SPAFA DIGEST

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SPAFA OBJECTIVES

- To promote awareness and appreciation of the cultural heritage of the Southeast Asian countries through the preservation of archaeological and historical artifacts as well as the traditional arts,

- To help enrich cultural activities in the region,

- To strengthen professional competence in the fields of archaeology and fine arts through sharing of resources and experiences on a regional basis, and

- To promote better understanding among the countries of Southeast Asia through joint programmes in archaeology and fine arts,

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COVER

Interposition of frontal relief sculptures in aquarelle pencil by artist Prof Bertoldo J. Manta.

Upper portion : a relief sculpture found in Prasat Muang Tam, Northeast Thailand
Center : an Indonesian relief at Purah Puseh Sempedi
Lower : a polychrome wooden relief of a cherubim found in St Agustin Church, Intramuros Manila, Philippines.

Above: Philippine National Museum officials are shown inspecting newly constructed educational loan kits. These portable kits, loaned for free to institutions and schools, are showcases containing reproductions of various subjects in Philippine Prehistory, Geology and Zoology.

Left : Photo shows museum zoologist (center) performing a free taxidermy demonstration for visiting students.

THE PHILIPPINE NATIONAL MUSEUM : AN EDUCATIONAL INSTITUTION

by Francis Flores Caberoy

A country's national museum helps promote consciousness and awareness of cultural values. Through research studies and scientific investigations, it aims to develop the nation's identify as a people.

In the Philippines, the real concept of a museum is defined as : "it being a place where objects of historical, cultural, scientific, and aesthetic values are collected, studied, preserved and exhibited for the public's education and enjoyment.

The idea of exhibiting valuable specimens for education was first introduced in the Philippines by the Spaniards in 1601. Medicinal specimens found endemic to the Philippines were first exhibited in the first sectarian school, the University of Sto. Tomas (UST). The exhibition was called "Materia Medica" and was primarily used as references by students, teachers, and researchers in the university.

The Americans, in the early 20th century, started the Philippines' concept of a museum. They mastered the country's physical attributes and its people, their customs and traditions, technology, arts and values. It was during their stay in the Philippines when, on October 29, 1901, the Insular Museum of Ethnology, Natural History and Commerce was created under the Department of Instruction.

The Insular Museum functioned as the country's repository and guardian of its cultural heritage and natural history. Its name and location, however, have been changed from time to time until, in 1939, it was renamed the Philippine National Museum and placed under the Department of Agriculture and Commerce.

The latest change happened in 1987 when the Philippine National Museum was placed under the Department of Education Culture and Sports. As embodied in the newly ratified constitution of 1987, it is responsible for nation-building through its scientific, cultural and educational activities.

The Philippine National Museum conducts basic research studies combining laboratory and field work in the fields of geology and paleontology, botany, zoology, and anthropology. It maintains reference collections on these disciplines and promotes scientific development in the Philippines.

To disseminate scientific and technical knowledge into more understandable and practical forms, it exhibits and publishes materials for the public. It also gives lectures and show slide or visual presentations. Portable loan kits and interviews to students, researchers, and the general public are done in the attainment of its educational goals.

MUSEUM ACTIVITIES

The Philippine National Museum has set up networks in the form of the following different divisions. Overseeing the whole operation including the planning is its Director (head of agency).

1. Scientific

1.1 Geology Division - conducts researches; collects, preserves and studies systematically rocks, minerals, fossil plants and animals; conducts researches on their origin, history and geographic distribution; prepares for publication of scientific papers on the above-mentioned subjects; maintains reference collections of rocks, minerals and fossils.

1.2 Zoology Division - conducts researches; collects, preserves and studies systematically animal vertebrates including mammals, birds, reptiles, fish and frogs, invertebrates such as shrimps, crabs, insects, mollusks and other miscellaneous lower animals such as worms, sponges, corals, etc; prepares for publications of scientific papers on the above mentioned subjects; maintains reference collections of the different types of Philippine fauna.

The author is a senior museum researcher at the Philippine National Museum's Education Division.

1.3 Botany Division - conducts researches; collects, preserves and studies systematically all types of plants such as flowering plants, gymnosperms, ferns and their allies, liverworts and mosses, algae, fungi and lichens; prepares for publication scientific papers on the above mentioned subjects; and maintains the Philippine National Herbarium.

1.4 Anthropology Division - conducts researches; collects, identifies, reconstructs, restores, preserves, and mounts specimens; studies archaeological artifacts, ecofacts and ethnographic objects; collates and interprets data; sets up exhibitions and publishes scientific and technical papers; maintains a chemical research and conservation laboratory where scientific analysis of materials recovered from archaeological and ethnographic sites are undertaken for their interpretation and preservation and where basic research is conducted in respect to the above; and maintains a polynology reference collection.

2. Cultural

2.1 Arts Division - creates, collects, preserves and restores objects of arts; conducts researches on Philippine arts and its relation to the arts of other countries; prepares for publication research papers on the above mentioned subjects.

2.2 Cultural Properties Division - implements related laws for the protection and preservation of Philippine cultural property; regulates the registration, excavation, exportation, and commerce of Philippine cultural properties; undertakes researches on important cultural properties and related laws on their protection and conservation; and undertakes salvage archaeology in illegally disturbed sites.

2.3 Restoration Division - implements relevant laws and governs immovable cultural properties; supervises the restoration, preservation, reconstruction, demolition, alteration and remodelling of immovable cultural properties, historical landmarks, archaeological or historical sites; and conducts researches on the original design, materials and methods of restoration best suited to specific problems of cultural properties.

3. Educational

3.1 Museum Education Division - plans, organizes and stages exhibitions on all the disciplines covered by the National Museum; prepares for public reading all scientific and technical manuscripts including their illustrations; takes charge of public information, public relations, printing and educational programs of the museum through guided tours,

Philippine National Museum staffs (left) are shown lecturing deaf-mute students on the conservation of baskets, artifacts, and others while a special teacher (right) interprets the lecture.

Disabled students are seen viewing the "Spolarium", a huge painting by Juan Luna, during one of the free guided tours normally given by the Philippine National Museum's Education Division staffs.

lectures, seminars, symposia or workshops, audio-visual programmes and travelling exhibits.

3.2 ***Planetarium Division*** - disseminates astronomical knowledge and information through lectures, demonstrations, exhibits and actual celestial observations.

3.3 ***Archaeological Sites and Museums Division*** - administers, maintains, preserves, and interprets through exhibitions in the regions where they are found, the cultural and historical materials, relics, mementos of great Filipinos and other related items; maintains, preserves and interprets the artifacts *in situ* in the Paleolithic habitation site of ancient man in the Cagayan Valley and of the neolithic habitation of modern man at the Tabon caves in Palawan.

4. Other Services - By Museum Personnel

4.1 They conduct guided tours for museum visitors and guests.

4.2 Museum experts oblige when invited as lecturers or resource persons in school, universities, colleges or other public forums.

4.3 Museum specialists in exhibition and museum administrators extend technical assistance in setting up museums and exhibitions, and in training interested groups with basic curatorial work.

4.4 They assist students, researchers and the general public in researches undertaken for different disciplines.

4.5 They conduct annual art classes for children to develop their interests and talents in art whether at the main office of the National Museum or in the regional branches.

4.6 They assist and support up-and-coming Filipino and foreign artists with the free use of the museums's art gallery.

4.7 They undertake free identification of specimens in geology, botany and zoology.

4.8 They coordinate and collaborate with organizers of special exhibitions in art and other cultural activities whether or not held at the National Museum.

Aware of the need to bring museum services to the majority of the citizens particularly in the grassroots level, the National Museum established and maintains at least 13 archaeological sites or branch museums throughout the archipelago.

The Philippine National Museum has also taken the lead in the study and preservation of the Philippines' rich artistic, historic and cultural heritage as well as in the reconstruction and rebuilding of the country's glorious past, including its people. It is tasked with the establishment of the real Filipino identity.

The Resurgence of Aniconism in the Buddhist Art of Thonburi Period

by Jean Boisselier

Before discussing the resurgence of aniconism in the art of Thailand about the end of the 18th century A.D., it might be better to explain that the existing examples are only quite a few and that they figure only in painting.

It is probably useful, before the examination of these examples, to explain the word "aniconism" in Buddhist art. By doing so, we have to go back to the origin of Buddhist artistic expression.

After the death of the Buddha, there was no need to produce the human image of the Lord. Rare mentions of Him found in texts, such as in the story of the Sandalwood Image, are just interpolations but of a very ancient origin. During the time of King Asoka the Great of India (about the middle of the third century B.C.), this was not a question of creating idols in the Brahmanic cult, Buddhism or Jainism.

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This article is based on a lecture given by the author in French at the Alliance Française, Bangkok, Thailand, on November 12, 1987.

Worship was performed at eminent sites such as at the *tirtha* (a landing stage), *caitya* (the site that has a particular veneration such as a tree) but not the cremation site that has generally been written about. One of the eminent worship sites was the *stupa* (a solid monument built to enshrine the relics of the Buddha or of his disciples or as a commemorative structure) which was recommended by the Buddha himself. The *stupa* was also used in Jainism.

We will limit ourselves in only enumerating these names because to study them in detail would take our subject too far. These sites evoked the most ancient Buddhist sculptures in the Sunga or Kanva art. This art lasted from about the second century B.C. to the beginning of the Christian era. Examples are the reliefs at Bharhut and those of the Great Stupa at Sanci. They are bas-reliefs where human figures are not totally rejected but appear only in the *Jataka* (the past lives of the historical Buddha) which figure in a great number. They are always narrative.

There was no representation of the Buddha in human form. However the sculptors represented his presence, his preaching and the major events in his last life. In contrast to the narrative representation of the Jataka previously mentioned, the Buddha was only represented by the reminiscence of his major events. Evocative representative symbols, for instance: the Four Great Miracles, the Nativity or Great Departure, the Enlightenment or Victory over *Mara* (the evil spirits), the First Sermon and the *Death* (Mahaparinirvana), were used at eminent sites (Fig. 1).

In about the beginning of the Christian era the first Brahmanic idols appeared. They were more or less a direct influence of the West as has been said and repeated by western scholars with pleasure. ***As if all the light, contrary to the moving direction of the sun, must come from the West...*** It is probably correct but we do not want to discuss it here. But whatever it was, the first representation of the "*Buddha*" (we will see that the explanation is often an extrapolation) in human form (Fig. 2) appeared simultaneously with the Christian era.

Fig. 1 Northgate of Stupa No. 1, Sanci. La porte est du stupa no. 1, Sanci.

He appeared as a religious man with unusual features such as an *usnisa* (cranial protuberance or turban or chignon) which belongs only to the Buddha. This visibly signifies the countless merits He

India. Early I century A.D.
Inde. I^e siècle de l'ère chrétienne.

had accumulated during His life... Buddhism probably adopted this mode of representation in iconography in order not to rely on the Brahmanic religion. But this is not as easy as it seems. This not only renounced the initial symbolism but also gradually substituted it with the human image wearing a Buddhist monastic robe...

For a long time it has been

Résurgence de l'aniconisme dans l'art bouddhique de la période de Thonburi : ses enseignements

par Jean Boisselier

Avant de parler de résurgence de l'aniconisme dans l'art de la Thaïlande, vers la fin du XVIII^e siècle, sans doute convient-il de souligner que les témoins conservés en paraissent fort peu nombreux et qu'ils n'ont été rencontrés que dans le domaine de la peinture.

Peut-être n'est-il pas non plus inutile, avant d'examiner ces témoins, de préciser ce qu'il faut entendre par "aniconisme" dans l'art bouddhique. Il sera, pour cela, nécessaire de remonter aux origines-mêmes de l'art bouddhique.

Aux temps qui ont suivi le Mahaparinirvāna, il n'était pas question d'images et les quelques rares mentions qu'on en trouve dans les textes, telles que celle de la statue de santal, ne sont que de pieuse-mais fort anciennes-interpolations. En fait, au temps même d'Aśoka (soit vers le milieu du III^e siècle, avant l'ère chrétienne), il n'est toujours pas question d'idoles, qu'il s'agisse de cultes brahmaniques, du bouddhisme ou du jainisme... Le culte est rendu à des lieux éminents : tırtha, caitya (i.e. tout lieu jouissant d'une vénération particulière par exemple arbre, et non lieu de crémation comme on l'écrit trop généralement d'une manière tout à fait restrictive), enfin stupa, recommandé par le Buddha lui-même, mais utilisé aussi par le jainisme... Bornons-nous à cette énumération car une étude de ces divers objets de culte nous entraînerait beaucoup trop loin de notre sujet. Néanmoins, ce sont de tels lieux qu'évoque la sculpture bouddhique la plus ancienne qu'il s'agisse de l'art Śuṅga ou Kāṇva qui nous amènent ainsi d'environ le II^e siècle avant l'ère chrétienne aux débuts de l'ère, avec spécialement, les reliefs de Bharhut et du Grand Stupa de Sāñci, reliefs où la figure humaine n'est d'ailleurs jamais systématiquement rejetée, la place réservée à l'évocation des Jataka (les "Naissances", i.e. les Vies antérieures du Buddha historique) y étant considérable et de caractère toujours narratif...

Ainsi, s'il n'est pas encore question de représenter la personne du Buddha, les sculpteurs évoquent néanmoins largement sa Présence, son Enseignement et les Evènements majeurs de sa Dernière Existence. Mais, au contraire de la représentation narrative des Jātaka à laquelle nous venons de faire allusion, il ne s'agit plus que

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said that in the Andhra art of Southern India, the human figure of the Buddha gradually became popular only about the IV century A.D., for example, at the two most renowned and richest sites in Amaravati and Nagarjunakonda.

Very often the human figure co-existed with the symbolical configuration. One has proposed to see-which is a very western way of thinking that leaves no trace to the problematic religious aspect-that it is a mark of attachment to the symbolical form which had already existed for five or six centuries.

It is not known whether or not certain scenes evoke the presence of the Buddha such as the royal throne, the flamed pillar or the *cakrastambha*, which are always associated with the footprints. These symbols often directly follow the scenes where the Buddha is figured as a human being wearing a monastic robe (Fig. 3).

On the other hand, it is astonishing to know that in the art of Mathura, in northern India, the most ancient images of the Buddha are in human form (Fig.4). Why this is so is still unverified. But they are more or less contemporary with the Andhra art just mentioned. According to the inscriptions they are called *"Bodhisattva"*. These images present all the characteristics belonging to the Buddha. One should however bear in mind that the word *"Buddha"* is directly attached to the attainment of the *"supreme and complete Enlightenment"*

So it seems as if in certain schools only the Bodhisattva-and not the Buddha-could be represented. Because of this concept of the presence or absence of the Buddha in certain scenes as well as the simultaneous appearance of the Buddha in human and symbolic figures, the criteria for dating the image cannot be used.

One should attempt to find out the reason for these peculiarities. At least for the beginning of the iconic period of Buddhist art, everything can be reduced to this equation: representations of the Buddha image in human form are sporadical substitutions of traditionally primitive symbols.

One has to admit that this cannot be a simple problem of a stylistic evolution as has sometimes been proposed. The conclusion, most likely, is that the problem is surely speculative or in the doctrinal order. It seems to be dependent on the position adopted in certain scenes. Their diversity and their theories are quite well-known for Andhradesa, of the nature of the Buddha (s).

We now turn to the seemingly most ancient and attested concept in the iconography of a ***Buddha Lokottara*** who is of supra-mundane essence, above human beings and divinities, therefore inconceivable. This notion was adopted by the schismatic schools separated during the second Council held at Vessali, 100 or 160 years after the death of the Buddha (443 or 383 B.C.)

It is essentially the theory of the ***Mahasanghika*** ("Those of the Great Assembly") and the associated sects. For them, the body of the Buddha(s) is only spiritual. It is superior to the world and everything. Even at the Nativity and the manifestation of the Buddha(s) in this world the body of the Buddha is only a fantastic apparition.

This is the essence of the total aniconism which is absolute from the origin. It should not however be regarded as a sort of interdict or proscription of images which certain religions or religious sects preach. For the sculptures of Andhradesa or of Mathura already referred to, the problem

Fig. 2 Standing Buddha. Gandhara style, II or III century A.D.
Buddha debout. Style du Gandhara. II^e ou III^e siècle après Jésus-Christ.

d'une évocation des sites où se sont déroulés ces évènements majeurs en les précisant grâce à un choix de symboles... Ainsi sont figurés les quatre Grands Miracles : Naissance (ou Grand Départ), Acquisition de l'Eveil (ou Victoire sur Māra), Premier Sermon, Mahāparinirvāna (fig. 1)..

C'est sensiblement vers les débuts de l'ère (plus ou moins) qu'apparaîtraient les premières idoles brahmaniques (sous l'influence plus ou moins directe de l'occident, comme on l'a dit et répété à plaisir comme si toute lumière, contre la marche même du soleil, ne pouvait venir que de l'occident... C'est néanmoins vraisemblable...mais notre propos n'est pas d'en discuter ici)... Quoi qu'il en soit, c'est vers le même temps qu'apparaissent les premières représentations du ***"Buddha"*** *(nous verrons que la désignation est souvent une extrapolation) sous une apparence humaine (fig. 2), c'est-à-dire sous l'aspect d'un religieux, présentant néanmoins quelques unes de ces caractéristiques insolites telles que l'**uṣṇiṣa** (protubérance crânienne/turban/chignon...) - qui n'appartiennent qu'aux seuls Buddha, témoignant de manière visible des innombrables mérites accumulés au cours de leurs existences antérieures...*

Que le bouddhisme ait adopté ce mode de représentation en matière d'iconographie pour ne pas être en reste sur les religions brahmaniques est possible, et même assez vraisemblable... Pourtant le problème est loin d'être aussi simple qu'il n'y parait. Il ne s'agit pas seulement de renoncer progressivement au symbolisme initial et de lui substituer peu à peu des images d'apparence humaine portant le vêtement du religieux bouddhiste...

On a, depuis bien longtemps, remarqué que dans l'art āndhra-Amarāvatī, Nāgārjunakonda, par exemple et pour ne citer que les deux sites les plus connus et les plus riches, les figurations humaines du Buddha ne paraissaient s'imposer que lentement, vers le IV^e^ siècle seulement, et que même, assez souvent, dans un même ensemble, dans le décor d'une même frise sculptée, coexistaient figurations symboliques et figurations humaines et l'on a proposé d'y voir-concept très occidental-ne laissant aucune place à l'aspect religieux du problème - la marque d'une sorte d'attchement routinier aux formules qui avaient prévalu durant cing ou six siècles... Tout cela sans remarquer que certaines scènes évoquant la présence du Buddha par quelque symbole tel que trône royal, pilier flamboyant ou ***cakrastambha,*** *toujours associé à l'Empreinte des Pieds, faisaient souvent directement suite à des scènes où le* ***Buddha était figuré vêtu de l'ajustement monastique (fig. 3)...***

Par contre, l'on s'était souvent étonné, mais cependant sans en chercher la raison, de ce que, dans l'art de Mathurā, les plus anciennes images du Buddha (fig.4) sensiblement contemporaines de l'art āndhra que nous venons d'évoguer - étaient désignées "Bodhisattva" par leurs inscriptions. Encore que ces images présentent tous les caractères qui distinguent le Buddha, il convient de ne pas oublier que la désignation "Buddha" est directement liée à l'Acquisition du "suprême, complet Eveil"... Ainsi, tout se passe comme si, dans certaines écoles, le Bodhisattva seul-et non le Buddha-pouvait être figuré... Ainsi, du même coup, la présence ou l'absence du Buddha dans certaines scènes, comme la figuration simultanée de représentations humaines et symboliques, cesse de fournir de sûrs critères de datation.

Mais il convient surtout de rechercher les raisons de telles singularités... Si l'on remarque que, au moins pour les débuts de la période iconique de l'art bouddhique, tout peut se réduire à cette équation : représentation de l'image du Buddha sous l'apparence humaine ou, sporadiquement, substitution de l'un des symboles de la tradition primitive à cette Image, et qu'il nous faut bien admettre qu'il ne peut s'agir, ainsi qu'on le supposait, d'un simple problème d'évolution stylistique, nous en arrivons à cette conclusion que le problème ne peut être que d'ordre apéculatif ou doctrinal. Tout parait, en effet, dépendre de la position adoptée par certaines scènes - leur diversité et leurs thèses sont assez bien connues pour l'Āndhradeśa, sur la nature du et des Buddha...

Et nous revenons ainsi au concept qui semblerait le plus anciennement attesté dans l'iconographie d'un ***Buddha Lokottara-****c'est-à-dire : d'essence supra -mondaine, au-dessus des hommes et des dieux, inconcevable... Notion adoptée par les écoles schismatiques séparées à l'issue du deuxième Concile tenu à Vessalī, 100 ou 160 ans après le Mahāparinirvāṇa (soit 443 ou 383 avant l'ère chrétienne), ce sera essentiellement la thèse des Mahāsaṅghika ("Ceux de la Grande Assemblée") et des sectes apparentées. Pour cette école, le Corps du (ou des) Buddha est seulement spirituel et supérieur au monde en toute chose, même à leur naissance et le (et les) Buddha manifestés en ce monde ne sont qu'apparitionnels, fantasmatiques...*

Nous avons là l'essence même de l'aniconisme total, absolu des origines. Il ne saurait

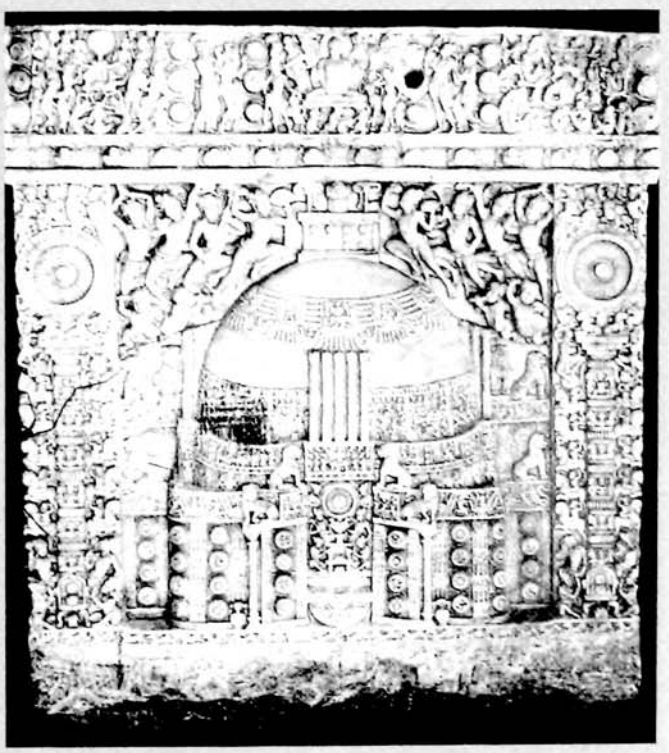

Fig. 3 Slab depicting the stupa. Amaravati style, Late II century A.D.
Panneau montrant un stupa. Style d'Amaravati. II^e^ siècle après Jésus-Christ.

is a little different.

Although the Bodhisattva can be represented, the Buddha who has perfectly and completely attained the Enlightenment, can be portrayed only by symbols attesting his absolute pre-eminence. Without dealing with details on the doctrines of the different sects and schools belonging to what is termed as "Small Vehicle", we should realize that for those who had adopted the theory of the supra-mundanity of the Buddha(s) attached to the attainment of Enlightenment, the theory is especially well attested in the south of India, particularly in Andhradesa.

But the images (one should not neglect the considerable destruction the many monuments in India had suffered and one should also remember that a negative argument has only a very restricted value) and the text invite to think that the notion of a Buddha perfectly and completely attaining the Enlightenment of a supra-mundane nature, which can be figured only by symbols, disappeared from India around the fifth century A.D. Other than those already referred to we do not know of any later ones.

Therefore with great surprise, we have found in the art of Thonburi during the end of the Ayutthaya period, some paintings representing the Buddha in two aspects:

- that of a religious man provided with all the auspicious marks until the Victory over Mara (a traditional representation of the acquisition of the Enlightenment in Southeast Asia though anterior to the Enlightenment itself)
- that of a vacant throne or a lotus in the form of a bud or full bloom representing all the later events, but only in this form after the beginning of the acquisition of the Enlightenment (such as after the rejection of the fruitless austerity).

This iconography (painting on wood from Ayutthaya in the Suan Pakkad Palace Collection, Bangkok (Fig.5) and the manuscript of the Thonburi period dated 1776 A.D., published by Klaus Wenck) is evidently in *the Lokottaravadin tradition* previously explained. It is also important to stress here that tradition has more or less degraded and altered even the lotus.

In spite of all the importance of its symbolism, it is not really regarded as a substitute for the Buddha. The lotus could have been under His feet and sprang up under Him during the Nativity in the last part of His life. The lotus constantly supports the Great Master, either under his feet or as His seat...

We would like to open a parenthesis here to indicate that the mural painting representing a lotus coming out from the waves at Wat Bovornnivet, Bangkok, has another different meaning (Fig.6). The painting, from the reign of King Rama IV, does not deal with the question of symbolically figuring a supra-mundane Buddha.

The painting evokes the *Law* (the preaching of the Buddha) jutting out like the lotus from a pond in front of the western people. It is a sort of revelation to the people who had been, until that period, ignorant. It displays the role that the Kingdom of Siam could play after she had renovated her relations with the West and developed the succeeding contacts...

There is in these paintings more than a simple influence - which has already been largely assimilated - of the western painting technique on the art of *Khrua In Khong* (a famous painter in the reign of King Rama IV); we will see there, expressed in a very personal manner, the affirmation of a certainty in the greatness of the *Law* and the belief in a possible impact upon the westerners.

We will now close the parenthesis to come back more directly to the evidence of the revival of the Lokottaravadin theory in Thailand at the end of the 18th century.

Though at the present time it is still not possible to imagine who were the propagators of these theories that had already been forgotten for many centuries and it is also not possible to know in what measure the canon had been altered or from what time they were present in Thailand. We really believe it would be impossible to find any solid elements for an answer. It seems to us that the images that we have been representing above might be sufficiently unusual that the orthodox Theravada could be motivated.

We think we can see these effects in the religious works of King Rama III and King Rama IV Mahamongkut.

We know very well about the considerable effort of King Rama III for the renovation of Buddhist monasteries and the restoration of the mural paintings. We must also not forget about the considerable number of illustrated texts composed by his command for the usage of image-makers, especially the texts that point out in particular which moment in the life of the Buddha could and how it should be represented. We think that from what we have observed is particularly very instructive.

King Rama IV Mahamongkut had to precise and finish the work of his elder brother, King Rama III. When he was still the abbot at Wat Bovornnivet (from 1837 to 1851, the year in which he

être regardé comme une sorte d'interdit, de proscription des images comparable à celui que prônent certaines religions ou ordres religieux... Avec les sculptures de l'Āndhradeśa ou de Mathurā auxquelles il a été fait allusion, le problème est un peu différent puisque le Bodhisattva peut être figuré mais que le Buddha parfaitement et complètement Eveillé n'est plus représenté que par des symboles affirmant de manière ou d'autre sa prééminence absolue. Sans entrer dans le détail des doctrines propres aux diverses sectes et écoles appartenent encore à ce qu'on est convenu de désigner du nom de "Petit Véhicule", peut-être n'est-it pas indifférent de remarquer que celles qui ont adopté la thèse de la supramondanité des Buddha liée à leur Acquisition de l'Eveil, sont spécialement bien attestées dans le Sud de l'Inde, et particulièrement dans l'Āndhradeśa...

Mais les Images, encore qu'il faille ne pas négliger les destructions considérables dont les monuments eurent à souffrir et rappeler qu'un argument négatif ne saurait avoir qu'une valeur relative, les Images donc, et aussi bien les textes invitent à penser que la notion d'un Buddha parfaitement et complètement Eveillé de caractère supramondain - donc impossible à figurer autrement que par des symboles, serait disparu de l'Inde vers le V^e siècle, et, en tout état de cause, nous n'en connaissons pas de plus tardifs que ceux que nous avons évogués...

Aussi, est-ce avec une réelle surprise que nous relevons dans l'art de Thonburi, et sans doute même à la fin de celui d'Ayudhyā, l'existence de quelques peintures montrant le Buddha non sous les deux aspects-celui d'un religieux (pourvu de toutes les Marques) jusqu'à la Victoire sur Māra (représentation

Fig. 4 Seated Buddha on the Lion Throne, beneath the Bo Tree. Mathara style, II century A.D.
Buddha assis sur le trône de lion, sous l'arbre de la Bodhi. Style de Mathura. II^e siècle après Jesus-Christ.

traditionnelle de l'Acquisition de l'Eveil dans l'Asie du Sud-Est, quoique antérieure à l'Eveil lui-même) - celui d'un trône vide ou d'un lotus (en bouton ou épanoui) pour tous les Evènements ultérieurs, mais seulement sous le second dès le début de la Quête de l'Eveil (i.e. après le rejet des vaines austérités).

Cette iconographie (peint-sur bois, provenance Ayudhyā, de la Collection de Suan Pakkad (fig. 5); manuscrit de la période de Thonburi daté 1776 - publication Klaus Wenck-) est évidemment dans la ***tradition*** *Lokottaravādin que nous avons évoquée...encore qu'il convienne de souligner que cette tradition serait ici quelque peu dégradée, altérée même car le lotus, en dépit de toute l'importance de son symbolisme, ne saurait être regardé comme un substitut du Buddha... C'est en effet sous ses pas, et ce, dès sa Naissance Ultime, que naissent les lotus et c'est encore le lotus qui, constamment, portera le Bienheureux, qu'il soit sous ses pieds ou lui fournisse un siège...*

Ouvrons une parenthèse pour préciser que les grands lotus sortant de l'onde, à ***Wat Bowornivet*** *ou à* ***Wat Bowonnivet*** *ont une tout autre signification (fig. 6). Dans ces peintures du règne de Rāma IV, il ne pouvait plus être question de figurer symboliquement un Buddha supramondain et nous allons bientôt en dire les raisons... Ici, il s'agit d'évoquer la Loi surgissant, tel le Lotus, devant les nations de l'occident, sorte de révélation aux peuples jusqu'alors ignorants, grâce au rôle que le Royaume de Siam peut jouer depuis qu'il a renové ses relations avec ceux-ci et développé des contacts suivis... Il y a dans ces peintures bien davantage qu'une simple influence - d'ailleurs largement assimilée - de la peinture occidentale sur l'art de Khrua In Khong; nous y voyons, exprimées d'une manière très personnelle, l'affirmation d'une certitude en la grandeur de la Loi et la foi en un impact possible sur l'occident.*

Refermons cette parenthèse pour revenir plus directement aux témoins d'une résurgence de thèses Lokottaravādin en Thaïlande, à la fin du XVIII^e siècle.

Sans qu'il soit aujourd' hui possible d'imaginer d' où venaient les propagateurs de thèses qu'on croyait oubliées depuis bien des siècles, sans qu'il soit davantage possible de reconnaître dans quelle mesure leur canon était altéré ni depuis quands ils étaient présents en Thaïlande - et nous craignons fort qu'il ne soit guère possible de découvrir quelque solide élément de réponse, il nous semble que les images que nous venons de présenter pouvaient paraître suffisamment insolites pour que l'orthodoxie theravādin s'en émeuve, et nous pensons en voir les effets dans l'oeuvre religieuse des Rois Rāma III et Rāma IV Mahāmongkut...

On connait bien, en effet, l'effort considérable du roi Rāma III pour la rénovation des monastères et la restauration de leurs peintures

ascended the throne) Prince Mongkut initiated and elaborated the religious reform which led to the foundation of the Thammayuti (Attached to Dhamma [the Law]) Sect. The doctrine of this Sect is founded on the respect of a strict orthodoxy both in the monastic discipline and the study of the canonical texts in Theravada. This initiative was full of meanings and had put an end to the effort to restore the authority of the Theravada Sect which had been followed for more than a quarter of the century by the two sovereigns.

We do not want to analyze this accomplishment. It will be out of our wish. We would like only to conclude that the rare images with unusual characteristics seem to us to have brought an irrefutable proof of the necessity of a reform which for an uninformed public might not have appeared so evidently...

Translated from French to English by Prof.M.C. Subhadradis Diskul and Virginia M. Di Crocco

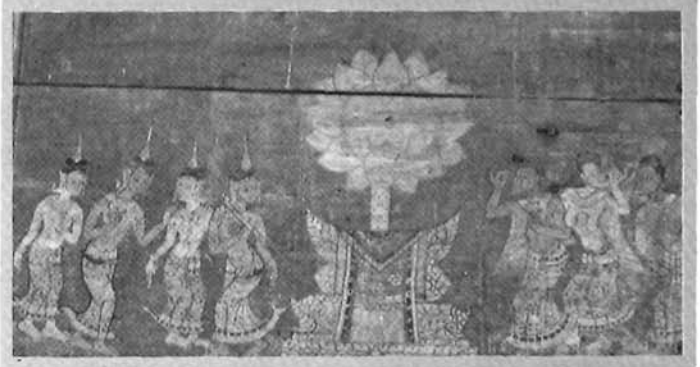

Fig. 5 Painting on wood from Wat Kasatrathirat, Ayutthya. It is now in the Suan Pakkad Palace Collection, Bangkok, Thailand. Late Ayutthya style, XVII-XVIII centuries A.D.

Peinture sur bois de Wat Kasatrathirat, Ayutthya. Dans la Collection de Suan Pakkad Palace, Bangkok, Thaïland. Style d'Ayutthya postérieur. XVII^{e}-XVIII^{e} siècle après après Jesus Christ.

Fig. 6 Mural painting in the ubosoth of Wat Bovornniwet, Bangkok, Thailand. Bangkok style, middle XIX century A.D.

Peinture murale dans l'ubosoth de Wat Bovornniwet, Bangkok, Thaïlande. Style de Bangkok. Milieu du XIX^{e} siècle.

murales. Mais on ne saurait non plus négliger le nombre considérable de traités composés et illustrés sur son ordre à l'usage des imagiers. Ceux destinés à préciser, en particulier, quels moments de la carrière du Buddha pouvaient être représentés, et comment ils devaient l'être, nous paraissent, à la lumière de ce que nous venons d'observer, particulièrement instructifs...

Le Roi Rāma IV Mahāmongkut devait préciser et parachever l'oeuvre de son frère le roi Rāma III. Alors qu'il était Abbé de Wat Bowonnivet (de 1871 à 1851, année de son accession au trône), le Prince Mongkut décidait et élaborait la réforme religieuse qui aboutissait à la fondation de la secte Thammayuth ("attachée ou liée au Dhamma") dont la doctrine est fondée sur le respect d'une stricte orthodoxie tant en matière des disciplines monastiques que d'étude des textes canoniques du theravāda. Cette initiative, à laquelle les constatations auxquelles nous sommes parvenus, donnent tout son sens, mettait un point final à l'entreprise de restauration de l'autorité du Theravāda poursuivie durant plus d'un quart de siècle par les deux souverains.

Il ne nous appartient pas d'analyser cette oeuvre, la faire dépasserait d'ailleurs notre propos. Aussi nous contenterons-nous de conclure sur cette constatation que de rares images aux caractéristiques insolites nous semblent apporter une preuve irréfutable de la nécessité d'une réforme qui, pour un public non averti, n'apparaissait peut-être pas tellement évidente...

Conférence donnée par Professeur Jean Boisselier
à l' Alliance Française de Bangkok.
le 12 novembre 1987

Design and Symbolism of Prasat Muang Tam, Northeastern Thailand

by Anuvit Charoensupkul

The *prasat* or sanctuary in the Khmer civilization emerged from organized culture. Khmer communities, starting from villages to towns, constructed different types of *prasat*. They varied in function and size, depending on the community that created it.

Religious, economic, political or cultural reasons usually lead to the building of a *prasat*. There are generally three types of prasat.

The first type of *prasat* is the mountain-temple. Khmer kings, powerful in both the economy and politics of the kingdom, created shrines for their coronation as a universal monarch (chakravartin). This type of *prasat* was unified with the Great God (Mahadeva) in the form of a phallic emblem (Sivalinga). The emblem was enshrined at the centre of the temple to dignify the temple's central power and to generate prosperity for the kingdom's people. Each mountain-temple also represented the sacred mountain, the Sumeru which, according to the Hindu and Buddhist conception of the universe, was situated at the centre of the king's new capital. It was located in the middle of the kingdom, following the concept of the *mandala* (sacred boundary), A Khmer king, therefore, constructed a mountain-temple only at the centre of his capital, the town of Angkor.

Door entrance on the left-southern wing of the main eastern gate of the outer wall. Lintel, pediment, and pilaster design are in style B.

The concept of constructing a mountain-temple began in the reign of Jayavarman II (802-850) in Phnom Kulen. The first mountain-temple was probably the Krus Preah Aram Rong Chen. And the last in the Khmer empire was the Bayon, constructed by Jayavarman VII (1181-1219) at the centre of the town of Angkor Thom. Because not every Khmer king had the same power, in all the six centuries of the Angkor period, only about 12-13 mountain-temples were discovered.

The second type of Khmer *prasat* are those dedicated to royal ancestors. Khmer kings built them simultaneously with the mountain-temples. After a Khmer king's accession to the throne, he would construct public foundations such as a *prasat* dedicated to his ancestors and a mountain-temple. The concept of constructing a *prasat* for ancestors

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Perspective view of the core buildings of Prasat Muang Tam in its natural envitonment. Foreground shows one of the four L-shaped sacred ponds outside the gallery.

The remaining four of the five brick prang (towers). The middle, which is also the main prang, has already disintegrated.

Eastern gate of the inner gallery flanked on each side by two balustraded windows.

The southern gate of the outer wall is in style B. Its only entrance is flanked on both sides by a window with four balusters.

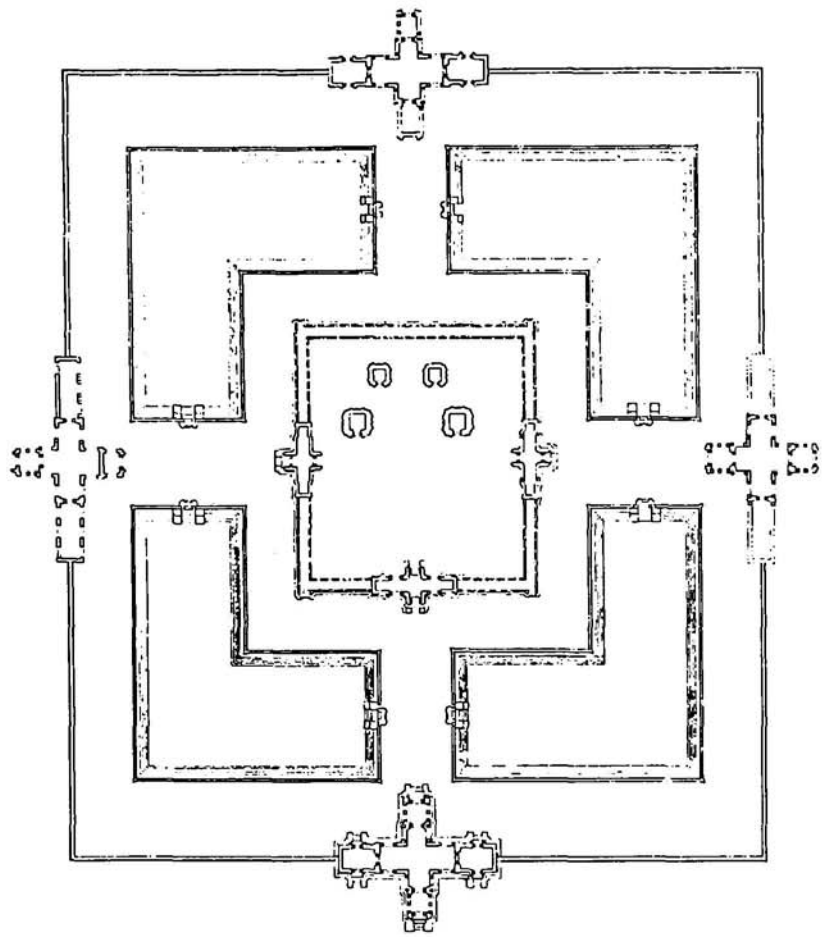
Central gate (type A) of the outer wall on the east.

Details of the eastern gate of the inner gallery shows lintel in style A2 and pediment in style A.

came from the desire to create stability to the throne before a Khmer king's coronation. A Khmer king becomes a *cakravartin* by using the relation with his ancestors for his protection. It was also used to induce prosperity in the kingdom, which was more or less also a function of the mountain-temple.

also the centre of the economic network. The construction of this sanctuary sometimes originated from the king's command, primarily for his glorification or his victory. Other times, they were constructed for religious purposes such as in Hinduism. Some of these sanctuaries were built along the traditional

architecture evolved from the original elements of the sanctuaries dedicated to ancestors. They were accomplished from the royal style of the mountain-temples. Artistic styles throughout the kingdom were patterned after the mountain-temple as it was the centre of the empire. In fact, all of Khmer's artistic works are based on the



Architectural lay-out of Prasat Muang Tam

The third type of *prasat* is a sanctuary built by the various levels of the population. It was either built by a large community in the middle of a principality or a small group belonging to a village in the Khmer empire. This type of sanctuary, apart from being a religious shrine, was

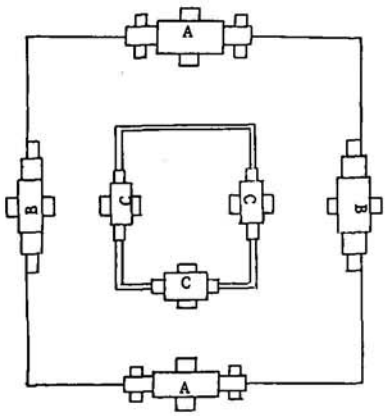
pilgrimage paths of Khmer kings.

Architechtural Style and Artistic Schools in Khmer Civilization

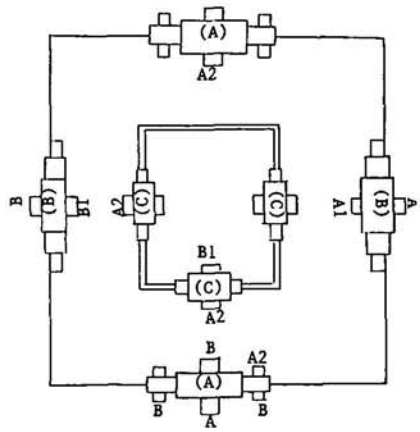
The art and architectural style in the Khmer culture originated from the accession to the throne of Khmer kings. The art style used for

original mountain-temple model.

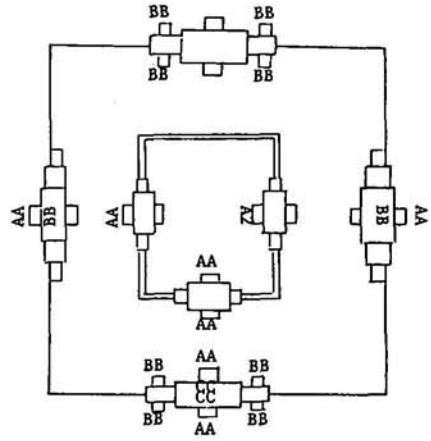
Art historians have always suggested that the Khmer art found in present-day Thailand is in the original Khmer form or very near that found in Cambodia. At the same time, they also agree that actually



1. Diagramatic lay-out of gopura (gate) types A, B, C



2. Diagramaic lay-out of lintel styles A, A1, A2, B, B1



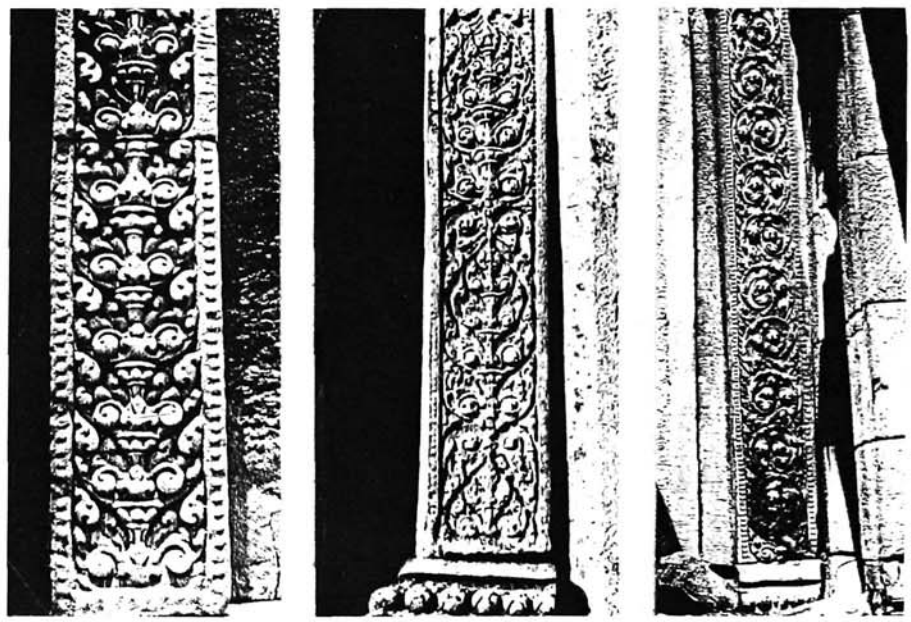
3. Diagramatic lay-out of pilaster styles A, B, C

Architectural Lay-out and Building Structure.

there are differences existing in the forms of Khmer art. The location of the art school has a lot to do with this as some principalities produced their own peculiar artistic spirit. In parallel with highly aesthetic styles are cosmopolitan areas in Angkor.

According to history, the Khmer civilization developed in two regions of Southeast Asia. One was around the Great Lake in Cambodia and the other was along the northeastern and eastern parts of Thailand. The region of civilization in Cambodia was however always the centre of Khmer power. And that part of civilization in Thailand composed mostly of outlying vassal states gained through marriage or established as bases for the central political power in Angkor.

But those former Khmer regions which are now part of the present-day Thailand were not underdeveloped provinces. They possessed their own society and culture. They had their own social centres and artists from the cosmopolitan to the village level. Therefore, apart from the artistic model from the centre of the Khmer kingdom, they also created their own artistic style which emerged from their own experience, intelligence, taste, and environment. Nevertheless, although their art is unique, it was basically patterned after the style in the centre of Angkor.



Pilaster designs in styles A, B and C respectively at Prasat Muang Tam.

Prasat Muang Tam and the Cultural Environment Surrounding Phanom Rung Plai Bad Hill

Prasat Muang Tam is situated between the sixth and ninth village of Ban Khok Muang, Tambon Chorakhe Mak, Prakhon Chai District, Buri Ram Province. The

area is a part of a large plain on the southeast of Phanom Rung Hill.

Prasat Muang Tam belonged to a group of Khmer sanctuary complexes comprising Prasat Phanom Rung compound, Prasat Plai Bad, Muang Tem Barai (North Muang Tam) and two small shrines near Prasat Muang Tam and Phanom Rung Hill. Prasat Phanom Rung, on top of Phanom Rung Hill, is one of the most important sanctuary compounds in the northeast of Thailand. According to artistic and architectural evidence found, it dates back from the 10th-13th centuries A.D. On the other hand, Prasat Plai Bad, on Plai Bad Hill southwest of Prasat Muang Tam, dates back to the 11th century (Khleang-Baphuon styles). Inside the crypt of Prasat Plai Bad were found many bronze images belonging to Mahayana Buddhism and dating back from the 9th-10th centuries.

Prasat Muang Tam is located between Phanom Rung Hill and Plai Bad Hill. Probably constructed between the 10th and 11th centuries, it lies next to a large reservoir called Barai Muang Tam which is still in use. The two small shrines near Prasat Muang Tam and Phanom Rung may have been hospital shrines constructed in the 13th century during the time of Jayavarman VII.

Design of Prasat Muang Tam

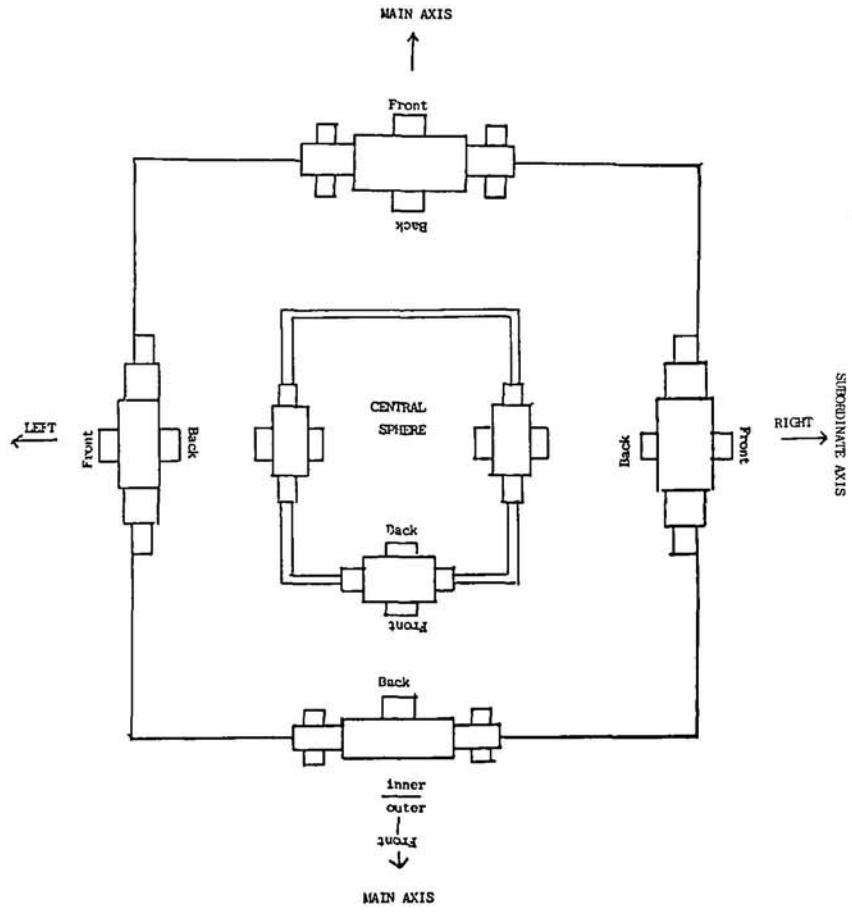
The Khmer architecture is an architectural form of symbolism. It is a synthesis of architectural principle and theology. In the study of architecture during the Khmer civilization, it is always therefore necessary to deal with art and religion. Here, the design of Prasat Muang Tam will be discussed prior to its symbolism.

Prasat Muang Tam is a structure lying on a plain of about 110×125 metres. Its lay-out consists of four important parts:

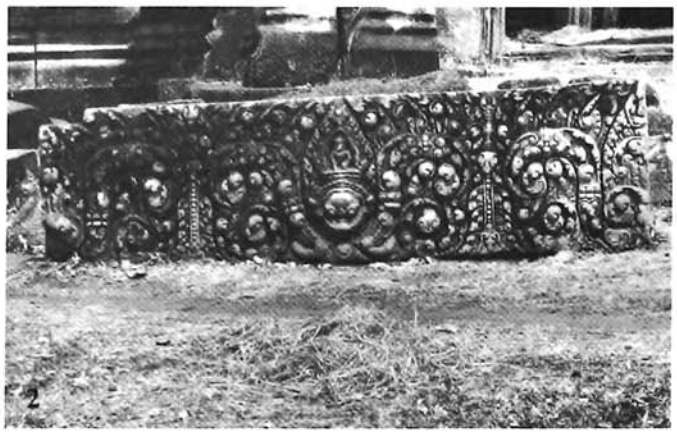
1. The five brick prang (tower) in the centre. The central prang has already crumbled down thus only the four surrounding prang remain standing. The two lateral prang in the front are larger than the two others behind. They are actually all situated further back towards the west, not in the middle of the gallery.

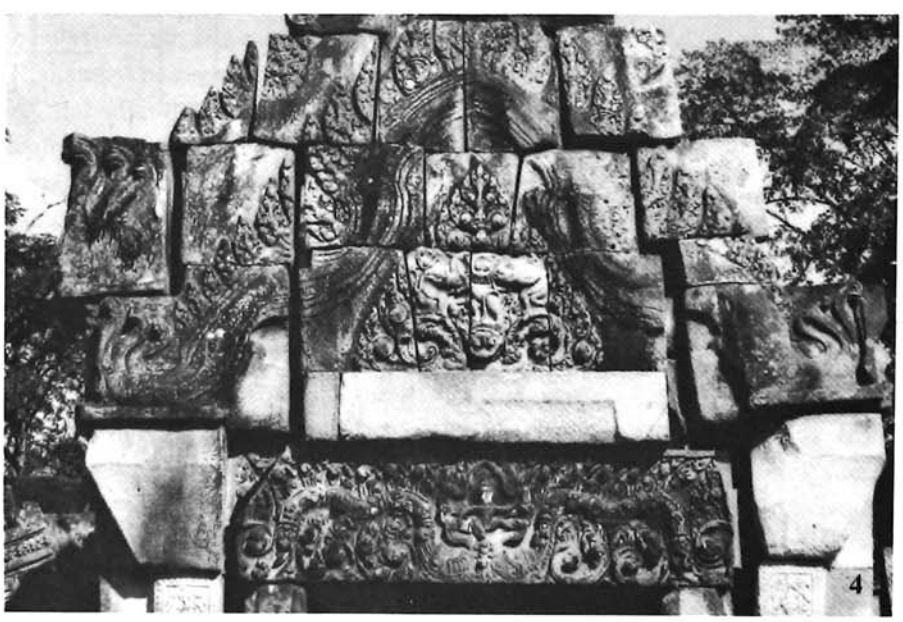
2. The sandstone gallery around the brick towers. There are only three gates (gopura) : at the eastern, northern and southern sides.

3. Four L-shaped sacred ponds outside the gallery at the four corners. Embanked by sandstone steps, the top part of each pond is carved to from the body of *naga*, the five-headed snake. Every corner of each L-shaped pond displays a head of the *naga*. Each pond is provided with two flights of steps at the narrow sides for fetching sacred water. These ponds are one of the most impressive sights at Prasat Muang Tam.



Diagramatic Lay-out of 4 Analytical Systems in Architectural Design.





1. Stone lintel, in style A1, on the inner main entrance of the northern outer wall type B gate.
2. Stone lintel, in style A, of the gate on the outer wall on the east. This is the early Baphuon style of the 11th centuries A.D.
3. Inner door entrance on the right wing of the main gate. Notice the lintel in style A2, the pediment in style C, and the pilaster design in style B.
4. Innerside details of the eastern gate of the inner gallery reveals lintel in style B1 and pediment in style A.
5. Stone lintel, in style B, at the inner porch of the outer main gate. Also in Baphuon style, 11th centuries A.D.
6. Stone lintel, in style B, on the front side entrance of the southern outer wall type B gate.

Left: The outer wall enclosure is made of laterite. It displays the very neat and precise manner of construction centuries ago.

Below: Stone lintel of a brick prang (tower) on the South-west representing Varuna in a niche riding on three hamsa. Baphuon style, 11th century A.D.

4. The laterite wall. Two and seventy-seven metres high, the laterite wall surrounding the whole monument has four gates (gopura), one each at the north, south, east, and west sides.

Prasat Muang Tam, when compared part by part with other Khmer structures, is rather small. But owing to architectural ability in spatial structural design, the clever use of horizontal line in the plan, the size and positioning of the buildings as well as the rhythm of the inner gallery and the outer wall, the monument exudes grandeur, elegance and perfect harmony with its surroundings.

Facing towards the east, Prasat Muang Tam's position follows the usual concept of Khmer sanctuaries. The main axis, from east to west is most significant. The inner gallery, the design of which is interdependent with this main axis, and the outer wall both lead to the important main entrance on the east. The outer wall is provided with type A *gopura* or gate on the east and the west. The less important *gopura* (type B) are on the north and south. The outer gopura on the west, however, is the least important.

In the inner gallery, the style and size of each *gopura* follows the same basic structure. Interestingly, there is no gopura on the west. The symmetry of the *gopura* structure depends on its own sphere, not on the total plan. In the inner gallery every *gopura* has the form of a Greek cross whose front projecting part is longer than the inner one. The inner part contains the four sections which brings out the meaning of the *gopura's* design and symbolism.

The design and symbolism of each *gopura* are stressed at the entrance, designed with a lintel at the top which has a door-colonnade on both sides. On both sides of the doorway is a pediment and two pillars for support.

Concept of the Symbolism

Prasat Muang Tam is believed to have been constructed after the Hindu cosmology. This is supported by the presence of the five brick *prang*, representing the five summits of the Sumeru mountain surrounded by a gallery symbolizing *Jambudvipa*. The four surrounding ponds signify the great oceans encircling the *Jambudvipa* and the outer wall, the stone boundary limiting the universe.

That it belonged to a *yantra*, a written magical formula or symbol, after the Tantric (of the dominant feminine energy) *mandala* (sacred space) is something more difficult to explain. This is so because there are some details that cannot be seen from the plan of the sanctuary. The inner gallery group may be classified as *manda*, the centre, and the outer wall as *la*, the enclosure, in the concept of *mandala*, as the cosmogram of the universe.

A *Yantra* or *mandala* is complicated in itself. The functions

of *Yantra* may be divided into three: for reciting magic formulae, for meditation, and for architecture. There is also a special architectural *Yantra* for a deity, or a special *Yantra* for a deity or higher symbols in Hindu mythology such as *Srichakra.*

Through the author's research, it is now known that the architect of Prasat Muang Tam utilized some of the architectural elements of the Khmer *gopura* (gate). For example, the lintel and the pediment as well as the carved design on the pilasters, which belonged to a style of differing ranks relating to the axis, were adopted. And to clearly display the meaning and the symbol of a *mandala* and *Yantra* as well as the religious philosophy, the balance of symmetry in the Khmer tradition was used.

Elements of the *gopura* can be divided into the following:

1. Major and subordinate axes system
2. Right and left system
3. Front and back system
4. Outer and inner system

Although these four systems are distinct from each other, they are not totally separated from one another. The are, in fact, integrated with one another. For instance, both the main axis and the outer wall belong to different parts of the four systems.

Major and Subordinate Axes System

In the case of Prasat Muang Tam, the east-west axis is the major solar axis of the universe. The north-south is therefore a subordinate axis. Type A *gopura* is used in the main axis for the outer wall, type B *gopura* for the subordinate axis, and only type C *gopura* for the inner gallery. Type C was not designed according to the style and main axis of the outer wall. However, in the main axis, its design followed the architectural grammar of the outer wall. It has a lintel in style A2, a pediment in style A, and a pilaster-design in style A.

Apart from their differences in forms, type A and type B *gopura* also differ in elements. The type A *gopura* in the east was provided with the lintel and the pilaster-design of style A for the main entrance. But in the right and left wing (north and south), the subordinate entrance used a lintel in style B. Its pediment and pilaster-design have the same rank of style B type.

Although the *gopura* of the outer wall on the west displays the architectural form of style A, it is considered low ranking. Some parts of the pediment and the lintel are unfinished. The lintel in the inner main porch is in the style of A2 which signifies inferior ranking.

Right and Left System

This system is related to the subordinate axis of the first system. This is especially so in the case of type B *gopura* (north-south). Although the form is the same the elements of the *gopura* show difference in ranking. The outer side of the right *gopura* (north) is provided with a lintel and pilaster-design in style A. But the lintel used for the left *gopura* (south) is in style B.

Front and Back System

This third system is closely related to the first and second systems. This is revealed when the symbol of the back part is systematized to contrast with that of the front for both axes and is lowered to another level. The outer lintel in the main porch of the back *gopura* (west) on the outer wall displays style B while the pilaster-design is in style A. The inner lintel of the lateral porch in the northern wing is in style A2, its pediment is in style C, and the pilaster-design in style B. The inner lintel of the northern *gopura* is in style A1 while the inner lintel of the southern *gopura* is in style B1.

In the front *gopura* of the inner gallery, the outer part is provided with a lintel in style A2, a pediment in style A, and a pilaster-design also in style A. The back part, however, has a lintel in style B1, a pediment in style A, and a pilaster-design in style A.

Outer and Inner System

This fourth system is supplementary to the third one when attempting to show the graduation in the ranking of architectural elements previously mentioned.

The outer pilaster-designs of every *gopura* is in style A. But type A *gopura* in the lateral porches have pilaster-designs in style B. The inner door of the porch is a *gopura* in style A on the main axis (east-west). It uses the pilaster-design of style C. This proves the presence of ranking in the styles of pilaster-designs.

The pilaster-design of the inner door of the porch is type B gopura in style B while the one on the door in the south (left) is in style B1.This indicates that style B1 is lower in rank and as such is in order with the other elements in the symmetry.

The symbolism of Prasat Muang Tam may therefore be summarized as follows:

1. Hindu Cosmography - is clearly composed in the plan of Prasat Muang Tam together with the elements of the four systems.

2. Hindu Philosophy of the Right and Left (Siva and Sakti) - is used as symbol for creative force. Complimentary principles are used in the different *gopura* symbols on the north and the south. For example, if on the right is a male, on the left should be a female. Likewise, if on the right is Siva, on the left should be Uma, his sakti, or Agni versus Soma.

3. Symbol of Kali Yantra - as previously mentioned, the plan of Prasat Muang Tam, apart from displaying general Hindu cosmography could also serve as a *mandala* or *Yantra* in *Tantrism*. The inner gallery, which is the *manda* of a deity belonging to a *mandala*, is provided with only three *gopura*. This has never existed in the history of Khmer Architecture.

The triangle which was brought about by the position of the three *gopura* displays an inverted triangle. Its top, pointing downward is a form denoting the symbol of feminine *sakti* (energy). It can therefore be said that the symbolism fo Prasat Muang Tam is *Kali Yantra*.

The five brick *prang* of which only four are still standing, show more of the local characteristics. The stone lintel of the already crumbled central *prang* presumably represents Siva. The lintels of the surrounding four structures display Siva and Uma riding the bull, *Nandi*. Krishna, on the other hand, is shown upholding Mount Goverdhana in the northwest and Varuna riding on three *Hamsa*, wild geese, in the southwest.

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Bronze Collections in the Office of Suaka Peninggalan Sejarah dan Purbakala Jawa Tengah: A Metalographic Observation

by Gunadi

Man learned how to make tools and objects from stone and wood. This was even before he learned how to make tools from metal. In ancient times he knew only native ore and shaped it simply by hammering.

Then he learned how to cast. At first a single metal was casted; later alloy metals were discovered and casted. He learned how to improve the properties of alloy by heat and treatment after casting *(Warangkhana Rajpitak, 1983 : 1)*.

The first bronze foundry was made in 3000 BC in Mesopotamia. This technology spread in Middle Asia, India and China; then in Japan and Southeast Asia *(Tata Surdia dan Kenji Chijiiwa, 1982 : 1)*. The bronze-iron age of Indonesia developed very quickly. The society that emerged as a result were skilled in the technology of mining ores as well as the smelting and casting of the metal. This technology developed until the present.

It is not easy to find metal. In the mining area many kinds of metals are mixed naturally. For example, an analysis of ore in Blawi revealed that it contains Pb 8.95%, Cu 1.52%, Zn 3.78% and Sn 1.37% *(Van Bemmelen, 1949 : 99)*.

Therefore, once a certain kind of metal is mined, it is necessary to separate the mixed elements. There are quite a few methods of extracting metal grains. One of these is by heating. During the early age, heating was done in the open air, a simple way but without any high temperature. This method could cause volatile impurities to evaporate very quickly. These impurities may, for example in tin concentrates, consist of Fe, S, Pb, Cu, As, Sb and Bi *(Waspodo and Supriyanto, 1979 : 1-5)*.

Bronze is metal mixed with copper *(Cu)* and tin *(Sn)*. *Indonesian bronze objects of prehistoric times were often mixed with black tin (Pb)* aside from copper and tin *(Soejono, 1977 : 241)*. Analysis of bronze objects from the excavation site in Gunungwingko, Yogyakarta, by Timbul Haryono showed that the metal elements in those objects are Cu, Sn, Pb, Fe *(Timbul Haryono, 1984 : 5-6)*.

There is a felt need to develop archaeometallurgy in Indonesia. Timbul Haryono pioneered in this field with his studies and analysis of bronze objects. Until now, however, there are only a few archaeologists interested in this study.

The author, a former SPAFA scholar, is from the office of Suaka Peninggalan Sejarah dan Purbakala Jawa Tengah, Indonesia. He participated in the SPAFA Training Course in Conservation of Bronze objects held at the Bangkok National Museum, Thailand, from September 2 - November 29, 1983.

This article was discussed at the Fourth Archaeological Science Meeting organized by the Association of Indonesian Archaeologists in March 1986. The author has also written several other articles on archaeology which were published by the **Berkala Arkeologi, Artefak.**

Owing to this, I have tried to study the bronze objects in the Suaka Peninggalan Sejarah dan Purbakala Jawa Tengah collection. This attempt, however, is only a very limited metalographic approach. This approach is based on the elemental analysis of analysed samples.

Aside from the bronze collection of Suaka Peningalan Sejarah dan Purbakala Jawa Tengah, I shall also attempt to discuss the bronze objects in other places for comparison.

Now then, because of my limited samples and ability, the result of this study, using the metalographic approach, would be temporary and will thus require further examination. This metalographic approach and observation is limited in elemental analysis activity. Microstructure analysis, which must be structured in the metalographic analysis activity, cannot be done because of the lack of proper equipment.

Six samples have been analysed. Materials have been studied by Pusat Penelitian Bahan Murni dan Instrumentasi, Badan Tenaga Atom Nasional Yogyakarta. Another study made is revealed in a laboratory report analysis which found a Ganeça image in Playen, Gunung Kidul, from Suaka Peninggalan Sejarah dan Purbakala Daerah Istimewa Yogykarta.

ARCHAEOLOGY AND METALOGRAPHIC DATA

As mentioned above, my objective is to study bronze objects. Archaeological and metalographic data gathered from these objects are:

1. BRONZE AXE

Collection No.	=	75	
whole length	=	6	cm
width of sharp part	=	5	cm
width of handle	=	2	cm
hole of handle	=	1.2	cm.
other characteristics	=	there is no ornament, the colour is reddish.	

Up till now it is not known where this bronze axe came from. Based on the data above, this relatively small axe has a short handle and the blade is chubby. According to a classification made by R.P. Soejono, it belong to the thirth (III) type. Usually this type comes from West Java, East Java, South Sulawesi, Maluku, and Irian *(R.P. Soejono, 1977, 236)*.

The metalographic data is Cu = 63%, Sn = 26.4%, Zn = 8%, Pb = 0.95%

Bronze axe

2. BUDDHIST IMAGE

Collection No.	=	104	
whole height	=	6	cm
width of body	=	3	cm
thickness of body	=	1.5	cm
width of foot	=	5	cm.

This image was found in the east of Sojiwan Temple, Kebondalem Kidul, Prambanan, Klaten. The image's hand position is abhaya mudra. In Borobudur this image is on the rupadatu level. In the north it is called Dhyani Budha Amogasydha *(Soediman, 1974 : 22)*.

Its metal composition consists of Cu = 32.7%, Sn = 49%, Zn = 3.8%, Pb = 1.95% and Sb = 12%.

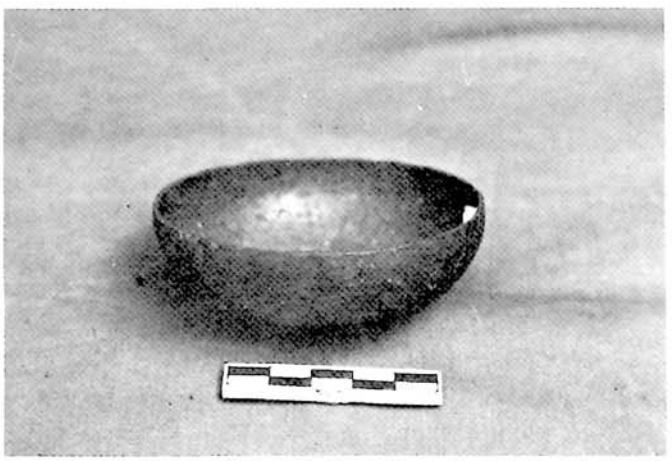
3. BOWL

Collection No.	=	140	
whole body	=	8.3	cm
height	=	2.5	cm
thickness	=	0.2	cm
other characteristics	=	no ornament	

This bowl was found with other materials *(Chinese ceramic)* used by the inhabitants of Karangnongko, Klaten. Similar bowls and salvers were also recently found in Middle Java.

Metalgraphic data are: Cu = 83%, Sn = 3%, Zn = 13.2%, Pb = 1%

Left: Buddhist image
Below: Bowl



4. THREE-HEADED IMAGE

whole height	=	8.5 cm
image's height	=	6.5 cm
width of body	=	2.0 cm
thickness of body	=	1.5 cm
other characteristics	=	sitting on ascena formed padma, has four hands with 2 front hands in dianamudra position and 2 other ones bent up.

Metal composition: Cu = 41%, Sn = 33%, Zn = 21%, Pb = 1.5%

5. GANEÇA IMAGE

whole height	=	12.8 cm
width	=	9.0 cm
width of asana	=	8.5 cm
thickness of body	=	7.7 cm
other characteristics	=	has four hands, i.e. : the back right hand carries an axe, and the left one, a camara.

There is no crescent *(ardha candrakapala)* on the crown, and its two tusks are intact. The front right hand doesn't carry the snout, and the left one with no bowl.

According to the elemental analysis made it consists of Cu = 73.2%, Sn = 9.6%, Zn = 12.55%, Fe = 2.69%. The undetected 3.97% Pb element has not been found because of limited indicator.

DISCUSSION

Before discussing the above materials, I would like to explain the different kinds of metals mixed with the real element of copper.

Bronze is a metal which is mixed with copper *(Cu)* and white tin *(Sn)*. Brass consists of copper *(Cu)* and zinc *(Zn)*. Other metals mixed with copper are phosphorus bronze, alluminium bronze *(Kenji Chijiiwa and Tata Surdia, 1982 = 41 – 42)* and also zinc bronze, i.e., bronze mixed with zinc *(Vohdin Latief and Zeinoeddin, 1982, 52)*.

Mixing copper and zinc can be done with 45% zinc. However, a good mixture should have the proportion of 70/30, i.e., 70% of copper and 30% of zinc. If the added zinc reaches 50%, the mixture will be destroyed easily. It will break into pieces or microstructurally.

Bronze consisting of only copper and white tin has bad liquid. It is therefore not good when pouring *(Tata Surdia and Kenji Chijiiwa, 1982 : 41)*. According to Daryanto there are many metals mixed with Cu, Sn and Zn and which are added to other metals. It is however quite difficult for us to find out if this is bronze or not.

Metal which has more white tin than zinc is called bronze. The zinc element adds strength and hardness *(Daryanto 1983, 48–49)*.

Based on this, the zinc element on the bronze objects in Suaka Peninggalan Sejarah dan Purbakala Jawa Tengah collection is natural. As can be appreciated in the above elemental analysis, the zinc element contained in ancient bronze materials is relatively smaller than the contents of those made in copper.

Imitation metal objects contain about 50% zinc element. But the image of Ganeça from Playen, Gunung Kidul is different; it has two replicas from Purworejo. The comparison between copper and zinc is more like in old objects.

Based on archaeological data, the imitation image was made without iconography. Aside from this, it is known that contrary to genuine ancient objects, imitations usually have bad metal mixtures. But we also have to remember the fact that the imitation image from Playen, Gunung Kidul, has good metal.

Now then, what if we find a bronze object such as a bronze image with iconography and a rational composition of metal elements.

The kettle drum, bronze axe and bronze vessel have been analysed and their elemental composition are as follows: *(R.P. Soejono, 1977 : 241)*.

Kettle Drum *(Pejeng type)* has Cu = 75.5%, Sn = 14.51%, Pb = 6.09% composition.

Bronze Axe from Pasir Angin, Bogor consists of Cu = 26.93% Sn = 37.22%, and Pb = 0.55%

Bronze Vessel from Madura has Cu = 64.40%, Sn = 15.20% and Pb = 2.83%.

There is still about 4-36% of the total composition which is not yet detected from these three ancient objects. This cannot as yet be classified as dirt or impure element. It may be zinc.

No zinc element was found in the elemental analysis of the bronze object at the excavation site in Gunung wingko, by Timbul Haryono. And the Fe and Pb elements found were dirts *(Timbul Haryono, 1984, 6-13)*. Based on this it can be concluded that the metal composition of bronze rings consist of Cu and Sn. It is pure bronze; free from zinc.

Bronze objects with Cu and Sn composition were also found by Bayard in Non-Nok Tha, Thailand. The analysis, using x-ray fluorescence, revealed that its metal is composed of Cu 94 - 96% and Sn 4 - 6%. *(Pisit Charoenwongsa and Subhadradis Diskul, 1978 : 43)*.

From the foregoing metalographic data, we now know that good technique was used in the metal works. So, if we extract a certain metal, a complicated working process ensues.

For example, to get copper, first we have to find sulphate copper *(Cu Fe S2)*, with 34% Cu. It should be heated repeatedly until it is melted together with *kokas* on fire. To get copper with 90% Cu, we have to find copper stone which must be heated until melted. We have to change it in a converter to get copper with 98% Cu, then we put it on the fire. If we need copper with 100% Cu, we must do it electrolytically. The same goes for Zn, Sn and Pb.

It has been previously mentioned that to extract a certain metal, first we must prepare it in the open air. The metal grains are warmed repeatedly. Because metals often mix naturally with each other and if this is done without proper equipment, the metal extracted will not be as pure as it shoud be.

How did our forefathers then extract metal grains? Perhaps the ore consisting of metal grains was heated in a kowi *(bowl)* on fire. After the metal grain became liquid, it was poured on a wood or clay cast. *(Francis Celonia, 1973 : 78-83)*. This technique of pouring is known as the lost wax process.

Three-headed image

Left: Ganeça image

CONCLUSION

1. Cu, Sn, Pb, Zn and dirt or impurities are elemental composition of bronze objects from the Suaka Peninggalan Sejarah dan Purbakala Jawa Tengah collection. This applies to both originals and imitations.

   The percentage of zinc in ancient objects is smaller than in the replicas. The Buddhist image in collection no. 104 however has a different composition; it has 12% antimony element.

2. Bronze mixed with zinc is a natural metal mixture especially in pouring work. Aside from adding hardness against corrosion and oxidation, the zinc element also adds power.

   But zinc alone is a bad metal. In other words, it can be concluded that the zinc element is an indicator; it fixes the quality of the bronze object.

3. The Ganeça image from Playen, Gunung Kidul deviates from the iconography structure. But its elemental composition is rational *(like ancient objects)* and its metal quality is good.

   What is important is that if we encounter imitation objects like this image, we must consider the reason connected with the copy making of this archaeological object.

Another method of distinguishing a genuine archaeological object from an imitation is what I have seen in Thailand. Before selling archaeological objects, owners submit their artifacts to museum officials for observation. Once verified, a special mark is then put on the objects to distinguish the genuine from the imitation.

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Deciding to computerize your museum?

Computerization is not a cure-all remedy. It is only part of the treatment

A number of museums cannot easily ascertain what they have, what they are supposed to have, or where each object is located. The pressure to do something about the state of their collection documentation and the major innovations in data processing lead many museums to undertake computerization projects with the belief that automation could control and improve documen tation.

Computers are wonderful machines. They assist in the performance of tasks that are normally difficult and time consuming to do manually. They do not only simplify and improve the efficiency of collection registration but also assist in facilitating better research and reports, exhibits, budget planning, labelling, administration, and other museum functions.

Nevertheless, computerization is not a cure-all remedy. It is only part of the treatment. Therefore, before plunging into the computer age, it is important to fully understand the museum's existing manual systems and take steps to correct erratic structures. Only then will information be easily fed and maintained in computer formats.

As non-profit entities, museums have formidable constraints on their budgets. But with the help of grants, a computerization plan could easily become a reality. It would however be wise to first take a hard look at the existing situation. The following process could also help in deciding whether or not automation should be set to motion.

1. Read about computers in general and investigate methods

used to computerize museum records. Examine computer projects in various disciplines and museum environments. Know the pitfalls encountered and how other museums have avoided them. Talk to colleagues in other museums about how they use computers.

2. Analyze the museum's manual operations. Identify the various existing files, forms, and procedures. Know how they interact to produce information and documentation. A sound knowledge of the manual system is necessary for the provision of a solid data to those designing and implementing the automated system.

3. Determine the problems and difficulties of the manual system. Know the roots of the problems and decide if automation could really help solve them.

4. Make a list of priorities for activities to be computerized.

5. Seek the help of a computer consultant experienced in several types of systems and who does not represent a particular manufacturer. Ask him to evaluate your assessment of the problems and needs and to recommend the level of equipment (hardwares) and programmes (softwares) most suitable for the museum. Let him list applicable hardwares and softwares.

6. Decide whether or not to use computers. Because of the usually small museum budget and the high costs involved, it may be unfair to automate if there is no pressing need. It may even be better to postpone. Wait and see, softwares for museums may soon be available commercially. Hardwares are also getting cheaper. "If it works – it's obsolete" is a saying that sums up the computer industry and its high speed technological development.

7. If computerization is solely the answer to your difficulties then start setting your short-term and long-term project goals. Develop a master plan for implementation and list steps to be followed to accomplish each goals. Create a timetable.

8. Begin with a small project. After the computer has been purchased, aim for a project that could be completed in a month or two. Use the project to help the staff learn how to use the equipment. Errors in a small project are not as serious as those in larger ones. And the satisfaction of successfully completing a small project soon after the computer is installed could create a positive impact on the attitudes of the staff and the administration towards automation.

CHIN- Linking Canadian museums through computers

Museum collections in most developed countries are increasingly getting more readily available to scholars and others at home and around the world. In these countries, museums with computer terminals or microcomputers are even able to communicate with one another through electronic telecommunications networks.

In Canada this works under a programme known as the Canadian Heritage Information Network (CHIN). Initially conceived as a central computer-based inventory of Canada's major museum collections, CHIN is presently managed by the National Programme's Branch of the Department of Communications (National Museums of Canada).

CHIN was primarily designed to increase public access to museum collections and to preserve these collections as a national resource through their care and documentation. Hence, it maintains a national inventory and encourages information-sharing. The programme also provides member institutions with the means to improve their collections management systems by the use of suitable modern technology. For this purpose, CHIN has created an advisory service, on the use of new technology, to the Canadian Museum Community. State-of-the-art computer technology, sophisticated computer programmes, and a national telecommunications network linking museums to one another were all combined to make up this unique national programme.

Through CHIN's computer system, better known as PARIS (Pictorial and Artifact Retrieval and Information System), museum professionals are allowed to store, retrieve, manipulate, and exchange large amounts of detailed information quickly and efficiently. As a result, the computer system now contains over 2.5 million records, representing some 5 million objects. Over 150 institutions all over Canada are presently associated with the CHIN/PARIS network.

Member museums all over Canada can directly enter data, from their premises, into the mainframe computer in Ottawa and perform their own searches. Each member has its own institutional data base in the central system. And this could either be in the humanities, the natural sciences, or both. As terminals on museum premises are directly connected with CHIN's mainframe computer, users can ask questions, get immediate answers on their terminal screen, and add or delete information as often as required. The CHIN staff could also be requested for guidance and to produce formatted reports.

CHIN is building two national data bases: one for the humanities and the other for natural sciences. These are based on the institutional data bases. Among the various reasons for searching the national data bases are: to assist in collecting by listing the types of material already held in public collections, to assist in cataloguing like objects, to support loans or exchanges, to plan in-house and travelling exhibitions, to identify the distribution of specific materials, and to locate particular artifacts. In other words, the national data bases are intended to make information on Canadian collections more widely available.

The general public are given access to these data bases through the CHIN office in Ottawa or through participating institutions.

The PARIS computer system accepts data in the natural language and responds to commands in English or French. Nevertheless, to assist users, CHIN has published data dictionaries for the humanities and natural sciences. These dictionaries list and define all the data fields or categories of information available in institutional data bases. And because each definition explains how information could be entered and retrieved, the records are clear and consistent. This makes PARIS relatively easy to use and quickly understood by all users.

The CHIN staff are actively researching questions of museum documentation and automation. For example, their work on data dictionaries is an on-going task. And, as the needs of museums change, they will continue to keep pace with the help of computer technology and their new applications.

SPAFA AFFAIRS

REPORT:

Training on Preventive Conservation

by Marilou M. Dancel

Prolonging the lives of museum objects is a must. They are of great importance to men since they represent important events relating to their existence.

A museum curator, including the different personnel in charge of valuable and historical items, is obliged to ensure that these objects are handled properly and are not subjected to conditions that will cause their deterioration. It is for this purpose that the ***Training Course on Preventive Conservation of Museum Objects*** was offered by SPAFA to curators and other museum personnel of Southeast Asia.

The training course was held, from November 2 to December 31, 1987, in the Conservation Section of the National Museum of Bangkok, Thailand. It was attended by participants from Indonesia, Malaysia, Singapore, Philippines, and Thailand. The training was divided into lectures, practical works, and visits to the different museums.

Top: A trainee diligently writes his observation during one of the museum visits.

Above: Posing for a group picture are participants of the Training Course on Preventive Conservation of Museum Objects during the Opening Ceremony at the Bangkok National Museum.

The author is a Research Assistant of the Philippine National Museum. She was also one of the SPAFA scholars in the Training Course on Preventive Conservation of Museum Objects.

This article is based on the required report submitted by the author as a trainee in the said course.

Theory and Practice

Lectures were given by experts and by a number of personnel from the National Museum of Bangkok. The series of lectures dealt with theories touching on the role of curators in the conservation or preservation of museum objects, guidelines for prolonging the lives of museum or art objects, different objects on display and their natures, precautions on their handling, storing, exhibition, and many others.

The trainees enjoyed the practicum best. They were divided into groups when performing activities. Among the many practical works done were chemical testing of conservation materials and mechanical cleaning of museum objects, measurement of relative humidity, temperature and light intensity of a specified gallery using different devices. Every participant in the training course was assigned a task. But as a member of a group, his work was conglomerated with those of others to form the group report.

Study Visits

Another interesting part of the training were the field trips to 21 different museums. Both government and privately owned museums in Bangkok and nearby provinces were visited and observed. This enabled the participants to acquaint themselves on the various conditions affecting museums.

Observation

There are various types of museums. To mention a few, they are historical, biological, scientific, and archieval. Organizers of the training course endeavoured to include in the field trips as many types of museums as possible. And as part of the course, the trainees were asked to make observations and comments on the museums visited.

Most of the scientific and biological museums seen were new and properly installed. And since most of their objects are inorganic, they are not usually faced with complicated problems of maintenance.

Many of the private historical museums visited were also new and, of course, still well-kept. However, it was observed that the lighting technique in these museums has seemingly been overlooked. Sunlight, which has a great amount of ultraviolet rays, was allowed in through widely opened windows and doors. In addition, strong spotlights were seen to illuminate museum objects. Some wooden and stone museum objects were even used as decorations outside in the garden. As a result, they were not only grossly exposed to sunlight and the elements but also plants grew on them. In one private museum some exhibits were improperly mounted and could, as a result, cause stress and strain on the objects. In the same museum, skirts were seen hanging on unpadded and corroded metal rods. A tapestry was pinned directly on the wall. Metal objects were placed on top of textiles. Strong amount of light, improper mounting, and the very high humidity caused by plants surrounding the museums accelerate the deterioration of museum objects.

All the museums of the Thai Department of Fine Arts are generally properly maintained. However, some of the showcases in one of the regional museums were dusty and dirty. Woods used for showcases emitted acid and stained

Visiting Bangkok's Science Museum

the cloth lining as well as the museum objects inside.

The mounting and labelling techniques used in another regional museum could still be improved. Objects were labelled with scotch tape, paper tape and staple wires. Metal rods were noticeably used in the mounting of stone objects.

One of the most important museums visited in Bangkok seemed to have the greatest number of problems in terms of conservation. During our visit, most of its galleries were observed unsuitable for display especially for organic materials. It had wide open doors and windows wherein moisture and sunlight enter. The ceiling was noticed to be a breeding place for bats and birds. Some objects displayed needed treatment or repair. A number of showcases had so many objects on display they appeared crowded.

Recommendations and Future Plans

All museum personnel should be made aware of the importance of museum objects. Higher level museum authorities should endeavour to educate all their staffs by arranging orientation programmes for them. In addition, they should be taught on the proper handling, mounting, storing and transporting of these objects. Curators should work hand-in-hand with conservators. And to assist others, they should also extend their conservation services to both government and private museums.

As a result of this SPAFA training course, I have planned to do the following for the Philippine National Museum:

1. Inform higher museum officials on the importance of *preventive conservation* in order to develop a sense of awareness on the value and security of museum objects.

2. Assist in the orientation of all museum personnel in order to awaken their curiousity and awareness on the proper handling of museum objects.

3. Prepare suggestions on the necessary improvements or changes for and a standard procedure on the handling of museum storage and exhibitions.

4. Emphasize the needs of personnel for training in courses such as ***Preventive Conservation***

Conclusion

The ***SPAFA Training on Preventive Conservation of Museum Objects*** is an appropriate training for curators. It provided the Southeast Asian participants a sense of awareness for conservation of museum objects. With knowledge earned from this training, curators and other museum personnel will be better able to recognize early signs of deterioration and their necessary treatment. More importantly, through the SPAFA alumni, more museum staff members could learn a more systematic way of handling, storing, mounting and transporting museum objects.

Mrs. Suleiman passes away

Mrs. Satyawati Suleiman, former SPAFA Governing Board Member for Indonesia, passed away at the age of 68 on Friday, February 26, 1988, at 9:30 A.M. She is survived by her husband, Mr. Suleiman Djajamihardja and five children.

From March 1978 to February 1984, Mrs. Suleiman was a Governing Board Member of the SEAMEO Project for Archaeology and Fine Arts (SPAFA) in her capacity as a Senior Research Scientist at the National Research Centre of Archaeology in Jakarta Selatan, Indonesia.

Mrs. Suleiman was educated at the University of Indonesia. She has written a large number of articles in the field of archaeology and has participated in several national and international scientific meetings. Owing to the recognition she has earned, she has also become Indonesia's Cultural Attache in New Delhi and London.

Museology Training

by Jovita Napao

Today museums play a vital role in transmitting and advancing knowledge. Their collections, researches, publications, sponsorships of lectures, forums, and other outreach programmes including the setting up of regional museums and television shows reveal their dynamic role in the education and cultural advancement of communities.

The society's greater expectations of contemporary museum functions have prompted SPAFA to train museum personnel in Southeast Asia to meet increasing demands from various sectors of the public.

From March 15 - May 15, 1988, therefore, eleven middle-level museum personnel from Indonesia, Malaysia, the Philippines and Thailand underwent the **SPAFA Training Course in Museology and Museum Contribution to Community** in Bangkok, Thailand.

The training course was organized in coordination with the National Museums Division of the Fine Arts Department of Thailand. It was implemented to provide the participants with professional competence in the field of Museum Administration and to develop in them appreciation of the preservation and promotion of cultural heritage. The training course also provided practical experience in the application of the administration and management principles relevant to the role of the museum as an institution for the promotion of cultural identity for the community.

Trainees are shown posing for a group picture with Mrs Somlak (third from right, middle row) and Mr Waterton (second from right, last row).

Aside from the series of lectures and discussions held, the participants visited different museums and other government agencies for first-hand observation of different organizational set-ups. An out of town trip to Chieng Mai and other northern provincial museums further increased their cultural knowledge.

Mr Eric Waterton's assistance in the training course was made possible by the funding and support of the Canadian Government. He is the incumbent Assistant Director of the Provincial Museum of Alberta, Canada. Mr Waterton, together with Mrs Somlak Charoenpot, organizer for the training course and Head of the Bangkok National Museum, and other invited experts from Italy, Malaysia, Sweden, and Thailand comprised the lecturers and resourse persons of the training course.

The participants of the training course were : (Indonesia) Tedjo Susilo, Soekartiningsih Soedarno, (Malaysia) Zainab Bt Ibrahim, Raiha Bt Mohd Saud, (the Philippines) Dominador Cajucom, Jr and Jovita Napao, (Thailand) Somchai Na Nakhonpanom, Saengchan Traikasem, Phanit Chitlekha, Siriphan Thirasarichot and Sakchai Pojnunvanich.

Canada's Contribution

Two Canadian experts, with the funds and support of the Canadian Government, assisted as lecturers and resource persons in the training of SPAFA scholars.

Mr Eric Waterton, Assistant Director of Alberta Culture Provincial Museum, assisted in the Training Course on Museology and Museum Contribution to Community held in Bangkok. Mr Mario Poulin, on the other hand, is an Anthropology Department Coordinator and Professor at the Edouard-Montpetit College in Quebec. He assisted in Malaysia at the SPAFA Training Programme on the Promotion and Development of Handicrafts and Folkcrafts for Social Development.

Before taking up their assignments they were brought to villages in Ayutthaya and Ratburi provinces of Thailand for first-hand observation of local handicrafts.

Posing at the ancient Prasat Nakhon Luang Palace during the fieldtrip in Ayutthaya Province are (from left) Assoc Prof Kamthorn Kulachol, Prof Chulatat Payakaranon, Wynette Puntuna, Mr Waterton and Mr. Poulin.

Upcoming Publication

A Preliminary Survey of Music Instruments of Central Mindanao, Philippines (Region XII), a book written by Helen S.Tejero and edited by Dr Fe Prudente, is coming out very soon.

A former SPAFA scholar in Ethnic Music Research, Tejero is presently with the Department of Education, Culture and Sports of the Philippines. She is a General Education Department Supervisor assigned to music and art education in the Division of City Schools in Iligan City.

Her book, resulting from her ongoing two-year study project started in 1986, attempts to provide an overview of music in Central Mindanao. The region is a cross section of diverse cultures as reflected by their many types of musical instruments and songs.

Central Mindanao is sprawled on an area of 23,053.2 sq km of rolling terrain. It is composed of five provinces namely: Lanao del Sur, Lanao del Norte, Cotabato, Sultan Kudarat and Maguindanao.

Tejero's study, which hopefully ends in December 1988, covers eight cultural communities:

The *Maranaos* constitute 91.5% and 33.6% of the populations of Lanao del Sur and Lanao del Norte respectively or a total of 572,000. The *Maguindanaos* constitute 73.2% of the population of Maguindanao Province, 17% of Cotabato and 9.4% of Sultan Kudarat or a total population of 516,000. These two groups of people are Muslims.

The *Manobos* of Cotabato Province number around 149,000 or 27.5% of the population of the province. The *Bagobos* of Cotabato are estimated to number 39,000 or .071%. The *Tirurays* of Maguindanao, Sultan Kudarat and Cotabato are around 92,000 or .067% of the three province's populations. The *T'bolis* of Sultan Kudarat are around 50,000 in number or 17% of the population of the province and the *Tagakaolog* are 8,500 in number or .03% of the same province. The *Higaonon* of Iligan City, Lanao del Norte province are around 2,737 in population or .016% of the city's population. These six groups are lumads or non-Muslims.

Top: Saronai from Maguindanao, eight baby gongs arranged horizontally.

Above: Tugo from Tiruray, a bamboo zither.

Helen S. Tejero - "I would like to express my gratitude to SPAFA for availing me a scholarship in Ethnic Music Research. I have decided right after my training that research will become a life-long work for me."

Inspired by the interest her study on the music of Central Mindanao has drawn, Tejero intends to deal with more in-depth studies on the music of the peoples all over the Philippines.

Agong, a large Maranao gong.

SPAFA Senior Specialist in Visual Arts

Bertoldo J. Manta may sound like any other Pilipino name but he is the Philippine's first artist to have come from a cultural minority group. Bert, as he is fondly known, originates from the island of Mindanao in the Islamic city of Marawi.

He is the first to hold a Maranao Ethnographic Art Exhibit and the first Maranao to earn a Master's Degree in Fine Arts. And now, Bert is also the first Specialist in Visual Arts of the SPAFA Regional Centre.

Not a stranger to SPAFA, he is all smiles to be working again with the Centre. "My expeience as registrar at the SPAFA Sub-Centre in the University of the Philippines is one of my most memorable," he says. "It gave me the oportunity to have direct contact with the different art teachers of Southeast Asia and learn their culture and art education trends."

Painting and art education are Bert's forte. As an artist his works concentrate mainly on the rich ethnographic motifs and decorative arts of the Pilipino muslim. Attesting his expertise is the Philippine Embassy in Saudi Arabia where his paintings are prominently displayed.

Professor Bertoldo J. Manta

Prior to his post at SPAFA, Bert was often invited to join national and international art activities. For example, he was frequently called to act as a resource person in national activities like the Art Education Programme of the Philippines. In the international level, he was a committee member of the Secretariat at the International Society for Education through Arts of the Republic of the Philippines (INSEA-RP, ASIA) and the Philippine's Art Consultant in Visual Arts at the Philippine Embassy In Saudi Arabia.

For more than 26 years he has taught arts and crafts in the rural and urban areas of the southern Philippines. He became one of the outstanding Industral Arts Teachers in the Division of City Schools, Marawi City.

A consistent UP scholar in the field of arts, Bert has earned a number of awards and scholarship grants. Altogether he holds four degrees: Master of Fine Arts, Master of Vocational Education, Bachelor of Fine Arts, and Bachelor of Science in Elementary Education.

He is a faculty member of the College of Fine Arts and the Department of Professional Education, lecturing in both the graduate and the undergraduate level, at the Philippines' state university, the University of the Philippines.

"I am looking forward to the development of the vast potential resources of cultural arts in the region, not only for enriching the information of our Centre but also, more significantly, for reinforcing and expanding pride and revaluing the richness of traditions and of mankind's past achievements," says Bert.

Handicrafts and Folkcrafts

Handicrafts and folkcrafts are part of the living traditions of Asian communities. They continue to serve the daily needs of the people not only in the villages but also in the cities.

Since handicrafts utilize readily available materials and manpower, handicrafts and related activities provide enjoyable creative activities as well as employment. Realizing the benefits SPAFA, with the funds and support of the Canadian Government, has launched a series of training programmes on the Promotion and Development of Handicrafts and Folkcrafts for Social Development.

The first of the series started in Malaysia and was held from April 5 to May 5, 1988. It was organized in cooperation with the Malaysian Handicraft Development Corporation. The second of the series will be held in Indonesia in 1990 and the third, in the Philippines, in 1992.

Training participants are mainly art teachers, artists and craftsmen with background in fabrication, designing and promotion of handicrafts in his or her own country. After the programme, the SPAFA trainees are expected, among other things, to design, produce sample handicrafts which could have market potentials.

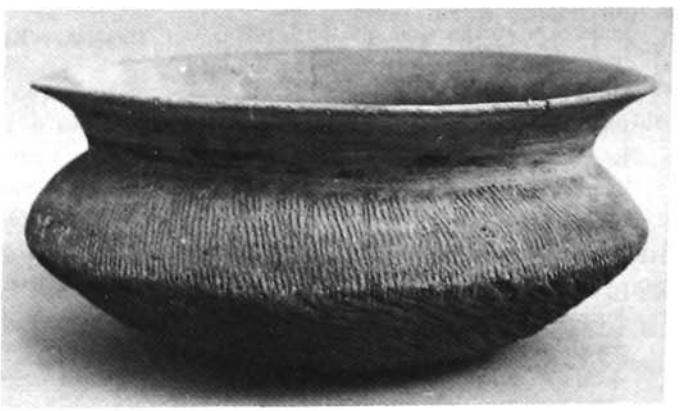
"These samples should be utilized as models for local craftsmen", says SPAFA Director Prof MC Subhadradis Diskul. "By training the community people to produce handicrafts and by helping them to sell, new sources of additional livelihood are created."

INTERMESSAGE

Kampung Jenderan Hilir

Left: Malaysian and SPAFA Scholar Ms Leong San Heng

Below: A piece of pottery with cord-marked design



About 130 neolithic sites have been discovered in Peninsular Malaysia. To date, Kampung Jenderan Hilir is the only scientifically studied open neolithic site.

Malaysian and SPAFA scholar Ms Leong Sau Heng says the area around the Kampung Jenderam Hilir could have been a feeder point for the entreport trading at Pengkalan Bujang. The site, discovered in 1977, was first excavated on a small scale in 1979.

Located on a privately owned land in Kampung Jenderam Hilir, Sepang, it is about 40 kilometers from Kuala Lumpur. It is near the confluence of Sungai and Sungai Semenyih.

The site is multi-component meaning to say it bears evidence of having been lived in continuously from the Neolithic age onwards. Among the artefacts discovered were sets of round anvil stones and flat slabs of granite used for pot-making and adze carving.

From the archaeological finds, it has become evident that its inhabitants were a firmly settled farming community. They existed around 2000 B.C. This was brought to light when several stone adzes and about 44 heavy stone equipment for pounding and grinding purposes were discovered. They weighed approximately one to seven kilogrammes.

About 30 attractive clay pots were also found. Their cord-marked designs were created by pressing woven cord into the still west clay. The pattern was not only aesthetic but also functional. It prevented the pot from tipping over.

An analysis of the pots revealed they had a higher phosporous content than the clay found near the site. This is highly indicative of the decomposition of organic matter associated with human activity. Such organic matter may include residues of human and animal excreta and food-type debris.

The civilization that once existed at the site was far from primitive. The neolithic community polished their artefacts. This shows they were already advanced in the manufacture of stone implements.

A number of bronze bowls were also recovered. This indicates the continuous settlement of the site during the Bronze Age. The ceramic and stone wares found in the area could be dated between the 12th and early 13th centuries.

Among the other discoveries were tin ingots, weighing between 2.5 - 3 kilogrammes. They were probably used in barter trading, not later than the 14th century.

This neolithic site is presently under almost 10 meters of water resulting from the tin mining activities in the area. The constant sluicing of tin-mining also damaged unexcavated artefacts, flooded the 8 excavation area and brought archaeological work to a halt.

According to Malaysia's New Straits Times (Tuesday, April 5, 1988) archaeologists have, in 1983, abandoned an attempt to undertake full-scale diggings because of the high water table in the hills surrounding the site. The same archaeologists, however, are now saying they may conduct full scale excavations, if given the funds.

The SPAFA Digest is a medium for the views, research findings and evaluations of scholars, researchers and creative thinkers in both regional and international forums on southeast Asian archaeology, performing arts, visual arts and cultural-related activities.

The opinions expressed in this Digest are those of the contributors and do not necessarily reflect the opinions of SPAFA

FOR CONTRIBUTIONS FROM READERS

Manuscripts should not exceed 20 typewritten double-spaced pages. Related photographs or illustrations and a brief biographical paragraph describing each author's current affiliation and research interests should accompany the manuscript.

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