

# THE BAY OF BENGAL INTERACTION SPHERE (1000 BC – AD 500)

Sunil Gupta

Allahabad Museum, Allahabad, India

## ABSTRACT

*This paper proposes the idea of the Bay of Bengal Interaction Sphere as a necessary corrective in studies on ancient Indo-Southeast Asian contacts and early contacts between Southeast Asia and the wider Indian Ocean world. Following the discoveries of Sanskritic civilizations and classical Brahmanical/Buddhist art and architecture in Southeast Asia, the Southeast Asian communities were primarily seen as consumers; recipients of high culture and prestige goods from the subcontinent. This left little space for reciprocity in the study of early interchange between Southeast Asia and the Indian subcontinent. The intense archaeological research into the pre- and early history of Southeast Asia which commenced in the sixties was a much required antidote to the dominant Indianization paradigm. This study attempts to evolve a third perspective by adopting a neutral interaction model. Recent researches on early Indo-Southeast Asian interchange by a new generation of scholars (Bellina 2002: 329-57, 2003: 285-97; Smith 1999: 1-26; Theunissen et al. 2000: 84-105 ) offer the basis for the idea of the Bay of Bengal Interaction Sphere.*

## SCOPE OF THE STUDY

The accepted view on early Indo-Southeast Asian interchange is that contacts across the Bay of Bengal commenced in the last centuries BC, when Indic artefacts such as beads and pottery appeared in Southeast Asia (Bellwood 1992: 55-136; Glover 1996: 129-58; Higham 1991: 330). There is also the notion that contacts were initiated and sustained from staging areas on the eastern Indian littoral, although not from any single region (Ray 1991: 357-65; Bellina and Glover 2004: 83). Southeast Asian communities have been primarily seen as consumers; recipients of high status goods from the subcontinent. This leaves little space for reciprocity in the study of early interchange between Southeast Asia and the Indian subcontinent other than the possible export of tin and high-tin bronzes from Southeast Asia. The factors which contributed to the rise of the first conduits across the Bay of Bengal been explored by Glover (1990, 1996: 129-58) and Ray (1991: 357-65) but still we have little idea how coastal polities on both sides of the Bay of Bengal commenced long distance commodity-exchanges.

This paper aims to open up new perspectives on this topic and sets forth a longer chronology for such

interchange going back to Neolithic times. Basically, we are dealing with interactive processes that were played out over long distances and over a long period of time. These processes were of two kinds: human dispersals and techno-cultural diffusions (including the Neolithic expansion from southern China into Southeast Asia) and short term movements of men and material inspired by trade opportunities. The latter was usually effected through conduits opened by earlier expansions.

## BAY OF BENGAL INTERACTION SPHERE

The discussion is confined within a defined area which we call the Bay of Bengal Interaction Sphere (BBIS). The Bay of Bengal was as much a part of the Southeast Asian realm as of the Indic world. Within this dynamic maritime area fundamental techno-cultural processes are observed: movement of ethnic-linguistic communities, opening of land-sea routes and ports, innovations in boat building and navigational technologies and refining of foraging, agricultural and fishing skills. The idea of the BBIS is well expressed by Manguin (1996: 191):

The Bay of Bengal remains very much a *mare incognitum*...The close links between its eastern and western shores from at least the last few centuries BC, the continuous economic and cultural interchange that took place during the period of our concern, all point towards the evolving of a fair amount of interchange and cross-fertilization, if not of homogeneity in technical traditions.

The BBIS comprises littoral tracts surrounding the Bay of Bengal. Its hinterland includes the eastern part of the Indian subcontinent (Sri Lanka, the Indian states of Tamil Nadu, Andhra Pradesh, Orissa, West Bengal, Assam and Bangladesh), and the western part of Southeast Asia (Burma, coastal Thailand, Peninsular Malaysia and Indonesian islands of Sumatra and Java). Major land and sea routes connecting various areas of the 'hinterland' passed through the Bay of Bengal.

## BAY OF BENGAL INTERACTION SPHERE: THE FORMATION (C.1000 – C. 500 BC)

The chronological markers proposed here indicate broad historical watersheds rather than precisely datable events. In the period under review, it is possible to identify certain bodies of information in historical and material sources that point to Southeast Asian participation in long distance exchange since early 1<sup>st</sup> millennium BC.

An episode which suggests Southeast Asian participation in early Indian Ocean networks revolves around the demand for two eastern spices - cinnamon and cassia – in Sri Lanka and the western world from at least the early 1<sup>st</sup> millennium BC.<sup>1</sup> Cassia is mentioned in Biblical records attributed to early 1<sup>st</sup> millennium BC and in ancient Greek sources from the same millennium.<sup>2</sup> Some of these sources point to eastern Africa as the source area for cinnamon and cassia. However there is no evidence that eastern Africa sustained the cultivation of these spices at such an early date. It was most likely a trans-shipment area for the trade.<sup>3</sup> Then how were these spices, grown on trees native to certain parts of mainland Southeast Asia, acquired by early Hebraic and Greek societies? Could cinnamon and cassia have been shipped from Southeast Asia and Sri Lanka to eastern Africa, from whence the spices were passed on to the Mediterranean world? Hypothetically, the possibility exists. Studies on the flora of sub-Saharan Africa show that three food plants (plantain, taro and water yam) were introduced from Southeast Asia at some undetermined date (Blench 1996: 417-36). Recently, banana phytoliths discovered in Cameroon have been dated between 850-390 BC (Mbida et al. 2000: 151-62), suggesting a 1<sup>st</sup> millennium BC date for the introduction of the banana into Africa. These cultigens may represent early imports from Southeast Asia, imports which may have included cinnamon and cassia. The latter, unsuitable for growth in eastern Africa, has left no trace in the archaeo-botanical record.

Also, in the early period of the cinnamon trade, Southeast Asian seafaring was well advanced. I draw attention to one of the greatest maritime movements in antiquity: the colonization from late 2<sup>nd</sup> millennium BC of South Pacific islands by Austronesians based in the Sulawesi Sea region of eastern Indonesia (Bellwood 1992: 128). Their material culture reveals them to have been traders, involved in long distance transfer of commodities in the western Pacific between 1000 and 500 BC. Such pioneering spirits could also set their sights west: to peninsular India across the Bay of Bengal or even beyond to eastern Africa. The southeastern littoral of the Bay of Bengal (Peninsular Malaysia and Sumatra) may have been the staging area for early Southeast Asian maritime ventures.

A burial tradition with beginnings in late 2<sup>nd</sup> millennium BC may have been associated with early Southeast Asian voyaging in the Bay of Bengal. Bellwood (1997: 306-7) suggests possible commencement dates in the late 2<sup>nd</sup> and early 1<sup>st</sup> millennia BC. Early dates for jar burials are not clear, but by the close of the 1<sup>st</sup> millennium BC we can find these funerary sites from western Japan through many parts of Southeast Asia to peninsular India (Figs 1, 2).

The jar burials are not the same at every point of distribution, displaying differing forms, burial styles and associated assemblages. Also, the notion is being dispelled that jar burials are mostly found in island

Southeast Asia. Jar burials are increasingly being found on the Southeast Asian mainland, in Vietnam, Laos (Lao Pako) and Thailand as well as in northern Sri Lanka (Glover, pers. com.). Despite the variations, certain affinities are observed. Bellwood points to similarities in the ceramic repertoire of Yayoi and Indo-Malaysian jar burials assemblages.<sup>4</sup> The eastern extremity of jar burial distribution is represented by Yayoi period graves (3<sup>rd</sup> BC – 2<sup>nd</sup> AD) on the island of Kyushu (Aikens and Higuchi 1992). The western terminus is represented by the ‘urn fields’ in the deep southeast of India, typified by the well known site of Adichanallur dated to the late 1<sup>st</sup> millennium BC.<sup>5</sup> Though the Adichanallur urn fields have been associated with the Iron Age ‘megalithic’ culture of southern India, the assemblage at Adichanallur has little to do with the various megalithic funerary sites which proliferate in Peninsular India.<sup>7</sup> Distributions of jar burials along the Indo-Pacific ‘arc’ suggest the possibility of interactivity and sharing of otherworldly precepts from East Asia to South Asia. Scholars had long begun to recognize the possibilities of such prehistoric contacts. To quote Paul Yule: ‘It was first in the 1920s that eastern India came into the spotlight of world archaeology as the westernmost link in a complex of prehistoric cross-cultural relations which extended as far east as Japan’ (Yule and Rath 2000: 285-321).

Recently, some scholars are attributing a wider dimension to the Indian Neolithic, probing for its maritime links with early farming communities of Southeast Asia. Sarma (2000) has identified ceramic forms common to the Neolithic ceramics of Southeast and South Asia. Weber (1998: 267-274) notes the presence of foxtail millet of East Asian origin in the Harappan zone. Southworth, in his book *Linguistic Archaeology of the South Asian Subcontinent* (quoted in Bryant 2001: 94) has traced the names of seven botanical items in Sanskrit to roots in Austroasiatic languages. The foxtail millet (*kanguni*) is one of them, the others being lemon (*nimbu*), betel (*tambuka*), banana (*kadala*), pepper (*marica*), cotton (*karpasa*), sugarcane (*sarkara*). The Austroasiatic infusions into Sanskrit can perhaps be best explained in terms of maritime crossings from Southeast Asia to peninsular India in some undetermined time in antiquity. Golbai Sasan, a Neolithic–Chalcolithic site on the Orissa coast of eastern India has yielded cord marked hand made pottery with rice husk used as temper in Pd I (Neolithic) basal levels. Polished celts have been found in association. The assemblage would fit into the material culture of Neolithic Southeast Asia. The excavator has dated Golbai Pd I between 2300–2100 B.C. on the basis of a single radiocarbon determination for the beginning of the next period (IIa) (Sinha 2000: 322-55; see also Chakrabarti 2000: 240). The situation of Golbai - merely 20 km from the Bay of Bengal - and its unique Neolithic–Chalcolithic assemblage hints at Southeast Asian landfall on the eastern Indian sea board in the 2<sup>nd</sup>-1<sup>st</sup> millennia BC.

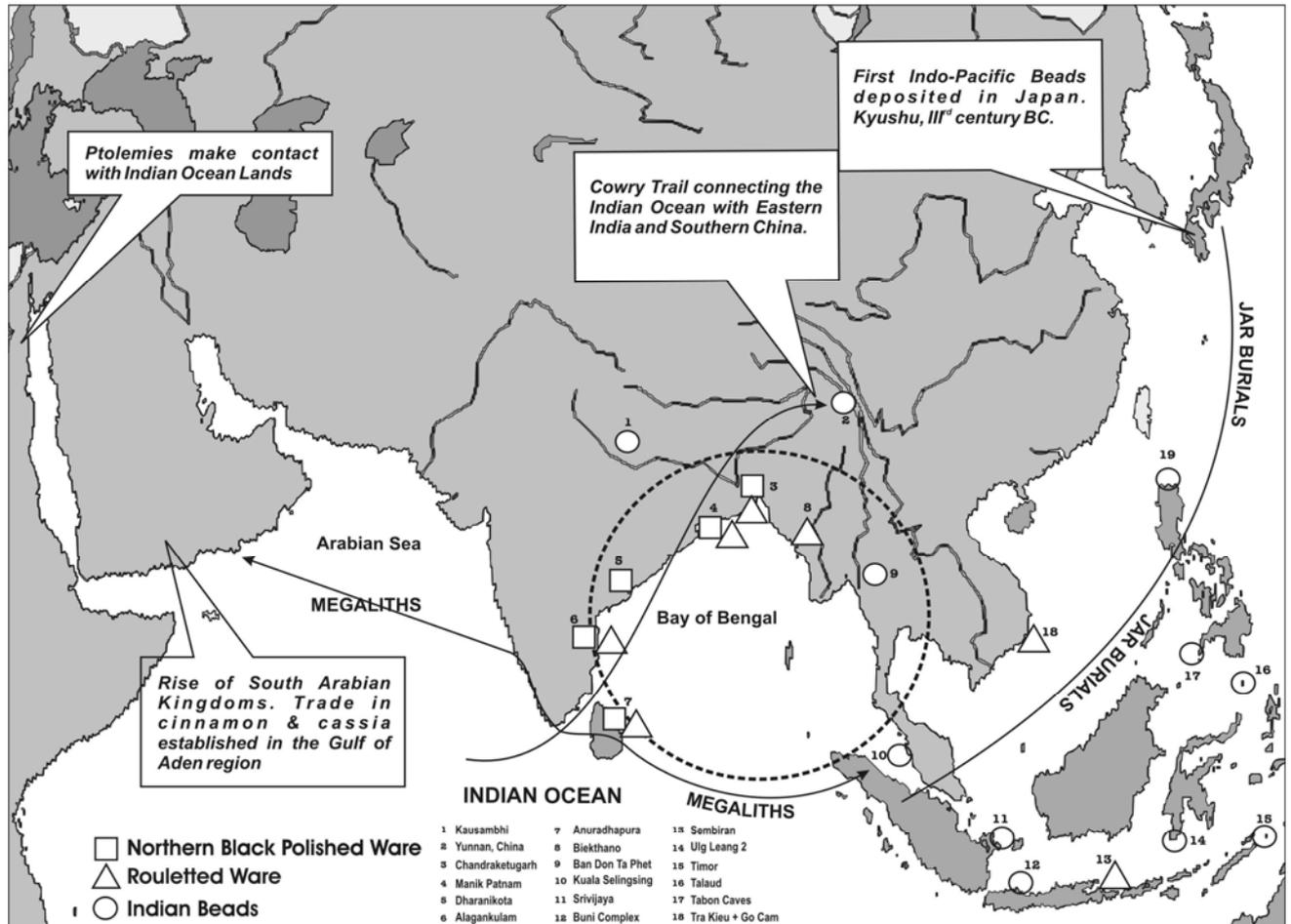


Figure 1. The Bay of Bengal Interaction Sphere, 500-1 BC

Burial mounds at the site of Sankarjang near Bhubaneswar have yielded polished celts and stone bars. The latter have been identified as part of a lithophone of likely Southeast Asian origin (Yule and Rath 2000: 285-321). Similar lithophones have been excavated at a number of sites in Vietnam. Blench (2002) reports one from the site of Ndut Lieng Khak in Vietnam. Glover (personal communication) informs me that another find of 17 pieces from southern Vietnam was a 'tuned set'. Also at Sankarjang, the dental morphology of a tooth reveals it to be that of a Mongoloid. A single radiocarbon date of 740 BC was obtained from the site (Yule and Rath 2000: 285-321). Golbai Sasan and Sankarjang thus hint at the possibility of maritime contacts between Southeast Asia and India in late prehistory.

The indicators for early Indo-Southeast Asian contacts do not constitute 'hard' evidence. Further investigations are necessary. In New Archaeology parlance, the indicators create 'the middle range' or a springboard for further analysis. If validated these indicators may set back by at least half a millennium the chronological point of departure for beginning of Indo-Southeast Asian contacts usually imputed to the last centuries BC.

#### TANGIBLE EVIDENCE APPEARS (500 – 1 BC)

The chronological watershed of 500 BC is significant because the first artefactual evidence for exchanges in the BBIS are visible in the archaeological record around this date (Fig. 1). A range of artefactual indicators delineate Indo-Southeast Asian networks in operation. Each of these indicators are associated with specific provenance areas, depositional contexts and trade routes. One of the prime indicators of long distance contact in the western half of the BBIS is the Northern Black Polished Ware (NBPW). The NBPW is a deluxe ceramic of the Gangetic Valley, dated between 800 BC to the end of 1<sup>st</sup> century BC. It is associated with the Second Urbanisation which saw the rise of powerful states in northern India from early 1<sup>st</sup> millennium BC. The appearance of NBPW on the eastern coast of India and Sri Lanka is expressive of north Indian mercantilism and political expansion along the western coast of the Bay of Bengal. The NBPW is found in key coastal and harbour-sites on the eastern Indian seaboard. A black slipped potsherd retrieved from the site of Bukit Tengku Lembu on the western coast of Malaysia was initially identified as NBPW, but is now thought to be an Arikamedu type (Bellwood 1997: 262). Rouletted

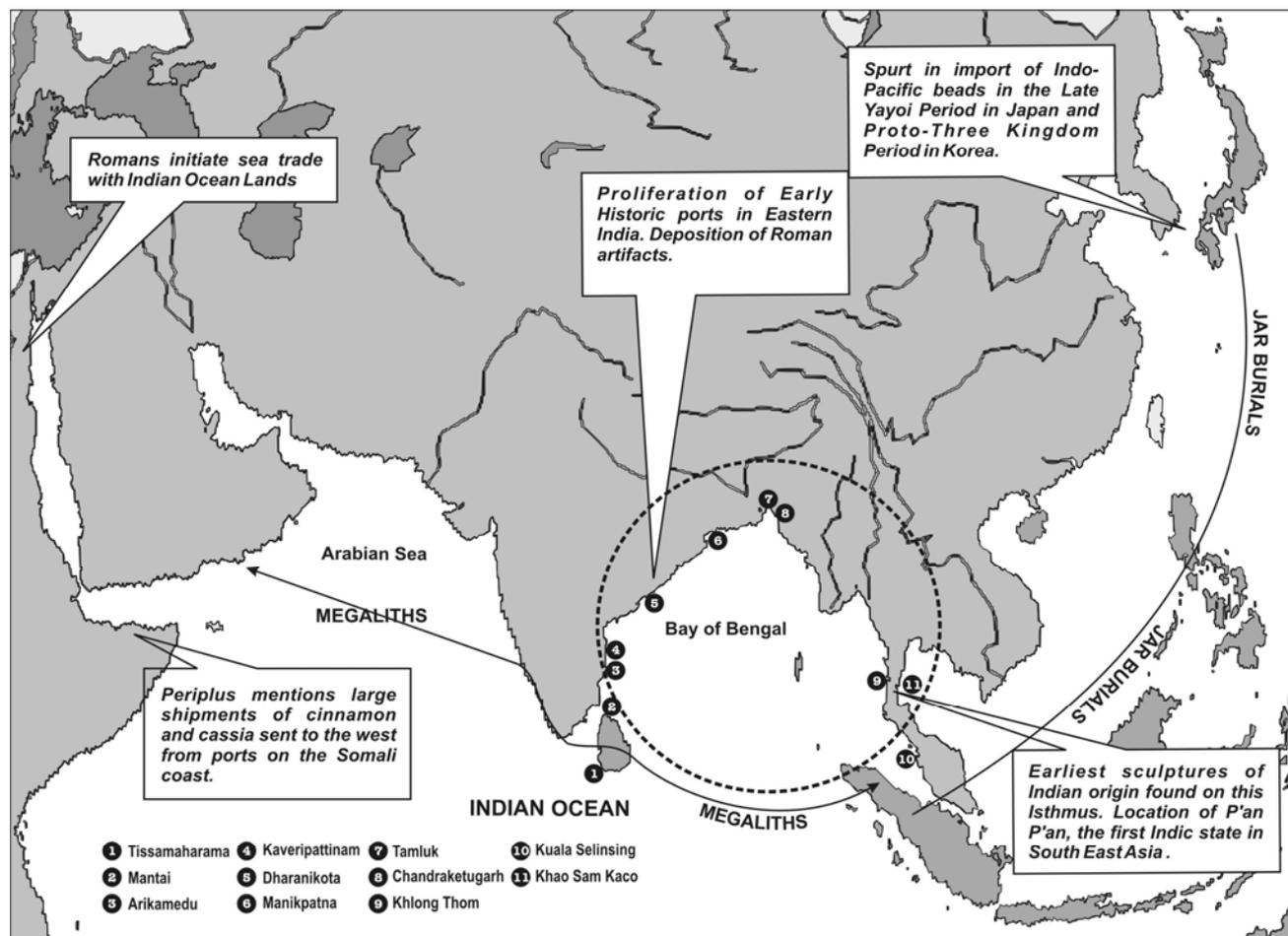


Figure 2. The Bay of Bengal Interaction Sphere, AD 1-500

Ware (RW) is now quite widespread along the western part of the BBIS and frequently turns up in Southeast Asia. It has been recovered in substantial quantity at the sites of Sembiran and Pacung on the island of Bali (Ardika and Bellwood; Ardika 2003: 207-211). The easternmost mainland find of RW is in the Pre-Cham levels at Tra Kieu in Vietnam (Glover and Yamagata 1995: 145-169). The NBPW-RW distribution points to increasing activity along the Bay of Bengal rim in the latter half of 1<sup>st</sup> millennium BC.

Early Indian contact with Southeast Asia is also indicated by the distribution of stone and glass beads. The central evidence in this regard comes from the Iron Age site of Ban Don Ta Phet in Thailand. The exotic material, recovered from levels carbon dated to 4<sup>th</sup> century BC, comprised stone beads (etched agates, carnelian), glass beads and pendants (Indo-Pacific type, imitation beryls) and certain bronze vessels with protrusions at the center of the base which Glover (1996: 129-58) relates to similar characteristic stone and ceramic vessels in India. Stone and glass beads of likely Indian provenance have been reported from jar burials in the Sula-Sulawesi region of the eastern Indonesia-Philippines corridor, and Sa Huynh

culture sites in south Vietnam (Bellwood 1992: 130-134). A contrary view stresses that carnelians regarded as exotic may be indigenous to Southeast Asia (Smith 1999: 1-26; Theunissen et al. 2000: 84-105). Here it is necessary to distinguish between indigenous manufacture and transmission of technology. We cannot negate the possibility that exotic beads may have been produced under a *common technology* regime, with lapidary and glass making skills being shared on both sides of the Bay of Bengal (see also Glover and Bellina 2001: 191-215).

Glass beads found in the BDTF complex and other Late Prehistoric/Iron Age sites in Thailand and Peninsular Malaysia also reveal strong affinity with Early Historic Indian glass crafting traditions (Basa et al. 1991:351-365). The exotic glass bead deposition in Southeast Asia indicates the spread of exchange networks across the BBIS. In particular, a diagnostic glass microbead type – the Indo-Pacific type - is ubiquitous both in mainland and island Southeast Asia. Indo-Pacific beads are of small size (outer diameter range of 6 mm and under), monochromatic and cut from ‘drawn’ glass. The term Indo-Pacific, proposed by Peter Francis (1991:1-23) is representative of the vast area of distribution of these

beads. Francis holds that Indo-Pacific beads were first produced at the southern Indian site of Arikamedu in the 4<sup>th</sup>-3<sup>rd</sup> century BC and similar production centers emerged in Southeast Asia late in time.

These early glass microbeads in Southeast Asia have been recently investigated by French researchers who have also shown through scientific study of samples that very few Indo-Pacific beads excavated in Southeast Asia were made at Arikamedu (Dussubieux and Gratuze 2003: 134-148). Again, like the stone beads, we can speak of a shared technological tradition of making Indo-Pacific beads in the BBIS. By the close of the 1<sup>st</sup> millennium BC Indo-Pacific beads appear as grave goods in burials (mostly jar burials) across much of the eastern Indian Ocean region, southern China, South Korea and western Japan. The earliest deposition of Indo-Pacific beads in Japan indicates that maritime networks were active between the eastern Indian Ocean region and the Far East from the 3<sup>rd</sup> century B.C. (Katsuhiko and Gupta 2000: 73-88).

Demand for prestige goods from South Asia (cowries, etched stone beads, pendants, glass microbeads) created a market among Southeast Asian communities at broadly similar levels of socio-economic development. The artefacts, usually found as grave goods, reflect increasing social complexity in Southeast Asia. These objects imported from the Indian subcontinent became visible indices of emerging power structures. Higham and Maloney (1989: 665) sketch the context into which exotic goods were integrated,

The first major intensification in agricultural methods probably came with the formation of centralized chiefdoms between 500 and 0 BC. The crucial issue is not the cultivation of rice, nor any other food resource, but rather the increasing domestication of human beings through conditions of sedentism, territoriality and the reworking of pastoral relations. It was this change which, it is argued, stimulated the rich cultural expression of social ranking and leadership expressed in the material panoply of status...

Exotic objects from the Indian subcontinent were part of this 'material panoply of status'. I have argued elsewhere that Indic religio-cultural concepts were being imbibed by the emergent Southeast Asian communities from the last centuries BC, specifically through ritual beads and amulets (Gupta 2003: 391-405). For a rich surplus driven society in transition towards complex civic modes, the urge for unique artefactual symbols of status must have been strong. As Steven Mithen (1996: 224) says in *The Prehistory of the Mind*, 'once the social structure had arisen, there was a need for powerful individuals continuously to introduce new types of prestige items...'

#### THE PERIOD OF MATURATION (AD 1- 500)

Long distance contact and exchange in the Bay of Bengal sphere intensified in the early centuries AD. The exchange dynamic becomes more visible in the

archaeological record (Fig. 2). The central role of the BBIS in the sustenance of long distance networks of the Indo-Pacific sphere is clearer. The steady opening of the eastern Indian seaboard saw the organization of staging areas for coastal networking and deep sea ventures. The NBPW distribution on the eastern coast marked coastal settlements, some of which can be called structured ports such as Tamralipti in Bengal and Korkai in Tamil Nadu (Ray 1991: 357-65). The skeletal deposition of NBPW is replaced by a more prolific distribution of Rouletted Ware, a ceramic associated with coastal networks on the eastern Indian littoral and Southeast Asia. The RW has been recorded all along the eastern seaboard of the subcontinent, from lower Bengal to Sri Lanka in levels dated from the 3<sup>rd</sup> century BC to the 3<sup>rd</sup> century AD. The ceramic is contemporaneous with NBPW and also succeeds the latter, its finer varieties occurring at the turn of the Christian Era. The RW appears in the 'macro-stratigraphic' record of peninsular India as a critical indicator of societal transition from Iron Age to Early History (Gupta 1996:50-61). The RW distribution extends to Southeast Asia, the ware occurring as far away as Bali and Vietnam (Glover et al. 1996: 166-176). The pottery seems to be exclusively Indian, as suggested by scientific tests carried out on samples from both sides of the Bay of Bengal.<sup>8</sup>

The occurrence of RW in Southeast Asia signifies the expansion of exchange networks from the eastern coast of the Indian subcontinent.<sup>9</sup> The RW distribution, chronologically stretched across the BC-AD transition, underscores important historical processes in the BBIS. Two major maritime exchange networks became closely aligned in period of review: the spice networks to the western world and the maritime networks from South Asia through Southeast Asia to Far East. At the turn of the Christian Era, direct maritime linkages were established between the Mediterranean region and the Indian subcontinent. The main strands of the story are now clear: that within a few years of their conquest of Egypt in 31 BC the Roman authorities helped launch large scale maritime ventures to Arabia and India; that a large component of this trade was driven by the need for oriental spices in the Mediterranean and that a number of spices - including cinnamon-cassia, nutmeg and cloves - were sourced from Southeast Asia. The penetration of trading interests from Roman Egypt into the Bay of Bengal region is a pivotal episode in Indo-Southeast Asian interchange.

The expanding knowledge of the eastern Indian Ocean in the Graeco-Roman world is reflected in textual sources dating to early centuries AD. The *Periplus Maris Erythraei* (1<sup>st</sup> century AD) describes - albeit sketchily - the voyage along the eastern Indian coast up to the mouth of the river Ganga. The *Periplus* also alludes to lands beyond: Thinae (China?) and Chryse (Island Southeast Asia). Compiled in the 2<sup>nd</sup> century AD, the *Geographia* of Ptolemy provides a comprehensive list of settlements and harbours on the eastern coast of India and locates a number of settlements in Southeast Asia. Archaeology



Two stages can be envisaged in acquisition and distribution of South Asian goods in late prehistoric/iron age Southeast Asia. First, the long distance part involving crossing the Bay of Bengal with commodities and the other, distribution of imports through internal Southeast Asian networks. The transfer of goods from long distance to internal networks must have been effected through transshipment centers like Khlong Thom, Kuala Selinsing, Sembiran and Oc-Eo. At these centers import goods would have changed hands from long distance traders to mercantile groups or authorities controlling access to distribution channels into the hinterland. The nature of distribution needs to be identified. Wheatley (1975:228) is of the opinion that 'during the closing centuries of the pre-Christian Era...Southeast Asia was occupied exclusively by societies whose most advanced level of political organization was the chiefdom and among whom the instrumental exchanges characteristic of a reciprocative mode of integration predominated.' The Late Prehistoric economies of Southeast Asia were admittedly complex, with a precedent of long distance exchange going back to neolithic times (jade network of Liangzhu culture in south China). More than one mode of distribution must have been operative and an analytical approach integrating defined modes – reciprocal, redistributive and market exchanges – can be searched for in the archaeological record.<sup>9</sup>

There is little doubt that Late Prehistoric communities in Southeast Asia exhibited great proclivity for high craft items from South Asia, China and from within their own domains. Deposition of stone and glass beads, cowries, jade items, nephrite pendants and bronze drums in mortuary complexes indicates that exotic objects had been absorbed into the prevailing cultural milieu. The objects valued in Late Prehistory continue to circulate in old areas of deposition. In the Sulawesi region today, glass beads are indispensable ritual artefacts for consummation of funerary rites (Munan 1999:8-11). Cowries are still valued by tribes inhabiting the northeast India – southern China corridor. In the northeast Indian state of Nagaland, cowries are worn by tribal elders as mark of their status (for cowrie hoards in northeast India see Chowdhury 1991:228-231; for Yunnan tribes see Shan Ren 1998). These circulations indicate survival of traditions that go back to Neolithic-Late Prehistoric times.

Schaffer (in Kohl 1978: 483) articulates this view: 'cultural determinants as to which objects are to be traded record, in a sense, the social values attached to given items...' The chiefdom societies of the 1<sup>st</sup> millennium BC were coalescing into larger groupings at the beginning of Christian Era, effecting the transition to states. Brown (1996: 193), discussing the identity of Dvaravati – an early Indic polity which emerged in central Thailand, conceptualises a *mandala* or network of chiefdoms (also see Higham 1991). The adoption of Indian art idioms in Southeast Asia – especially sculptural art - is seen as manifestation of dynastic polities. The connection between art and polity, a theoretical derivation from art historical studies, has created a notion that state formation

in Southeast Asia happened without much precedence and was rapidly effected through enlightened migrants/traders coming from the subcontinent after AD 400.<sup>10</sup> While the trader theory for early polity formation in Southeast Asia has credence, the perspective does not fully explain the process of 'Indianization', the powerful expression of India-specific political and cultural ideals articulated by emergent Southeast Asian elites.

Examples of early sculptural art of Southeast Asia are creations *inspired* by Indian forms rather than slavish imitations. To quote Brown (1996: xxvi): '...much of Southeast Asia's earliest Indianized art appears as if full-sprung, with no earlier stages of development – without even a period of copying Indian models'. Inspired art requires exposure and there must have been a phase of apprenticeship for Southeast Asian craftsmen at home or abroad. Therefore, any explanation for diffusion of Indian artistic tenets across the Bay of Bengal needs to investigate possibilities of Southeast Asian artisans visiting the subcontinent in good strength.

The point I am trying to make is that the Indianization phenomenon was a outcome of *reciprocal* interchange across the Bay of Bengal rather than an 'event' set in motion by Indian trading groups around the mid-1<sup>st</sup> millennium AD. The rise of early Indic kingdoms in Southeast Asia therefore needs to be viewed in cumulative terms. As interactive processes across the Bay of Bengal strengthened and Southeast Asian communities grew more complex, the 'material panoply of status' initially manifested in beads and cowries gradually came to be projected through sculptural art, coinage and architecture. To demonstrate this transition, and to define the continuum along which the transition took shape, is a desideratum in Southeast Asian studies. The proposed Bay of Bengal Sphere Interaction Sphere framework will, it is hoped, provide the spatial breath and time depth to facilitate a new generation of studies on ancient Indo-Southeast Asian interchange.

#### ACKNOWLEDGEMENTS

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#### NOTES

1. The information given in the Encyclopaedia Britannica is as follows: 'Cassia: also called Chinese cinnamon, spice consisting of the aromatic bark of the cinnamomum *Cassia* plant of the family Lauraceae. Similar to true cinnamon, cassia bark has a more pungent, less delicate flavour and is thicker than cinnamon bark.' (Macropaedia, Volume 2, 1985 edition, p. 926).

2. Cassia is the Hebraic *kezia* in the Old Testament (Ezekiel XXVII, 19, XXX, 24) and cinnamon equates to the Hebrew *kheneh* (Exodus XXX, 23). Cinnamon is mentioned by the Greek historian Herodotus in mid-1<sup>st</sup> millennium BC and also by Theophrastus, Strabo and Pliny writing in the BC-AD transition (see Casson 1984: 225 – 246). The Greek sea guide, the Periplus Maris Erythraei refers to import of Cassia by Somalian ports in

the 1<sup>st</sup> century AD (see Schoff 1912/95: 82-85 and Casson 1984: 225-246).

3. Schoff (1912/95: 83) clarifies the issue: 'The Periplus says that it was produced in Somaliland, to which Strabo and other Roman writers refer as the *regio cinnamomifera* in the same belief. But there is no sign of the cinnamon tree in that region at present, where the requisite conditions of soil and climate do not exist....Here are indications that the true cinnamon was brought from India and the Far East to the Somali coast, and there mixed with bark from the laurel-groves mentioned in Periplus section 11 and by Strabo, and taken thence to Arabia and Egypt'. See also Miller (1969) and Chami (1999: 205-215) for import of cinnamon/cassia into the Swahili coast. For detailed discussion on the Southeast Asian origin of cinnamon/cassia see Casson (1984: 225-246).

4. To quote Bellwood (1997:306-307): '...a coherent tradition of jar burial does occur in the late Jomon and Yayoi periods of southwestern Japan (1000 BC to 300 AD), where it appears that bones were often placed in two jars laid horizontally mouth to mouth. Although this pattern is not to my knowledge found in the Indo-Malaysian archipelago, there are records of vertical mouth to mouth jar burials on Batan Island between Luzon and Taiwan, at Plawangan on Java and at Gilimanuk on Bali. In addition, the Yayoi pottery style, which is different in many respects from that of the preceding Jomon periods, does include flasks, cutouts in ring feet, red-slipped surfaces, incised scroll patterns that overlap to some extent with the repertoire of the early Metal phase in the Philippines. While I would not suggest Japan as a source for the Indo-Malaysian jar burials, I do feel that some degree of contact between two archipelagic regions may have taken place from the late first millennium BC onwards.

5. To quote from the Encyclopaedia of Indian Archaeology Volume II on the dating of the Adichanallur burials: 'No specific direct or comparative dating for the Adichanallur burials has been possible, although in view of their qualitative divergences and at the same time basic common factors in the form of pottery, iron objects and the shape of the pyriform penduncular urns it might be appropriate to place them within the chronological framework and time bracket of the Megalithic burials, perhaps in the middle of the 1<sup>st</sup> millennium BC' (Sondara Rajan 1989: 3).

6. The common denominator between the Adichanallur assemblage and strictly megalithic sites is the ubiquitous Iron Age Black and Red Ware (BRW). The term 'megalithic' has often been confused with the Iron Age cultures of peninsular India, which are actually represented by the BRW. Double urn burials have been found in association with megalithic sites on the Kerala coast (uncertain dates) and in neolithic contexts at Nagarjunakonda (Andhra Pradesh) and Watgal (Karnataka). At Watgal the double urn burials are found in 2<sup>nd</sup>-1<sup>st</sup> millennium BC levels (Devaraj *et al.* 1995: 57-74). However, there are no jar burial 'concentrations' like the urn fields of Adichanallur in the above areas.

7. For results of Neutron Activation Analysis on a batch of Rouletted Ware from Arikamedu (India), Anuradhapura (Sri Lanka) and Sembiran (Indonesia) see Ardika *et al.* (1993:101-109). The NAA results indicated that RW from all three places were from same production center. Gogte (1997:69-85) carried out XRD analyses of RW from number of sites along the eastern Indian sea board and on one RW sherd from Tra Kieu (Vietnam). His results show that the RW distribution was centered in lower Bengal, specifically at the site of

Chandraketugarh. Gogte's findings raise questions. The quantum of RW deposition at Chandraketugarh, or lower Bengal for that matter, is not clear. As a likely production center, the RW deposits should be expectedly more than at sites where the ceramics were deposited.

8. In Southeast Asia, the RW has been retrieved from both habitational and funerary contexts. The finding of RW on coastal Vietnam also indicates the outreach of long distance trade from the BBIS, suggesting the networks were oriented towards the Far East. The RW is associated with other ceramic types. At Sembiran, the RW occurs with a Kharosti or Brahmi inscribed sherd and decorated pottery designated Wheeler Type 10 from Arikamedu (Ardika and Bellwood 1991: 211-232). For review of RW finds in South-Southeast Asia see Gogte (1997: 69-85).

9. These three modes of distribution of trade goods have been evolved and hold universal appeal among historians of long distance trade and archaeologists studying the subject. I have simply explained the meaning of the distributive modes. *Reciprocal exchange*: Exchange of commodities between two consenting parties, a sort of partnership for mutual profit. *Redistribution*: The acquisition of goods by power groups (chieftains, elites) and distribution through administrative machinery. *Market exchange*: Free transfer of goods for profit motive. Market exchange differs from reciprocal exchange in the sense of the transactions may be effected between parties unknown to each other and carried out in a designated area like entrepot or transshipment center. For detailed exposition see Renfrew (1975: 3-59).

10. Recent views on the Indianization process underpin the trader mode. Brown (1996:194-199): 'A possible linkage between state form and artistic development has been suggested by the number of commentators on early Southeast Asia...art is a means to power in early Southeast Asia...it was what the Indian brought, rather than who they were, that was of importance to Southeast Asians'.

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