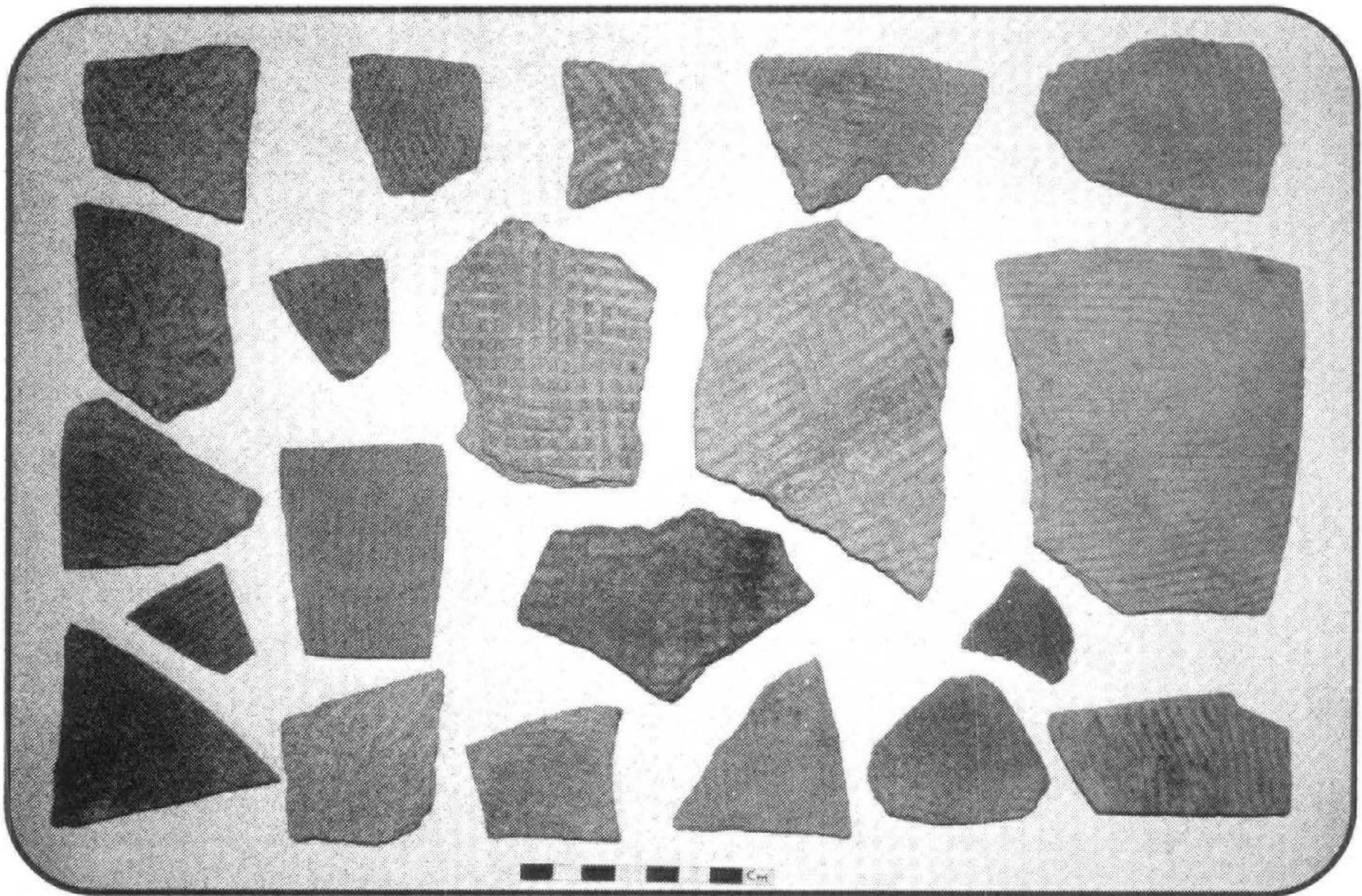
4. Amphorae Pieces



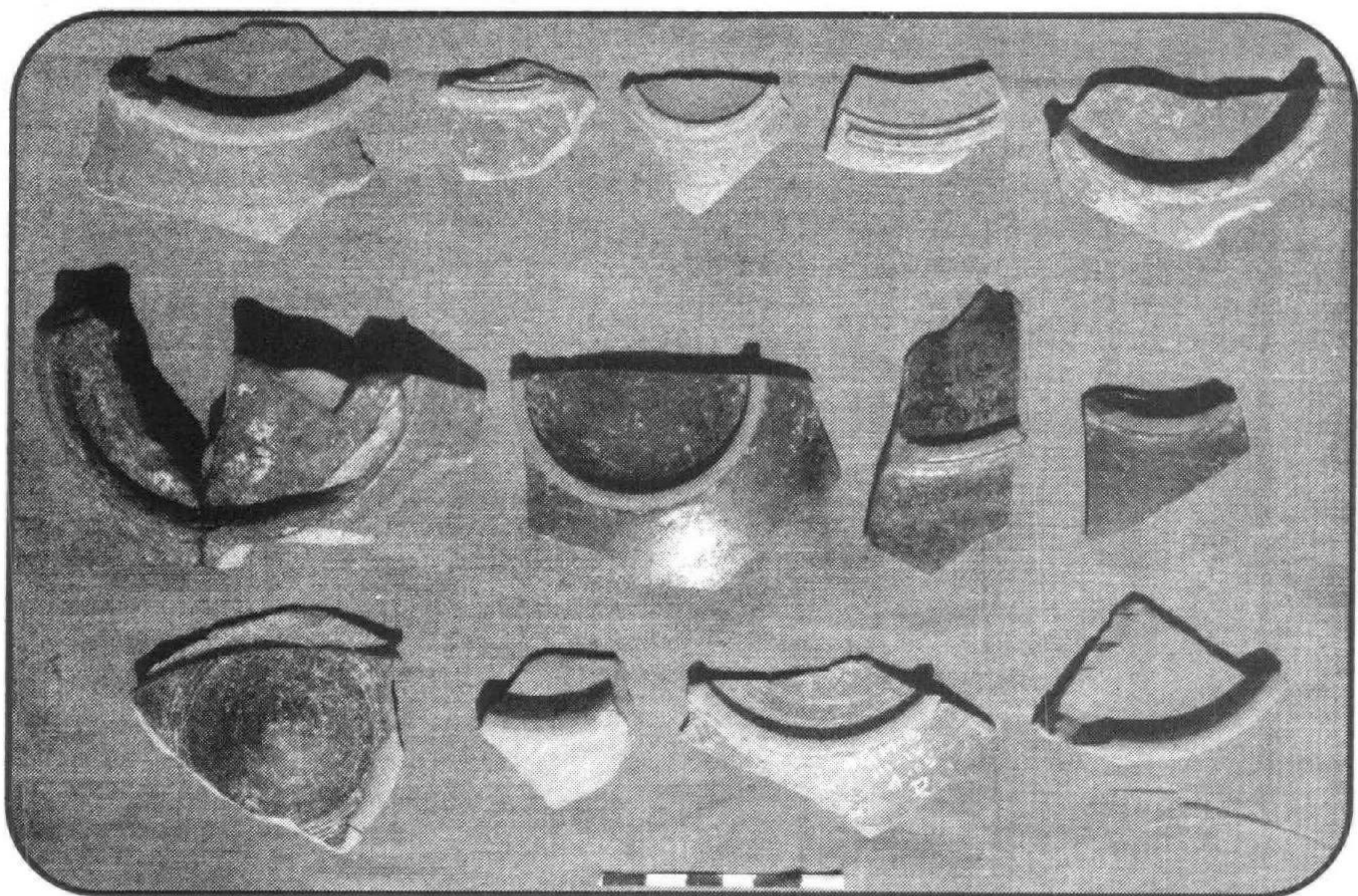
5. Potsherds with leaf motif designs



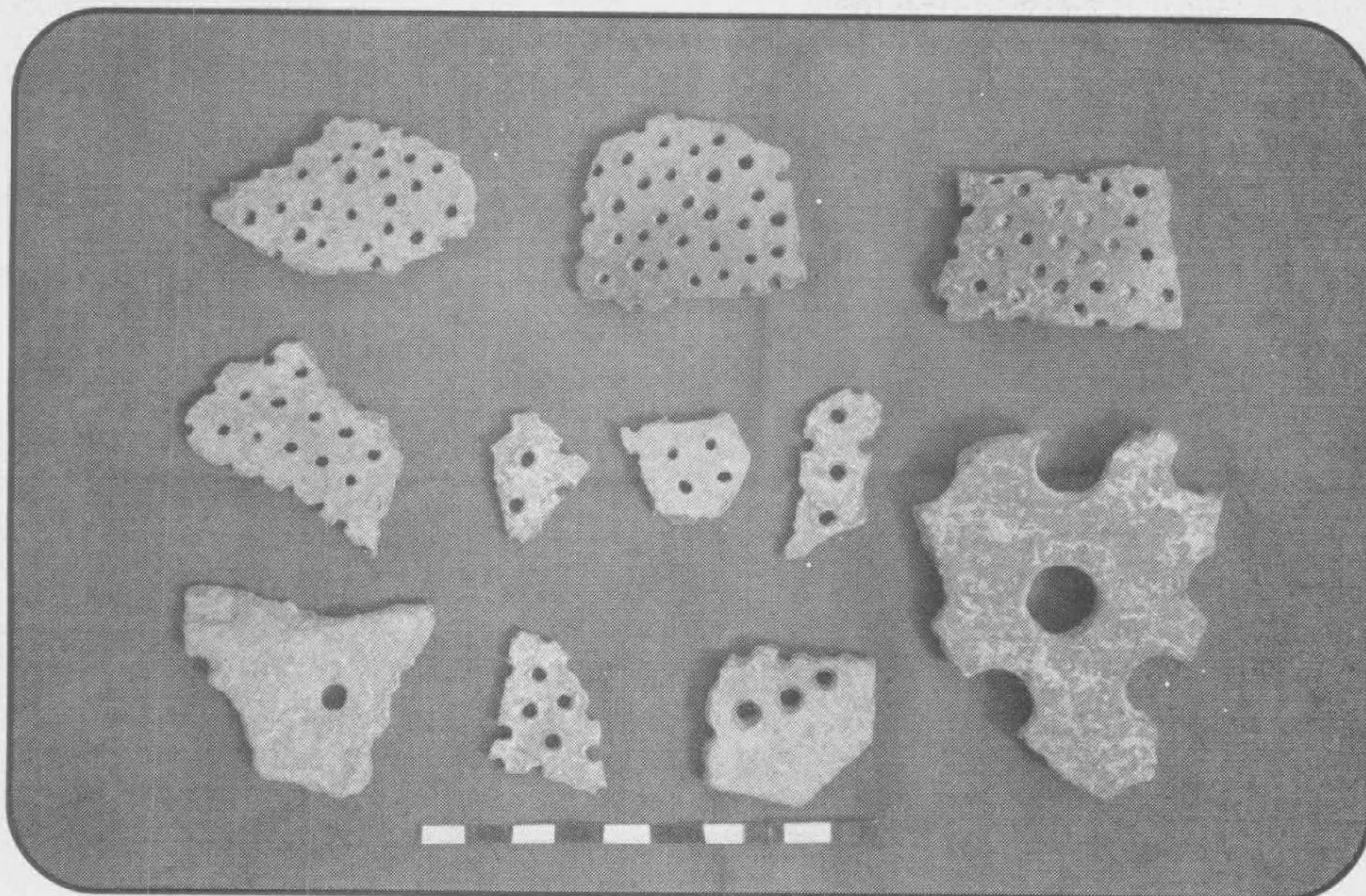
6. Northern Black Polished Sherds



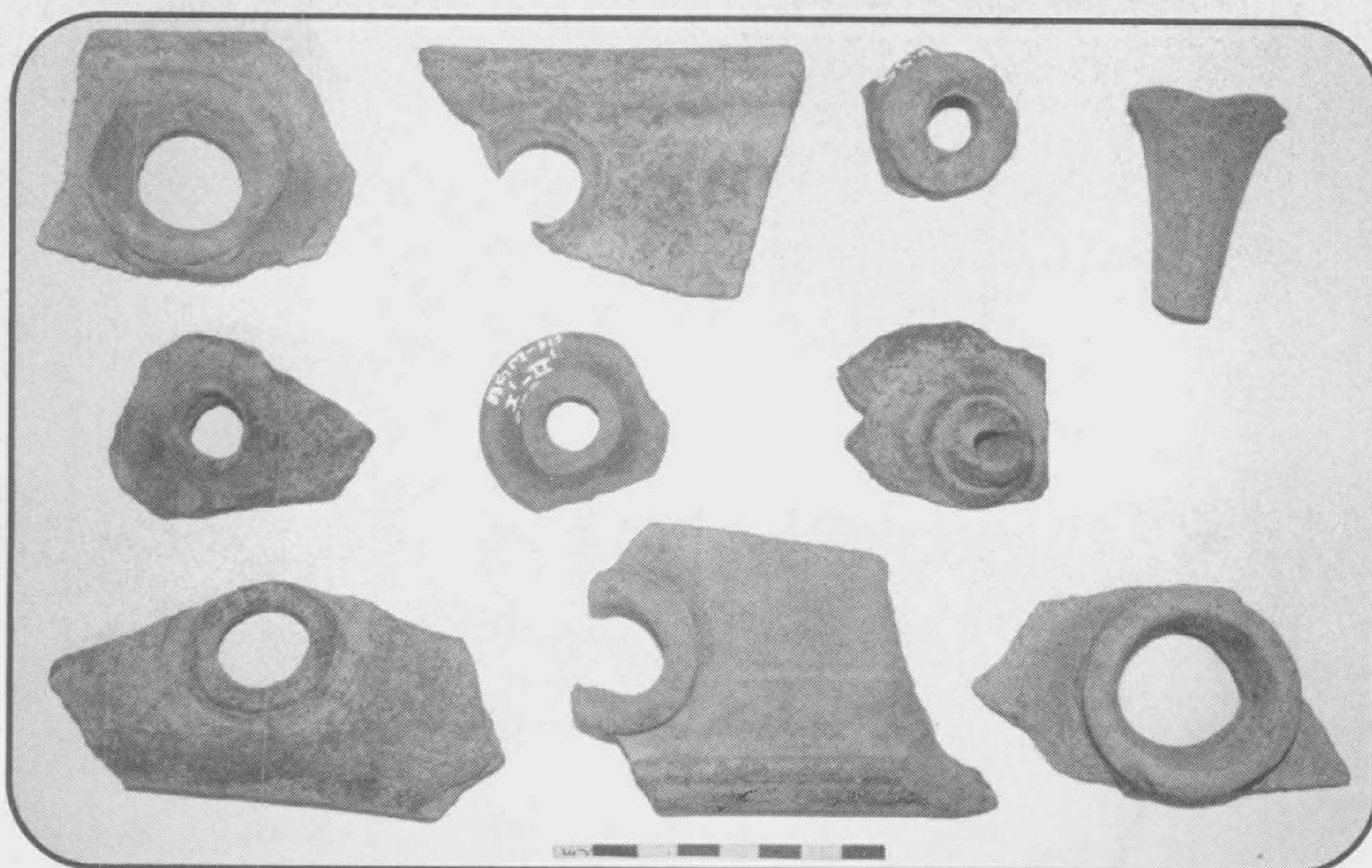
7. Mat - Design Pot Sherds



8. Base Portions of Roman Wares



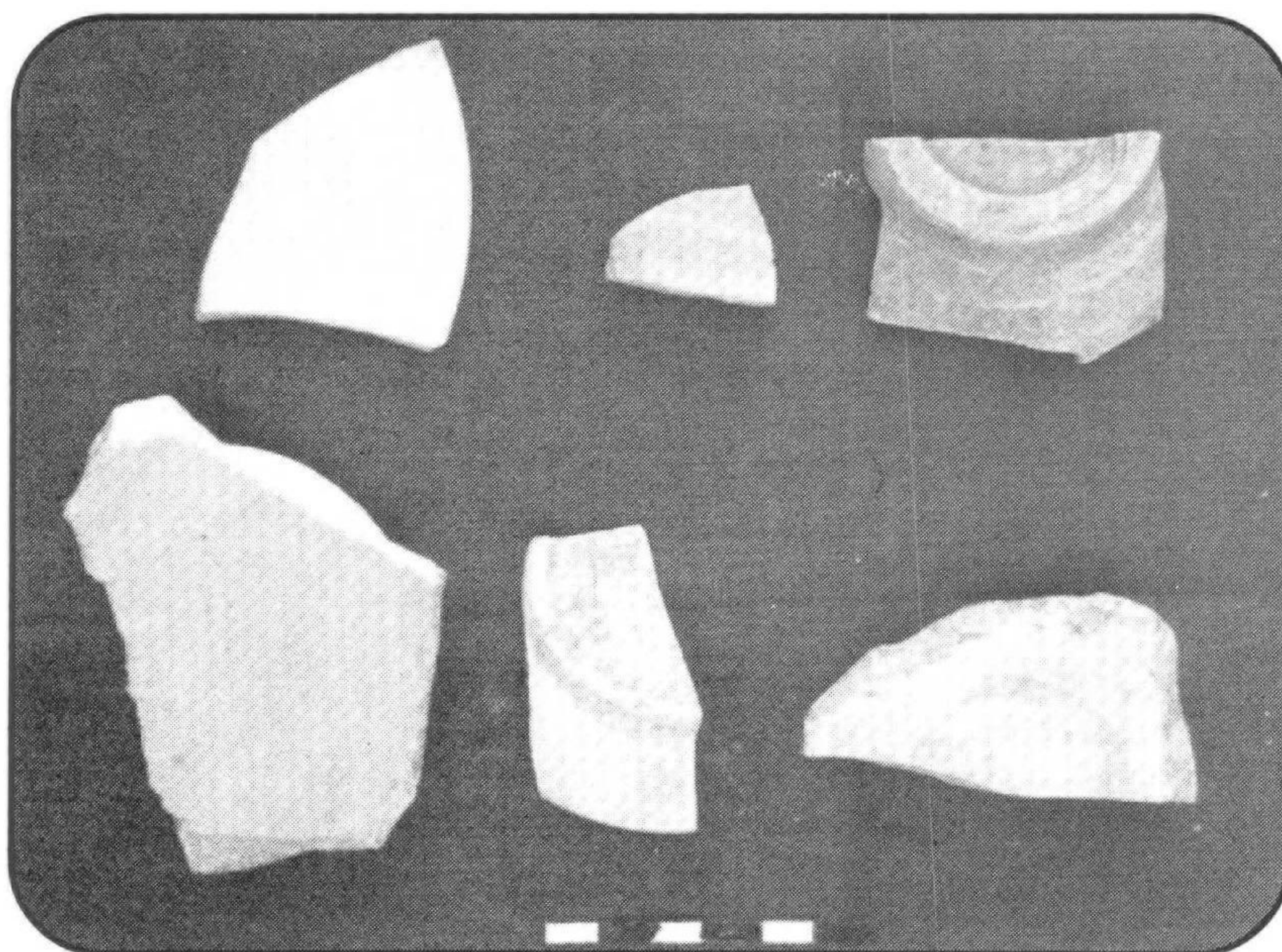
9. Perforated Pot Sherds



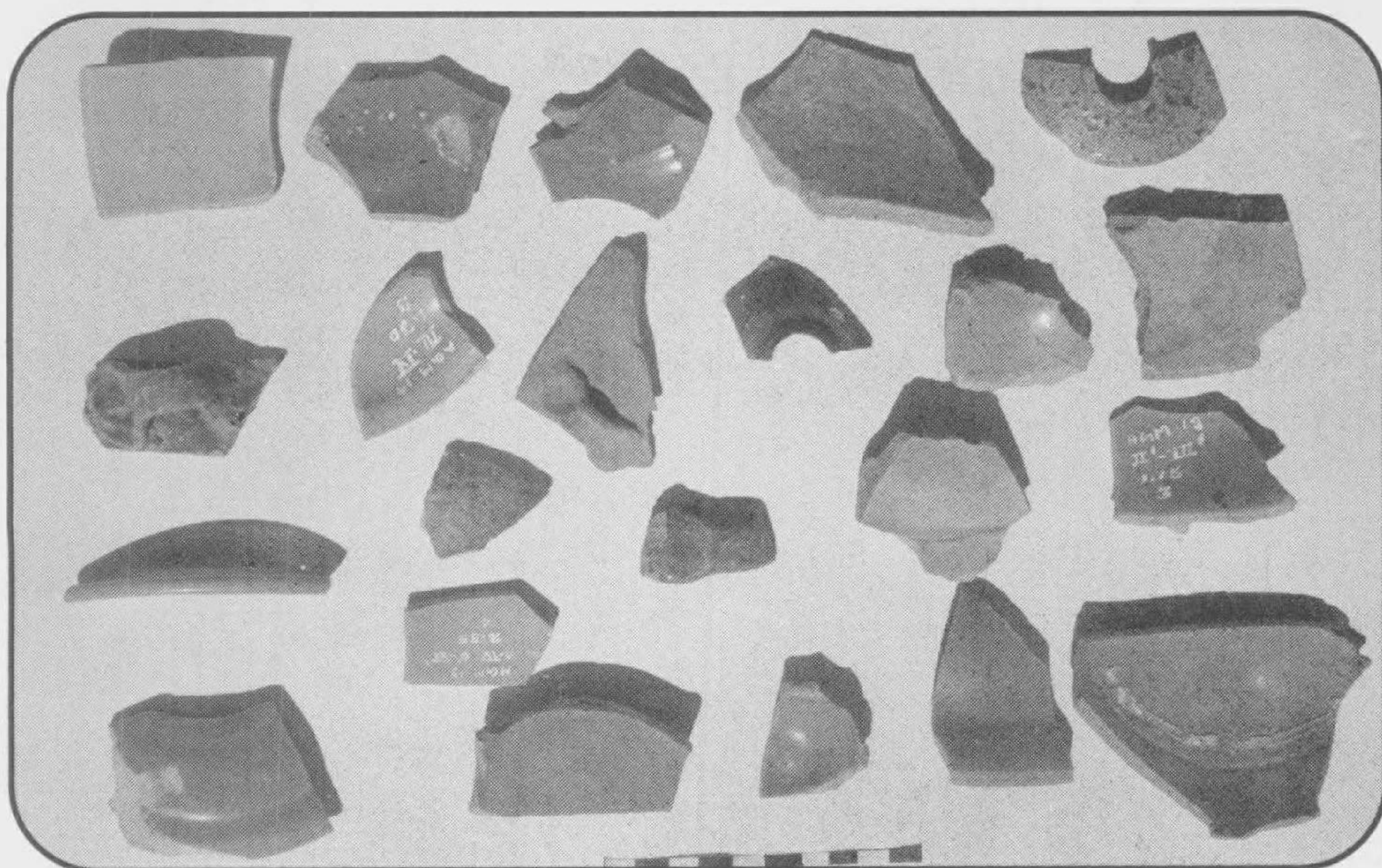
10. Portions of Spouted vessels



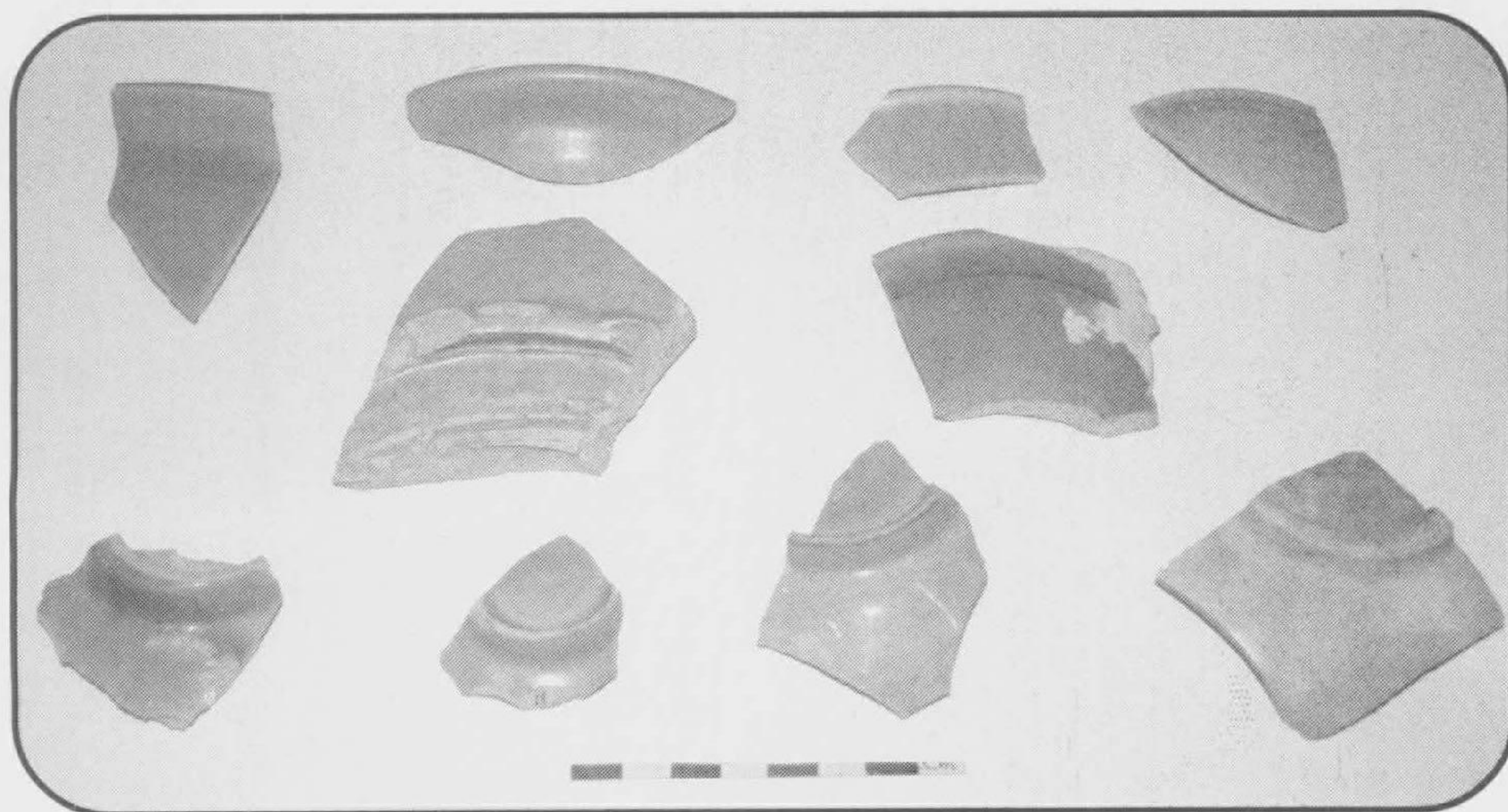
11. Terracotta Spouted Knobs



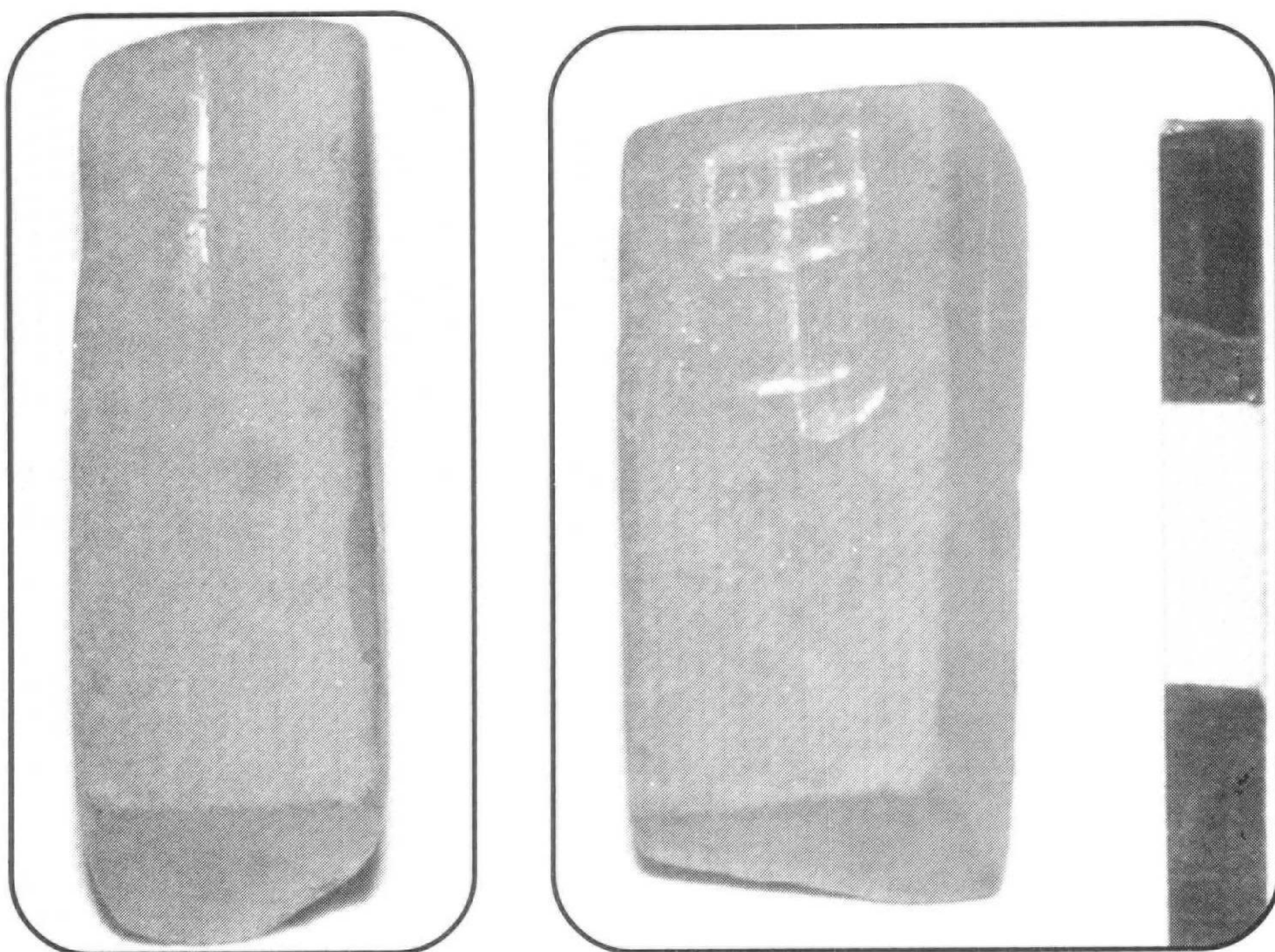
12. Procelain Sherds



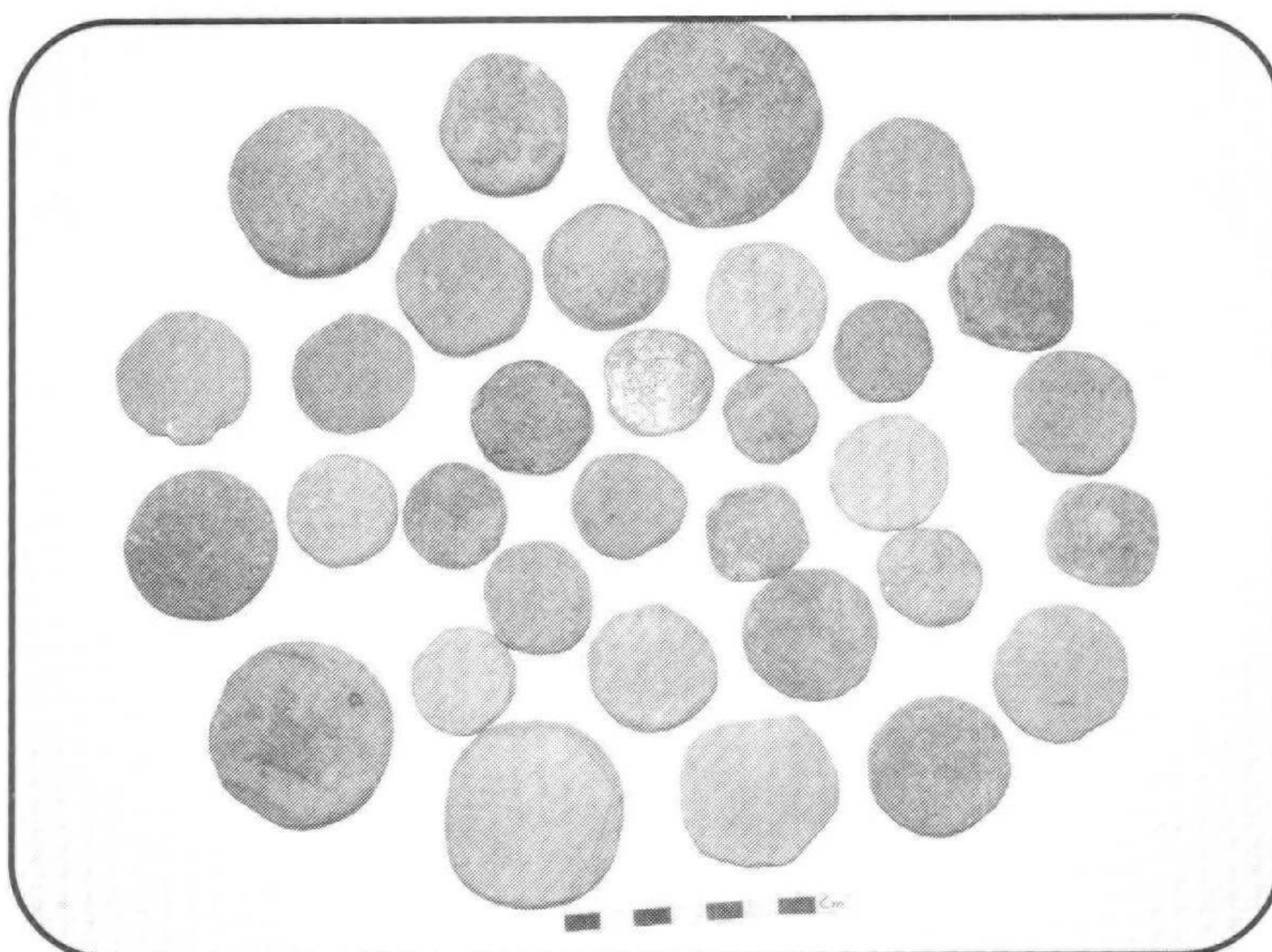
13. Chinese Pink Sherds and Celadon Sherds



14. Chinese Celadon Sherds



15. Terracotta dice



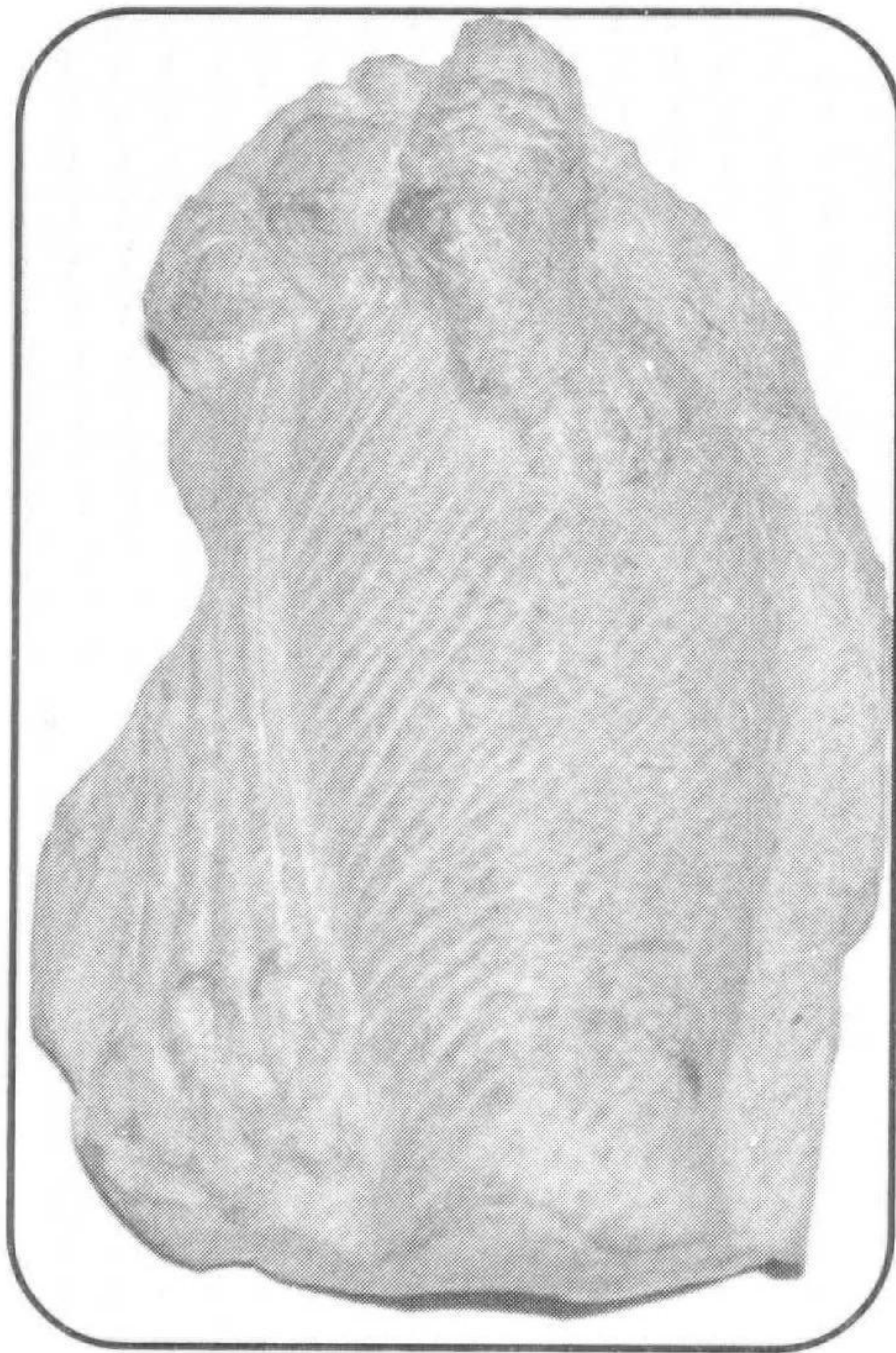
16. Terracotta Hopscotches or weights



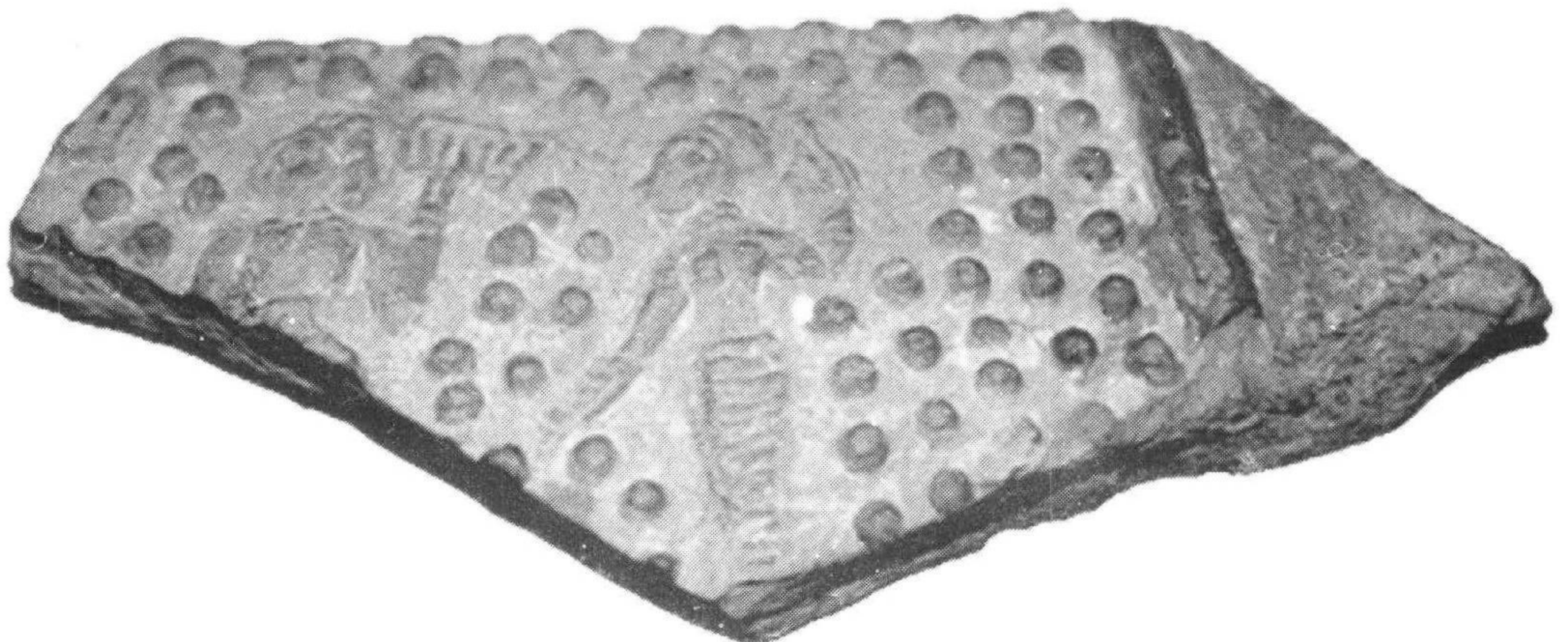
17. Copper Ring



18. Rouletted Sherd with Mule Rider



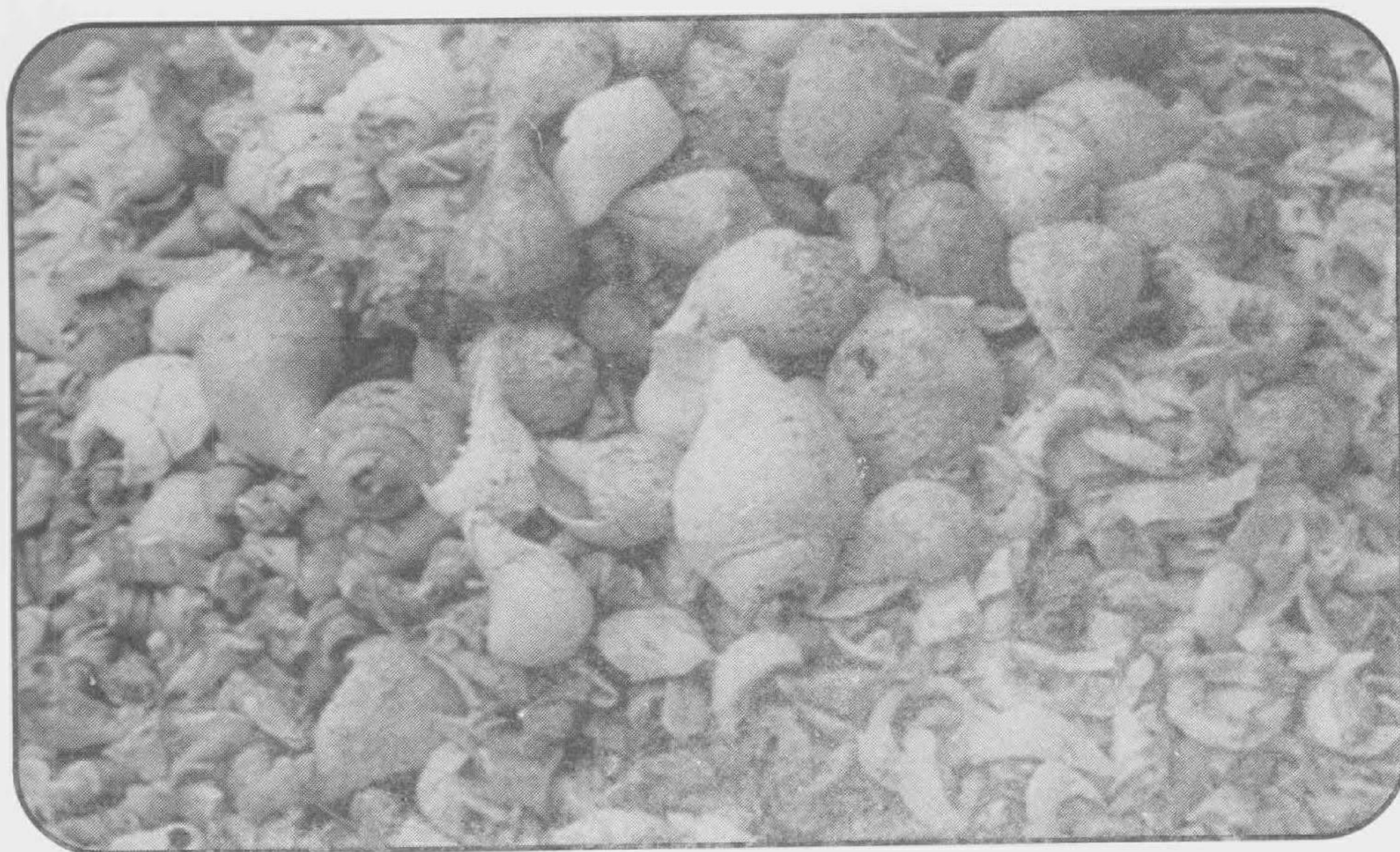
19. A Broken Terracotta Figurine of a Lady



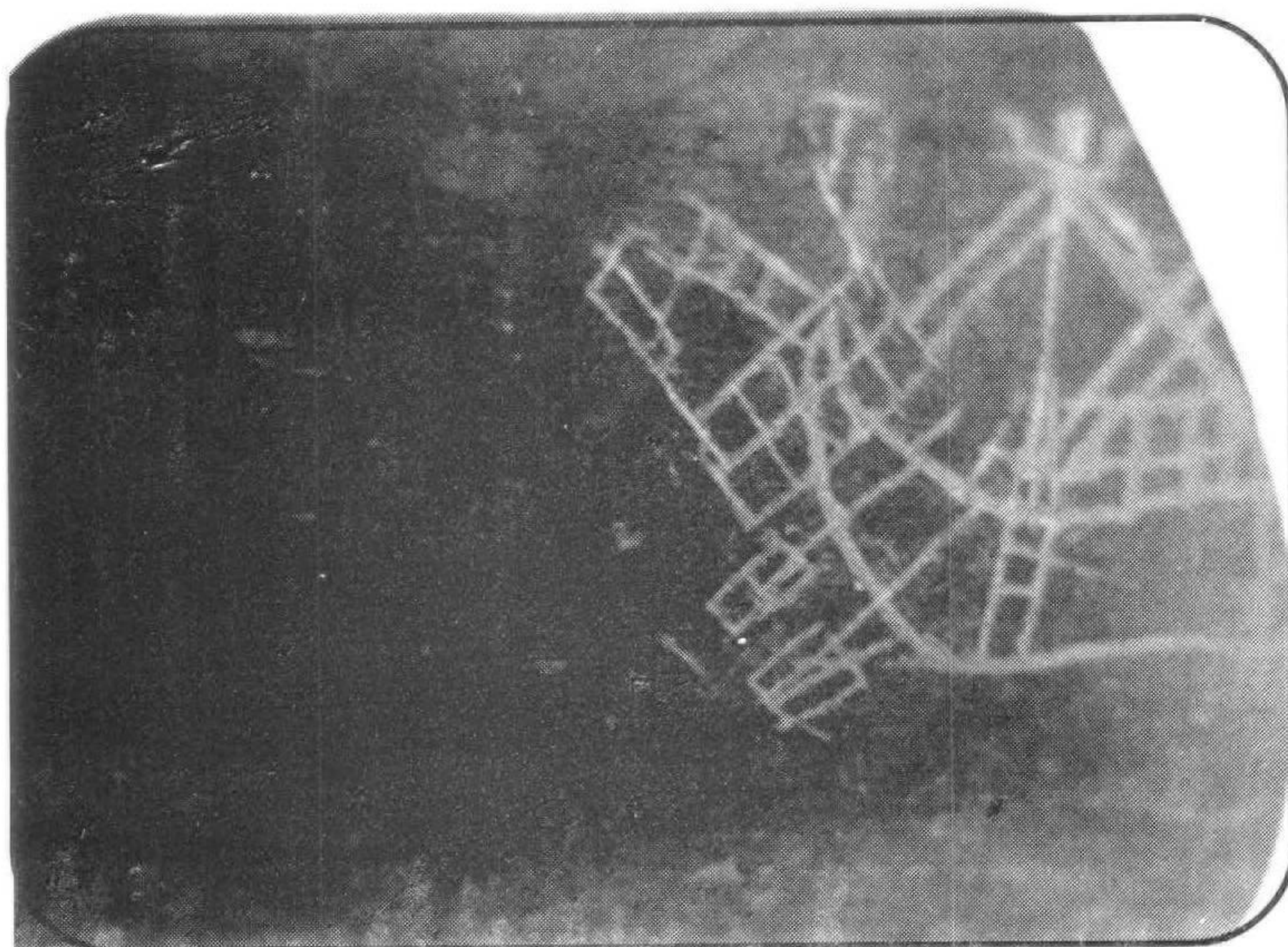
20. A Pot Sherd with Two Lady Figures of Egyptian art influence



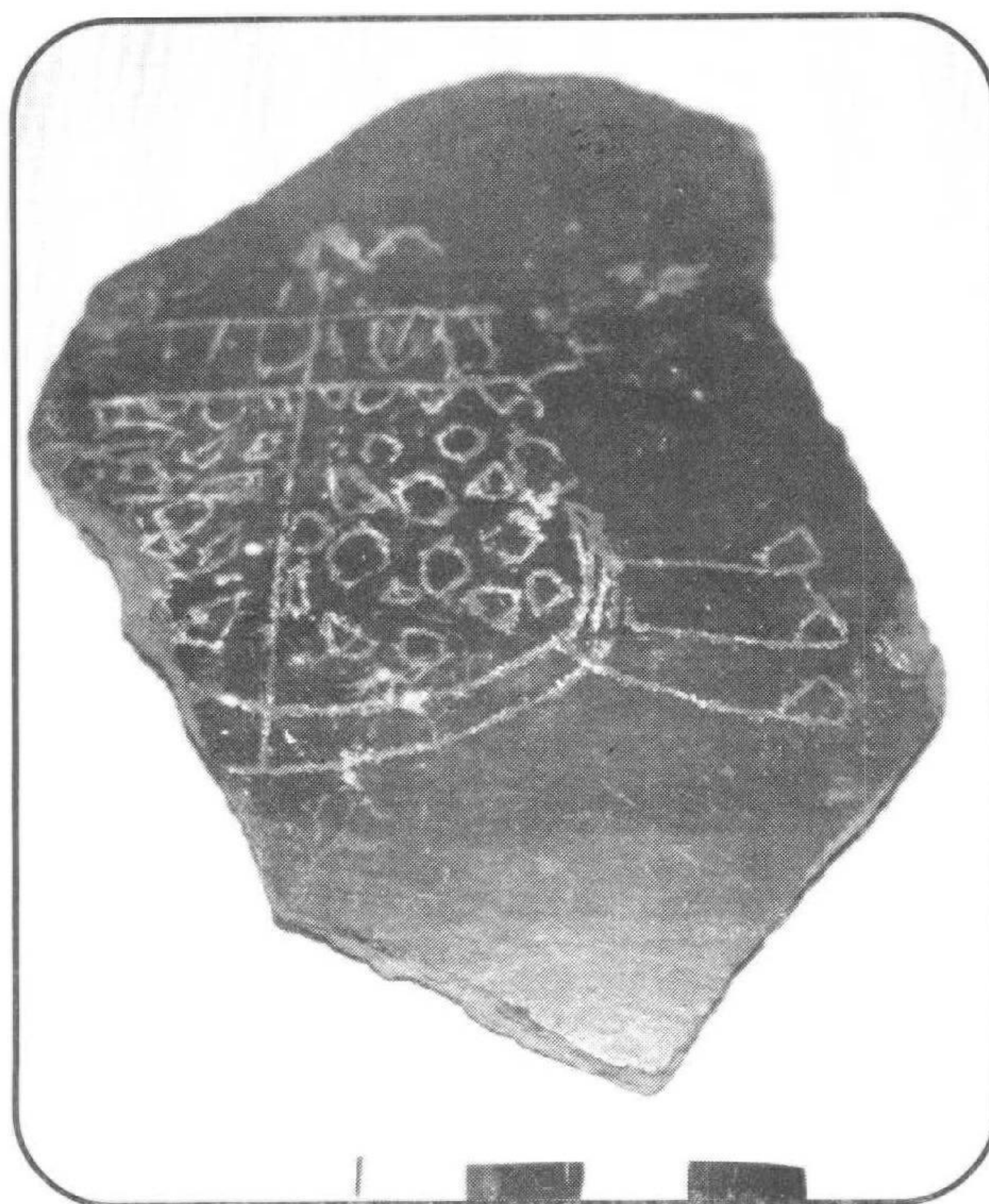
21. Pot Sherd with Bull Figure



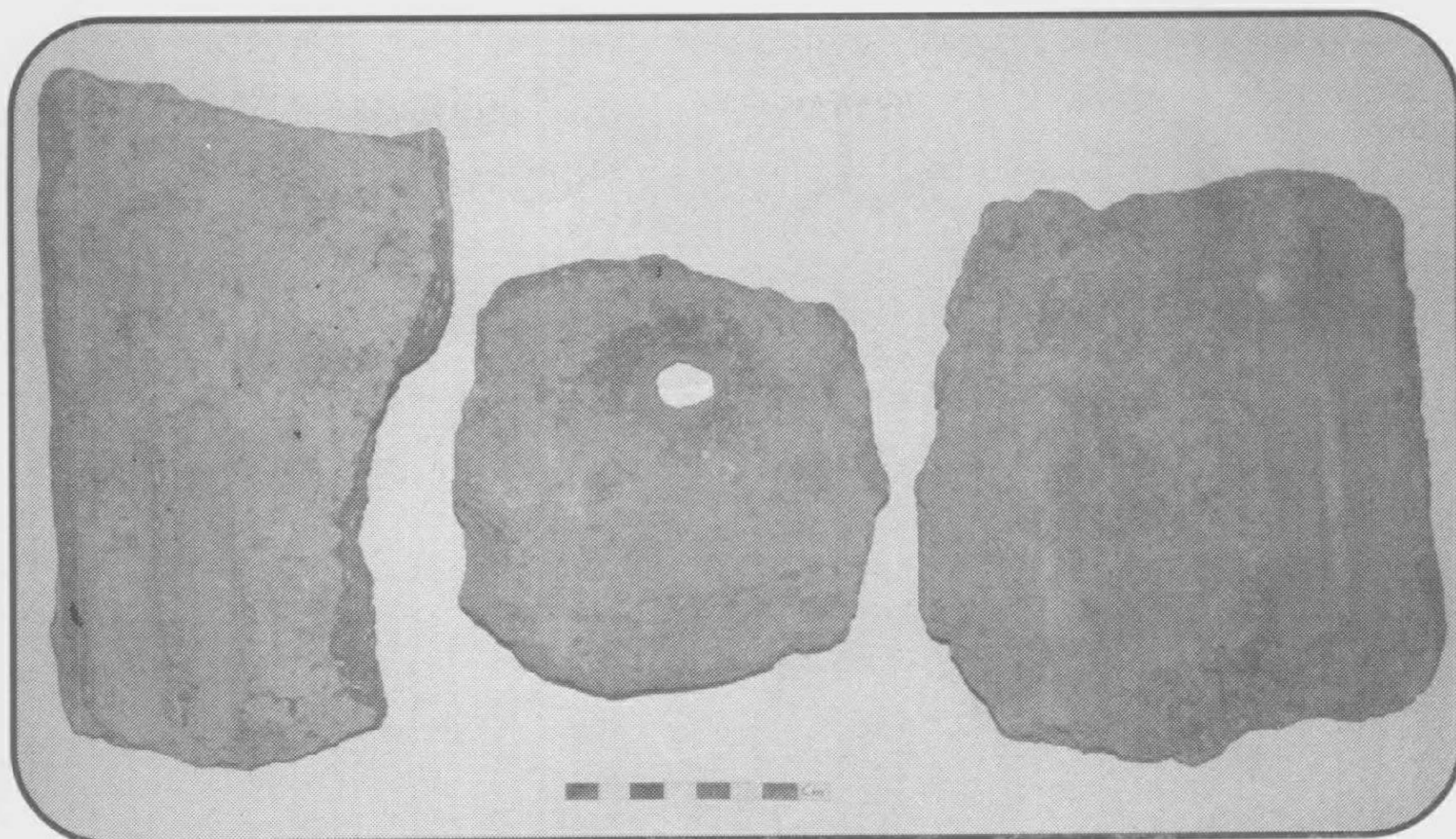
22. Heap of full shaped conches and sawed conch pieces



23. A Rouletted Pot Sherd with Roman Ship Symbol



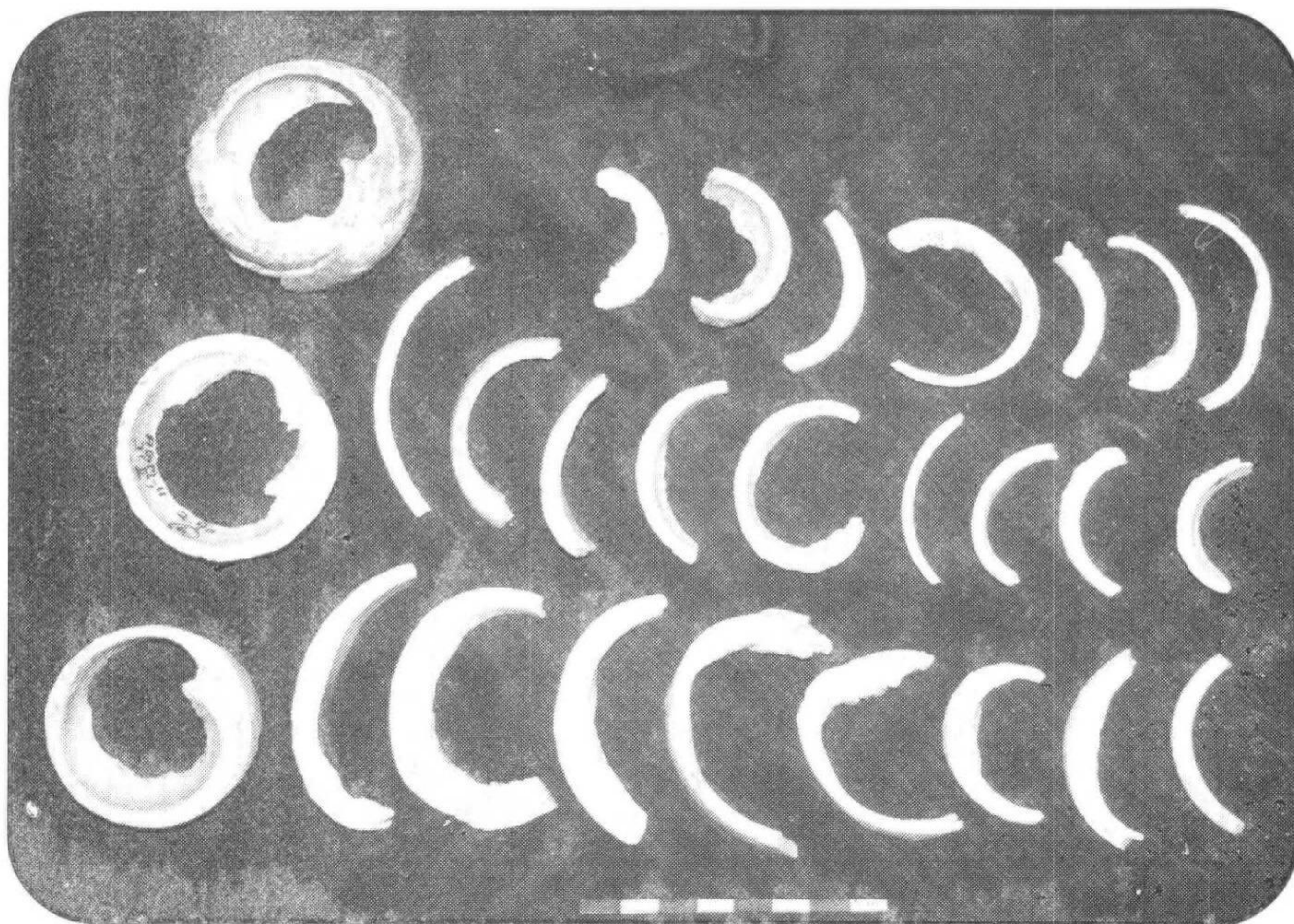
24. Pot Sherd with ship (yacht) symbol



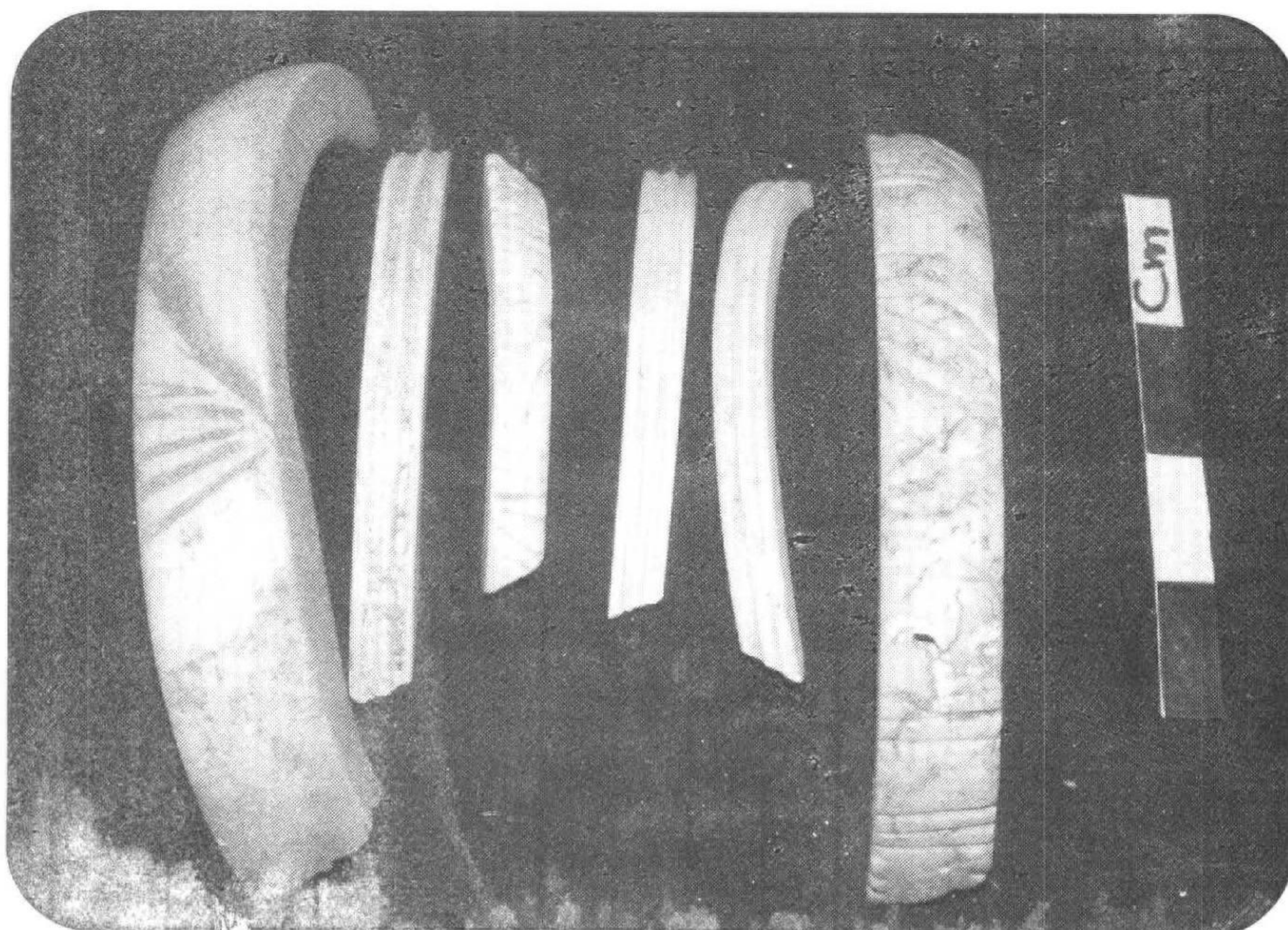
25. Grooved Roofing Tile Pieces



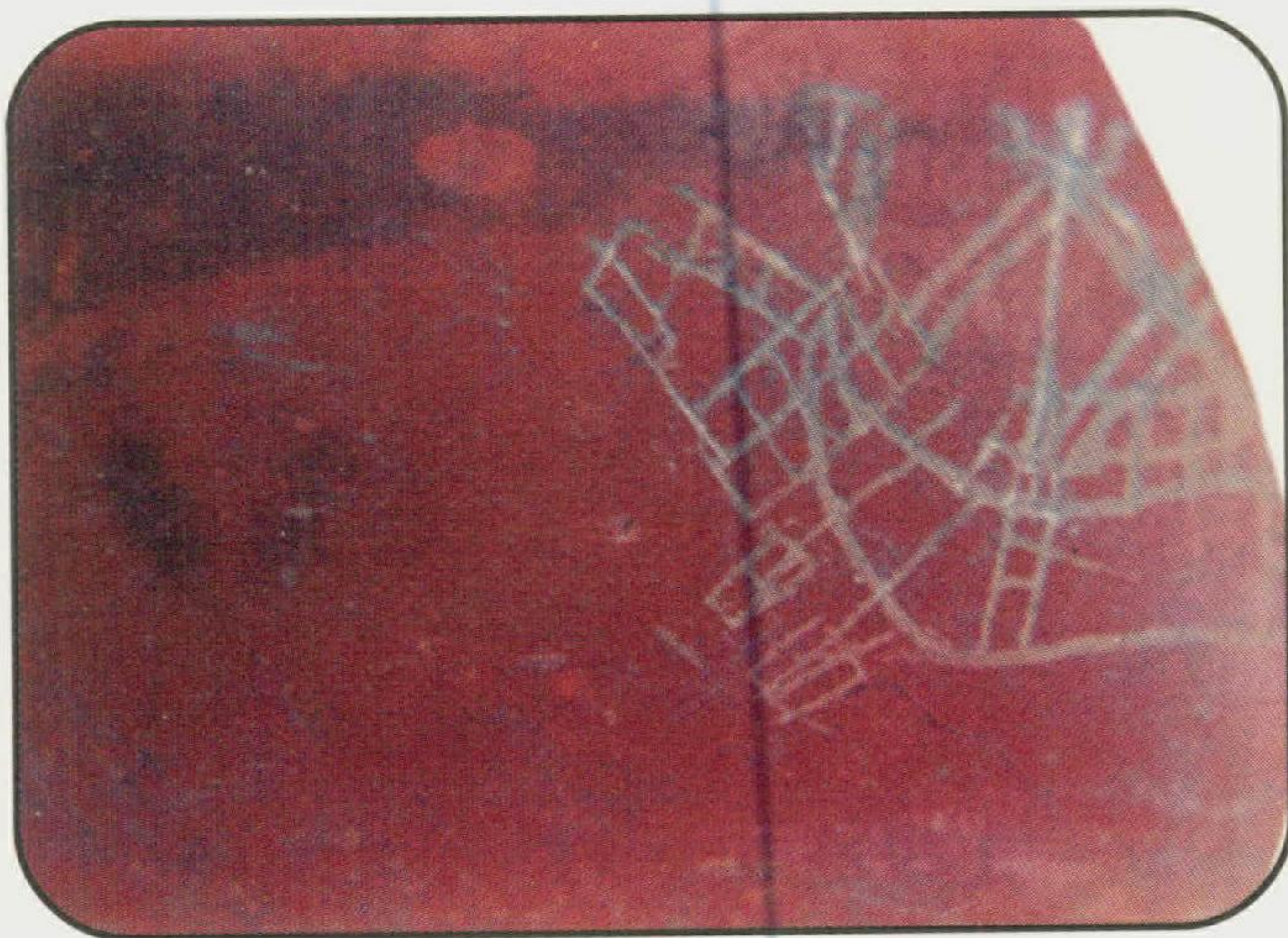
26. Flat Roofing Tile Pieces



27. Shell Bangle Pieces



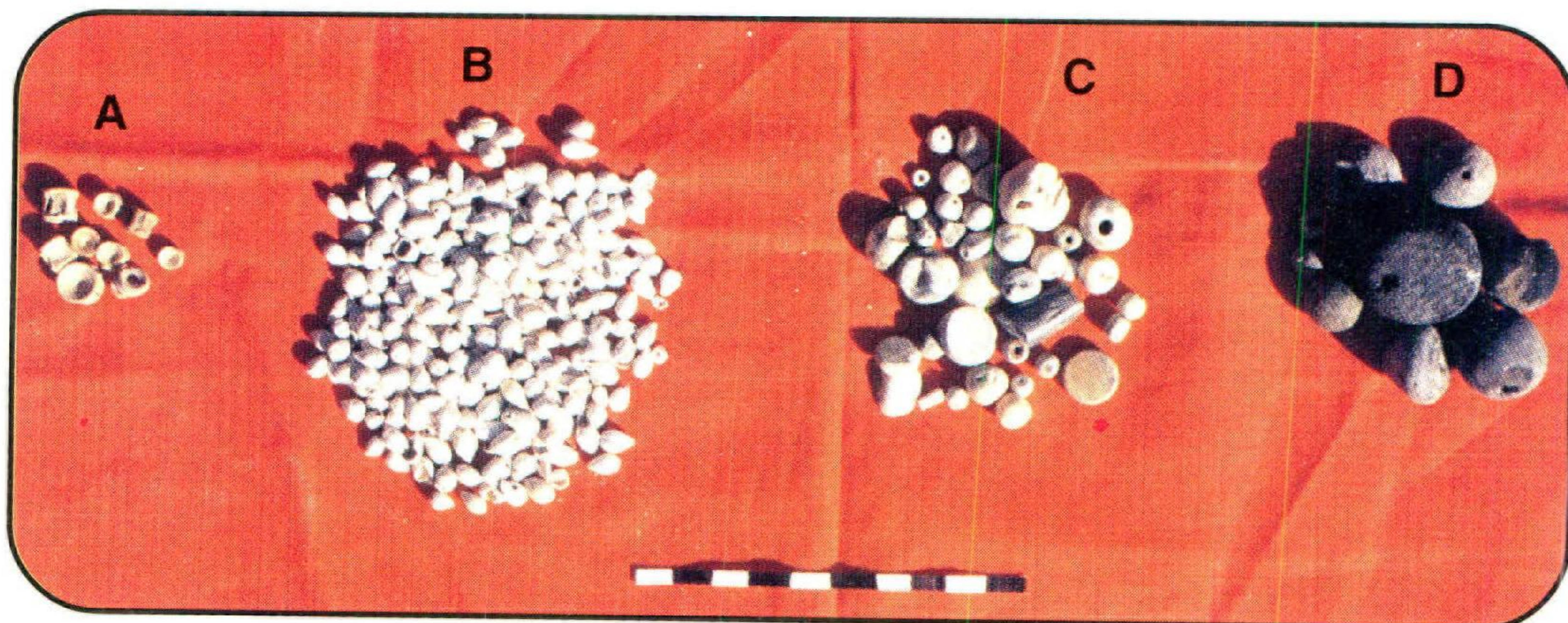
28. Decorated Shell Bangle Pieces



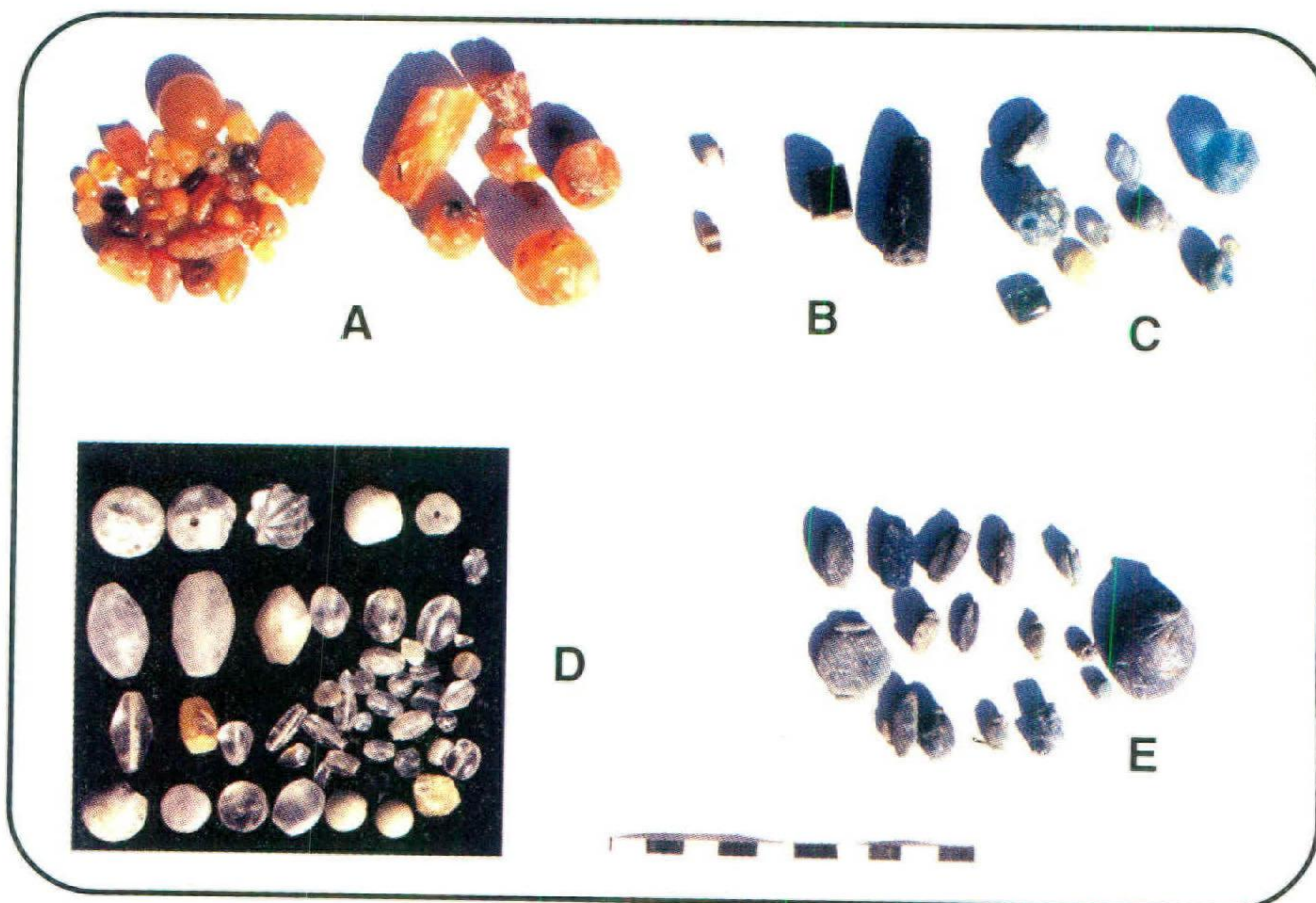
30. Inscribed conch Piece



29. A Conch Dye with Horse Impression



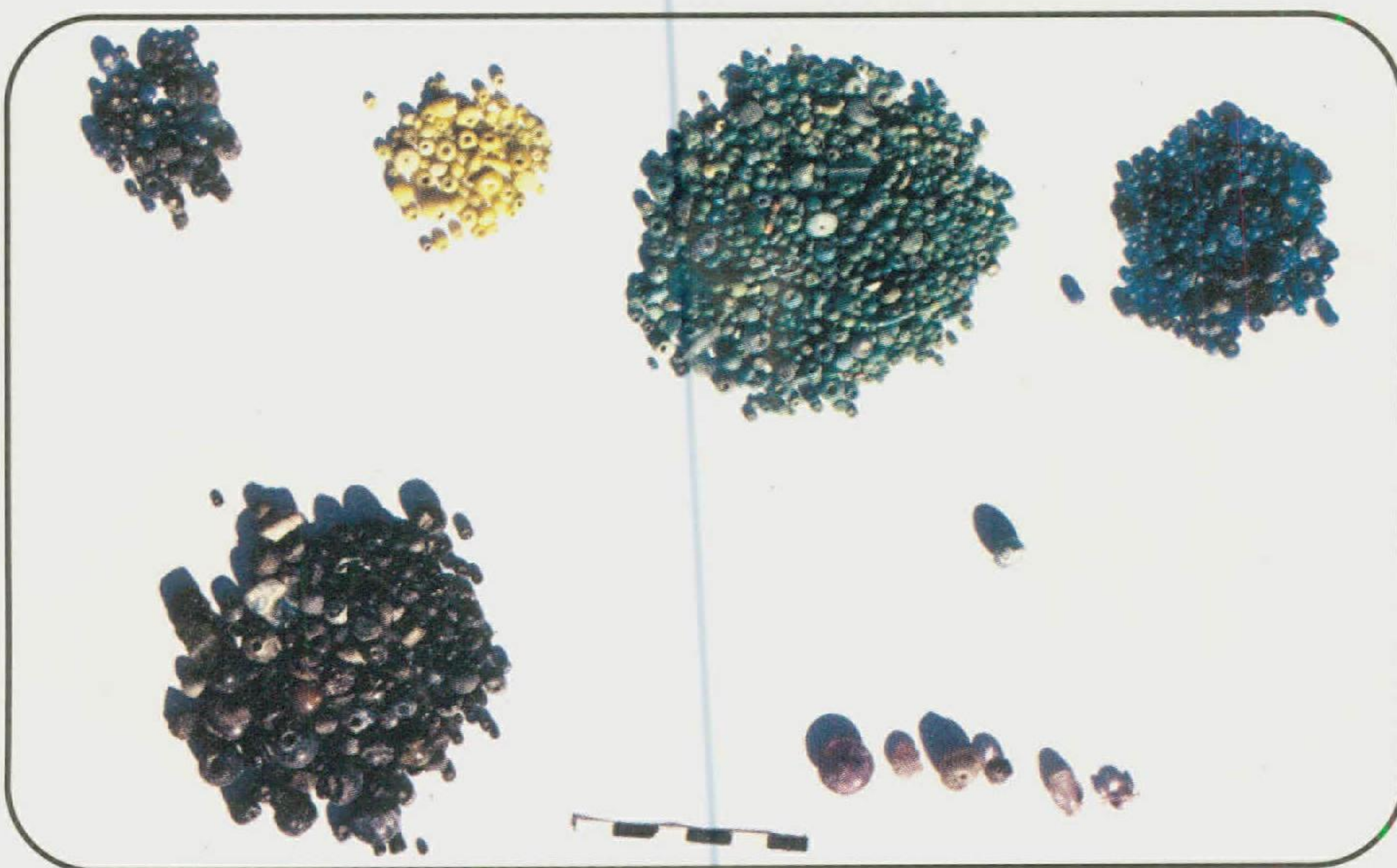
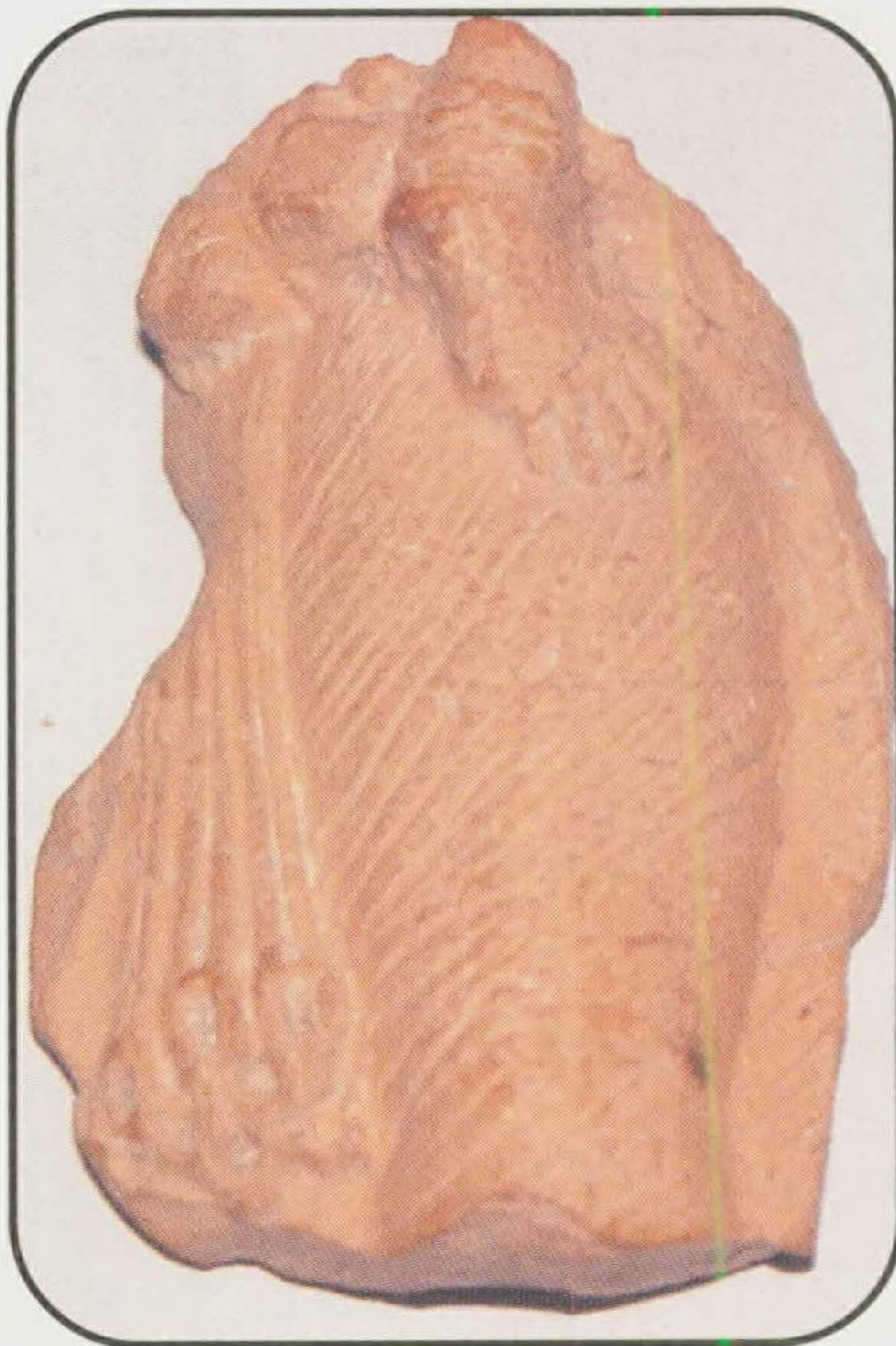
31. A Bone Beads
B Tiny Shell Beads
C Conch Beads
D Terracotta Beads



32. A. Carnelian Beads D. Crystal Beads
B. Agate Beads E. Soap stone Beads
C. Prase Beads



33. Paste Beads and Studs



34. Glass Beads



35. Silver Punch Marked Coins



36. Pandya Copper Coin



37. A Copper coin of Roman Emperor Valentine II (383-395 CE)