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Merchants, Merchandise, Markets:
Archaeological Evidence in Thailand
Concerning Maritime Trade Interaction
Between Thailand and Other Countries Before the 16th A.D.

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Abstract

This article uses archeological evidence to indicate that humans on Thai soil had been engaged in maritime trade with other countries since prehistoric times. The inhabitants of settlements in this area already possessed a sophisticated culture and knowledge which made it possible for them to navigate sea-faring vessels, which took them on voyages and enabled them to establish outside contact before the arrival of navigators from abroad. Why then, were Thai sailors not well known to the outside world? This can partially be explained by the fact that they rarely travelled far from home as was the practice of Chinese and Arab soldiers. Furthermore, the availability of so wide a variety of resources in this region meant that there was little necessity to go so far afield in search of other, foreign commodities. Coastal settlements and ports were successfully developed to provide services, and markets were established with the local merchants who consequently become middlemen. Foreign technology was adapted to create industries which produced merchandises for export in accordance with the demand of the world market. At the same time, trading contacts with various countries had the effect of changing, to no small extent, the culture and society.

This article attempts to examine not only the native merchants who were involved in the transactions but also the foreign traders who came from the countries to and from which goods were exported and imported. What were they like?

1. Thailand and The Maritime Interaction in Prehistoric time

Archeological evidence in Thailand very strongly suggests that prehistoric predecessors lived in this area as long as 600,000 year ago. Rough stone tools were found in the basalt layers at Mae Moh District, Lampang Province during survey while excavations have established that the first evidence of human activities dates to 7.000 - 1.780 year ago at Lang Rong Rien Cave (in Krabi Province). This is a limestone rock shelter where human activity appear to have been continuous until about 27,350 + 670 years ago (Anderson, 1986 : 10-21).

Between, 25,000 – 22,000 years ago, there was a natural environmental crisis which was to have a direct effect on mainland Southeast Asia, its history and its inhabitant's relationships and contacts with other regions.

The sea level decreased by 120 meters (Dunn, 1977: 4-6) below the present level and such events resulted in a population increase brought about by the ease of travelling to and from islands and islets. Human migration would result in settlements in caves on islands (which were mountains at the time) which would have been further inland relative to the coastline today.

When the sea level rose again between 8,500 – 5, 700 years ago, some pieces of the land become islands again so that mainland people become islanders. To come into contact with the inhabitants of the mainland, water transport was necessary. Paintings depicting ships and rafts and activities associated with water transport on caves and on cliffs of islands or mountains – prehistoric art galleries located both far from the coast and also so close to the water that they are entirely surrounded by water – in southern Thailand, are proof enough of their existence.

During this period, prehistoric communities in the southern interior areas used waterways to establish contact with the coastal settlements and in the process, they received ornamental marine shells (which date to 6,000 years ago). An example of a site where such evidence was unearthed is the Bueng Baeb Cave Site in Khirirat Nikhom District, Surat Thani Province (Sriruchat, 1987: 1003-117).

To suggest that there were contacts between the coastal and inland settlements and inland settlements in the south is hardly a surprise since the south is a narrow strip of land, the coasts of waterways. However, the discovery of marine shells in the plateau of northeastern Thailand was an unexpected discovery given its considerable distance from the sea. The discovery of ornamental cowries and large clam shells found at Non Chai, which are about 3,000 – 2,000 years old suggests that there seems to have been an exchange of goods throughout a very extensive area among rather diverse communities.

It is worth noting that a special group of ornaments made of sea shells was very popular (and of similar forms) in communities in Thailand and in other regions of Southeast Asia. It has not been ascertained which communities produced these high status items and which ones used them as a form of exchange goods had utilitarian functions.

About 5,500 – 5,000 years ago agricultural communities appear in northern Thailand. These people appear to develop rice cultivation and the domestication of the buffalo.

Evidence for the existence of these early rice farmers is present on Non Nok Tha, Ban Na Di, Ban Khok in Amphoe Phu Wiang. About 2,000 or 3,000 years later, there is evidence that metallurgy was being practiced in Ban Chiang and subsequently, bronze too was being manufactured here (Charoenwongsa, 1989: 47-50). It is understood that the bronze technology of Ban Chiang spread to other communities in the northeast and other parts of the country. Evidence for the production and use of bronze at many other sites in later periods has been found and it is known that distant regions also had access to this technology. The hypothesis that the diffusion of these ideas actually crossed seas has yet to be substantiated.

Records from voyages to this region of the world in the early historical period make reference to "Suwannaphum" ("Land of Gold") – a region rich in resources and highly developed culturally, particularly in terms of art and technology. It had been an agricultural society for some time, which then learned the finer points of metalworking (first bronze and then iron) and developed a very sophisticated metallurgical tradition.

There is evidence for a prehistorically advanced bronze technology here but the debate continues as to the exact location of the exact of The Land of Gold referred to in the ancient texts. Thailand itself did not have a great deal of gold and it seems likely that gold was never plentiful in this region.

Alternate explanations have been suggested in an attempt to identify this Land of Gold:

- a) Perhaps such a reference arose from the knowledge that the land was rich in resources that could easily be bought and sold in a large market. It is easy to imagine an endless supply of money (i.e. gold coins) circulating in such a busy commercial center.
- b) "Suwannaphun" could be referring to bronze, the color of which resembles gold. The local people were more adept at producing/using and developing this material than elsewhere, as reflected in the 4th century EC site at Don Ta Phet where the bronze bowls, obviously produced by exceptionally skilled craftsmen are as beautiful to look at as they are difficult to emulate.
- c) It is also possible that this identification truly means that gold could be found in this region, that it was of good quality and that the technology employed in the manufacture of objects was of a high standard. The area might have become renowned for its goldsmiths whose techniques could well have developed as a result of their long-standing familiarity with bronze technology, which had been developing since prehistoric times.

The site of Ban Chiang could have been the starting point for the development of bronze metallurgy, suggesting the existence of an advanced level of culture on Thai soil whose people were ready to take part in relationships with foreign people coming from overseas. Bronze objects might have been in demand by distant markets and navigators who made contact with these craftsmen and their agents not totally transmitted their culture to the inhabitants but may also have taken locally produced implements back with them.

However, it is difficult to explain the presence of glass beads in the latest cultural layer of archaeological record at Ban Chiang (White, 1982: 76). The study of these beads which are about 2,300 - 1,800 years old distinguishes them from other beads circulating in the markets where glass beads were produced in the Middle East, India and the Mediterranean coast. One cannot say with any certainty that these beads were produced locally for the reason that evidence for bead production at this settlement is absent the evidence for metallurgy.

On the other hand, the knowledge of the pyrotechnology utilized for the development of metallurgy may well have been adapted. Ban Chiang villages, however, did not need to produce glass beads if they could import them. The dates assigned to the latest cultural layer at the site coincide with criteria stages of maritime contact in many parts of the worlds all of which are known to have been based on the maritime silk route.

II. Maritime Trade Prior to the Advent of “Monsoon Navigation”

The same maritimers in the south who created drawings on cave walls and ceilings and rock faces in and on mountains, which are surrounded by the sea at Phangnga, may have been the pioneers of sea travel who would participate in contacts by water on a large scale.

Apart from the cave art created 3,000 years ago (depicting water crafts as well as dolphins and sea animals which dwell in the open sea, Khao Koh Panyi and Phi Hua To Cave, Krabi) other material evidence for water borne vessels, whether they were rafts or ships, has decayed with the passing of time due to the organic, perishable nature of their components. Presumably, one type of vessel used in this early phase would have been “dug out”, (in which one side and the center of a single log would have been dug out) but no evidence for such a craft has been found in this cultural area. However, investigations of cave sites revealed the existence of similar vessels in the northern and central regions. These “boats” are not exactly “dug out” but their design suggests that they were used as coffins, perhaps immersed in water, a practice to which the Kamus adhere today.

Although the discovery of sea shells on the high ground far from the sea may suggest that the interior-dwelling, prehistoric people travelled to the sea and that they probably did so with

the aid of some sort of boat, it does not necessarily mean that an extensive maritime trade network existed at that time. It was not until 2,000 – 2,500 years ago when the people came to understanding the monsoon evidence support the idea that people were coming across the seas from both east and west to Thailand. This evidence includes;

1. Bronze drums were discovered which were popular in China and Vietnam and which were known as “Heger type 1” drums (Heger, 1902). These drums have been found near the coasts and waterways in the north (at Uttaradith), in the central plain (Ongbah Cave), in the South (Ko Samui) and also at Chaiya and Tha Rua next to the rivers which flowed into the Gulf of Siam (likewise in Cambodia, Burma, Laos, Malaysia and Indonesia). In Malaysia it has been possible to scientifically date the drums to the 5th – 1st century BC (Tweedie, 1970). Some of these drums are decorated with pictures of boats carrying either spirits of the dead or men with bird-like headdresses.

The discovery of these drums in Thailand ought to point toward the theory that contact with the Far East (China) had been established and elements of these drums and brought them into the region for ritual purposes to support religious beliefs which might have entered the area around the same time that the people began to produce their own drums.

2. Glass and stone beads as well as shell pendants in graves at the burial site at Ban Don Ta Phet, date to about the 4th century BC (14: 360-390) (Glover, 1990 : 155). The excavator of one orange carnelian object made in the form of a lion has found that it originated in Taxila, Pakistan. Earrings and a pendant of a two-headed animal were made of nephrite resemble those found at Don Rahkang, Shuphanhi Province and objects of the bronze culture of Sa Huyng in Central Vietnam (Glover, 1989: 329). The excavator believes that these objects were imported from Vietnam. Another piece of important evidence is the presence of glass beads which, through chemical analysis, have been identified as having Mediterranean origins. Thus, in 4th century BC ships were arriving from west India and the Mediterranean, as well as from the east (Vietnam) to take part in commercial transactions in the region.

The people who were eventually buried at Don Ta Phet may have made the journey along the waterways to trade directly with the foreign ships or they may have procured some of these goods from communities next to the sea who had been in commercial contact with foreign merchants. These goods may be considered “luxury goods”. Apart from the value the objects may have had to their owner while he was still living; the dedication of these rare

goods also represents the intention by the living to demonstrate affection and respect for the dead.

It can be surmised that 400 - 500 years before the discovery that a sailor could use monsoon winds to his advantage, an already significant trade was occurring between west and east. Overseas navigators had come to Thailand and earlier archeological sites reveal that the local people were purchasing considerable quantities of goods from overseas prior to this time but it is not clear which goods were involved in these transactions.

Maritime trade of this period still presents a blurred picture due to the paucity of evidence and sites possessing data, which could throw light on the subject. The presence of “foreign goods” in the burials at Don Ta Phet suggests their use in rituals but we can not say how these goods came to be at this site and no evidence for trade routes or information about ports in direct contact with foreign ships exists at this time period. However, we do not know where the exotic items came from and we can therefore make educated guesses at the nationalities of the people who brought them.

3. The First Ports and International Market and the Role of Local Products

In the archaeological record, the first coastal ports appear around the beginning of the Christian era when the monsoons blew in those early ships whose captains were brave enough to try using the predictable winds to propel their vessels. This newly-found method of navigation meant that voyages could be made more quickly and with the increasing number of ships reaching the shores of this region, there was a need to develop settlements next to the coasts for the mooring of ships. From that point commercial ports and markets developed. Archeological findings lend evidence to the existence of many such ports. Some of these ports prospered only for a limited period of time but other persisted through many epochs.

The prosperity and growth and decline of towns did not depend entirely on geography. There were other factors which also influenced these conditions such as the political situation of the day, the degree of efficiency involved in the management and administration of the port so that they were in harmony with the events of the time and the popularity of certain sailing route. In some period a port might also have been a production site for goods in demand abroad and in others it might have been a capital city.

Archeological evidence from two sites in the south suggests that they might have been ports during this initial period (Khuan Lukpat, Krabi Province and Khao Sam Kaeo, Chumphorn Province). It has been surmised that these were trading sites during the 1st and 3rd centuries AD, with Khao Sam Kaeo serving the east and Kuan Lukpat the Andaman Sea

coast. Artifacts found at the sites reflect the likelihood of contacts with either side of the peninsula. Ports on the east coast tend to possess evidence of goods coming from the east. Both of these sites actually produced goods and were not merely points where the commerce and transfer of goods took place. Glass and stone beads were produced for export. Other ports of the same century which also served this particular role include Don Rahkang (Suphanburi Province) in the central region but conclusions based on the archeological excavations at this site are insufficient in the drawing of as clear an analysis as was possible for the two southern sites.

Khao Sam Kaeo was a port for only one period and was then abandoned without leaving us many clues as to the reasons for its decline. Khuan Lukpat was a port for two periods; the latter was between the 4th and 6th centuries AD. Khuan Lukpat was truly a commercial market judging from the evidence we have. There were middle men, port controllers, small seals with Pallava script and Devanagiri script in Sanskrit. There is an inscription translated as “permission granted”, “those who dare can pass through (Veeraprajak, 1985, 131-166). These were like permits to take part in commercial transactions. Through passage was a matter of agreement between the ruler of the port and the visitors.

The granting of permits to those involved in trading must have been of benefit in some ways to those who had issued the permits, who were themselves local authorities. It was a form of exchange which later developed into a port tax and tax on goods.

In the central region of Thailand where there were settlements built next to the waterways which flowed into the Gulf of Siam. Archeological evidence attests the entry of foreign merchants into this region. There are, for example, terracotta figurines from the sites of Khu Bua to Ratchaburi Province, depicted as having long noses and wearing head-dresses resembling those of Mediterranean and Middle Eastern merchants (Srisuchat, 1989:41). At U Thong, an imitation of a Roman coin from the reign of Emperor Victorius was found dating between 259 – 210 AD is considered to have been brought in from the west by seamen but the insufficient amount of archeological data from the location of the port cannot be established. During the second period of its existence, the port of Khuan Lakput resumed its role as a producer of ornamental beads as it had done previously but now there were a greater variety of forms.

During the 7th and 8th centuries, there is evidence of a culture modelled on Indian civilizations in which aspects of language, religion and works of art were widely diffused. There were many settlements next to the waterways and on the coasts which were towns of

considerable size. Some of them are believed to have been ports. There are sites in Yarang District, Pattani Province where have been found which have been correctly dated as well as Persian coins which are understood to have come with merchants from the west who then came around the Malay peninsula and sojourned at various ports before continuing their voyages to China (Srisuchat, 1990).

About the end of the 9th century there is proof of the existence of many ports and towns in the region which were heavily involved in the buying and selling of ceramics and glassware-activities associated with the world market.

An important phenomenon in commerce which emerged at this was the rise of new settlements on the west and east coasts. These were ports which dealt in the Chinese ceramic trade, and also in glass ware and pottery from the Middle East. From archeological evidence one can say that there were two such important ports which were two of the biggest of this type in Southeast Asia in this period. One was the west coast at Muang Thong (Ko Kho Khao) and the other was a Laempho, Surat Thani Province on the east coast.

It is believed that the business of loading and the transfer and exchange of goods which were activities occurring at both ports differed because of the types of goods which the foreign ships were carrying. Laempho faced the South China Sea and received Chinese ceramics from Chinese ships while Muang Thong (Ko Kho Khao obtained goods (ie: glassware from the Middle East and ceramics and Indian heads) via the Andaman Sea.

The two ports did not only exchange merchandise in order to satisfy the demands of each ship but also produced goods themselves, and bought and sold local goods from the various ports and towns. At Muang Thang Kho Khao, evidence of a head manufacturing site has been found. Kho would make purchase to be sold to others.

Another important feature of this century was the establishment of ports in the northeastern region. There are hundreds of silos scattered throughout the province of Sur and Nakhon Ratachsum. The rapid developing ceramic industry had markets throughout the region and into what is today Kampuchon. This would have begun as an internal market which later expanded to export its ware to Malaysia and Indonesia (Srisuchat, 1989: 52-55). In the first few centuries of its production, Buri Ram was ware could not compete with Chinese ceramics, popular in the market about the 10th and 11th centuries but as the quality of the local pottery became more refined, the demand for it grew, especially the brown glaze ware which resembled that of the Tang Dynasty.

Toward the 11th century Leam Pho and Muang Thong ceased to be prominent ports and were probably almost abandoned. New ports developed, not so much on the west coast, but on

the east coast, there were many settlements, both small ports which were previously in existence which had grown and also new ports of the period. Such ports include Tha Rua in Nokhon Sri Thammarat Province. Sathing Phara in Songkhaka Province, in the central region there was the site of Wat Ko on the Maekong River in Ratchaburi Province and in the northeastern there were settlements like Satuk and Uan Dong Yai Pao in Huri Ram Province.

These ports traded in Sung Dynasty ware but at the same time the Buriram kilns was producing pottery until the 13th and 14th centuries when there was a cessation of activities. During this period some of the Buri Ram wares were exported but lost out to the Chinese products.

During the course of this century two communities arose to produce ceramics ware for export. One was at Si Satchanalai and the other, at Pa-O on the banks of the O canal, at Sathing Phra in Songkhla Province produced local unglazed ware. The latter did a brisk business throughout the South. Its products were very popular in Malaysia and Indonesia and were also taken to be sold in the Philippines and Sri Lanka.

The site of Sathing Phra was very prosperous during this period. Apart from being a settlement of considerable size with a large commercial port, it was also a manufacturing site for glass beads of a new variety which may have been derived from Indian models and these were exported. At the same time, glass beads of the original type, produced since the 1st century AD continued to be manufactured and exported (Srisuchat, T 1989, 18).

During the 13th to the 15th centuries, the commerce involving Thai ceramics was at its most thriving not only as regards the Sangkalok industry in Sukhotai Province which produced large amount of wares in great variety, but there were also kilns in the Chao Phava River Basin at many important localities where ceramics were made for export.

Products from kilns at Mar Nam Noi, Bang Poon made their way to destinations as distant as Africa and Australia (Pri?, 1988: 73). Bang Poon wares were found in many ancient ports of Indonesia such as Trowelan in eastern Java. There were still ports which dealt in the import of Chinese ceramics of the new type but these were few. The ceramics from the Thai kilns are known to have been exported far and wide due to the situation in the markets at the time which were lacking in Chinese wares. In about the 14th century AD, Chinese government policy forbade free trade outside China by Chinese merchants. The resulting paucity of Chinese goods in the markets included ceramics but the demand for them remained and the Thai ceramic industry filled the gap.

An analysis of wrecks of trade ships in Thai waters gives a picture of the junk trade of the time. The goods from the various ports were in demands by the markets of this century and this phenomenon continued in the following centuries as the demand grew.

The written records which document the trading activities of Westerners who developed established commercial contacts with the Thais from the 15th century onwards gave the names of ports, merchandises and the markets situations at the time. From these records it is possible to make qualified guesses about the activities of the previous period.

These records indicate something of the role of the main settlement in the Chao Phaya River Plain which was taken Ayudhaya, the administrative and economic center of the kingdom. Ayudaha's large port and commercial market set the scene for when the European arrived in the 15th century when it became truly international market in every respect. Many other coastal towns along the south coast, under the control of Ayudaha like Nakhon Si Tammarat and Pattani which grew up and developed into ports and stations of trade became familiar names amongst western and eastern merchants.

IV. Merchandise: imports and exports

Merchandise refers to the objects which are bought and sold and exchanged. Whereas organic goods like spices and aromatic woods are perishable and tend to decay with time, inorganic goods such as ceramics and metal are durable and, as such, they survive as evidence in considerable quantity.

Thus, the study of imported and exported goods in the earlier periods has to rely in addition to archeological material on other forms of evidence.

- 1) Documented sources are scanty for the historical period. Before the Ayudaha Period, the names of ports referred to in these Chinese, Indian and Middle Eastern records are different than the local names. The identities of some of the goods mentioned in these texts do not coincide with things that we can identify today. The accounts of the Portuguese and the Dutch, on the other hand, give detailed descriptions of the merchandise but are of a later period than the period in question. Therefore, these more recent accounts have been used to analyze what goods were exchanged in the earlier periods.
- 2) One now depends on evidence from ship wrecks and it may not be possible to ascertain whether the ships were bringing in the goods or taking them out but we do know what merchandise was involved in their transactions. The primary

limitation here is that the ship wrecks investigated by the underwater teams do not date earlier than the 14th.

- 3) Natural resources which are numerous both in terms of variety and quantity may be relied upon, to some extent, in the unravelling of this early sea trade. Goods which are exported to the world market today may indeed be familiar to export products of the past such as certain ores and spices but due to environmental and economic changes which have occurred over time, some of these natural resources have decreased in quantity (like certain types of wood). Changes have taken place too in the demands for certain technologies in commodities at the market resulting in a decrease in their value. In addition, although resources might have been exploited and goods imported in the past, this is no longer the case.

- 4) The reliance on prehistoric and archaeological evidence of the period before the 1st century AD in Thailand suggests the development of certain technologies which may have made it possible to export the resulting products. These techniques would have been inherited by the local inhabitants by the time the commercial exchanges with overseas.

From the available evidence it is not always easy to clearly differentiate which items were intended for import and which were intended for export. This is due to the fact that in the system of maritime commerce the "foreign" objects which arrived with trading ships were sold to the locals (who lived at the commercial ports) who, in their role as middlemen, traded them to others in order to acquire profit. Such imported commodities for some were implicitly exported objects for others.

Both imported and exported goods took the form of ready-made products and also of raw materials. If the latter were ores they may have been in the shape of ingots.

It is always difficult from the available evidence at Thai sites to determine whether the "exported" items were actually trade goods or whether they were brought with the merchants as personal belongings. Studies to attain a successful analysis of this sort have solved problems at times but at others, imitations by locals of foreign objects have created problems.

The following presentation of evidence for imported and exported goods related to maritime commerce between Thai and overseas traders will be an analysis of evidence of foreign items and local objects, considered here as goods for import and goods for exports, respectively.

Significant merchandise which appears in the archeological record includes the following categories.

1. Ores and Metallurgical work

Prehistoric knowledge of bronze metallurgy in the region stretches back about 4,000 years and presumes an acquaintance with the sources of the raw material for producing various types of metal. The intimacy these people had with bronze meant they knew how to smelt, melt and cast at least to two types of ores – copper and tin. Archeological evidence from prehistoric to the historic periods had yielded not merely the object which were produced using melting \ casting techniques and also hammering the metal into various shapes to manufacture items like bronze axes, lead earrings and iron spear-heads but mining sites for the metal ores have also been found (ie: copper mines at Phu Lon (Lei Province), at Khao Pha Daeng and Khao Phukae (Khok Samrong District, Lopburi Province), iron oers srouces including smelting sites in Suan Phueng District (Ratchaburi Province) (Nathapunthu, 1990: 50-57).

These metal-containing ores take the form of smelted ores or were melted into ingots when they are smelted. These ingots closely resemble one another despite their origins. After the process of buying and selling, the ores had to be melted and casted or melted with another metal so that metal tools could be produced, making it even more difficult to provenance the source of the ore. It would also be difficult to say whether the pieces of metal which had been smelt and melted by the prehistoric inhabitants of Thailand were manufactured for use within their own communities or were sent out far and wide.

Nevertheless, the writer believes that the sea-going ships of the early historical periods reached these shores and after they had found a source for certain desirable ores, trading for these raw material likely reflect as well as the possible buying and selling of the ready-made products which bore the marks of skilled local melters and casters.

Lead and tin ingots exist in the early period port sites such as at Khuan Lukpat and other sites in the southern and central regions of Thailand. Here it was the practice to make the tin ingots into rounded forms as attested by the finds of tin in at Dvaravati Culture sites of the 7th to the 11th centuries. In addition the holds of wrecked ships of the Ayudaha period have also yielded ingots of tin which would have served as trading commodities. These finds of tin in Thai land point to the fact that lead and tin were local resources for export.

The sea silk routes were used for about a thousand for commerce on this route in the earlier stages of Thai lead export and there is some speculation that Sri Lanka may have been

an importer since no lead mines existed on that island though lead was used in glazes in antiquity. This is evident from excavations at Abhagiri Vihara and Anuradhapura (Aberatna, 1990) and at these sites there are numerous and varied traces of trading activities. Many goods like beads were similar to those found at Khuan Lukpat. It was also found that many of the sites which have been excavated in Sri Lanka are contemporary to Thai sites.

The writer believes that iron ore or melted iron may have been exported since before the Ayudhaya period (coinciding with the period when Japan imported iron from various countries including Thailand). Copper, however, probably would not have been exported in any quantity and there is no evidence of export copper while gold, according to the later historical documental records was imported by other regions in considerable quantity.

Another form of natural reserve which circulated amongst the sea traders are the carnelian stones of the quartz rock family. It is understood that one there were established centers of production for the bead and ornament industries, the raw materials were imported from India where there are many sites rich in carnelian of a similar quality found in the archeological record here in the form of lumps of unmanufactured rocks and unfinished beads. Furthermore, the carnelian-rich sites in Thailand are rare and rock of this special bright color hard to find.

Apart from the evidence suggesting imports of both carnelian stones from India as well as glass bead manufacturing techniques, there us one further link between the two areas: between Arikamedu and Khuan Lukpat there are sites which produced lead-containing beads in the same unique barrel shape not found elsewhere. They possess exactly the same characteristics. At the site of Virampatanam at the port of Arikamedu these beads have been excavated and date to about the 2nd century AD.

At Khuan Lukpat these beads were either rarer but lead ingots were found demonstrating that the site had manufactured this type of bead from raw materials. The beads were either exported to Arikamedu or alternatively, Arikamedu merely imported the raw material and manufactured them into the desired shapes, sending them back to be sold at Khuan Lukpat.

2. Beads and ornaments made of glass and glassware

Although a study of these items may not yet be able to answer the question of whether the bronze metallurgists of Ban Chiang 4,000 years ago knew how to melt glass for their own use or whether the glass beads had been obtained through contact with other settlements and who had acquired these goods by trading for them, the discovery of glass at these archeological sites provide signs that this cultural layer was approaching the historic age.

The glass objects which first arrived on Thai soil according to archeological evidence were in form of beads and other decorative items like earrings and bracelets. Beads were found in plenty and the smaller sized ones have been modified into ornaments of various sorts by stringing them together.

The first imported glass beads which can be verified are from the burial site at Ban Don Ta Phet (Kanchanaburi Province) dating to about the 4th century BC (or 360 - 390 BC based on scientific dating techniques). From chemical analysis it has been concluded that it is more likely that the glass beads were manufactured in the Mediterranean region than anywhere else due to the discovery that chemical attributes of Mediterranean beads are very similar to those found in Ban Don Ta Phet (Glover, 1990: 155, 169).

There are many sites of the prehistoric period contemporary to Ban Don Ta Phet (or a little earlier) which has yielded glass beads but it cannot be established if they were imported goods or where they were manufactured.

Glass beads and other ornamental objects made of glass have been found at early port sites of the first period in the south (i.e.: Khuan Lukpat and Khao Sam Kaeo and other settlements of that period which date to around the 1st century AD. There is evidence to suggest that the manufacturing of glass beads took place at these sites. Beads which were popularly made here were small ones of different colors and methods used were for creating drawn beads. This bead type has been found all over Southeast Asia and is called the "Mutisala" in Indonesia (Van der Sleen, 1998). At the same time the barrel-shaped glass beads continued to be produced as well the ones in lead and stone also of this form. The glass bracelets were manufactured in such a way that the pieces of glass were melted and stretched to form a circular shape and by casting the glass in a mold with a triangular cross section and a ridge similar to that found in metal bracelets. The most preferred color for the glass beads seems to have been green, followed by red which appears to have been the second most favored color. These have been found at Khao Sam Kaeo which was a port on the east coast, functioning as it did as a manufacturing site during the same period that there was a decline in business. Khuan Lukpat on the west coast was to fill the gap as evidenced by the import of lumps of various colored glasses which arrived to be re melted into beads and other ornaments. The site of Phu Khao Thong at Ranong has yielded evidence of this type but it is not certain whether it is contemporary to the first or second period at Khuan Lukpat.

After business ceased at Khuan Lukpat for a period of about 2centuries (7th- 8th c.AD), glass bead manufacturing sites in Thailand are absent from the archaeological record and we do not know where they were being made. However there could well have been

manufacturing sites in the northeastern and central regions since glass beads (especially of the JI-1utisala. type dating to this period have been found extensively there.

At this time the site for the manufacture of glass beads lay at a place in Malaysia called Kuala Selinsing producing the "Mutisala" type beads and other varieties (Francis, 1989) which all found their way to the various sites of the period in Thailand. They were common in Malaysia and Indonesia too and the chances that glass beads were being imported from Malaysia are high.

In Thailand, at the port of Huang Thong (Koh Kho Khao, on the west coast Phangnga the manufacture of beads and ornaments made of glass began around the 9th or 10th century. Goods made of variously colored glass from the Middle East which had found their way to this site like glass bottles, kendi, glass jugs) must have arrived with the cargo ships which had stopped at the port. Muang Thong would thus have been a market for the trading of glass wares from the Middle East as suggested by the presence of lumps of melted glass and bars of mosaic colored melted glass this site. Presumably, the lumps had been brought here from the Middle East to be re melted and made into beads and sent out afterwards as export items. It is understood that the glass beads of Muang Thong were merchandise which was involved in the exchange with Laem Pho on the east coast while Laem Pho would, in return sell Chinese wares. From comparative analysis it has been surmised that Muang Thong produced glass beads in a different way than did Khuan Lukpat. There is a suggestion that the technology of the latter was imitated by the former but new forms were added to the older ones which encouraged the emergence of many a variety of new bead shapes which were very much in demand in the world market (Srisuchat, T.1989 : 171). During this century, the Middle Eastern and Huang Thong manufactured glass beads were distributed throughout the central region at Dvaravati sites, and at these sites they were intrusive commodities together with Middle Eastern ceramics. At sites next to waterways near the sea such as at sites in Sri Mahaphot, Phra Rot and Dong Lakhon these products have been found. It is worth contemplating that personnel who were involved in the business at the port of Huang Thong were responsible for internal trade by exporting the glass beads to these central sites or perhaps foreign ships on their long journeys would stop at various ports, buy the beads from Muang Thong, dock to sell the goods and spend time at the ports on the edge of the Gulf of Siam. An interesting question arises here: Were the beads from Muang Thong imported by the central settlements considered by the recipients to be "exotic foreign goods" from the Middle East. Were the goods known to be? Or, were they just "popular items of the period" whereby the real origins of the goods were not considered to be of much importance?

The port of Muang Thong which was a thriving commercial center manufacturing glass beads and selling the finished product to a world market, was abandoned in the late 10th - 11th century. The abandonment of ports on the west coast has been interpreted as being related to the date coinciding with documented and inscribed evidence referring to the attacks made and war waged by the Chula King of South India whose opponent was a king in south Thailand (Mukherjee : 221-225).

By the end of this century, many new ports emerged on the east coast and evidence for a port which also dealt in the production of glass beads comes from Sathing Phra (Songkhla Province). New forms of glass beads came into being and these include wound beads in a variety of colors thought to have been inspired by Chinese technology where beads of this sort were being manufactured in the 11th and 12th centuries. The Philippines, Korea and Singapore imported these beads and Sathing Phra also produced the "Mutisala" beads, a popular form which had been inherited from previous periods.

After the period of Sathing Phra, although the "Mutisala" form of beads continued to exist and was found at Sukhothai sites, glass beads ceased to be manufactured. Documented records of the Ayudhaya period mention the trading of glass to some extent but these references pertained to glass which had been imported from various regions including European glass bottles - common in the Chao Phaya River in Ayudhaya.

3. Ceramics

Ceramic or terracotta ware has been produced for use by local communities since prehistoric times. Ceramics of the earliest period were not glazed and were transported on merchant ships not with any intention to sell them but because they were containers for consumer goods such as food stuffs, spices medicine or alcohol. Reports from excavations mention a form of ceramic known as "Roman - Indian rouletted ware" discovered in Brunei Darusalam and on Bali (Glover 1989:4-5). Western archaeologists have, however, observed that from their surveys and excavations pieces similar to these rouletted wares have appeared central sites in Thailand, where they are accompanied by elements of Dvaravati culture.

Ceramics which entered Thailand as trade goods include glazed wares in beautiful textures dating to the 8th century AD. It was during this time that ports were flourishing and late Tang Dynasty ceramics an glazed Middle Eastern "Kashi" ceramic ware (which were a turquoise color on a white body), were available for sale in the market.

The excavations of the sites at Muang Thong and Laem Pho have yielded traces of ten varieties of Chinese ceramics (which were presumably imported with an intent to re-export)

and four types of Middle Eastern ceramics ware. At both sites the Chinese ware was core numerous both in variety and in quantity than any other site in Asia except for those in China itself and a site in Sri Lanka called Mantire which yielded an equally plentiful amount. The Tang wares from the two Thai ports consist of wares from different kilns, the quality of these ranging from moderate to good. However, a comparative study between Chinese ceramics unearthed in Thailand and types which were found in Sri Lanka cannot yet be carried out because a sufficiently detailed analysis of Chinese ceramics for the period has not yet been undertaken (Carawen, 1990).

The Tang wares from the two Thai ports consist of wares from different kilns, the quality of these ranging from moderate to good.

One object from Laem Pho attests to the arrival of Chinese ware brought by a Muslim individual and this particular item clearly points to the fact that Arabs had placed special orders for Chinese ceramics which the Chinese then brought to Laem Pho. No doubt the ruler of the port would have arranged for such an object to be sent on to the Arabs. The greenish-glazed ware found was from the Changsha kilns but instead of being decorated with the usual flower motifs on the inner bottom, Arabic characters were inscribed with the name of the Islamic god, "Allah".

In the same century, a ceramic industry emerged which was based in northeastern Thailand and which belongs to the category which scholars term "Khmer ceramics". From recent excavations and analysis, the data suggests a date for these kilns (which number in their hundreds in Buri Ram Province) earlier than any kilns in Cambodia. The time span given for the production of these wares is estimated to be from the 8th to the 14th centuries (scientific dating of the kilns: 1,160 ± 50 BP - 10 ± 100 BP). Apart from the discovery that certain features of the technology were imitations of the Chinese wares which were widely distributed in markets at the time, they also had their own special characteristics. It is understood that during the earlier stages of production the quality of this ware did not attain as high a level as the imported Chinese ceramics but they were nevertheless exported to the towns of northeastern Thailand. From about the 9th to 11th centuries, cargo ships carried Buri Ram ceramic to far flung markets. Their subsequent purchase led to their recent discovery in the central region, in the northeast, in the south, in Malaysia and in Indonesia while they were also commonly found in Kampuchea. Small brown glazed pots with animal head motifs which resembled similar decorations on the brown glazed wares of the Tang Dynasty were great demand. There is little doubt that these imitations set with great success in the market place.

In the 10th and 11th centuries a new source of ceramics appeared and this was the Sankalok wares of Sukhothai which can be said to have been influenced to some degree by the Buri Ran traditions. At the same time, they developed their own particular forms. The Sankalok wares were first exported during the 13th or 14th century at a time when the Brira ceramics had gradually disappeared from the markets. Sankalok ware enjoyed world-wide renown for several centuries. In the south, two local kilns known as the Pa-O kilns producing fine thin walled pottery made of white clay and painted with an orange – red color developed. The form consisted of spouted vessels, kendi and trays decorated with incised motifs and paintings. They were a particularly popular item in the Indonesian archipelago and in Malaysia.

Between the 11th and 13th centuries, glazed wares known as celadons of the Longshuan type, green glazed wares of the Fujien variety and white glazed, thin-walled ceramics known as the Chingpi were imported into Thailand. The Chingpi ware was very popular in the 13th century which was when the Italian navigators sailed to China and went home via Southeast Asia. One type of light, white textured Chinese ceramic was known as "Marco Polo ware".

Between the 14th and 15th centuries, commercial activities involved all sorts of wares. Evidence from sunken ships in Thai and foreign waters as well as coastal sites in and outside the country indicate that foreign wares including Chinese, Vietnamese and Burmese are wares were being imported and exported. Wares for export from local kilns apart from the highly regarded Sankalok pottery include glazed and unglazed wares from kilns in the central region. Most glazed wares from central Thailand are brown in color and come in assorted sizes. Some containers were not actual goods but were used as containers for other commodities. In the north of Thailand, kilns which were also producing ceramics were excavated but there is no proof that their products were shipped out. The northern wares came from the kilns at Wiang Kalong, Wang Neaua and Sankamphaeng. They were used extensively in the north and were also exported overland to Burma. Their apparent absence further south can perhaps be explained by the widespread popularity of Sankalok and other central Thai wares.

4. Spices, Cloth and Other Merchandise

The presence of some commodities which were imported and exported but which have not shown up in the archaeological record in the same way as the other three types of objects due to their nature, have been referred to other form of evidence.

Documented records of foreigners who were competing in the commercial market or who used the ports as well as evidence in the form of inscriptions refer to the well-known products of this area. Namely spices and jungle produce of various sorts some of which were derived from animals and others from plants. This merchandise was found in sunken ships but they date to a later period. Rubber, ivory and sapper wood were among the actual products found on board the ships.

Mortars and the grinding stones and rollers associated with them in a variety of forms were discovered at sites which are persuaded to be the earliest port towns (dating to around the 1st century AD). Hence their prevalence in communities which produced and consumed goods which they acquired through trade over an extensive period of time sustains the theory that the spices had been export commodities as is evident in the records and the inscriptions.

The contents of a 7th century inscription at Wat Maheyon in Nakhon Si Thammarat reveal that Buddhists of that region imported goods from China (which had a reputation for their inventory-making abilities) and thus such products as ink and paper came to be used in writing which was related to religion. It is understood that Chinese merchants and Chinese people had settled down in this area as well and the temples thus bore their mark of "Chinese flags". An inscription refers to a Chinese flag which was being used as decoration and which was perhaps made of some sort of paper cloth.

People in this region had been manufacturing cloth since prehistoric times beginning with the use of tree bark when it was not necessary to use threads to weave. Evidence of stones used for beating bark clothes at Bueng Baeb Cave, Surat Thani Province dating to 6,000 years ago have turned up. Fibers of cloth made of woven threads were discovered attached to a bronze bracelet at Ban Chiang, at Ban Don Ta Phet. The majority of the finds consist of fibers and equipment used for spinning known as "whorls". These artifacts have been recovered at many sites of the very period. The form of "spindle whorls" between the 2nd century AD and the 12th century AD remains quite constant but we cannot say whether or not the woven cloth was of many different types.

From the records of Chou Ta Kuan, the Chinese envoy sent to visit the Khmer Kingdom in about the 13th century referred to the "Sien" people, understood to be Thais, as possessing the skills in weaving and knitting. The Thais knew how to weave cloth although it was not necessary to do so. They imported cloth in great quantities, according to the western merchants in Ayudhaya (16th- 17th centuries, but this tendency must have been due to their liking for "strange new goods" and not perhaps because they required it. Nevertheless the

Ayudhaya market had a large cloth market with silk from China and various types of cloth from India all in constant supply.

5. Forms of Exchange - Coins and Currency

At the ports from the initial periods like Khao Sam Kaeo and Khuan Lukpat, apart from the small seals which were a type of permit for commercial transactions or certificates which enabled business to be conducted, it is difficult to say whether the copper and gold coins from overseas (of which 2 or 3 pieces have been discovered) were used as a form of exchange or not. Indian and Roman coins found at the ports of the 1st to 6th centuries AD may have been brought along by foreign merchants and become objects of purchase due to their value both as exotic items and because they were made of gold.

There are three types of ancient coins found at Thai archaeological sites which are of interest:

1) The coins manufactured on Thai soil based on models received from overseas especially from India like the copper and silver coins inscribed with pots of water, the conch shell and the Srivatsa sign, were found at Dvaravati sites dating to the 7th century AD. Also the inscription "Dvaravati" has been found on some of these coins, perhaps suggesting the existence of a kingdom "Sri Dvaravati". They may have been commemorative items or indeed have been used as currency. Not long ago, a coin was found which was inscribed in the Kharastī script as «Dvaravati» and not in the Pallava script as the other previously found coins was. This particular coin was found near to the Mae Klong River, at a possible port. The presence of the Kharastī script is somewhat mystifying as it is a form which was used in the north-western part of India. This might suggest that Indian merchants who came to trade did not only come from the south (as people from the south usually used the Pallava script) but that they came from elsewhere in India as well.

2) Arab coins are of silver and gold. Some large coins which are thought to be commemorative of Islam but the small golden ones were likely used as a form of currency and were used as such until the 12th century AD.

3) Chinese coins: the oldest found are in the form of spades from the Han Dynasty but they may have been minted later than that Chinese coins found at ports of trade date from the Tana to the Ching periods. Chinese coins were used continuously and Tang coins have often been found associated with the later periods.

Conclusion

Before the arrival of navigators from overseas who had made long voyages with the aid of monsoon winds along the maritime silk route, Southeast Asian waters had already been the scene for sea travel between communities on the mainland and on the islands. On the mainland the inhabitants developed their cultures and technology with the resources available to them but evidence that these people had built large sea-faring ships which would have permitted long voyages to distant lands is absent. This was not necessarily a reflection of backwardness in this region or inadequacies in the field of technology but rather a result of the apparent feeling that there was no need to go further afield in search of raw materials or resources.

In the past there was an image of Southeast Asia as consisting of backward communities in a state of cultural stasis. It was thought that the development which ensued was due to the influence of foreigners whose technology and ship construction techniques were so advanced that they could make the long sea voyages which brought them into contact with the indigenous peoples of Southeast Asia.

The archaeological evidence from Thailand which has been presented in this paper supports a very different way of looking at the so-called "primitive" peoples in this region. Rather, many communities already possessed advanced cultural traditions which developed as a result of picking and choosing elements of new cultures which had entered the region from overseas in order to develop their own societies. This gave them an edge on being able to readily adapt to new conditions created by the opening up of their lands to foreign commercial interests. These local people were not merely "receivers" or "importers" of foreign goods or culture nor were they just "exporters" of the basic natural resources common to the local regions. On the contrary, they had accumulated knowledge handed down by their fore-fathers and were selective in their absorption of new elements which they subsequently adapted to suit their own particular needs. Use was made of the incoming technologies which were accepted particularly when it came to the manufacturing of finished product from local materials which could then be sent away to the world market in exchange for interesting items which the people probably enjoyed even if they did not really need them.

The trade goods which originated here came in many shapes and forms and were popular either because of their quality or because of a sudden need for their acquisitions arising from the demands created by sudden or gradual changes in world supply. The keen interest in commerce, the benefits derived from that interest and the adaptation of other

cultures rather than an assimilation and loss of their own, all attest to the strong traditions already in place in the area which is now known as Thailand.

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