

DR. BALAKRISHNA NAYAR

MEMORIAL ENDOWMENT LECTURE

ON

**THE CULTURAL HERITAGE OF
TAMILNADU AS GLEANED
FROM EXCAVATIONS**

NATANA. KASINATHAN

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The Cultural Heritage of Tamilnadu
As Gleaned From Excavations

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PREFACE

I feel that it was a great opportunity provided to me by the University of Chennai to deliver "Dr. Balakrishna Nayar Memorial Endowment Lectures" - 1995 under the auspices of the Department of Ancient History and Archaeology. The subject of my lectures was "The Cultural Heritage of Tamilnadu as gleaned from Excavations." My profound thanks are due to the Vice - Chancellor, the Registrar and other authorities of the University and Dr. G. Gurumurthy, Professor and Head of the Department of Ancient History and Archaeology for having kindly given permission for getting these lectures printed as one of the publications of the Department of Archaeology, Government of Tamilnadu. It is my bounden duty to thank the printing staff of our department for their strenuous effort to print this book in short time.

NATANA. KASINATHAN

Dr. Balakrishna Nayar Memorial Endowment Lecture on
THE CULTURAL HERITAGE OF TAMILNADU
AS GLEANED FROM EXCAVATIONS

Introduction

I am indeed thankful to Dr. Gurumurthy, professor and Head of the Department of Ancient History and Archaeology and the University of Madras for the honour they have done me by inviting to deliver this most coveted Dr. T. Balakrishna Nayar Memorial Endowment lecture. I must confess that I am as afraid as overwhelmed at this honour thinking if I could do justice to the expectations of the scholars who assembled here.

Dr. T. Balakrishna Nayar was an eminent historian. He evinced keen interest especially on deciphering the Harappan script, identifying the ancient coins and on the studies of pre-history of Tamilnadu. It would be of fitting remembrance to him at this juncture to recall his thinking about Tamilnadu even during his last bedridden period. The following is the write up of Dr. R. Nagaswamy in his "STUDIES OF SOUTH INDIA" Vol. I p. 105-106.

"Late prof. Balakrishna Nayar was engaged before his sudden demise in writing of a catalogue of Roman and Byzantine coins in the Government Museum, Madras and in that connection had occasion to study the contents of that treasure trove received at the Museum, in the year 1932, which included the medallion published here. He wrote to many scholars all over the world enquiring whether such finds were recorded in any museum or private collections. Prof. Nayar was inclined to identify the veiled head of the matronly lady on the obverse of that medallion, with Queen Zenobia of Palmyra and the script of the legend on the reverse as cursive Palmyrene. Dr. Asko Parpola, the Finnish Scholar sent me a letter with the following note enclosing the photographs.

I promised to Prof. T. Balakrishna Nayar to help him in getting definite identification of an interesting medallion found in South India. It has taken time to get the answer but when I mailed it, the letter was returned with the sad news that he has deceased in the meanwhile. Could you see that the medallion is published with the information supplied under the name of professor Balakrishna Nayar - Asko Parpola, Helsinki - May 22-1974".

Following is the note of A.D.H. Bever, London on this medallion.

"Whilst I am writing, may I take the opportunity to deal with another question. Many months ago you sent me the correspondence about the strange medallion which prof. Balakrishna Nayar was concerned with in Madras. I have consulted various expert opinions and find that our prof. J.B. Segal cannot explain it as Palmyrene, nor can he recognize in it the portrait of Zenobia. Eventually I consulted

the Department of Coins and Medals at the British Museum and found to my surprise that they had been consulted previously and had already given their opinion. This is, that the medallion is a Ptolemy II of Egypt (284-247 B.C.) and various of his successors down to Ptolemy X (117-81 B.C.) The head has been reversed by the maker of the amulet and the two cornucopias of the reverse have been misconstrued by him as an amphora and a cornucopia. See R. Stuart Poole, Catalogue of the Greek coins in the British Museum, VII, Ptolemaic Kings of Egypt, pp. 42-5 and Pl. VIII. The inscription is presumably a blundered substitute for the Greek legend of the original. This explanation derives from Mr. G. K. Jenkins, Keeper of the Department and was transmitted to me by the Assistant Keeper Mr. Nicholas Lowick. After consideration, I am persuaded that it must be correct, though it is perhaps unnecessary to transmit it again to Professor Balakrishnan, since presumably it has already been passed to him. There are of course, many medallions and bracelets in South India which are copied from ancient coins, and it is to be hoped that the Professor will publish the whole material in due course. I am returning the photographs and correspondence to you herewith, in case you have further need for it".¹

The above incident is only an example for his yeoman services rendered for the cause of Tamil culture and history.

The political and cultural history of every country is to be properly written and studied for which the historians have to depend upon the literary, epigraphical, numismatic and archaeological sources. The eminent historians like K. A. Nilakanta Sastri, Dr. T. V. Mahalingam, Dr. K. K. Pillai, Professor Sathianathaiyyar, Dr. A. Krishnaswamy had already sufficiently tapped the sources of epigraphy and literature. In recent years only, numismatic source is outpouring in large numbers and are systematically studied by scholars like Dr. R. Nagaswamy, Dr. K. V. Raman, R. Krishnamurthy and the present author. Another most important source is the study of graffiti which has drawn very little attention of scholars so far. But Dr. Gurumurthy has already begun to tap the source of this branch also for understanding the cultural achievement of Tamils.

Though a number of excavations nearly at 100 sites have been conducted in Tamilnadu, the materials unearthed have not been properly analysed and used for writing the cultural history of Tamilnadu. The main lacuna in this branch was the non-availability of reports of the excavations. But in recent years Archaeology Department, University of Madras has brought out two reports namely one on Alagarai and Tirukkampuliyur and the other on Uraiyur while the Tamilnadu State Department of Archaeology has published reports on Vasavasamudram, Gangaikondacholapuram, Alagankulam, Padaividu and Tirukkoyilur which is under print. Tamil University, Thanjavur has also brought out the preliminary reports on Vallam excavation in English and on Kodumanal in Tamil. The Archaeological Survey of India also has published a comprehensive report of excavation conducted at Pimpur. Hence the available archaeological source is to be properly utilized for writing the cultural history of Tamilnadu. An attempt in this regard is made in these lectures.

The excavations conducted in Tamilnadu can be classified in two categories one as pre-historic sites and the other as historic sites. The sites which shed light on Megalithic and Pre-megalithic periods come under Pre-historic head and the sites which supplied materials on historical periods brought under historic head. Gudiyam, Attirambakkam, Vadamadurai, Sanur, Amirthamangalam are some of the pre-historic sites while Arikamedu, Kavirippumpattinam, Uraiyur, Korkai, Karur, Alagankulam, Kanchipuram are the most important historical sites. For understanding the medieval history of Tamilnadu Gangaikondacholapuram, Senthamangalam, Padavedu and Tirukkampuliyur are the significant sites.

Pre-historic Period

From the Pre-historic sites of Tamilnadu the following important discoveries have been made.

1. Fossil of a human leg from Attirambakkam in association with Palaeolithic implements.
2. Achulian type of hand axes which are quite similar of African hand axes.
3. Palaeolithic tool industry known as 'Madras Hand axe Industry' was in existence at Attirambakkam.
4. Sixteen natural caverns where Palaeolithic folk is believed to have inhabited were located in Gudiam hills.
5. Microlithic tools were unearthed from Tiruttangal excavation.
6. Chalcolithic and Iron age implements were uncovered from T. Kallupatti, Madurai district.
7. Pit dwellings of Neolithic people were located at Paiyampalli.
8. A seated human skeleton in dyana pose was unearthed from a cist of Megalithic period at Perumbeir in Tiruvallur District.
9. Microlithic, Neolithic tools and the artefacts of Megalithic period were discovered at Kovalanpottal, a part of Madurai city.
10. Copper square coin of Pandyan empire and a few ornaments were also collected from Kovalanpottal.
11. Rearing of cattle including horse for cultivation purpose by Megalithic folk is known from the collection of bones of Sanur megalithic site.
12. Black and Red ware, Black ware potsherds and the iron implements were collected from Megalithic burials.
13. Kādukāḷ image in the centre of a Cairn Circle at Mottur, in Tiruvannamalai District was discovered by Archaeological Survey of India. Another one was located at Udaiyanattam by Tamilnadu State Department of Archaeology.
14. Sarcophaguses and urn burials in different shapes were located.

15. Artefacts in large numbers totalling nearly 4000 were collected from Adichanallur in Tirunelveli District. They include copper, iron, gold objects. On examination of the bones collected from urns it was found that one type of bones belong to the group of Astraloid and the other Mediterranean. Ellcot had opined that these bones belong to the Armenian group, a branch of Alpines. It is also stated that Armenians were ethnically associated with the Dravidians.

Historic Period

As far as the cultural heritage of the historical period is concerned lot of material have come to light from excavations undertaken at historical sites. Of the sites excavated so far Arikamedu in Pondicherry state, Pampuhar, Alagankulam, Korkai, Karur, Uraiyur, Vasavasamudram, Kodumanal and Kanchipuram in Tamilnadu state are the most significant sites which yielded enormous artefacts on cultural aspects of early historical period of Tamilnadu. Gangaikondacholapuram, Senthamangalam, Padavedu and Tirukampuliyur excavations have also surpassed in supplying the material evidences for knowing cultural scenario of medieval historical period of Tamilnadu. The salient features of the above excavations are summarized as follows :

Arikamedu

A godown in rectangular shape measuring 45 metre in length and 11 metre in breadth and a granary measuring 18 metre in length in the northern side of the mound were unearthed. These buildings have large walls built of well baked bricks with clay as the binding material. The external side of the walls are covered with lime plaster. Foundation wall goes upto one and a half metre deep.

In the southern side of the mound two dyeing tubs measuring 3 x 4 metre square were exposed. These are also built of bricks and the floors of them are also laid out with bricks.

In addition to the above structures a number of ring wells had also been unearthed.

Considerable quantity of imported potsherds such as Arretine, Amphorae and Rouletted wares were unearthed. Some of the amphorae have handles on either side and the arretine pieces bear the manufacturer seals. A variety of pot known as Terra Sigileta has also been collected during recent excavation from this site.²

Terracotta images, beads made of semi precious stones, conch and fired clay, and inscribed potsherds are the other important artefacts of this site.

The structures earlier to the one where the artefacts of Roman origin were found had yielded Neolithic stone implements and the typical grey ware potteries of Neolithic period.

Pumpuhar

In the excavations conducted by the Archaeological Survey of India, a wharf measuring 18.28 metre in length and 7.62 metre in breadth was unearthed at Kilaiyur. This structure is built of bricks having 61 x 40.5 x 7.7 cm. in size. At a corner of this, two wooden posts are seen. These posts are believed to have used for tying the boats in order to load and unload the merchandise. According to C14 dating method these posts are dated to 316 ± 105 B.C.³

Another breakthrough of this excavation is the exposure of a water reservoir at Vanagiri assignable to 1st - 2nd century A.D. This is believed to have been used as a sluice to distribute the water brought from Kaveri river to the different cultivable lands.

Yet another significant discovery of this site is the Buddha Vihar at Melaiyur alias Pallavanicchuram. This vihar consists of five chambers each measuring eight feet square. The walls of this structure were decorated with paintings and stucco figures. In one of the chambers of this vihar a tiny Buddha image was seen seated in dyana pose. This image is a solid one measuring 5.5 cm. high. Besides this a Buddha pāda made of Palnad stone of Andhra Pradesh had been unearthed from this vihar.

Apart from the above structures a number of Roman coins, rouletted sherds, black and red ware potteries, copper square coins bearing the figures of Tiger and elephant had also been collected. It is curious to note that this site had not yielded any inscribed potsherd.

During the excavations conducted by Tamilnadu State Department of Archaeology one more wharf built of large size bricks has been unearthed at Kilarveli a hamlet of Manikiramam. This wharf is in North East South West Orientation. In front of the Southern end there are two wooden posts which appear to be Iluppai posts as they are very strong even after a period of about 2300 years. In the other end also there are three wooden planks implanted together. These posts should have been served for tying the boats which brought the cargo to the innerland and taken to the larger ships anchored in the sea. The bricks used for this structure are comparatively the same size of the bricks found built in the Kilaiyur wharf. The size of the rectangular brick is 60x40x10 cm. while the square size brick is 40x40x10. The length of this wharf measures to 7.50 mts. and the breadth of it is 6.50 mts. The width of the passage in between the two platforms is 80 cm. One charred palm post is also found in the passage at two feet short of the full length near the Northern end. The exposed structure consists of 14 courses of bricks. Platform in triangle shape laid out of bricks is seen on either side of the wharf.⁴ The charcoal collected from this structure level has been sent to Ahmedabad for C14 examination. The C14 analysis of the wooden piece sent for examination to Lucknow Birbal Institute gives a date to BP 540±.

A votive terracotta Buddha pāda was also unearthed in the wharf area. Black and red ware, blackware and redware potteries were the associated potteries.

Under sea explorations carried out in the off shore of Pumpuhar by the Tamilnadu State Department of Archaeology in association with National Institute of Oceanography, Goa have located a 'U' shaped laterite structure in North South orientation at a distance of about five kilometre seaward in a depth of about 76 feet. The overall length of this building is 20 metres while the opening gap is about 15 metre width. This structure appears to be either a fort wall or a Buddhist temple as its walls are four to five metre in breadth. There are two other structures in front of the above one.

In addition to these, a row of structures in shallow water about 200 to 300 meters seaward has also been located from the mouth of Kaveri to Kadaikkadu, a village situated north of Kaviripumpattinam.

A ship wreck of 18th century A.D. was also located at a distance of 5 km. seaward opposite to Chinnavanagiri. Lead ingots bearing the year 1791 or 1792 on one side and the name reading W. Blackett written in English script on the other side, a canon, two boxes of gun powder and some iron and copper objects were identified in this shipwreck.⁵

A few ring wells and a brick structure have been exposed during on shore exploration near Vanagiri temple and Kannagi statue (now it is shifted to 10 metres landward) respectively.

Alagankulam

Occurrence of post holes and hearth indicating the existence of dwelling hut made up of wooden posts and thatched roof in the earlier phase were noticed.

In the next phase, *i.e.* in the later period the occurrence of brickbats and iron nails leads one to presume that the people had lived in houses built of burnt bricks and of wooden rafters using iron nails.

In the third phase the houses appear to have had mud walls with lime flooring.

Roman coins of 4th, 5th century A.D and potteries of Roman origin datable to 2nd - 1st century B.C. were unearthed.⁶ The amphorae pieces confirmed by a French Archaeologist as the imported ones manufactured from Paris, Itali and other European centres, stamped sherds bearing the figures of peacock, dove fish and a soldier on horse back, bowls with leaf motifs and cups with protuberant base have also been collected. A significant find is a sherd with the cavity in horse shape for producing stamp of horse. Other most significant items of finding are the grooved tiles in large number.

A typical rouletted pottery in pink colour named after Alagankulam occurred in large quantity.

The most outstanding find of this site is the rectangular dice bearing symbols on three sides suggesting the numerals one, two and three while the fourth side is left plain for assuming number six.⁷

Two typical copper square coins of Sangam Pandya had also been unearthed. On one coin the humped bull with a turf below its mouth similar to unicorn bull of Harrappan civilization is found embossed on the obverse.⁸

Another most important finds of the recent excavation are the pot sherd bearing the figure of a masted ship and an inscribed potsherd bearing the legend in Tamil character with a Harappan script like symbol in the middle of the sentence.⁹

Bone arrow heads, beads made of glass, semi precious stones and terracotta, bangles made of glass and shell; crystal and gold ornaments, pot sherds bearing Tamil inscriptions and the pieces of NBP sherds are the other significant artefacts of this site.

A unique terracotta figurine of a lady bearing a child on her hip which appears to have been the handle of a cup.

Korkai

The excavation had brought to light two burial urns one of which was in fully damaged condition and the other in fairly good state of preservation. A brick structure lying in east west orientation with steps from the north at the western end was unearthed. This structure consisted nine courses of bricks which measure 45×29×7.5 cm. Just below the steps, a heap of oyster shells were found kept. Below the main structure three large sized rings placed one upon the other were noticed. Both the structure and the ring well appeared to be of medieval period since the pot sherds found around the rings to keep the rings in position were of the coarse redware variety.

This site had also yielded a considerable number of inscribed pot sherds with Tamil character assignable from 3rd century B.C. to 2nd century A.D. Of them, one sherd is outstanding as it bears the legend in two lines. Occurrence of pot sherds bearing graffiti like sun, bow and arrow, fish, spear are also worth mentioning. Terracotta figurines such as the hip portion of a woman etc. and hip-hops are other fascinating objects.

A few pieces of NBP sherd datable to 4th-3rd century B.C. are the highly valuable find of this site. Bone arrow heads and the iron objects like dagger, clamp, sword and the copper circular object are the other interesting artefacts.

The charcoal collected from a hearth of the lowest strata in trenches KRK-4 and KRK-1 gave the C-14 dates of 785 B.C.¹⁰ and 805 ± 95 B.C.¹¹ respectively.

Karur

This site had yielded Roman amphorae, rouletted ware, russet coated ware etc.

In addition to the above, considerable number of inscribed potteries had also been collected both in the previous and the recent excavations.

One Roman coin made of silver and one copper square coin bearing the figure of an elephant on the obverse and the bow and arrow on the reverse had also been unearthed.¹²

A brick pavement with a drain was noticed in the previous season. In the recent excavation a dyeing tub in square shape built of bricks has been exposed.

Recent excavation has unearthed number of inscribed potsherds bearing the legend in Tamil character along with a considerable number of potsherds bearing graffiti marks. Besides, number of grooved tiles, the typical tiles of Sangam age have also been collected.¹³

Uraiyur

At this site 21 post holes were exposed in the trench (URY-1) These post holes are believed to have been used for some religious purpose most probably for performing sacrifice (Yagna). The alignment of this holes was in the shape of a garuda, and holes themselves were in different shapes such as square, circle and rectangular. In one of these holes broken pieces of bones had also been collected.

A dyeing tub was also unearthed from another trench (URY-4) One part of it was in square while the other part was in rectangular shape. The exposed structure consisted of seven courses of bricks measuring 17x3 inches.¹⁴

A considerable number of inscribed potsherds bearing Tamil character were unearthed. The letters on these sherds seem to have been engraved by a nail after firing. Besides a few sherds with graffiti were also collected.

The habitation at this site was not continuous as the river Kaveri appears to have flooded often.

Terracotta images, beads of different material, bangle pieces of glass, terracotta and conch, gamesman, ear lobes, smoking pipes, spindle, whorl are the other important findings of this site.

Vasavasamudram

Two ring wells had been exposed one at a depth of 1.06 metre and the other at 2.70 metre depth. These should have been used for drinking water purpose. In size and shape they are relatively similar to the ring wells found at Arikkamedu.

A neck portion with handles on either side of an amphora had been unearthed. In addition to this, a few conical jars with a typical lids, rouletted of indigenous as well as Mediterranean origin and terracotta drainage pipes were also collected.¹⁵

Kodumanal

Artefacts had been unearthed both from habitational and burial sites and both were contemporary.

Habitation and burial sites were situated in separate places leaving a walkable distance between them.

Bead making industry and iron melting industry were in existence. Weaving and cultivation were also known to them.

Square and rectangular shape houses in North - South orientation were exposed. Black and Red ware and Russet coated pottery were used for domestic purpose. Sherds with Tamil legends and graffiti marks were collected in large number. Beads of semi-precious stones and iron implements were unearthed from habitational as well as burial sites.

In the later phase terracotta beads and shell bangle pieces were collected indicating that the people had gradually lost interest in wearing ornaments made of semi precious stones.

Granaries were exposed in habitational sites. They were one metre deep below the ground having one metre diameter. Flooring was occurred almost in all the layers from 4 to 8. They are found strengthened by pebbles available around this site. A few pots filled up with river sand were also noticed in some of the floors. The foundation wall built of mud were also exposed. It is suggestive that the houses were built with mud walls and palm thatches, though the bricks and tiles were used in negligible number. Floors with hearths, and pedestals for placing some pots were usually seen. In one instance the brick used for bearing the doorjam had also occurred. Number of iron nails indicating their use for joining the wooden reapers were found. Charred grains like ragi, corn and kambu were also collected.¹⁶

Large number of newly manufactured Black and red ware vessels were found around each cist. Considerable number of iron objects like sword, shield and stirrup were found generally in front of cist stone, excepting two instances one under a skeleton, another in between the cist side stone, and the inner round. As a general practice heap of bone arrow heads are found placed in front of the additional cists behind which the central cist is located.

Some fascinating gold and silver ornaments such as spiral ring and beads were found kept near the skeletons. Bronze objects like a tiger, drum, bell, frying pan and a cup with leaf motif had also been collected.¹⁷ Of these the image of tiger is found inlaid with carnelian stones.

In a few sherds, the legend written in Tamil character is found ended with a symbol.

Two silver punch marked coins of which one bearing the figure of Nandipata were found from the habitational site and thousands of beads made of carnelian stone were other interesting artefacts of this site.

Kanchipuram

This site seems to be the best of all the above in supplying artefacts from the pre-Christian era to Vijayanagar period continuously.

It had yielded rouletted and amphorae potsherds of Roman origin along with 59 conical jars of indigenous origin. A copper coin of Satavahana king Rudhra Satakarni, a lead coin bearing the figure of Lakshmi with archaic Tamil legend and a copper coin with Ujjain symbol probably of Satavahana and a coin of Rajaraja were also unearthed.

Beads made of copper, coral, glass and semi precious stone, a comb of shell and a terracotta elephant head have also been collected.

A structure believed to be the Buddha Vihar and the circular foundation of a stupa were exposed here. Below this structure a grey ware sherd engraved with archaic Tamil inscription reading 'Putalatisa' which may indicate the name of a Buddhist monk had also been brought to light.

The most outstanding discovery of this site are the 11 terracotta coin moulds of which two are of punch marked coins, five are of Satavahana coins, three are of Pallavas and the last one may also of Pallava.¹⁸ Of them the first punch marked mould is of a grey discular mould with four coin matrices in full and two in a partly damaged condition while the other one is also a grey ware with one coin matrix in full and another matrix in broken condition with traces of two more matrices on the edge. Among the five coin moulds of Satavahana dynasty three are to manufacture coins of Vasistiputra Pulamavi (88-116 A.D.) and the other two to prepare coins of Vasistiputra Satakarni (116-145 A.D.)

All the coin moulds of Pallava are seen only with single matrix representing the standing humped bull with either a goad? or a sun or a moon above it.

A Budha stupa assignable to 2nd century B.C. constructed in circular shape at the bottom and in rectangular shape over it was also exposed. It is built of bricks. Near this stupa an image of Goddess Lakshmi made of bone had been unearthed.

A comb of bone, hairpin, a terracotta amulet, a gold coin of Vijayanagar period, potteries and ringwells of Pallava period are the other significant finds of this site.¹⁹

Gangaikondacholapuram

In all the trenches the brick structures occurred invariably at a depth of 1.65 m. The breadth of this wall is 1.10 metre. These walls are built of baked bricks in header-stretcher method. It seems that they used clay mixed with jaggery juice as binding material.²⁰

On the surface of these walls, thick lime mortar appears suggesting that it should be the ground floor of the building. The thickness of the mortar is about

4 cm. consisting of 3 or 4 layers. This wall is built with 14 courses of bricks till one level and below it, it goes consisting 23 courses of bricks. At the 15th course the thickness of the walls extends adding 9 cm. on each side. The measurement of the brick is 24.5 x 13.5 x 6 cm. On the floor of this wall a few granite stones having a socket at the centre are found placed at an equal distance of 2 metre. In the entire area we get 32 such granite base stones. These stones seem to have been used for bearing the wooden or stone pillars that supported the superstructure of this palace. The measurement of each base stone is 65 x 60 x 30 cm.

Purpose of the double walls

There are two walls running side by side leaving a gap of 55 cm. in between them. This gap is filled with river sand. This shows that the centre space was left intentionally to keep the building cool and to give strength to the walls. These double walls run East-West and North-South directions.

In the successive excavations (trenches dug in the year 1991) a wall just below the level of the walls found in other trenches was noticed. It gives an impression that there must have been an earlier structure, over the remnants of which, the palace of Rajendra Chola must have been built. In the trenches laid bare on the eastern side of the earlier trenches it is noticed that a wall built of small brickbats over the remnants of the structure of Rajendra I's period was in existence. Altogether three buildings belonging to different periods are noticed in Gangaikondacholapuram excavation.

A considerable number of tiles, intended to use on the roof, iron nails and clamps intended for fixing the wooden beams one upon the other and joining them together have also been found. These suggest that the superstructure of this palace was built of wood having tiles on the ceiling. Some pieces of plaster bearing green and blue colour paintings have also been collected indicating that the walls of this palace had been painted with different colours. The tiles are found in different sizes. Some of the tiles are in hexagonal shape. The maximum length of the nail is about 50 cm. while the smallest nail is 2 cm. A knob made of copper was also found suggesting that it might have been used on the wooden door.

Some terracotta objects of artistic value have also been collected. The most significant findings of this site are the exquisite ivory and bone carvings such as the figures of yali, lion, elephant and some animals that could not be identified. The mane of the lion, the legs of the lion, the body of an elephant, the face of the yali, the eyes and some other parts of the animals that are executed with great care and patience have been gathered. They appear to have been used for decorating the throne, cot, chair etc.

A considerable number of decorated stone objects have also been unearthed. These stones are red in colour probably brought from Kalinga region. The

objects are of blossomed lotus, birds, ducks, human head etc. These objects seem to have been used for decorating the walls.

The porcelain wares which were seemingly brought from South East Asian countries are in different shapes. Prof. Carewell of Japan had identified these wares and dated them to 11th century A.D. These wares are in two colours. One group is of light green and the other of white. On all these wares, salt glaze shining is given for fine appearance. There are also some celadon wares in grey, light green and red colour. These wares are somewhat thicker than the porcelain sherds. Vessels of this ware are bigger in size. Some of the vessels of this ware have handles too.

This excavation had yielded some interesting bangle pieces also. They are collected from 80 cm. to 2.5 cm. depth. These glass bangles are of black, yellow and blue in colour. A few conch bangles have also been collected bearing some fascinating decorations. A majority of the glass bangles are black in colour.

Some beads in different shapes such as barrel type, circular type, star type, and hemispherical type were also collected. These beads are made of different materials namely paste, shell, clay and crystal. Of them the bead made of crystal is remarkable.

Coarse red ware is the predominant ware in this site. They have some decoration on the shoulder and rim portions.

The sluice of the Chola period in well preserved state was revealed. This sluice has one wall on each side built in semi-circular shape. Just in front of the passage for outletting water, there is a depression like a tub built in granite stone. It shows the engineering skill of ancient Tamils in checking the high speed of the water and filtering the sediments in order to save the crops.

Sendamangalam

This site had yielded artefacts from Megalithic period to later Chola period. Black and red ware potteries of Megalithic period, horn of antelope, terracotta images of various periods, a copper seal of later Pandya emblem are the outstanding findings of this site.

In addition to the above, a structure of the period of Kopperunjinga, the illustrious king of Kadavaraya and the roof tiles of typical medieval period in more than nine sizes with various shapes have also been unearthed. The above structure is built of bricks the size of which is comparatively smaller in thickness than the bricks of Gangaikondacholapuram.

A sundried brick wall has also been noticed in one trench of this site.

Besides, a well, built of laterite dressed stone with the well laid out platform around it was exposed. On the north western side of this well a heap of terracotta images including crawling Krishna of typical Chola period, human, animals and birds, figurines were noticed. Of them the figure of a standing couple in folk art style is more fascinating.

Padavedu

The excavation at Padavedu is more significant as it had brought to light some valuable fresh evidences on the social, political, cultural and religious aspects of Sambuvarayas.

As far as the social history is concerned, it is understood that the king lived in a palace guarded by a fort wall and a moat and the location of his palace itself is naturally protected by the hillocks situated around the entry points that were again protected by the weilded soldiers. The residential quarters of his officials and citizens were made to situate just around his palace complex.

All the buildings are found caused to be built of bricks with lime mortar. The floors are also seen laid out of lime mixture and well protected drinking water and drainage systems had been adopted. It seems that due care was taken to get uncontaminated drinking water. In addition to the river water brought through terracotta pipes, it appears that every residential place was provided with a ring well. The houses were covered with tiles in order to protect them from rain and burning heat. For bearing the load of the superstructure they seem to have used wooden pillars with stonebases. Nails and clamps of different sizes are found to have been used for fixing the wooden reapers and joining each other respectively. During this period only fire wood hearth was used for cooking food in earthen utensils by the common citizens and brass vessels by the royal families. Number of earthen vessels in different forms such as pot, vase, jar, bowl, cup etc., and the spouted vessels and dish on stand for some special purposes are found to have used. Terracotta lamps lit of oil prepared by oil press were in large use. Terracotta lamps of single, three, five, seven and nine facets have been used of which a few are found painted with different colours. Commodities for their daily life seem to have been easily available and some of them were purchased for cash. Artisans like goldsmith, brazier, ironsmith, carpenter and sculptor were also living along with the other communities.

The discovery of beads, dice, amulet like object, bangles etc., indicate the cultural life of that period suggesting that they used to wear chains made of beads, played with the dice to spend their leisure hours, feared for the ghosts, adorned themselves with a number of ornaments made of glass and copper. The occurrence of coin moulds, the blow pipes and the traces of furnace would reveal that there were industries of minting coins and producing glass and iron objects.

As far as their religious allegiance is concerned, they appear to be the strong supporters of Saivism as the Sambuvaraya kings boast themselves of that they were the descendants of Sambu, Lord Siva. Moreover their emblem 'Bull with a dagger in front' and the terracotta figurines of Lingas (Phalluses) collected from the surface of this site support this presumption.

Tirukkampuliyur

A wall built of sundried bricks having seven courses assignable to medieval period was exposed. In addition to this wall the flooring was also noticed.

In another trench two walls built of sundried bricks were unearthed. This structure appears to have built for storing grains. It consists of two square rooms and one rectangular hall. Over this sundried bricks, backed bricks are found used for 13 courses to raise the walls. The foundation of this structure is found made of pebbles with clay coating. This building also belongs to medieval period.

Beads of semi precious stones, glass bangles, shell bangles, objects of bone, copper rings, iron objects and terracotta images are the other important artefacts of this site. Of the terracotta images Mother goddess, Phallus with naga, torso of a male, head of a male, mother and child, Ganesa and its mound mouse are the significant findings.

Potteries of this site especially russet coated potteries are worth mentioning. Graffiti sherds bearing symbols of trisul, star, bow and arrow, ladder, plant, flower, leaf, bitriangle, wavy lines and Ujjain symbol are very interesting for comparative study.

Thus the above sites have supplied immense material for understanding the cultural heritage of Tamilnadu. However these archaeological materials are to be analysed in detail to know the different aspects such as domestic life, industries, trade contact with other countries, social life, sports, religious life etc. of those periods.

CULTURAL HERITAGE OF PRE-HISTORIC PERIOD

On the basis of the above artefacts the following facts can be summarised about the cultural heritage of the pre-historic period Tamils.

They used to live first in the natural caverns, and then moved to the foot hills by constructing pitdwellings having thatched sheds over pits with the help of posts and thatches. In order to protect themselves from the wild animals and to hunt them for their food they appear to have manufactured different kinds of implements in different periods: Palaeoliths, in early period, Microliths, Neoliths, and Chalcoliths in successive periods. When they began to taste the cooked food they needed the use of hand made and wheel made earthen vessels. During Megalithic period they seemed to have been more in need of earthen vessels for habitational as well as ceremonial purposes.

It appears that they had learnt the use of copper and iron in Chalcolithic and Megalithic periods respectively. Considering the discovery of copper objects in a few limited places in Tamilnadu the influence of Chalcolithic period seems to be negligible.

Though the prevalence of Chalcolithic culture in Tamilnadu is comparatively less, the artefacts that were collected from T. Kallupatti and Adhicchanallur believed to be the Chalcolithic sites are worth mentioning in many respects. The

Chalcolithic folk had even known the use of gold according to the objects unearthed from Adhiccanallur.

The custom of the disposal of dead varied from period to period. The dead body seems to have been left uncared during Paleolithic age while the dead bodies were put in a pit and covered in the pit dwelling itself in Neolithic period. But during Chalcolithic and Megalithic periods the bones of the dead were collected and put in an urn for interning into the earth. Disposing the dead in urn burials, in cairn circles, below the menhirs and in sarcophaguses were predominant systems in Tamilnadu in Pre and Post Christian era.

Farming, fishing and rearing the animals were the main occupation of Neolithic and Megalithic people. In addition to oxen and buffaloes, horses were also tamed. The cavalry scene depicted in Mallappadi painting attest this fact. Storing the grains for future requirement was also the practice of Megalithic people as a large number of storage jars had been unearthed from Megalithic sites. The folk of Megalithic period appear to have lived on plains by erecting thatched houses or houses with wooden superstructure having the provisions for drainage.

The people who worshipped nature upto Neolithic period, seemed to have changed their mind to worship man made objects like Mother Goddesses. They even went to the extent of offering animals to appease them as they considered that the epidemics were their creations. That tradition is still being followed in the form of Mariamma worship during July-August in Tamilnadu. The paintings of Megalithic period also depict the practice of offering animals and fowls to the Gods and Goddesses. Observing penance by fasting unto death seems to be prevalent during Megalithic period as a skeleton in Yogic pose was found in the excavation held at Perumbeir in Chengalpattu District.

Mode of writing in Pictograph (Graffiti) appears to be the practice of Megalithic folk in earlier period while the Tamil script in later age.

Throwing stone in Palaeolithic age and using spear made of wood attached with stone during Microlithic period to hunt the animals should have paved way for using bow and arrow and spear made of iron in Megalithic time.

Contact with other parts of India during Megalithic period is also evident by the occurrence of Punch marked coins and N B P ware in Megalithic urn burials and cairn circles. Following the pattern of the punch marked coins the Tamil kings seem to have minted square copper coins during Sangam age which was later contemporary of Megalithic period.

Bead making, shell bangle manufacturing, production of copper and gold ornaments, making of urns, sarcophaguses and house vessels were the prime handicrafts of the people right from the Chalcolithic period in Tamilnadu.

Domestic life

The people seem to have lived in houses built of big size bricks in early historical periods. This practice is revealed from Alagankulam and Kodumanal and Karur excavations. The flooring was prepared by mixing lime with rubbles of the available material like lime shell (Alagankulam). The binding material appears to be the ground clay. At one corner of the floor the earthen hearth was provided for cooking food. Generally rice was their food but in dry land areas cooked ragi, kambu, and corn were taken as food and during feasts they seem to have taken non vegetarian food (Kodumanal). Ringwells were used for drinking water while either soakage jars or the drainage channel were provided for drain out the sewage.

Earthen vessels were used in general while the bronze vessels were seemed to have used by them who were in higher strata of society. Ordinary people used only the ornaments like earlobes, beads, made of terracotta and shell bangles. But the wealthy people used to wear even gold ornaments like diadem, rings, ear studs and chains made of the beads of semi precious stones.

In medieval period generally the houses were built of backed bricks but in some cases by sundried bricks. The walls were plastered with lime and were decorated with stucco figures and paintings. Superstructures with roof tiles were also built. The flooring of the house was prepared with lime mortar. At foundation level double wall system leaving a gap of about one foot was found adopted for bearing the weight of structure and for providing a cool atmosphere in the interior. The wooden pillars with stone base are found used for supporting the superstructure. Wooden beams and reapers have been joined with the help of long iron nails and clamps. The entrance seem to have provided with wooden doors having decorations and copper objects to enhance their beauty. Royal personages appear to have used ivory cots as described in literature, as a considerable number of ivory objects such as the figure of yali etc. are found in the excavation at Gangaikondacholapuram. Decorated grinding stones were used for preparing the sandal paste (Gangaikondacholapuram). They used covered channel for bringing drinking water from far of places, while open channel for draining out sewage water (Padavedu). Wells built of laterite stone for fort walls (Padavedu) and for drinking wells (Sendamangalam) were also in existence.

Granaries are found used for storing grains for future usage. To certain level this structure was built with sundried bricks and above this, backed bricks were used to raise the wall. During this period the people used potteries of red ware and for minimum purpose they had a few copper vessels. The use of terracotta, shell and semi precious stone objects appears to be in downward trend. Instead they began to use glass bangles with decoration, copper and gold ornaments.

Their main occupation was cultivation. For cultivating the land they had systematic irrigation facilities also. In the early historic period they brought water from big rivers and stored in a reservoir in order to redistribute them through small channels to different areas (Pumpuhar).

During medieval period also the water was collected in a big lake and distributed through sluices to different places²⁴ (Gangaikondacholapuram).

Industries

For making intensive cultivation the wood and iron objects such as ploughs, sickles, swords and for building structures, iron nails and clamps and copper objects were manufactured. Hence, carpentry, masonry, and smithies of iron and brass were in existence. Bronze objects and coins were produced by moulding.

Weaving was the next important occupation during this period. Dyeing tubs had been discovered from Karur, Arikamedu and Uraiyur. For spinning they used terracotta spindle whorl.

Pottery making was another major industry. Potters used wheels for manufacturing vessels such as pots, bowls, plates, jars and cups. Lamps having various facets, smoking pipes, coin moulds, crucibles and terracotta images and the ornaments like ear lobes and beads were also their products. It seems that they had followed different techniques for manufacturing black and red ware, black polished ware, russet coated ware, burnished ware etc. Potters were artists too. They visualised the images of Gods, Goddesses, human beings, animals and birds and produced excellent specimens of them in different postures.

Bead making industry was another popular industry which produced large number of beads in various grades and shapes.

There were sthaphathis. They played the role of architects and stucco manufacturers. They were the masters in the science of religious and secular buildings.

Another important industry was the one which produced shell objects such as bangles, beads, decorative objects of cots and furnitures. Shell bangles seem to have exported to other distant countries also. Oil press was the most needed industry to those people, since oil was used to lit lamps and to prepare food.

Trade contact with other countries

Production of semi precious stone beads and shell bangles; pearls collected from Korkai port, special kind of pottery manufactured from Alagankulam and the superior quality of textile production caused the indigenous merchants to find market for their products in foreign countries also. Recent findings of large number of Greek, Phoenician, Roman coins from Karur and the occurrence of potteries of Roman and French origin in Tamilnadu and the inscribed pot sherds bearing Tamil names discovered in Egypt and Srilanka, the square copper coin of Sangam age and Pallava coin and a test stone bearing the Tamil legend found from Thailand are the unmistakable evidences to attest this fact.

The Korkai and Alagankulam merchants seem to have had their trade contact with Northern part of India as the N. B. P. sherds had been collected from those two places.

A few medals and stucco figures representing the identity of western countries had also been collected from Tirunelveli district and Periyar district. The ornaments collected from Vellalur in Coimbatore district are distinctly of foreign origin. Number of Roman gold coins got from the accidental finds in different parts of Tamilnadu indicate that they were used as bullions, since they bear a cut on the obverse. The above discoveries are the clear evidences for the continuous trade contact between Tamilnadu and Western countries.

Social life

The people led a life of group living having a leader or a chieftain to protect them from harassment. They seem to have conducted festivals on some auspicious days for which they had a number of terracotta lamps to lit using oil and wick. They had the practice of keeping their hair combed and the ladies appear to have used hair pins.

The male and female appear to be more eager in wearing ornaments like rings, chains, diadems, ear ornaments, bangles, anklets etc. They used to wear amulets also to save them from evil effects created by the spirits of the dead persons.

In later period a section of the human being had the habit of smoking.

In Tamilnadu from the Megalithic period the people were educated and communicated their feeling through writing. In the earlier phase of megalithic age they used to have graffiti symbols for their correspondences. But in later phase they had their documents written in standardised Tamil script. This script was continuously in use till Sangam age. Afterwards their script had developed into different shapes known as Vatteluttu and the earlier form of the present day Tamil script. Since we get large number of inscribed potsherds almost in all excavations carried out at early historical sites, it becomes a proven fact that even the ordinary citizen had known that script and communicated their messages between themselves. Hence the literacy in Tamilnadu was in highly appreciable position.

Sports

It seems that the play of hip-hop was prevalent in all periods, because every excavation had yielded the terracotta hip-hops almost in all layers. Hence this play should have been the common play.

The other popular play appears to be the gambling using dice. As far as Tamilnadu is concerned this play seems to be played from very early period *i.e.* from 4th century B.C.²⁵ (Alagankulam). Chess was another fascinating play of these people. For this play they used gamesmen made of terracotta and bone.

Religion

The people of Tamilnadu appear to have been pious from the very beginning. They worshipped the dead and natural beings in the earlier period. Then they

began to pray Mother Goddess and Muruga. In course of time, they had patronised different religions like Jainism, Buddhism, Saivism and Vaishnavism. During the early historical period Buddhism had been the predominant religion in the northern part of Tamilnadu upto Pumpuhar. Excavations revealed the basement of the Vihars and Stupas at Kanchipuram and the Vihar at Pumpuhar. In Pumpuhar Vihar there were separate rooms for each monk to pray peacefully. Those monks seem to have worshipped Budhapada and tiny images of Budha. Recent excavation has also shown that votive Budhapadas were also offered to the Budha shrines. The Avalokitesvara form of Budha was also worshipped by the devotees.²⁶

Hindu Gods had become prominence during 4th-5th centuries A.D. The excavations undertaken at Alagarai and Tirukkampuliur had revealed the fact that Ganapati with its mount Mushika *i.e.* mouse was worshipped by the common people.²⁷

Senthamangalam excavation has brought to light that Vishnu as crawling Krishna was in great veneration among the Vaishnavites.²⁸ Worship of Shiva as Phallus by the Saivites is known from the discovery of Phalluses during exploration held at Padavedu.²⁹

Conclusion

From the above narration, it is crystal clear that the cultural heritage of Tamils was superior in all respects. The archaeological materials that were unearthed from the historical sites of Kodumanal, Pumpuhar, Alagankulam and Kanchipuram throw more light for the detail analysis and to come to conclusion based on strong evidences. We may expect that future excavations to be undertaken in Tamilnadu may shed more light on the subjects hitherto untouched and on them so far discussed to improve further.

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29. Natana. Kasinathan, *Padavedu excavation*, p. 42



CORRIGENDUM

Page	Line	For	Read
1	12	Studies of South India	South Indian Studies
4	7	ethically	ethnically
4	36	structures	layers
5	40	a date to BP 540 \pm	a doubtful date to BP 540 \pm 95
6	9	matre	metres
8	12	this holes	these holes
8	24	spindle, whorl	spindle whorl
8	31-32	rouletted of	rouletted sherds of
9	5	wer	were
9	16	filled up with	filled with
10	17	mould	coin mould
12	39	birds, figurines	birds figurines
12	40	fascinating	fascinating ²¹
13	38	presumption	presumption ²²
14	9	mound	mount
14	13	bitriangle	bi-triangle
14	14	study	study ²³
16	10	for drain	to drain
16	28	Gangaikondacholapuram	Gangaikondacholapuram ²⁴
18	33	4th century B.C.	2nd-1st century B.C .



Mother Goddess (Mūthō!), erected at the centre
of a cairn circle, Udaiyanattam, Villupuram District,
1000 B.C. to 500 B.C.



Pandya square copper coin, Sangam age, Alagankulam,
Ramanathapuram District, 4th century B.C.



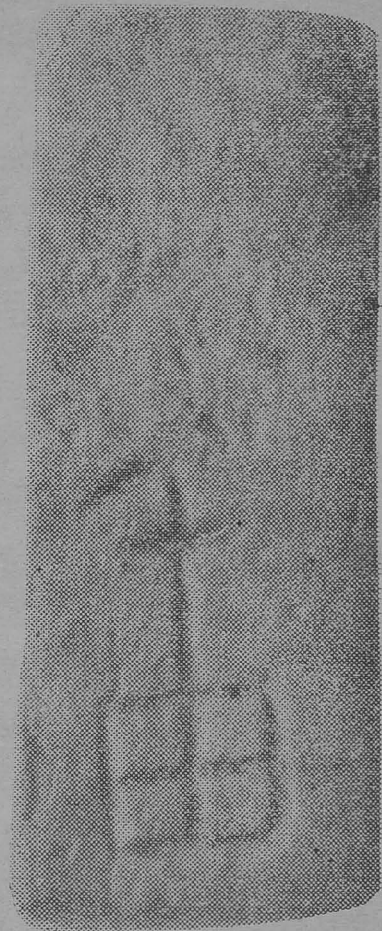
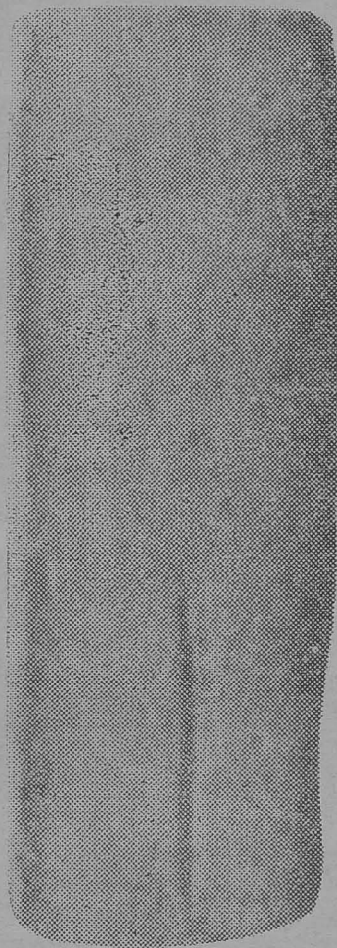
Decorated bowl, copper, unearthed from a cairn circle,
Kodumanal, Periyar District, 3rd century B.C.



Bronze tiger studded with semi-precious stones,
Kodumanal, Periyar District, 3rd century B.C,
(Courtesy, Tamil University, Thanjavur)



Wharf, Pumpuhar, Nagappattinam District, 3rd century B.C.



Dice bearing the symbols probably representing the numerals one and two, Alagankulam, Ramanathapuram District, 2nd - 1st century, B.C.



Sherd with ship graffiti, Alagankulam, Ramanathapuram District,
2nd century B.C. to 2nd century A.D.



Figure of Mother Goddess (Mūthōḷ), applique found on the exterior of an urn, Melapperumpallam, near Pumpuhar, Nagappattinam District, 3rd century A.D.



Coin of Valentinian II, King of Rome, Alagankulam,
Ramanathapuram District, 4th century A.D.



Foundation of the palace of Rajendra Chola,
Gangaikondacholapuram, Perambalur District, 11th century A.D.

