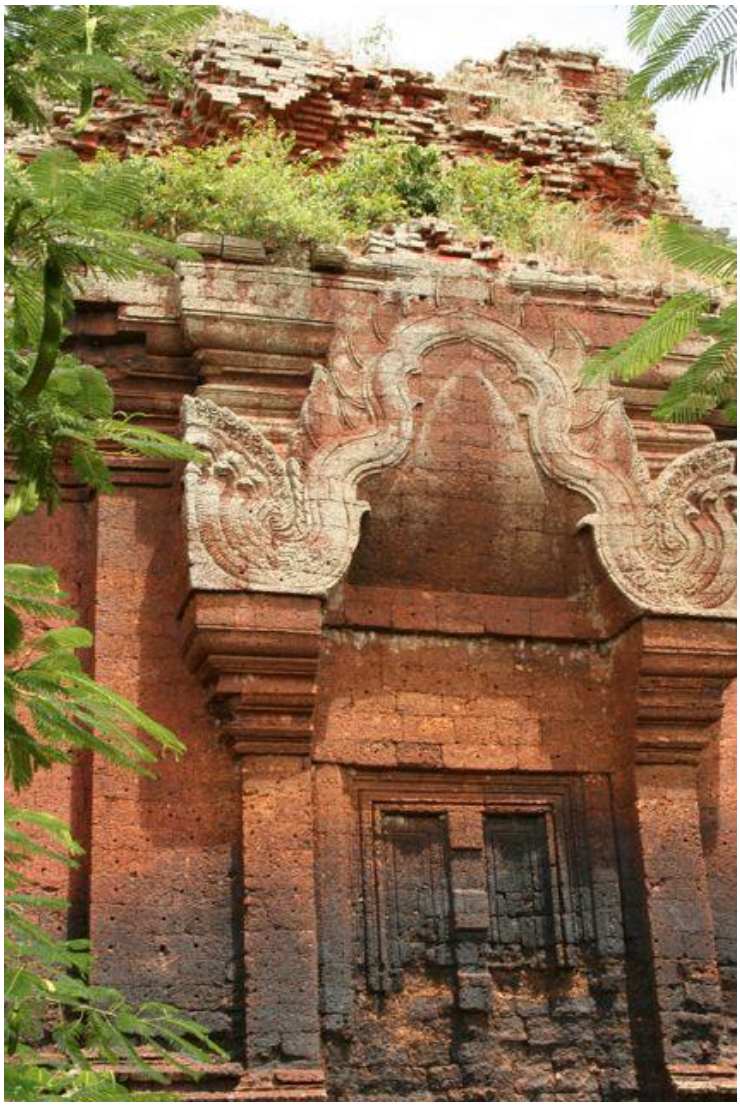
Between River and Sea: Funan's Shifting Role in Mekong delta and South China Sea interaction networks during the 1st to 6th century

Steixner, Elliott Luca



BETWEEN RIVER AND SEA

Funan’s shifting role in Mekong delta and South China Sea interaction networks during the 1st to 6th centuries CE

Elliott Luca Steixner

Image Source: Carter, A., (2008, July 27). ***Back to Angkor Borei [Photo Post].*** **Alison in Cambodia. https://alisonincambodia.wordpress.com/2008/07/27/back-to-angkor-borei-photo-post/#more-466**

Between River and Sea

Funan’s shifting role in Mekong Delta and South China Sea interaction networks during the 1st to 6th Century

Thesis BA3 1083VBTHEY

Elliott Luca Steixner

S2600633

Supervisor: Dr. M. R. Manders

Leiden University, Faculty of Archaeology

Ha Noi, 20.07.2022

Final Version

Preface

Flying into Ho Chi Minh City (better known in Vietnam as Saigon), the water world of the Mekong delta reveals its true vastness. From the sky, southern Vietnam is more river than land, the brown water breaching all banks and isolating small patches of jungle island. Closer to the coast, the brown Mekong river swirls and eddies into the rich, clear water of the ocean. Seeing this spectacle for the first time, I was struck by the fluidity of the boundary between river and sea, the permeable barrier of something we usually see as so separate.

When I began researching the archaeology of Southeast Asia, it was the area where the Mekong river reaches the sea that fascinated me, this meeting of the worlds. The earliest known state that emerged here, Funan, seems to embody this mixing in the delta- the local, the indigenous, meets the global. Through an endless network of ships and traders, the Mekong river stretches to meet the Mediterranean.

I was surprised to discover that this way of seeing the water system and trade was not common, and that instead, the river and the sea continue to be treated as separate entities, embodied in a research divide between the “maritime” and the “agricultural” states. In my research for my bachelor thesis, I therefore aim to emphasize the connectivity of the maritime system, the permeable barrier between the river and the sea, and the fluidity between maritime and agricultural states.

I would like to thank my supervisor Dr. Manders Martijn, as well as Dr. Le Thi Lien and Dr. Nguyen Thi Mai Huong from the Vietnamese Institute of Archaeology for their kind assistance during this research.

Table of Contents

List of figures

Between River and Sea: Funan's shifting role in Mekong Delta and South China Sea interaction networks during the 1st to 6th Century

Chapter 1: Introduction

Placed neatly between the historically influential powers of India and China, Southeast Asia has long been conceptualized as a transitory region. However, being seen as in-between does disservice to Southeast Asia's long and distinct history of independent kingdoms and states that took up an important role in global interaction networks and acted as primary centres for an intensive regional cultural exchange.

In this paper, I will discuss Funan, one of the earliest known kingdoms of Southeast Asia. First named by Chinese court officials in the 3rd century A.D., Funan acted as a vital node in regional and interregional exchange networks of Asia. The French archaeologist Pelliot first located Funan in the southern Mekong Delta, in what is now southern Vietnam and Cambodia, leading Louis Malleret to conduct the first systematic survey of Mekong delta sites. Archaeological research was taken up by local archaeologists after the political turbulences that engulfed Southeast Asia in the late 20th century. Funan was given some attention by Vietnamese archaeologists, and they excavated multiple sites termed as part of "Oc Eo culture" throughout the late 20th century (Manguin & Stark, 2022). In 1990s and early 2000s, a wave of research on the Mekong delta led to the reinvestigation of Funan sites, including the Franco-Vietnamese research on Oc Eo/Ba Thê and the excavation of Angkor Borei by the Lower Mekong Archaeological Project (LOMAP), led by Cambodian teams together with the University of Hawai'i (Manguin & Stark, 2022).

Although there is a lack of indigenous textual evidence, archaeological remains indicate that Funan, particularly the Oc Eo site, was a vital node of the trade networks connecting Asia to the Middle East and Europe. As a result of this, Funan has commonly been conceptualized as a maritime state acting as intermediary between China and India. This idea does not give enough credit to indigenous Southeast Asian technological traditions and the complex, multi-faceted relations between Southeast Asian states and their neighbours.

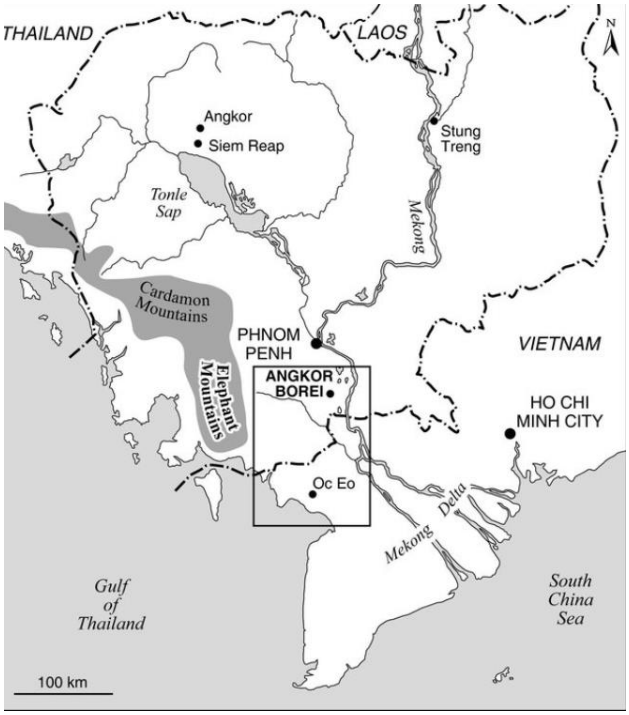


Figure 1: The location of Oc Eo (in modern Vietnam) and Angkor Borei (in modern Cambodia). (Sanderson et al.*, 2007, p.323)*

Research still tends to focus on long-distance maritime interaction between Southeast Asia and South Asia (Le, 2018; Bellina, 2003), privileging South Asian material culture and hindering detailed studies of regional interaction between Southeast Asian polities across coastal and riverine networks. In the past years, a re-evaluation of Southeast Asian archaeological sites has shown the importance of studying Funan and related polities at a regional level. Carter e*t al.* (2021) have recently suggested the importance of an intraregional exchange network centred on the Mekong delta, termed the "Mekong Interaction Sphere". Funan's role in the Mekong Interaction Sphere demonstrates the insufficiency of the still widely accepted idea of Funan as a maritime state dominated exclusively by its connections to India and China.

In this research, I will further destabilize the understanding of Funan as an externally-oriented state, and instead emphasise its importance in a shifting indigenous landscape of complex socio-political alliances and cultural influences. I will assess the usefulness of the "Mekong Interaction Sphere" concept and challenge its boundaries and weaknesses.

I will accomplish these aims by examining the following question:

How did Funan's involvement in coastal and riverine trade networks within mainland Southeast Asia change between the time period of the 1st to the 6th Century A.D., based on material evidence at Oc Eo and Angkor Borei?

To answer this question, I will focus on the following interrelated subquestions:

- How can the ceramics, glass and stone beads and metal objects found in Funan sites compare to inland and coastal Southeast Asian sites and what does this tell us about the role of Funan in maritime exchange networks?
- To what extent is the interpretation of a Mekong Interaction Sphere a useful framework for examining riverine exchange networks in mainland Southeast Asia?
- How can theoretical approaches from the field of maritime archaeology help us understand this data?

Towards this aim, I will synthesise studies of the material assemblage at two principal Funan sites. The first is Oc Eo, a port site in southern Vietnam. The second is Angkor Borei, a site further inland in southern Cambodia. I will bring together recent research on stone and glass beads, pottery, and gold and bronze objects in Oc Eo and Angkor Borei, as well as contemporaneous Mekong delta and South China Sea sites. By bringing together analysis of different material categories, the role of Funan in coastal and riverine trade networks over time will be assessed and related to a broader power context.

The paper will begin with briefly describing the history of research in Southeast Asia, as well as relevant background to better understand the context of the research. The methodology will be outlined, followed by a presentation of the results of recent archaeological studies of Funan and the Mekong delta. Finally, I will synthesize the recent research to construct a broader narrative of Funan's role in exchange networks over time, with a brief discussion of shifting power relations in Southeast Asia during this period, before discussing how approaches from maritime archaeology can help to understand the maritime state of Funan.

Chapter 2: Background

2.1 Research History of Vietnam and Cambodia

Interest in Funan began during the colonial period. Though French archaeologists at this time were primarily concerned with studying architecture and inscriptions at temple sites, the archaeologist Louis Malleret conducted systematic surveys of Funan sites in South Vietnam in the 1930s. Malleret excavated a group of mounds by Mount Ba Thê, including the Oc Eo mound, one of the principal sites of Funan (Manguin & Stark, 2022, p.646). Around the same time another site, Angkor Borei in southern Cambodia, was put forward as a potential Funan capital by Etienne Aymonier (Stark & Fehrenbach, 2019, p.111). These two sites formed the principal basis for initial studies of Funan.

The political situation of Cambodia and Vietnam made archaeological work in the region increasingly difficult. In 1975, following the reunification of Vietnam, local archaeologists took over excavations, launching surveys and excavations throughout the Mekong Delta. In Cambodia, this was more challenging, but in 1996 the Lower Mekong Archaeological Project (LOMAP), returned to the Mekong delta to survey and excavate sites along the Takeo river system, including Angkor Borei (Stark, 2006, p.102). In Vietnam, Franco-Vietnamese research at the Oc Eo/Ba Thê complex in the 1990s, and the excavation of Go Thap by Vietnamese teams, contributed to new understandings of Funan (Manguin & Stark, 2022, p.646).

Since the uptake of research by international teams of archaeologists under the leadership of local authorities, great progress has been made on the research of Funan, vastly expanding our knowledge of early Southeast Asia. Additionally, research of the pre-Funan past has helped to better understand the context out of which Funan arose and allow for the recognition of Funan as an indigenous state that selectively absorbed certain Indianized elements from regions that they had long stood in contact with (Le, 2018, p.107).

2.1 Funan and associated cultures

The greatest development in the research of Funan has undoubtedly been the gradual refutation of "Indianization", the understanding that early state formation in Southeast Asia was the result of Indian contact and colonization in the 4th century C.E. (Manguin & Stark, 2022, p.642). The "Indianization" concept that arose in the early research on Southeast Asia is deeply problematic, as it is a simplistic view on cultural transmission and has colonial origins. In this interpretation, India was treated as a "civilizing" influence, directly importing religious, political and socio-economic systems. Indigenous Southeast Asian developments were ignored to fit this narrative of early colonization (Bellina, 2003, p.285).

Research since the 1960s has revealed a complex network of highly connected states along the coast of India and Southeast Asia, with regular contact traced back to the Bronze age (1500-1000 BCE), long before Indianized states arose in the 4th-5th century CE. Funan emerged as a complex early state in the 1st century CE (Le, 2018, p.107).

As early as the Iron Age in the latter half of the first millennium BCE, trade linked states and cultures across the South China Sea together in an exchange network that resulted in a shared material culture of prestige goods (Carter et al., 2021, p.36). This South China Sea interaction sphere most notably included the Sa Huynh culture of central Vietnam, the Dong Son culture of Northern Vietnam, as well as insular polities as far as Taiwan and sites of the Thai-Malay Peninsula (Bellina, 2022).

The common items shared among these areas include bronze Dong Son drums, Sa-Huynh-Kalanay ceramics and nephrite and jade ornaments, as well as material of South Asian origin such as semiprecious stones and high-tin bronze bowls (Fig. 2) (Bellina, 2022, p.477-483). These items were remarkably coherent across this vast region. Bellina (2022) has interpreted the remains as a pan-regional material culture, terming it the "Late Prehistoric South China Sea Style" (p.477). This South China Sea style spread along an interaction network that directly preceded and overlapped in time and space with the rise of the Funan polity. These regions remained in close interaction beyond the existence of this early shared South China Sea style and the cultures that participated in it. The prestige goods exchanged across this network changed to glass beads, silver, and gold spread across largely the same network (Demandt, 2016, p.321).

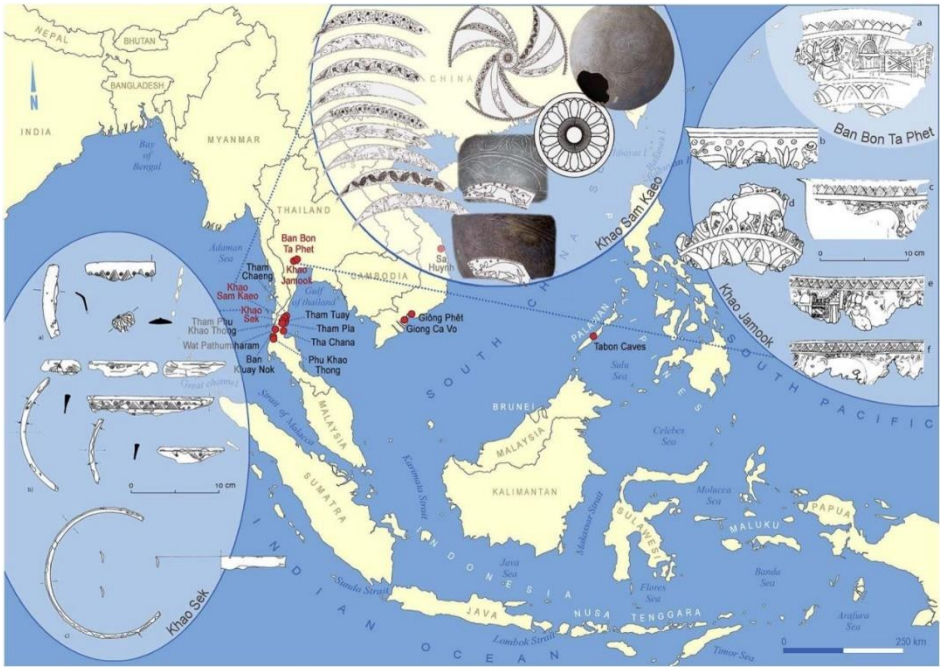


Figure 2: Distribution of high-tin bronze bowls, showing important sites of the South China Sea interaction network(Bellina, 2022, p.476)

The Mekong delta itself was only sparsely settled before the turn of the millennium, as the marshland around Oc Eo was not attractive to human settlement (Reinecke, 2022, p.567). Angkor Borei, which is further northwest and at a higher elevation, was settled by at least 400 BCE (Stark, 2003, p.93). By the first century CE, Angkor Borei and Oc Eo are commonly interpreted as two major cities in the polity known as "Funan".

Little is known of the internal socio-political organization of Funan due to the scarcity of indigenous inscriptions and clear archaeological evidence (Manguin, 2009, p.105). Le (2018) describes the structure as "following the model of nuclear centre and satellites" (p.18). These centres and satellites are connected by a vast and complex network of canals built in the 2nd century A.D., with a "main canal" (Fig. 3) connecting Oc Eo and Angkor Borei (Manguin, 2009, p.107). Stark (2003) has outlined an astounding number and variety of water control features recorded in Angkor Borei (p.95), further cementing the importance of water to Funan. From the scale of this public works project, we can conclude that Funan had achieved considerable political complexity and could harness a large economic surplus by this time (Manguin, 2009, p.111).

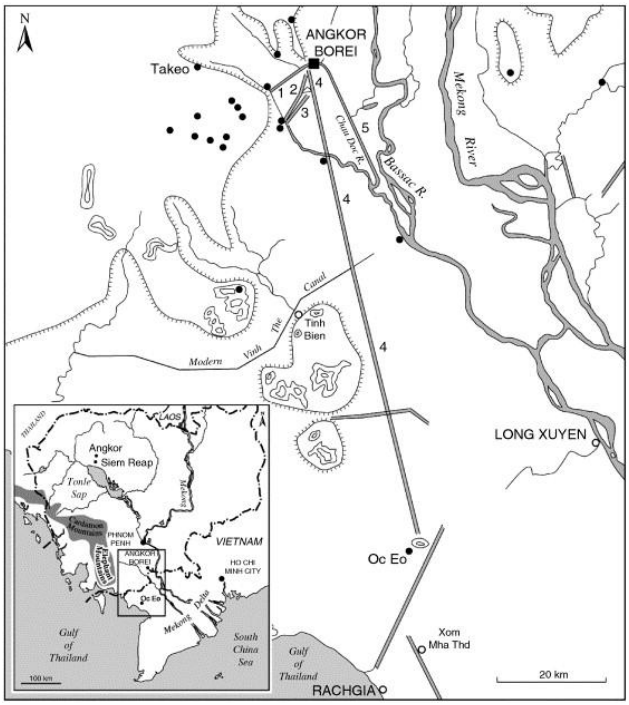


Figure 3: The largest canals around Angkor Borei and Oc Eo (Sanderson et al., 2007, p.323)

Around the 4th to 6th centuries CE, brick structures began to be built in Oc Eo and Angkor Borei, following Indian architectural and decoration conventions (Le, 2018, p.118). These new brick structures included brick and stone temples, signalling the strengthening Buddhist and Hindu influence that had begun in the 3rd century C.E. (Stark, 2003, p.104). Arguably, it is around this time that we can truly begin to understand Funan as an "Indianized" state, although it is important to nevertheless value indigenous agency in this process (Le, 2018, p.108).

2.2 Research in Southeast Asia: Looting, Colonialism, and Ethics

With all archaeological research into Southeast Asia, it is vital to remain aware of a few ethical issues. Due to history of Vietnam and Cambodia as formerly colonized nations, it is important to see early research of the region in this light. Today, the archaeological research of these countries is held and stewarded largely by local archaeologists and national institutions. However, the ghosts of early colonial interpretations haunt Southeast Asian archaeology, and in global discussions, Euro-American voices are still centred (Stark, 2020, p.216).

Archaeology sponsored by national institutes in Southeast Asia tends towards top-down approaches, focusing on "nationally significant heritage sites" (Shoocongdej, 2011, p.225) that build nationalist narratives, anachronistically project modern states into the past and neglect ethnic minority voices (Nakamura & Sutherland, 2019, p.63). Public archaeology in Southeast Asia is sorely underdeveloped, although it would be useful in these contexts as the ethnic diversity of the region gives rise to competing narratives. Stakeholders such as descendant communities, many of which still actively participate in traditional preservation of heritage, are rarely included in the production of knowledge (Fig. 4) (Stark, 2020, p.225). Existing literature of public archaeology is based on settler colonial contexts, and ideas such as "indigenous" communities as a counterpart to Euro-American foreign archaeologists are of limited use in the specific local context (Stark, 2020, p.216).

Figure 4: An Oc-Eo culture statue in Go Thap is provided with incense and tea by visitors. (Le, 2015)

Another vital ethical issue is that of looting. Oc Eo and Angkor Borei have both faced looting and destruction in the past (Stark, 2006). This is largely due to cultural heritage law insufficiently protecting archaeological sites, as well as conflicting stakeholder values as heritage preservation and economic interests collide (Nguyen, 2020, p.17). The commercial exploitation of cultural heritage is occasionally even state sponsored, as seen in the case of the Hoi An shipwreck in the late 1990s: a commercial salvage company hired by the government was promised the right to sell a proportion of the pottery recovered (Thomas, 2014).

The archaeology of Southeast Asia has influential nationalist dimensions, and research often focuses on geopolitical claims and state building projects (Stark, 2020, p.216). This especially concerns the funding of maritime archaeology in Southeast Asian states as well as China, as these nations are embroiled in a territorial dispute over the South China Sea area. In this dispute, maritime archaeological programs are often used to drive a political agenda, attempting to prove that any one nation-state can defend the "ownership" of the maritime landscape (Perez-Alvaro & Forrest, 2018).

Chapter 3: Methodology

Due to the impossibility of doing fieldwork in Southeast Asia in the course of this project, this paper will rely exclusively on previously published literature. There has been a number of recently published studies on the material culture of Funan and the Mekong delta. I will analyse their results to discuss how a synthesis of multiple categories can aid us in our understanding of Mekong delta interaction.

3.1 Limitations of the Research

The research faced a number of difficulties and issues, such as the language barrier. As the vast majority of material on Funan sites in Vietnam is written in Vietnamese, it has been extremely hard to find information on the material assemblage at Oc Eo and other sites in Vietnam. Comparatively, there is a large amount of newly published, English language literature on Angkor Borei, as the teams excavating this site include a large number of US American researchers. I have attempted to counteract this imbalance by directly reaching out to Vietnamese archaeologists working on Funan to supplement my sources.

Due to the fragmentary nature of publication on Funan, or "Oc Eo culture" as it is described in Vietnam, there is a very small selection of available sites. The comparative aspect of the paper is hampered by the limited selection of sites, as well as the uneven data on each site, as it is not possible to find English language research on all material categories that I am examining. Additionally, this is far from an exhaustive review of literature and data from archaeological research on Funan. As new research is constantly emerging from this rapidly changing field, and the space that is given here is very limited, I cannot guarantee the completeness of this overview.

3.2 Sites selected

As research from Southeast Asia is sparse, it is counterproductive to make a selection of sites for the comparative aspect of the paper. It is more effective to synthesize broader studies of specific materials across Southeast Asia rather than selecting specific sites for comparison.

The principal focus of the paper is on Angkor Borei and Oc Eo, the two principal urban centres of the Funan (Manguin &Stark, 2022, p.637). This is due to the access of materials, as Oc Eo and Angkor Borei are the best investigated sites of Funan to date. For the sake of comparison, it is also important to discuss other Mekong delta as well as South China Sea sites. South China Sea sites of note are Khao Sam Kaeo, Ban Don Ta Phet and Phu Khao Thong in Thailand, Sa Huynh and Sa Huynh related sites in south and central Vietnam, as well as Prohear and Village 10.8 in Cambodia. The Mekong delta sites discussed are Phum Snay and Prei Khmeng in Cambodia, and Ban Non Wat and Phromthin Tai in Thailand (Fig. 5).

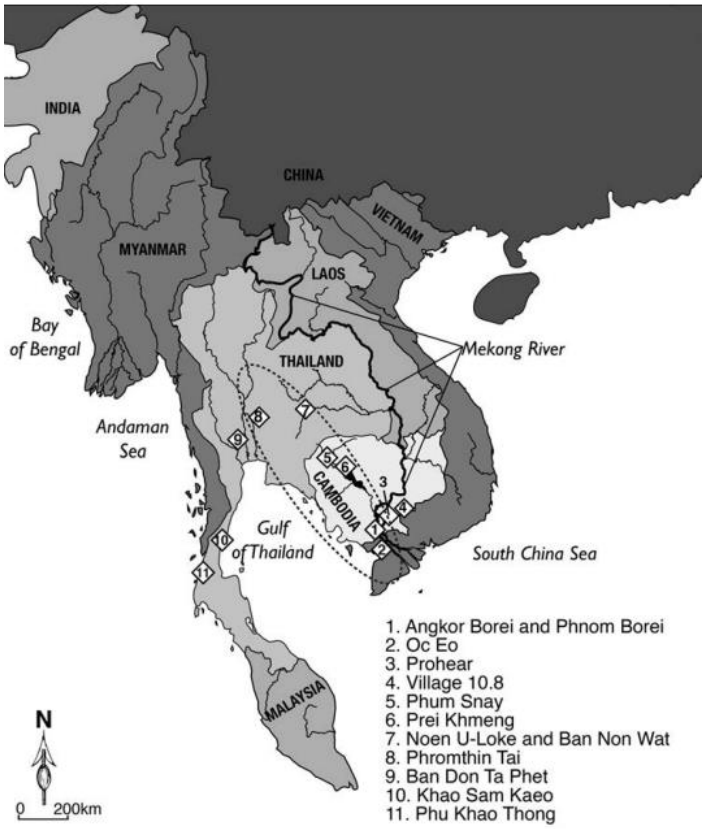


Figure 5: Map of the principal sites in Southeast Asia during 500BCE-500CE, with the proposed Mekong Interaction Sphere demarcated by the dotted line. (Carter et al., 2021, p.33).

3.3 Material categories

In this section I will briefly present the main material categories studied in the course of this research.

Stone and glass beads have been extensively studied in Southeast Asian contexts, with many thousand described from the Funan sites of Oc Eo and Angkor Borei (Carter 2016*a*, p.20). Beads have been conceptualized within the Southeast Asian context as a rare "prestige object" due to the exotic material or the foreign technologies involved in their production (Carter et al., 2021, p.36). Therefore, they are well suited proxies for studying interaction networks. However, many beads are from looted contexts, limiting the available information.

The ceramics of Southeast Asia are usually long-lived local traditions (Bong, 2003, p.147). Broad regional comparisons can reveal pottery horizons that might indicate intensive contacts leading to increasingly shared ceramic traditions. The ceramic chronology of Angkor Borei has been extensively studied and placed in a larger context. Ceramics of Oc Eo have not been thoroughly studied since Malleret first published an overview in 1960, in which ceramics were grouped but not placed in a clear chronology (Manguin, 2020, p. 446). While these limitations impact the analytic value of ceramics, they are still a valuable material category due to their frequency in the archaeological record.

Objects made of bronze and gold are important, highly valued prestige objects in ancient Southeast Asia, particularly in the forms of beads, plaques and other ornaments (Bennett, 2009, p.103). Due to their high value, these objects are often sought after by looters, destroying the archaeological context of many valuable finds. Additionally, they might not enter the archaeological record at all as the object is often reused as a symbolic element, or melted down for reuse of the material. However, with these limitations in mind, metal objects can provide us valuable information on exchange networks.

Using studies of the regional distributions of beads, metal objects and ceramics, I will be able to gain a thorough overview of Mekong delta and South China Sea interactions. This will allow me to answer my research questions and assess the validity of the MIS concept. The sites surveyed will include sites in Thailand, Cambodia and Vietnam, but the comparative aspect is limited due to the lack of information available on individual sites.

Chapter 4: Results

4.1 Stone and glass beads

The bead assemblage at Angkor Borei and Oc Eo consists of a small number of very similar bead types circulating in South and Southeast Asia during the Funan period. Glass beads throughout Asia can be broadly split into four categories (Lankton & Dussubieux, 2006, p.126), of which three are present at Funan sites to some degree. I will discuss the bead assemblage at Oc Eo and Angkor Borei together before discussing similarities to other Mekong delta and South China Sea sites.

The glass bead types found at Angkor Borei and Oc Eo are grouped according to their compositional characteristics, a more reliable method for evaluating linkages between different regions (Bellina, 2003, p.287). Stylistically, almost all glass beads at Angkor Borei and Oc Eo are monochromatic, small beads of a spherical shape, known as “Indo-Pacific” beads (Fig. 6) (Carter et al., 2021, p.41; Francis, 2002).

Figure 6: Indo-Pacific Beads from Angkor Borei. (Carter et al., *2021, p.42)*

Plant ash soda-lime glass beads are found at both sites, although in higher proportion at Angkor Borei. This is a bead type exchanged widely throughout South and Southeast Asia, and it has been found in a large number of sites, including Sri Lanka, Thailand and Cambodia (Dussubieux & Bellina, 2018, p.27). The precise origins are unclear, but this composition is strongly associated with the Middle East or Mediterranean area, and therefore points to long-distance imports (Carter et al., 2021, p.45)

Lead glass is present in extremely small numbers at Funan sites and are most likely of Chinese origin. These beads have also been found at sites associated with the South China Sea network, including Sa Huynh sites and Prohear (Carter et al., 2021, p.45; Lankton &Dussubieux, 2006, p.131), but the numbers are too small to draw reliable conclusions.

The most abundant beads found are mineral soda glass, split into two subtypes with high and moderate alumina content respectively (Carter et al., 2021, p.45). Mineral soda glass with high alumina content (m-Na-Al-1) is a wide-spread glass recipe with connection to South Asia (Dussubieux et al. 2010, p.1647), although Lankton and Dussubieux (2006) also contend that the composition does not rule out Southeast Asian origins, as the necessary materials are available in southern Vietnam, near Oc Eo (p.133). Mineral soda glass with moderate alumina content (m-Na-Ca-Al) is predominantly found in Central and Northern Vietnam, Thailand and Cambodia (Lankton & Dussubieux, 2013, p.417). These beads were likely produced in peninsular Thailand, with a production centre possibly located at Phu Khao Thong (Carter et al., 2021, p.47). Of these two subtypes, m-Na-Al-1 is more common at Funan sites (Carter et al., 2021, p.49).

The sites of Oc Eo and Angkor Borei contain a disproportionately large amount of m-Na-Al-1 beads compared to contemporaneous sites in mainland Southeast Asia (Carter et al., 2021, p.50). The predominance of this glass type is also consistent with the glass bead assemblage reported from other Mekong delta sites such as Phum Snay, Prei Khmeng, Ban Non Wat and Phromthin Thai (Fig. 7) (Carter et al., 2021, p.51).

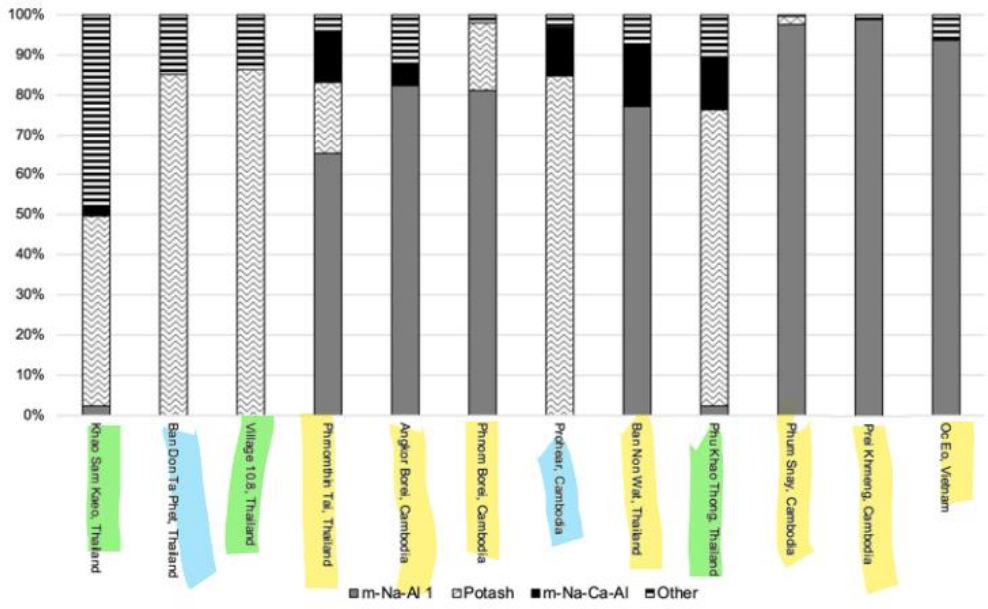


Figure 7: Distribution of glass bead types throughout the Mekong delta (sites highlighted in yellow) and South China Sea sites (sites highlighted in green), with sites near the periphery of the South China Sea network highlighted in blue (Carter et al., 2021, p.50). Adapted by author.

The fourth type of glass bead commonly circulated in Asia is potash glass, the second largest of the main glass groups (Lankton & Dussubieux, 2006, p.135). Although potash glass beads are found frequently throughout all of Asia, they are notably absent from both the Angkor Borei and the Oc Eo assemblage (Fig.7) (Carter et al., 2021, p.50). Potash glass beads are rare or non-existent throughout Mekong delta sites, although they are the most frequently represented glass bead type at contemporaneous sites in southern Cambodia such as Prohear, as well as sites in peninsular Thailand such as Khao Sam Kaeo (Fig. 8) (Carter et al., 2021, p.51; Lankton & Dussubieux, 2006, p.134). Their absence is especially notable as this glass type shows strong evidence for local manufacture, possibly within Vietnam (Nguyen, 2001, p.111), with research suggesting that at least some potash glass "represents a distinct Southeast Asian tradition" (Lankton & Dussubieux, 2006, p.135).

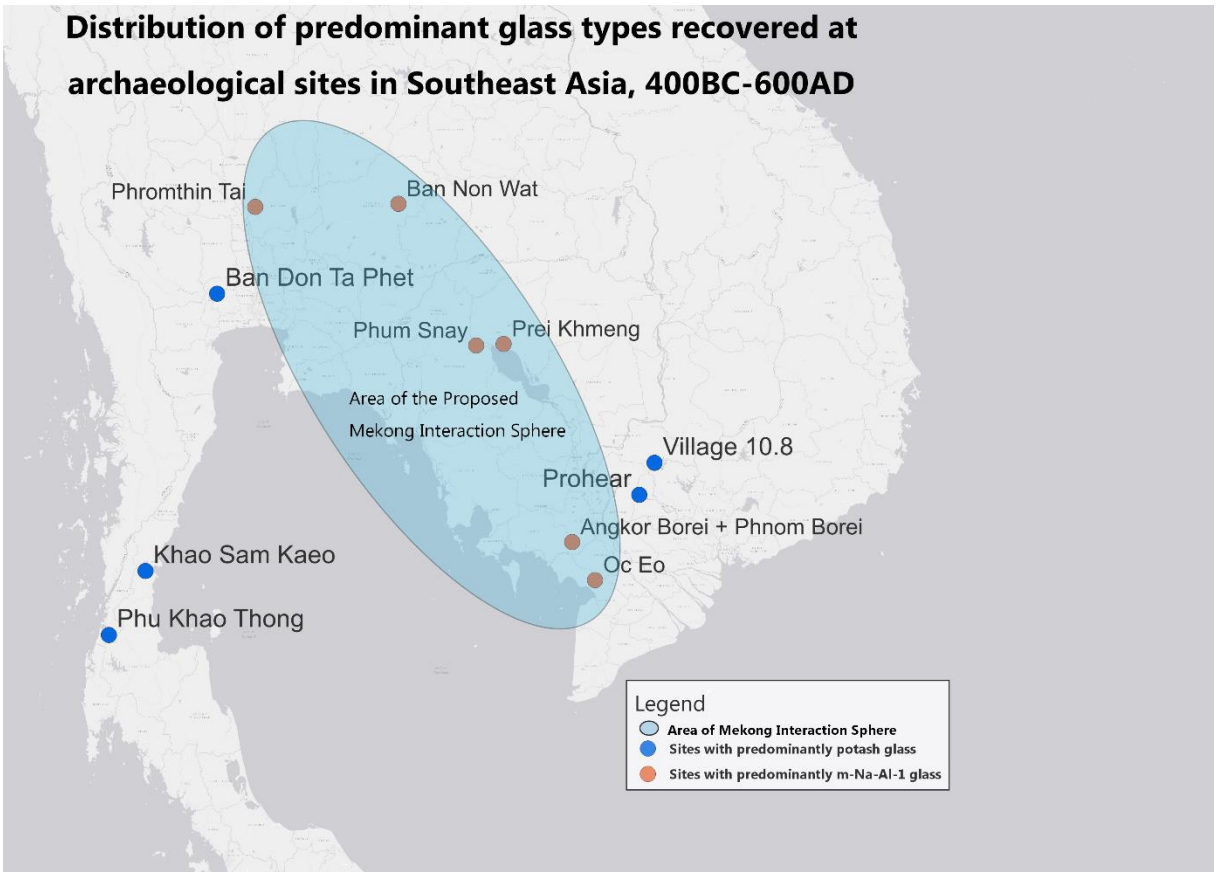


Figure 8: The distribution of predominant glass types recovered at archaeological sites in mainland Southeast Asia dating from 400BC - 600AD. The blue ellipse denotes the Mekong Interaction Sphere. Image by author, data from Carter et al. 2021.

The stone bead assemblage consists mainly of semi-precious beads of carnelian, agate and quartz, with small numbers of precious beads of garnet. Angkor Borei's stone bead assemblage is dominated by carnelian beads, which is consistent with patterning further inland in Thailand and Cambodia (Carter et al., 2021, p.51). Semi-precious stone beads in Southeast Asia can be split into two distinct types. Type 1 beads can be dated to the last centuries BCE and the first centuries CE. These beads are of higher quality, with more complex shaping, a higher quality of raw materials, and the use of rotary grinding stone finish, a very time-consuming technique. Type 2 beads, found from the first centuries

CE onwards, are lower quality, mass-produced beads, with simple shapes, larger perforations and the use of drum finishing for polish, resulting in a lower lustre (Carter, 2016*a*, p.21; Bellina, 2003). Type 2 beads are more commonly found at Angkor Borei and Oc Eo compared to other sites in mainland Southeast Asia. The dominance of type 2 stone beads is also evidenced at Phum Snay, Ban Non Wat and Promthin Tai, sites that show similarities to Funan sites in their glass bead assemblage (Fig. 9) (Carter et al., 2021, p.52). Type 1 beads, in comparison, are more commonly found at Sa Huynh sites and in peninsular Thailand, sites that also share prestige goods common to the South China Sea such as nephrite ornaments (Bellina, 2003, p.291-292).

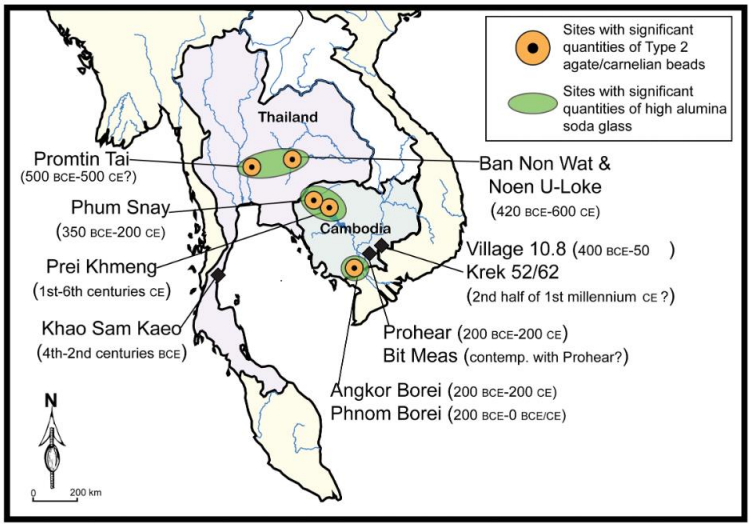


Figure 9: Map of sites with high quantities of type 2 stone beads and high alumina soda glass (Carter, 2015, p.750).

Much debate has been published on the origin of semi-precious stone beads in Southeast Asia. As large agate and carnelian deposits are found in India, it was usually assumed that agate and carnelian beads were exclusively imported (Bellina, 2003, p.286). Although Theunissen et al. (2000) was able to find that type 2 stone beads in Thailand had a composition that was closer to local sources than to South Asian sources (p.102), research since then has struggled to recreate these results and currently it is believed that the most likely source for raw material in Funan sites is Western India (Carter & Dussubieux, 2016, p.323). However, while the raw material and the techniques used in production are likely Indian, evidence of a stone bead manufacturing centre at Khao Sam Kaeo in Thailand indicates the possibility of manufacture within Southeast Asia (Carter et al., 2021, p.52).

Figure 10: Garnet beads from Angkor Borei. (Dussubieux et al., 2016, p.241).

Garnet beads are rare throughout Southeast Asia. They were found at both Angkor Borei and Oc Eo in significantly smaller numbers than agate and carnelian beads. A higher number of garnet beads have been found at Oc Eo, although unfortunately the heavy looting of this site makes interpretation difficult (Carter et al., 2021, p.51). Malleret reported a variety of stone bead shapes at Oc Eo (Malleret, 1960, p.221), many of which did not spread beyond Oc Eo for unknown reasons (Carter et al., 2021, p.52). Research suggests at least two distinct production centres in South Asia and Southwest Cambodia, using two different garnet sources (Carter, 2016*b*, p.260). Sites in Southwest Cambodia such as Prohear show evidence of local production, but sites in the Mekong delta, including Angkor Borei and Oc Eo, prefer South Asian garnet beads, despite the geographic distance (Carter, 2016*b*, p.263; Carter et al., 2021, p.54). Similar garnet beads were found at coastal sites in Vietnam such as Giong Ca Vo, and in peninsular Thailand (Carter et al., 2021, p.55).

Among these results, the prevalence of mineral soda glass at Mekong delta sites is especially important. Given the frequency of potash beads in mainland Southeast Asia, their absence in the Mekong delta is certainly noteworthy. The distribution of type 2 stone beads seems to be closely associated with mineral soda glass beads, while type 1 stone beads are found in association with potash beads.

4.2 Ceramics

In this section, I will briefly outline the basic ceramic typology of Angkor Borei and Oc Eo. Following this, the distribution of similar ceramics throughout Southeast Asia will be presented.

The ceramic chronology at Angkor Borei consists of three distinct phases, of which Phase II (200BCE-300CE) and Phase III (300CE-600CE) are relevant to the time period discussed in this thesis. Three different ceramic types dominate this period. Orange Fineware and Orange-Slipped Fineware are types restricted to Phase II. Orange Fineware is found exclusively as small, cup-like

vessel forms, made of a very fine orange paste (Bong, 2003, p.225). Orange-Slipped Fineware is found primarily in a mortuary context at Vat Komnou. They consist of a very fine reddish-orange paste and the surfaces are often covered by red or orange slip (Stark & Fehrenbach, 2019, p.115). While the fabric of this ware group is extremely homogenous, the forms are very diverse, comprising small pots, pedestal dishes and small flare-rimmed cups as well as the earliest securely dated *kendi* (Fig. 11) (Stark & Fehrenbach, 2019, p.119).

Figure 11: Orange-Slipped Fineware kendi *from Angkor Borei. (Stark&Fehrenbach, 2019, p.119)*

Phase III is dominated exclusively by Fine Buffwares, defined by their smoothed surface and their hard, grey fabric. Fine Buffware at Angkor Borei is made in two primary forms: a spouted, globular form with a ring base *(kendi)* and a pedestal dish (Fig. 12) (Stark, 2006, p.101).

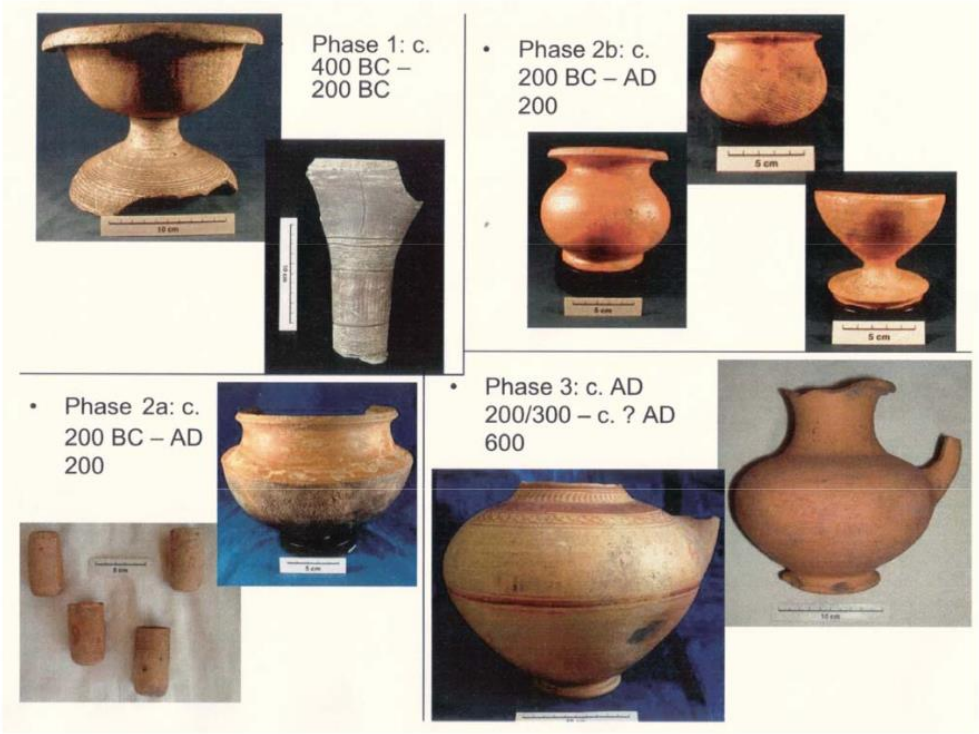


Figure 12: Vessel forms associated with each phase at Angkor Borei. The phase 2b, bottom left vessel, is the typical pedestal dish form (Stark, 2006, p.102)

The ceramic assemblage of Oc Eo has not been placed in a chronological sequence and has not been systematically studied since Malleret classified the earthenware he excavated at Oc Eo (Manguin, 2020, p.446; Malleret, 1960). Therefore, the information we can gather from this assemblage is limited to stylistic comparison. Malleret described 71 types at Oc Eo, divided into five groups. Group V describes clear parallels to the Fine Buffware group at Angkor Borei, but other Groups cannot be directly compared (Bong, 2003, p.127). Group V consists of hard vessels of a fine paste, pink, yellow and grey in colour (Malleret, 1960, p.176). Malleret was unable to perform chemical analysis of the fabric due to technological limitations of his time. This especially hampers understanding of the spread of Orange Fineware and Orange Slipped Fineware in Oc Eo, as they are extremely similar and the decision to separate these into two distinct groups was only made after laboratory analysis (Bong, 2003, p.236).

Given these limitations, however, comparisons of form and decoration of Angkor Borei and Oc Eo ceramics have revealed significant similarity between the sites. The lid form of Orange Slipped Fineware found at Angkor Borei is almost identical to lids found at Oc Eo (Stark & Fehrenbach, 2019, p.122). Further, diagnostic forms such as pedestal dishes, *Kendis* and globular bowls are found both at Angkor Borei and Oc Eo (Fig. 13) (Stark & Fehrenbach, 2019, p.124), indicating the use of similar ceramics at both sites, although the differences between these sites reveal that it is hard to speak of a truly standardized "Oc Eo culture" ceramic tradition (Manguin, 2020, p.446).

Figure 13: A kendi from Oc Eo displayed in the Museum of Vietnamese History, with clear parallels to Angkor Borei Fine Buffware ceramics. (Photograph by G. Todd, 2012).

The ceramic assemblage at Angkor Borei and Oc Eo shows multiple similarities to other sites in Southeast Asia. Orange Slipped Fineware lid forms reported at Angkor Borei and Oc Eo are also found at sites throughout the Mekong delta, notably at multiple sites in South Vietnam (Stark &

Fehrenbach, 2019, p.122). Similarly, an early Orange-Slipped Fineware *kendi* found at Vat Komnou is remarkably similar to a *kendi* found at the site of Phnum Snay in Northern Cambodia, both in decoration and surface treatment (Stark & Fehrenbach, 2019, p.123). Both these forms have stylistic parallels to material from South Asia and peninsular Thailand. The central conical knob found on the Orange Slipped Fineware lids (Fig. 14) closely parallels a similar conical knob at the center of bronze bowls found in Thailand and India (Fig. 15). However, no direct parallel to the lids found in the Mekong delta have been found at these sites (Stark & Fehrenbach, 2019, p.122). The *kendi*, meanwhile, can be closely related to South Asian *kundika*, but show distinctly local adaptations such as distinct spout forms (Stark & Fehrenbach, 2019, p.123).

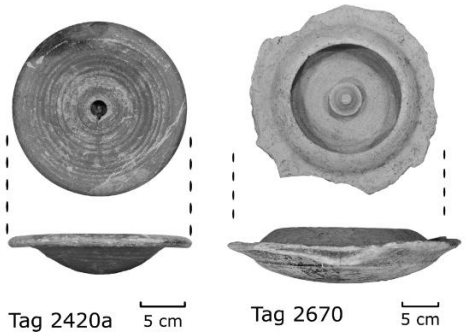


Figure 14: Orange-Slipped Fineware lids from Angkor Borei. (Stark&Fehrenbach, 2019, p.122)

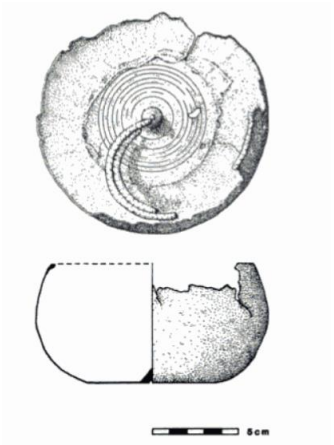


Figure 15: High-tin bronze bowl with a central cone from Ban Don Ta Phet, Thailand. (Glover&Bellina, 2004, p.74) Drawing by Anne Farrer.

Apart from these stylistic, indirect parallels, all vessels that are directly comparable to the Orange-Slipped Fineware of Angkor Borei come from the Mekong Delta or the nearby surroundings. The small globular and ring-footed jars, the most common forms of Orange-Slipped Fineware, have been reported from the sites of Prohear in Cambodia and at Oc Eo (Malleret, 1960, p.158; Reinecke e*t al.* 2009, p.41). The pedestal dish, found at Angkor Borei throughout all three phases of the ceramic chronology, are mirrored at Oc Eo as well as other Vietnamese delta sites such as Nen Chua and Go Hang. Notably, this form is equally long-lived at Oc Eo as it is at Angkor Borei, providing

technological continuity through the entire occupation history of these Funan sites (Stark & Fehrenbach, 2019, p.124).

Phase III of Angkor Borei, dominated by Fine Buffware *kendi* and pedestal dishes, is part of a wide-spread tradition in Southeast Asia. This group is clearly mirrored in Group V at Oc Eo (Malleret, 1960) and is spread very widely in the Mekong delta (Stark & Fehrenbach, 2019, p.124-125), but *kendi* are also widespread throughout Southeast Asia, found at sites in Thailand, Central Vietnam, Burma and Indonesia (Berenice & Glover, 2004, p.80).

To better understand the assemblage, we must know what ceramic traditions do not penetrate Funan sites or the Mekong delta more broadly. The early first millennium CE, corresponding to Phase II in the ceramic chronology of Angkor Borei, is defined across most of coastal and insular Southeast Asia by "Sa-Huynh Kalanay" ceramics and Indian Rouletted Ware (Bellina & Glover, 2004, p.78; Favereau & Bellina, 2016, p.221). Sa Huynh-Kalanay ceramics, receiving their name partially from the Central Vietnamese Sa-Huynh culture, are defined by their decorations of scalloped rims, interlocking triangles and repeated scrolls or waves (Fig. 16) (Favereau & Bellina, 2016, p.220). These ceramics are not found at Funan sites, and decorations of the contemporary Orange-Slipped Fineware consist of smoothing and cord-marking (Fehrenbach & Stark, 2019, p.115). Rouletted Ware is spread throughout South Asia, including in Indonesia and Central Vietnam, yet absent from Oc Eo and other Mekong delta sites (Bellina & Glover, 2004, p.78).

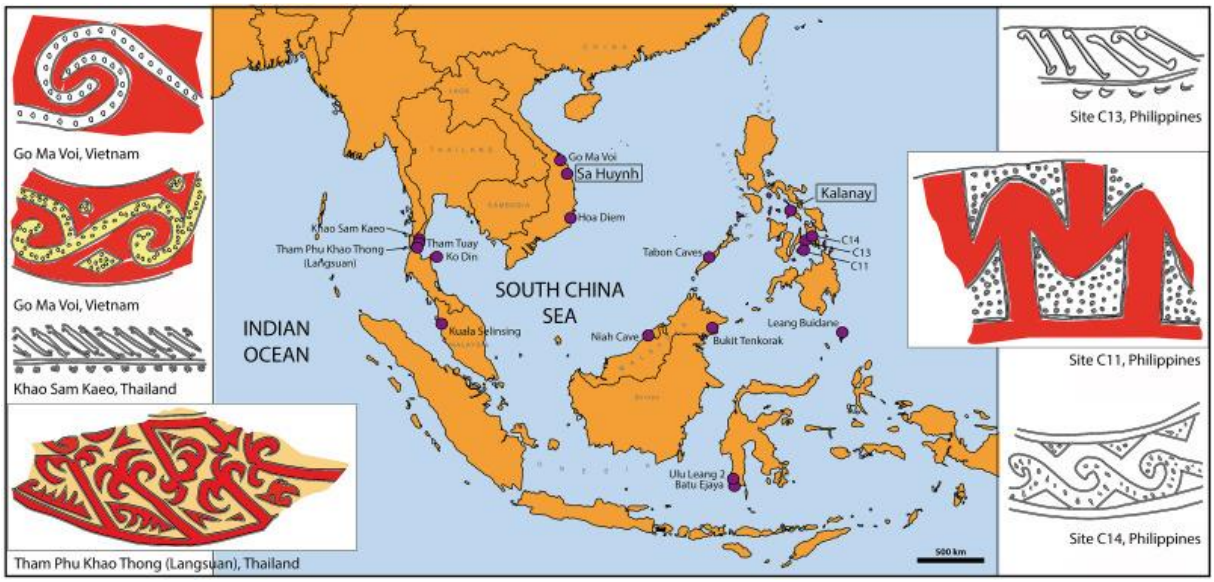


Figure 16: Distribution of some Sa-Huynh Kalanay ceramics (Favereau & Bellina, 2016, p. 220)

Due to the difference in available data between Oc Eo and Angkor Borei ceramics, it is difficult to clearly compare the two sites. Ceramic forms are somewhat similar between the two sites, especially during the Angkor Borei Phase III (after 300CE). Before 300CE, pottery traditions within the Mekong delta are very local, and spread only rarely to other sites, while in other parts of Southeast Asia, Sa Huynh-Kalanay ceramics are common throughout the region. After 300CE, locally produced Fine

Buffware *kendi* dominate the pottery assemblage throughout Southeast Asia, including in the Mekong delta, while some traditional forms such as pedestal dishes are maintained.

4.3 Metal objects

Bronze and gold objects are held in high regard as prestige objects in Southeast Asia, and so their spread can give us valuable information on prestige networks that Funan was involved in. In the pre-Funan period and very early Funan period, bronze objects played a dominant role in prestige-good networks, such as bronze Dongson drums, bronze halberds and Indian-style bronze bowls, all of which are found in the Mekong delta, peninsular Thailand and coastal Vietnam (Imamura, 2010, p.29; Eiji, 2005, p.125; Bellina & Glover, 2004, p.75).

Despite this prevalence of bronze prestige goods, remarkably few have been found at Oc Eo and Angkor Borei. As the Funan polity rose in power in the 1st century A.D., bronze prestige objects were close to falling out of favour, as high-tin bronze bowls did in the 1st century (Bellina & Glover, 2004, p.75), although their shape was mimicked in later pottery forms at Angkor Borei (Stark & Fehrenbach, 2019, p.122). The use of bronze Dongson drums as prestige objects overlapped slightly with the earliest Funan periods. Multiple Dongson drums were found in peninsular and northern Thailand, southern coastal Vietnam and northwest Cambodia during the 1st and 2nd century A.D. (Fig.17) (Imamura, 2010). Although interpretations must be made extremely carefully due to the slim overlap of Funan with these bronze-making traditions, it is important to consider the spread of these bronze objects outside of Funan sites at the time that Oc Eo and Angkor Borei were clearly in the position to access valuable foreign prestige-goods such as South Asian stone beads.

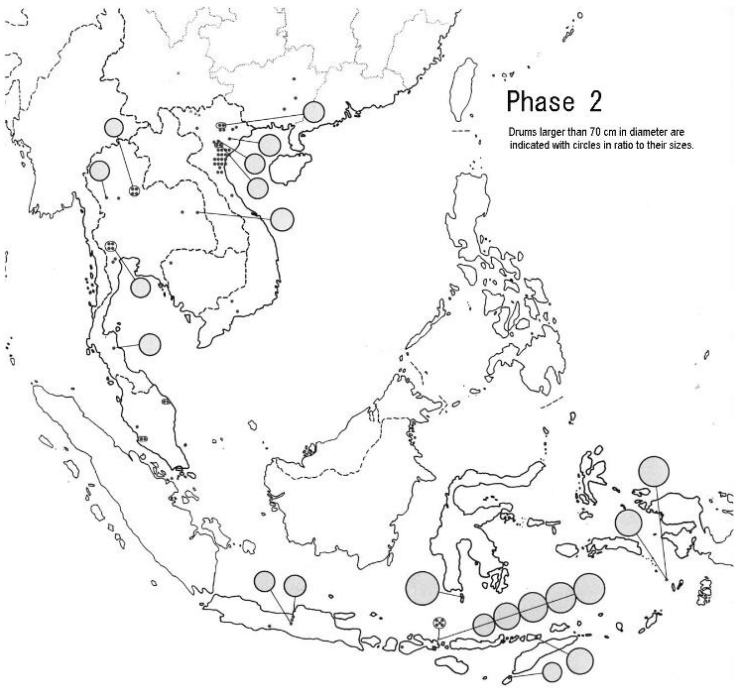


Figure 17: Distribution of Dong Son drums c. 1st century BCE- 1st century CE. (Imamura, 2010, p.36)

Bronze goods are distinctly lacking in the burial site of Vat Komnou at Angkor Borei, standing in distinct contrast to contemporaneous sites in the Mekong delta such as Phnum Snay, Prei Khmeng and Prohear, all of which are rich in bronze grave goods. The burials at Vat Komnou do, however, include small numbers of gold beads as well as gold leaf (O'Reilly & Shewan, 2015, p.60).

Gold beads were also found at Oc Eo, one of the richest sites in Southeast Asia in terms of gold assemblage. At Oc Eo, tools, waste products and partially finished gold objects were recovered, indicating local production (Bennett, 2009, p.103). A recent compositional analysis of the palladium/platinum and silver ratios of over 200 gold samples throughout Southeast Asia have revealed two major groups of gold objects in the Funan period: the "Prohear group" found in Prohear, as well as sites in central and southern Vietnam; and the "Thai Peninsula/Mekong Delta/Bali group", including samples from Giong Ca Vo and Khlong Thom (Fig.18) (Calo et al., 2020, p.119).

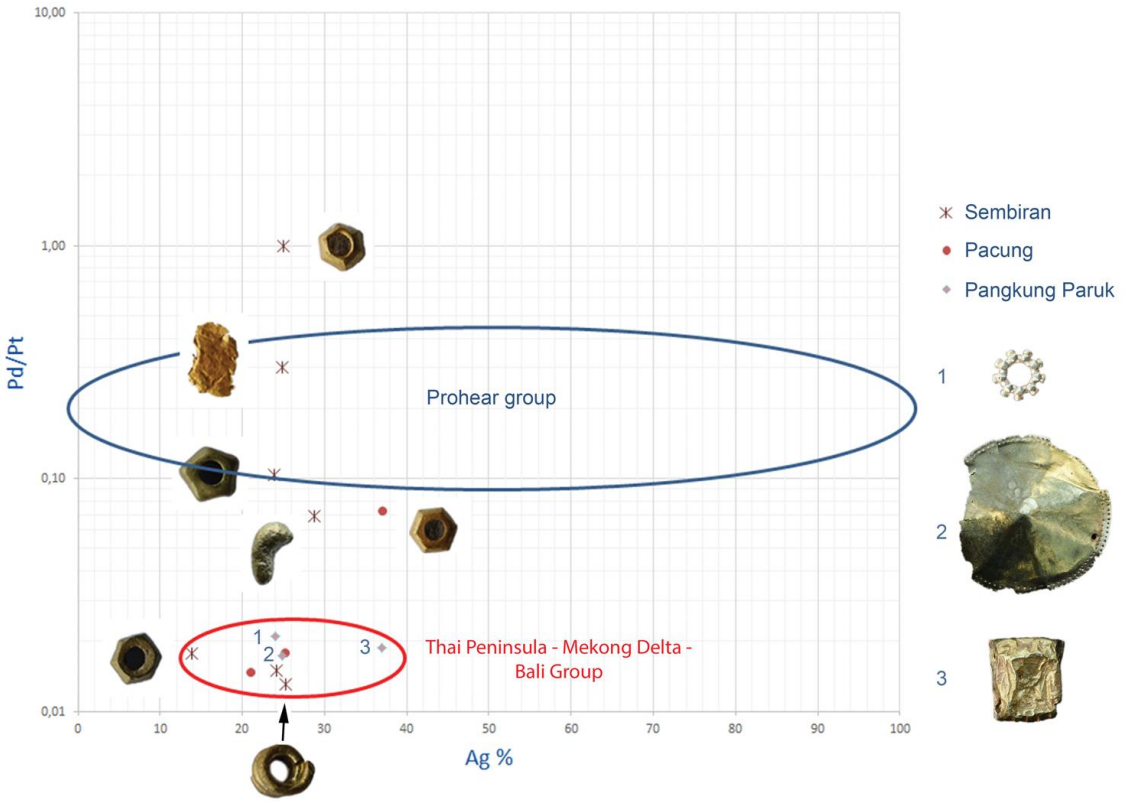


Figure 18: Palladium/platinum (Pd/Pt) vs silver (Ag) ratios of gold samples showing regional groups. (Calo et al., 2020, p.11). Graph by A. Reinecke.

Gold beads were found in Oc Eo and Angkor Borei in a variety of shapes, including polyhedral gold beads (Fig. 19). Polyhedral gold beads are also known from Myanmar, southern China and peninsular Thailand, including Khao Sam Kaeo (Demandt, 2016, p.313). Some scholars hold that these beads are Roman foreign trade objects, while Malleret has argued that these were local productions based on Roman samples (Bennet, 2006, p.106), although Demandt emphasises the similarity to South Asian forms (Demandt, 2016, p.313). Roman gold-glass beads were also found at Oc Eo. The glass component is soda-natron glass, showing that these beads are directly imported from the

Mediterranean (Calo et al., 2020, p.113). Therefore, Roman gold-glass beads and polyhedral gold beads might have been imported together, although local copies of polyhedral beads might have been produced at a later time.

Figure 19: Polyhedral gold beads from Khao Sam Kaeo and Oc Eo (Bennett, 2009, p.104)

Another highly characteristic form of worked gold at Oc Eo is gold plaques, almost all decorated with incised images. These plaques have also been found at other Funan sites in southern Vietnam such as Go Thap (Fig. 20) and Go Xoai, usually together with brick structures. The images show Buddhist and Hindu iconography, and so attest to early connections with South Asia that included dimensions of religious transfer, and date to the latter centuries of the first half of the first millennium C.E. Local production can be attested from the workshop finds at Oc Eo and Go Thap (Le, 2005, p.149). These finds spread further to the Indianized Champa kingdom in Central Vietnam (Le, pers. comm., 2022).

Figure 20: Gold plaques from Go Thap (Bennett, 2009, p.105)

The distribution of gold ornaments is similar to the distribution of glass beads. They are commonly found in sets in mortuary contexts, and might have been part of an emerging prestige good network in the Funan period (Demandt, 2016, p.306). Gold seems to have been an important part of this new prestige good network, as the popularity of gold is directly correlated with the decreasing importance of bronze prestige goods such as Dong son drums (Demandt, 2016, p.321).

In conclusion, during the early Funan period, bronze objects such as Dongson drums and bronze bowls are common prestige objects. While bronze objects are notably absent from Oc Eo, these seem to have been replaced by gold objects that spread along similar networks as glass beads. Gold objects were likely produced at Oc Eo, and include golden plaques and polyhedral beads. Stylistic and compositional similarities show a stark contrast of gold objects found in Prohear and Sa Huynh sites and those found in Oc Eo, the Mekong delta and peninsular Thailand.

4.4 Conclusion

The results presented in this chapter will be used to answer the main research question of this paper. The materials studied are stone and glass beads, pottery, gold and bronze objects. The bead assemblage of mainland Southeast Asia show a clear difference in the distributions of glass types, with m-Na-Al-1 beads found in the Mekong delta and potash beads more common around the South China Sea. Stone beads seem associated with glass bead distributions. Type 2 beads are commonly found along m-Na-Al-1 beads, while type 1 beads are found together with potash beads. Beads are also often found in association with gold, which rises as a prestige metal to replace bronze, especially in Funan sites which yield very few bronze objects. The ceramic assemblage in Southeast Asia is generally dominated by local types. However, the spread of ceramic styles show an initial interaction within the Mekong delta, followed after 300CE by a ceramic horizon across mainland Southeast Asia. In the following chapter, I will discuss and interpret these results and place them within the historical context.

Chapter 5: Discussion

5.1 Funan between the river and the sea

Across material categories, the similarity within the Mekong delta is striking. While Funan is clearly linked to the coastal South China Sea exchange network, the similarities within the Mekong delta indicate an intensive contact inland. The link between Mekong delta interactions and contemporaneous developments along the coastal networks of South and Southeast Asia will also be explored in this chapter.

Unfortunately, the data remains fragmentary, as only few Funan sites have been thoroughly investigated and even less have been systematically studied. The problem also remains that newest investigations of Oc Eo are published almost exclusively in Vietnamese, making it difficult to discuss variation within Funan sites. However, the existing data indicates the usefulness of the "Mekong Interaction Sphere" interpretation and shows the importance of further research investigating these relations closer.

I argue that Funan was involved in a complex web of coastal and riverine interactions that shifted as Funan's power and influence grew. I also argue that these overlapping coastal and riverine networks were closely linked, and must be understood in close relation to each other, but that nevertheless a separate conception of a riverine "Mekong Delta Interaction Sphere" (MIS) is a useful categorization to better understand these trade networks, and to clearly emphasise the remarkable material continuity within the Mekong delta.

The concept of the MIS was first developed by studying the bead assemblage (Carter et al. 2021). The concentration of m-Na-Al-1 beads shows a clearly demarcated sphere along the Mekong delta within which this glass type dominates, in stark contrast to the dominance of potash glass outside the Mekong delta. Phromthin Tai and Ban Non Wat, two sites in the furthest northern reaches of the proposed MIS, also have a higher concentration of m-Na-Ca-Al beads than other MIS sites, similar to Phu Khao Thong in peninsular Thailand and Prohear in Southwestern Cambodia (Carter et al., 2021, p.50). The results indicate that Promthin Thai was therefore likely also involved in exchange with peninsular Thailand.

The presence of lead glass and plant ash soda-lime glass also attests to long distance imports, and contacts to the west as well as to central and northern Vietnam. However, the low concentration of these glass types (Carter et al., 2021, p.44) show that while these networks existed, their importance might have been overestimated in past research.

The stone bead assemblage supports these results. Phum Snay, Ban Non Wat and Phromthin Tai show dominance of type 2 stone beads, the type most commonly associated with Funan sites. The raw material as well as the techniques show a strong affiliation to South Asia, although these might be

localized practices (Carter et al., 2021, p.52). Localized practices of South Asian forms are also evidenced from the pottery and the gold assemblage, and seem to be a broader pattern within Funan.

While bronze is common in the South China Sea Interaction Sphere (SCSIS) until the 2nd century A.D., it is notably absent within Funan sites and the Mekong delta (Le, pers. comm., 2022). Bronze objects such as Dongson drums are known from Prohear (Reinecke et al. 2009), and bronze bowls are known from northern Mekong delta sites such as Prei Khmeng (O'Reilly & Shewan 2015, p.50).

In contrast, gold finds are more common at Oc Eo, due to the gold-working evidenced at the site. Calo et al. (2020) were able to find evidence of two distinct gold groups, the Mekong delta/Bali/Thai Peninsula group and the Prohear group. The authors were unable to find the raw material source, although they discuss that it is likely not mainland Southeast Asia (p.119). The reasoning for this assumption is not explained. As we know of a gold-working site at Oc Eo, what is it that makes it so unlikely for the gold source to also be from within the Mekong delta? This is especially curious as during this period, most gold was likely extracted by panning alluvial sediments, which the Mekong delta would be suited for (Bennett, 2009, p.100).

The distribution of gold ornaments is similar to that of glass and stone beads (Demandt, 2016, p.319), and early compositional analysis has also shown similarities within the Mekong delta. Gold plaques produced in Oc Eo found at Funan sites in south Vietnam might also attest to intensive riverine contacts (Le, pers. comm., 2022). The gold plaques as well as gold beads also follow the pattern of local reproductions of foreign forms, as gold beads were likely locally made after a Roman model, and locally produced gold plaques show South Asian iconography.

Pottery is largely locally produced at Mekong delta sites (Stark&Fehrenbach 2019, p.126). The first visible contact with the South China Sea in Angkor Borei emerges in Phase II, as Orange Slipped Fineware lids similar to bronze bowls of a South Asian type become common. During this time, the pottery style remains local, restricted to the Mekong delta (Stark & Fehrenbach, 2019, p.123). The initial small-scale influence from South Asia then expands, resulting in the Fine Buffware horizon that dominates Southeast Asia (Fig. 21). The dominant South Asian *kendi* is locally produced, and the choices of local potters concerning the spout shape gradually transform this pan-regional type into a local tradition (Stark & Fehrenbach 2019, p.123). This type of localization of regional styles is common in Funan and the Mekong delta (Bellina, 2003, p.283), and shows the spread of stylistic ideas across exchange networks, as well as the selective uptake of foreign influences by local craftspeople.

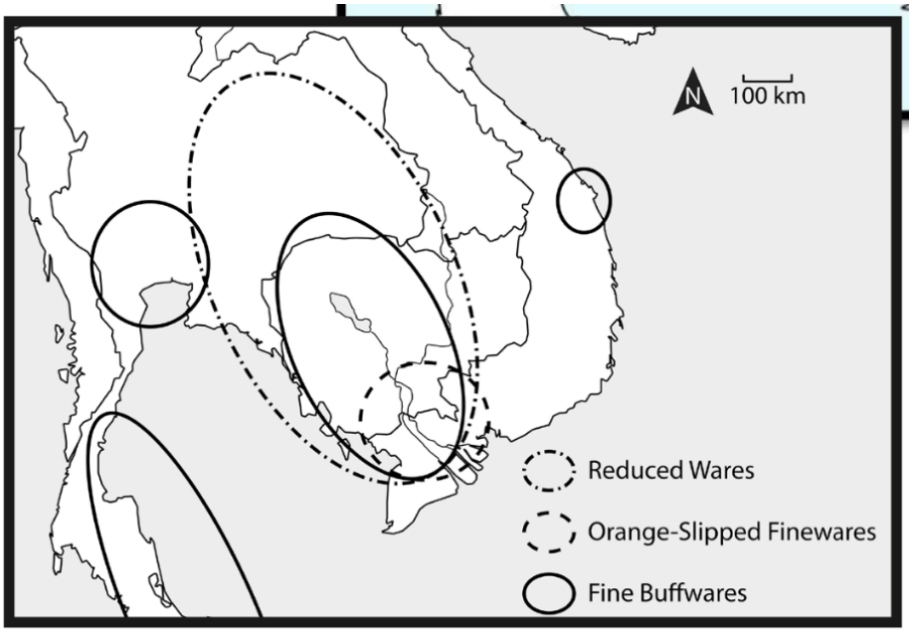


Figure 21: Approximate distribution of ware groups found at Angkor Borei. While Orange-Slipped Finewares are highly restricted to the immediate surroundings, Fine Buffwares are found throughout Southeast Asia. (Stark&Fehrenbach, 2019, p.119)

It is important to not understand the MIS as strictly bounded. Carter et al. (2021) discuss "the presence of two different exchange networks that seem to have slightly overlapped in time" (p.58). The results of the stone and glass beads, which the authors base this observation on, also show a subtle difference between sites that are on the borders of the proposed MIS, such as Phromthin Tai and Ban Non Wat, both of which have m-Na-Ca-Al beads in a proportion closer to peninsular Thailand and South China Sea sites. Although this observation is based on an even smaller sample of the already fragmentary bead data, I believe that further research into the MIS should pay attention to differentiation within the MIS, especially around the "border" regions.

The predominance of South Asian forms, techniques and products also shows a strong connection to South Asia over peninsular Thailand, and therefore a selective participation in the interaction networks around the South China Sea. While Funan absorbed elements of the material circulating on the South China Sea network, such as the form of South Asian conical bowls, it is the localized forms, in this case the Orange Slipped Fineware lids, that spread throughout the Mekong delta. The MIS is best suited, therefore, to understand the approximate interaction sphere in which a specific localized form of pan-regional material spread. This accounts for the predominance of type 2 beads, created with South Asian techniques but mass-produced and spread throughout the delta to a far greater extent than along the coast. This also explains the separate Mekong delta/peninsular Thailand/Bali gold group that is distinct from the Prohear group spreading in central Vietnam.

Past interpretations of the role of Funan in exchange networks have already indicated such a pattern. Bellina (2003) focuses on the localisation of stone beads, arguing that the local mass production signifies "rework[ing] foreign cultural features perceived as status markers by the trading societies'

elite" (p.294). Carter et al. (2021) also describe how "increased availability of imported objects […] facilitated the building of alliances […] within the MIS" (p.36).

This interpretation explains the similarity in prestige objects such as beads and gold within the Mekong delta, as these polities are part of the same prestige good network that relies on localized "foreign" objects. The actors of the MIS, principally among them Funan, used exotic material to signify and expand their power, thereby taking advantage of the maritime base that gave them access to imported material.

However, this interpretation of a prestige good network does little to explain the pottery styles throughout the Mekong delta, as these were locally made vessels with little prestige value. That the *kendi* nevertheless spread throughout the Mekong delta indicates possible insufficiency of interpreting the material assemblage as status markers and suggests paying close attention to the spread of cultural practices and non-prestige goods.

5.2 Funan in Context- shifting power relations in Southeast Asia

To best understand Funan's role in exchange networks, it is necessary to place it in a broader context. In this section, I will briefly sketch out the rapid changes that occurred in Southeast Asia around the 3rd century CE and describe possible linkages between these events.

Around the 3rd century CE we can see a considerable growth of Funan's power and political complexity. The extensive canal network (Fig. 3), built at the latest by the 3rd century CE, but possibly by the 2nd, is a project of a massive scale that would require the mobilisation of a huge amount of resources and labour power (Manguin, 2009, p.110). During the 3rd century CE, Funan was given its name by the first Chinese chroniclers to visit the polity- a sign of how important this polity was becoming (Stark, 2006, p.99).

In the very early 3rd century CE, two large cultural centres of Southeast Asia disappeared. These were the Sa Huynh in central Vietnam and the Dong Son in northern Vietnam. The Sa Huynh were followed by the Champa, an Indianized kingdom that dominated central Vietnam. The Champa did not participate in the former SCSIS that had found its decline with the Sa Huynh and Dong Son cultures. Instead, the rise of the Champa saw demand for new prestige objects: silver, gold and Indo-Pacific beads, highly similar to that prestige objects of the MIS (Demandt, 2016, p.321).

Le (2018) broadly distinguishes two phases of Southeast Asian contact with India. Phase I, from the 5th century BCE to the early centuries CE, saw regular, small-scale exchanges. These exchanges increased during the early to mid-first millennium CE, becoming more regular and leading to "changes in social life […] and religious practice" (p.108).

These phases are clearly expressed in the material culture. During the transition from Phase I to Phase II around the 3rd-4th century CE, the pottery assemblage of Angkor Borei changes from local Orange

Fineware and Orange-Slipped Fineware, a form with limited South Asian influence, to the Fine Buffware *kendis,* a pan-regional tradition that directly evolved from South Asian forms (Stark, 2006, p.101). Stone beads change from small-scale, high-quality imports to mass-produced, possibly local imitations using South Asian techniques (Carter et al., 2021).

During this time of radical material change in Southeast Asia, the metal assemblage also changed. While before, bronze was used commonly in exchange networks, most commonly in the form of Dongson drums (Imamura, 2010), the rising demand for gold in the 3rd century CE led bronze finds to decline. Oc Eo, one of the primary gold producing sites, has produced very few bronze finds (Le, pers. comm., 2022). This is not simply a stylistic change, but a radical change of the type of objects that are valued as visible status symbols throughout the Mekong delta.

Demandt (2016) describes this change in prestige objects as an expression of shifts in social identities and elite power, with new elites using gold objects to "express a new identity deeply rooted in the maritime trading culture" (p.323). Carter et al. (2021) argue that this also applies to other material categories, and that "control over the exchange of exotic prestige goods, such as stone and glass beads, was a key factor in the growth of the Mekong Delta as an early complex polity" (p.59). As Funan's control over trade networks expanded, Funan was able to consolidate power within the Mekong delta, building a resource-intensive canal system, using new prestige objects that signalled power and access to foreign markets, and building alliances inland. As power shifted within Southeast Asia and Funan became an increasingly important center, Oc Eo transformed into a production centre for localized prestige goods that were traded primarily within the MIS. As Oc Eo's function shifted to a production centre, Angkor Borei became an increasingly important regional centre and power base within Funan, shifting power inland (Carter et al., 2021, p.35).

The reason for Funan's gradual collapse is poorly understood. However, most scholars presume that as maritime trade patterns shifted towards Island Southeast Asia and mainland power centres shifted inland, Funan became peripheral to the rising pre-Angkorian states (Manguin, 2009, p.115; Carter et al., 2021, p.35). Understanding the shifting patterns of coastal and riverine trade and alliance building shows us that this process was not sudden, but rather a gradual shift of Funan's power, rising as part of an intensive pan-regional trade network centred on the South China Sea before transitioning to the production of localized prestige goods used to build its power base further inland.

By studying the historical context, we can better understand the trajectory of Funan and the exchange networks it was involved in. While further research is required to better understand the exact developments during this time, the period around the 3rd century CE is a period of dynamic change across all of mainland Southeast Asia. The growth of Funan's power and complexity in the 3rd century CE shows just how closely Funan was connected to the rest of mainland Southeast Asia. Focusing on the study of developments in the Mekong delta during this period would aid us in understanding the

dynamics within the MIS, as well as the ways in which the MIS was connected to coastal exchange networks of Southeast Asia.

5.3 Maritime Theories of a Maritime State

Despite Funan's important role in the maritime networks of the time and the perception of Funan as a maritime state, there is a distinct lack of maritime archaeological research on Funan. The lack of maritime theory being applied to understandings of Oc Eo as an important port city significantly constrain our understanding of Funan's role, as well as maritime dynamics in Southeast Asia. Therefore, applying maritime theories to the data offers vital contributions to our understanding of the available data.

A key point of contention in Southeast Asian archaeology is the dichotomy of maritime and agricultural states(Manguin & Stark 2022, p. 639). Not only does this debate constrain our understandings of "agricultural" states as vital actors in large-scale interaction networks, but it also shows a limited understanding of the maritime nature of river systems that hampers and complicates studies of maritime interaction.

This problem begins with the limiting definition of a "maritime network". In the studies surveyed and analysed above, riverine trade was often treated as separate to maritime trade (Carter et al., 2021; Manguin & Stark, 2022). Note that in this paper, I instead choose to differentiate between coastal and riverine trade. This is because both are part of a larger maritime network system. Maritime archaeology has evolved to include inland waters in its definition, emphasising the "fluidity of movement between different spaces" (Walker Vadillo, 2019).

Westerdahl (1992) defines maritime landscapes as "the whole network of sailing routes, old as well as new, with ports and harbours along the coast, and its related constructions and remains of human activity, underwater as well as terrestrial" (p.6). This understanding in no way dismisses river systems or ports. The maritime cultural landscape approach shows that to fully understand maritime cultures it is necessary to include all kinds of human relationships to large bodies of water, and to study not just underwater sites, but also maritime remains on land (Westerdahl, 1992, p.5).

Oc Eo's role as a port city is considered conventional wisdom, but to date there has been no study that has considered what this means for the interpretation of the site. To Westerdahl, ports played a key role in the maritime cultural landscape. Westerdahl (1992) identified different transport zones- landscapes of transportation or communication- among which he included coastal transport routes and zones based on river valleys. Westerdahl (2012) also argued that the borders of these transport zones may resemble cultural borders (p.749) - for instance a slightly different culture of prestige objects being distributed across river systems and along the coast. In this model, ports act as transit points between two zones (Westerdahl, 1992, p.11), bridging them together in the fluid interaction common to maritime landscapes. In understanding Oc Eo in this way, we would be better equipped to

understand the foreign imports found at the site, as well as its clear affinity with Mekong delta sites. I argue that this would even aid in explaining the abundance of stone bead types unique to Oc Eo that Carter et al. (2021) comment on, as Oc Eo's role as a transit point puts it between different zones, and therefore cultural areas, that may not necessarily share all material culture.

Not only could this approach aid us in understanding the variety of stone bead types unique to Oc Eo, it would also explain the abundance of garnet beads in Oc Eo, as a port site would have far greater access to such prestige objects (Chapter 4.1).

Finally, this theory would account for the South Asian source for semi-precious stone beads in Funan sites. While the garnet source in Southwest Cambodia is, in theory, closer, it is not part of the transport zones that meet at Oc Eo. The geographically distant South Indian source is connected to Oc Eo by a coastal transport zone, and might therefore be seen as more accessible. This same mechanism explains the differentiation between the Prohear and the Mekong delta gold groups (Chapter 4.3). While Prohear is in the close surroundings of Funan and the Mekong delta, the different transport zones made large-scale interaction and trading of resources more difficult than with peninsular Thailand and Bali, which were connected to Oc Eo via a shared coastal transport zone.

Unfortunately, Carter et al. (2021) fail to note any approaches or theory from the field of maritime archaeology in their pioneering work on the MIS. The importance of water landscapes within Southeast Asia is clear, especially within Funan. Southeast Asia is characterized by its proximity to the ocean and by the large deltas that span the region. The role that maritime trade, and the control over it, played in the growth of early complex societies in Southeast Asia is often emphasized. The extensive water infrastructure of Funan, including the canal network radiating from every large centre (Stark, 2003, p.95), shows that water control played a key role in the day-to-day life of people in Funan. Not paying attention to an element that was clearly so important to the people living in these regions limits our understanding of the culture of Funan.

Given the endangered status of underwater cultural heritage in Southeast Asia, the developing field of maritime archaeology has focused primarily on the management and protection of these resources (Pham *et al.* 2022, p.840). The biggest challenge of the field of maritime archaeology in Southeast Asia is to encourage terrestrial archaeologists focusing on maritime topics to engage with maritime approaches (Pham *et al.* 2022, p.849). Recently, there have been isolated attempts to bridge this gap and bring to attention the potential of approaches from maritime archaeology to understand the terrestrial remains of maritime cultures (Walker Vadillo, 2019; Pham *et al.* 2022).

Walker Vadillo (2019) has commented on the field of Angkorian studies, noting that "archaeologists who do not integrate maritime approaches […] are likely to miss important aspects of fluvial cultures." If we are to understand Funan as a maritime culture, we must know what this means. Applying maritime archaeological approaches to our interpretations of Funan would enable us to

better understand and convey the fluid landscape of interaction between the Mekong delta and the South China Sea, and the role of Funan in the shifting landscape of maritime power.

Chapter 6: Conclusion

In this paper, I have discussed the pottery, bead and metal assemblages of the Funan sites of Oc Eo and Angkor Borei and compared these assemblages to sites on the coastal mainland of Southeast Asia as well as the Mekong delta. This analysis has shown the strong similarities of various Mekong delta sites, particularly within the prestige goods assemblages. I will now return to the research question posed in the beginning of this paper:

How did Funan's involvement in coastal and riverine trade networks within mainland Southeast Asia change between the time period of the 1st to the 6th Century A.D., based on material evidence at Oc Eo and Angkor Borei?

The material evidence at Oc Eo and Angkor Borei indicates a general pattern of two phases. The initial early phase shows a network of shared stylistic influences throughout the Mekong delta, visible in the pottery assemblage. Funan also has regular but non-intensive contact with South Asia, with low numbers of high-quality imported material. This is followed by a second phase during which Funan enters a period of intensive contact with South Asia, importing mass-produced foreign materials in high quantities and producing local imitations. This phase also sees an increasing intensity in contact with the Mekong delta as Funan aims to build alliances inland by controlling the prestige good network of localized foreign material, possibly by focusing on the production of prestige goods at Oc Eo.

To more closely understand these phases, and how to best study them, I will answer my sub-questions individually.

- *How can the ceramics, glass and stone beads and metal objects found in Funan sites compare to inland and coastal Southeast Asian sites and what does this tell us about the role of Funan in maritime exchange networks?*

The general pattern of the material assemblages discussed here is of distinct, yet connected, distributions of material styles in inland and coastal Southeast Asia. The general object types are often similar throughout Southeast Asia, but inland and coastal regions use distinct styles.

Ceramics are usually locally produced rather than imported. Initially, the ceramics tradition is locally restricted to the Mekong delta, before expanding to a broad stylistic horizon throughout Southeast Asia. Beads also spread across both local and regional networks. Evidence shows two overlapping bead networks with preferences for different glass types in coastal South China Sea sites compared to Mekong delta sites. Metal objects follow this pattern, with a preference for gold in Funan sites indicating participation in a new prestige good network that gradually expands as previous bronze ornaments fall out of favour with changes in power structures in Southeast Asia.

Funan acts as key site in localizing and distributing prestige objects throughout the Mekong delta while maintaining its role in external-facing exchange networks and selectively adopting material culture and ideology from South Asia. The evidence of some prestige good production at Oc Eo indicates that Funan might have gradually become a production centre for the localized prestige objects spreading throughout the Mekong delta.

- *To what extent is the interpretation of a Mekong Interaction Sphere a useful framework for examining exchange networks of coastal and inland Southeast Asia?*

While it has its distinct limitations, the "Mekong Interaction Sphere" is a useful framework to emphasise the difference in the material assemblages of South China Sea and Mekong delta sites during the 1st-6th centuries C.E., particularly of prestige objects.

The material assemblages discussed here show a general pattern of localization of South Asian forms common to mainland Southeast Asia, followed by a spread throughout the Mekong delta of distinct localized traditions. In this sense, the framework of the MIS is a useful descriptor of the spread of specific localized foreign objects. However it should not be understood as strictly bounded or separated from the rest of Southeast Asia, but rather as a connective artery to the South China Sea and beyond.

- *How can theoretical approaches from the field of maritime archaeology help us understand this data?*

The use of maritime archaeological approaches to understand the MIS and the state of Funan is absolutely vital. The use of maritime theory, particularly the maritime cultural landscape approach, can help us fully understand the maritime state of Funan in a broader context, allow insight into the maritime culture of the inhabitants of Funan, and provide a framework for understanding the water-based culture of Funan and Southeast Asian states in general. Maritime theory also allows us to understand key variations in the distributions of beads and gold.

Maritime approaches can also help manage the limitations of the MIS framework, emphasising the fluidity of different interaction spheres and Funan's, particularly Oc Eo's role as a transit point between transport and cultural zones. By discussing Oc Eo as a transit point, the MIS is no longer understood as strictly bounded, but rather the fluidity of interaction between Mekong delta and South China Sea sites is emphasised. This allows for a better integration of the MIS into a larger, more complex picture of the Funan period in mainland Southeast Asia.

6.1 Recommendations for Future Research

The conventional view of Funan as an externally-oriented maritime state has caused a significant research bias that has led to an insufficient understanding of regional interaction. The evidence of the

MIS shows the value of studying these regional interactions, opening avenues for future research into riverine trade within the Mekong delta, and Funan's role in this network.

Future research must also include a more thorough, standardized analysis of material categories to allow for a better comparative perspective. This comparative perspective would assist researchers in closer analysis of the MIS as well as the coastal networks it intersects with. Further research on the MIS must also include more sites in Southeast Asia, particularly in Vietnam. All sites reviewed in the work on the MIS, with the exception of Oc Eo, are from Cambodia and Thailand. Additionally, research on differentiation within the MIS could also shine light on the different dynamics at play within the varied exchange networks of Southeast Asia.

Finally, future research must include maritime perspectives and draw from theories developed within the field of maritime archaeology. This includes particularly the use of these theories within the study of terrestrial sites of maritime cultural landscapes.

Abstract

Funan is an ancient state centred on the southern Mekong delta between the 1st and 6th century CE. Traditionally, Funan has been seen largely in terms of its long-distance contacts to India, limiting thorough studies of regional interaction. This research instead focuses on regional exchange and interaction within the Mekong delta, thereby centring indigenous Southeast Asian developments and connecting long-distance interactions with local dynamics. To assess the role of Funan in riverine and coastal exchange networks this paper studies the assemblages of stone and glass beads, ceramics and metal objects in mainland Southeast Asia. Results show that the stone bead types and the type of glass used in glass beads differs in the Mekong delta and other parts of mainland Southeast Asia. The ceramic assemblage is overwhelmingly local, with some stylistic parallels to South Asian shapes common in mainland Southeast Asia. The metal assemblage at Funan sites is mainly gold, as gold was produced at Funan sites. The gold assemblage at Funan sites is distinct from that at nearby sites in mainland Southeast Asia. The results indicate a clear difference between the material distributions within the Mekong delta and the coastal regions of mainland Southeast Asia, as well as showing intensive connections to South Asia that led to rapid socioeconomic changes around the 3rd century CE. The exchange network centred on the Mekong delta primarily involves localized prestige objects utilizing South Asian elements or techniques. The localized objects are distributed throughout the Mekong delta and are distinct from prestige objects spread in other parts of mainland Southeast Asia. This indicates the importance of long-distance connections as well as the building of local alliances using exotic prestige objects, and shows the valuable connections of riverine local trade with coastal exchange. The results also demonstrate the importance of recognizing and studying the fluidity of the maritime exchange network of mainland Southeast Asia by effectively utilizing approaches from maritime archaeology.

Reference List

Bellina, B. (2003). Beads, social change and interaction between India and South-east Asia. *Antiquity*, *77*(296), 285–297. https://doi.org/10.1017/S0003598X00092279

Bellina, B. (2022). Southeast Asian Evidence for Early Maritime Silk Road Exchange and Trade-Related Polities. In C. F. W. Higham & N. C. Kim (Eds.), *The Oxford Handbook of Early Southeast Asia* (pp. 457–500). Oxford University Press.

Bellina, B., & Glover, I. (2004). The Archaeology of Early Contact with India and the Mediterranean World, from the Fourth Century BC to the Fourth Century AD. In I. Glover & P. S. Bellwood (Eds.), *Southeast Asia: From prehistory to history* (1st ed., pp. 68-88). Routledge.

Bennett, A. T. N. (2009). Gold in early Southeast Asia. *ArchéoSciences, 33*, 99–107. https://doi.org/10.4000/archeosciences.2072

Bong, S. (2003). *The ceramic chronology of Angkor Borei, Takeo province, southern Cambodia* (Publication No. 4378) [Doctoral Dissertation, University of Hawaii at Manoa]. Scholarspace. http://hdl.handle.net/10125/1248

Calo, A., Bellwood, P., Lankton, J., Reinecke, A., Bawono, R. A., & Prasetyo, B. (2020). Trans-Asiatic exchange of glass, gold and bronze: analysis of finds from the late prehistoric Pangkung Paruk site, Bali. *Antiquity*, *94*(373), 110–126. https://doi.org/10.15184/aqy.2019.199

Carter, A. K. (2015). Beads, Exchange Networks and Emerging Complexity: A Case Study from Cambodia and Thailand (500 bce–ce 500). *Cambridge Archaeological Journal*, *25*(4), 733–757. https://doi.org/10.1017/S0959774315000207

Carter, A. K. (2016*a*). The Production and Exchange of Glass and Stone Beads in Southeast Asia from 500 BCE to the early second millennium CE: An assessment of the work of Peter Francis in light of recent research. *Archaeological Research in Asia*, *6*, 16–29. https://doi.org/10.1016/j.ara.2016.02.004

Carter, A. K. (2016*b*). Determining the Provenience of Garnet Beads Using LA-ICP-MS. In L. Dussubieux, M. Golitko, & B. Gratuze (Eds.), *Recent Advances in Laser Ablation ICP-MS for Archaeology* (pp. 235–266). Springer.

Carter, A. K., & Dussubieux, L. (2016). Geologic provenience analysis of agate and carnelian beads using laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS): A case study from Iron Age Cambodia and Thailand. *Journal of Archaeological Science: Reports*, *6*, 321–331. https://doi.org/10.1016/j.jasrep.2016.02.025

Carter, A. K., Dussubieux, L., Stark, M. T., & Gilg, H. A. (2021). Angkor Borei and Protohistoric Trade Networks: A View from the Glass and Stone Bead Assemblage. *Asian Perspectives*, *60*(1), 32–70. https://doi.org/10.1353/asi.2020.0036

Demandt, M. H. S. (2016). Early Gold Ornaments of Southeast Asia: Production, Trade, and Consumption. *Asian Perspectives*, *54*(2), 305–330. https://doi.org/10.1353/asi.2016.0000

Dussubieux, L., Gratuze, B., & Blet-Lemarquand, M. (2010). Mineral soda alumina glass: occurence and meaning. *Journal of Archaeological Science*, *37*(7), 1646–1655. https://doi.org/10.1016/j.jas.2010.01.025

Dussubieux, L., & Bellina, B. (2018). Glass ornament production and trade polities in the Upper-Thai Peninsula during the Early Iron Age. *Archaeological Research in Asia*, *13*, 25–36. https://doi.org/10.1016/j.ara.2017.08.001

Eiji, N. (2005). Heger I drums, bronze halberds and ranked societies in the Mekong Basin. *Bulletin of the Indo-Pacific Prehistory Association*, *25*, 125-128. https://doi.org/10.7152/bippa.v25i0.11925

Favereau, A., & Bellina, B. (2016). Thai-Malay Peninsula and South China Sea networks (500 BC–AD 200), based on a reappraisal of "Sa Huynh-Kalanay"-related ceramics. *Quaternary International*, *416*, 219–227. https://doi.org/10.1016/j.quaint.2015.09.100

Francis, P. (2002). *Asia's maritime bead trade: 300 B.C. To the present*. University of Hawai'i Press.

Imamura, K. (2010). *The Distribution of Bronze Drums of the Heger I and Pre-I Types : Temporal Changes and Historical Background.* 東京大学大学院人文社会系研究科・文学部考古学研究室; The University of Tokyo. https://repository.dl.itc.u-tokyo.ac.jp/records/27618

Lankton, J. W., & Dussubieux, L. (2006). Early Glass in Asian Maritime Trade: A Review and an Interpretation of Compositional Analyses. *Journal of Glass Studies*, *48*, 121–144. http://www.jstor.org/stable/24191148

Lankton, J. W., & Dussubieux, L. (2013). Early Glass in Southeast Asia. In K. H. A. Janssens (Ed.), *Modern methods for analysing archaeological and historical glass: Modern methods for analysing archaeological and historical glass* (pp. 415–443). John Wiley & Sons. https://doi.org/10.1002/9781118314234.ch20

Le, T. L. (2005). Gold plaques and their cultural contexts in the Oc Eo culture. *Bulletin of the Indo-Pacific Prehistory Association*, *25*(3), 145-154. https://doi.org/10.7152/bippa.v25i0.11930

Le, T. L. (2015). Hindu Beliefs and the Maritime Network in Southern Vietnam During the Early Common Era. *Journal of Indo-Pacific Archaeology*, *39*, 1. https://doi.org/10.7152/jipa.v39i0.14748

Le, T. L. (2018). Indian–Southeast Asian Contacts and Cultural Exchanges: Evidence from Vietnam. In S. Saran (Ed.), *Cultural and civilisational links between India and Southeast Asia: Historical and contemporary dimensions* (pp. 107–127). Palgrave Macmillan. https://doi.org/10.1007/978-981-10-7317-5_7

Malleret, L. (1960). *L'archeologie du delta du Mékong.* (Vol. III). École Française d'Extrême-Orient.

Manguin, P.-Y. (2009). The Archaeology of Funan in the Mekong River Delta: The Oc Eo Culture of Vietnam. In N. Tingley & A. Reinecke (Eds.), *Arts of ancient Vietnam: From river plain to open sea* (pp. 100–118). Yale University Press.

Manguin, P.-Y. (2020). Ceramics from Indonesian Underwater Sites [Review of *The Tang Shipwreck: Art and Exchange in the 9th Century; Ceramics from the Musi River, Palembang, Indonesia: Based on a Private Collection, (Special Publication No. 22)*, by A. Chong, S. A. Murphy, D. J. Kitchener, & H. Kustiarsih]. *Bulletin de l'École Française d'Extrême-Orient*, *106*, 435–452.

Manguin, P.-Y., & Stark, M. T. (2022). Mainland Southeast Asia's Earliest Kingdoms and the Case of "Funan". In C. F. W. Higham & N. C. Kim (Eds.), *The Oxford Handbook of Early Southeast Asia* (pp. 636–659). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199355358.013.10

Nakamura, R., & Sutherland, C. (2019). Shifting the Nationalist Narrative? Representing Cham and Champa in Vietnam's Museums and Heritage Sites. *Museum and Society*, *17*(1), 52–65. https://doi.org/10.29311/mas.v17i1.2819

Nguyen, K. D. (2001). Jewellery from late prehistoric sites recently excavated in South Vietnam. *Bulletin of the Indo-Pacific Prehistory Association*, *21*, 107-113.

Nguyen, H. N. (2020). Challenges of Vietnamese archaeological heritage management: A Case Study of the Vuon Chuoi site, Hoai Duc, Hanoi | Những thách thức trong quản lý di sản khảo cổ học ở Việt Nam: Nghiên cứu từ trường hợp di chỉ khảo cổ học Vườn Chuối, Hoài Đức, Hà Nội. *SPAFA Journal*, *4*. https://doi.org/10.26721/spafajournal.v4i0.614

Perez-Alvaro, E., & Forrest, C. (2018). Maritime Archaeology and Underwater Cultural Heritage in the Disputed South China Sea. *International Journal of Cultural Property*, *25*(3), 375–401. https://doi.org/10.1017/S0940739118000176

Pham, C., Craig, J., & Walker Vadillo, V. (2022). Perspectives on Maritime Archaeology in Southeast Asia. In C. F. W. Higham & N. C. Kim (Eds.), *The Oxford Handbook of Early Southeast Asia* (pp. 839-855). Oxford University Press.

Reinecke, A., Laychour, V., & Sonetra, S. (2009). *The First Golden Age of Cambodia: Excavation at Prohear*. DAI KAAK.

Reinecke, A. (2022). The Sa Huynh Culture and Related Cultures in Southern Vietnam and Cambodia. In C. F. W. Higham & N. C. Kim (Eds.), *The Oxford Handbook of Early Southeast Asia* (pp. 543–577). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199355358.013.29

Sanderson, D. C.W., Bishop, P., Stark, M. T., Alexander, S., & Penny, D. (2007). Luminescence dating of canal sediments from Angkor Borei, Mekong Delta, Southern Cambodia. *Quaternary Geochronology*, *2*(1-4), 322–329. https://doi.org/10.1016/j.quageo.2006.05.032

Shoocongdej, R. (2011). Public Archaeology in Thailand. In K. Okamura & A. Matsuda (Eds.), *New Perspectives in Global Public Archaeology* (pp. 95–111). Springer. https://doi.org/10.1007/978-1-4614-0341-8_8

Stark, M. T. (2003). Angkor Borei and the Archaeology of Cambodia's Mekong Delta. In J. C. M. Khoo (Ed.), *Art & archaeology of Fu Nan: Pre-Khmer kingdom of the Lower Mekong Valley* (pp. 89-105). Orchid Press.

Stark, M.T. (2006). Pre-Angkorian Settlement Trends in Cambodia's Mekong Delta And The Lower Mekong Archaeological Project. *Bulletin of the Indo-Pacific Prehistory Association*, *26*, 98–109.

Stark, M.T & Fehrenbach, S. (2019). Earthenware Ceramic Technologies of Angkor Borei Cambodia. *Udaya: Journal of Khmer Studies 14*, 109-135.

Stark, M. T. (2020). Collaboration, engagement, and Cambodia: Archaeological perspectives on cultural heritage. *Journal of Community Archaeology & Heritage*, *7*(3), 215–231. https://doi.org/10.1080/20518196.2020.1766172

Thomas, S. (2014). *Hoi An Shipwreck.* Trafficking Culture. https://traffickingculture.org/encyclopedia/case-studies/hoi-an-shiwreck/. Last accessed 17.05.2022.

Theunissen, R., Grave, P., & Bailey, G. (2000). Doubts on diffusion: Challenging the assumed Indian origin of Iron Age agate and carnelian beads in Southeast Asia. *World Archaeology*, *32*(1), 84–105. https://doi.org/10.1080/004382400409907

Todd, G. (2012). *Oc Eo Culture Pottery* [Photograph]. Flickr. https://www.flickr.com/photos/101561334@N08/9732969653/

Walker Vadillo, V. (2019). A historiography of Angkor's river network: shifting the research paradigm to Westerdahl's Maritime Cultural Landscape | ការសិក្សាអំពីប្រវត្តិសាស្ត្រនៃបណ្តាញផ្លូវទឹកនៅតំបន់អង្គរៈការផ្លាស់ប្តូរគម្រូនៃការស្រាវជ្រាវទៅការសិក្សាផ្នែកវប្បធម៌ទេសភាពតាមផ្លូវទឹករបស់ Westerdahl. *SPAFA Journal*, *3*. https://doi.org/10.26721/spafajournal.v3i0.609

Westerdahl, C. (1992). The maritime cultural landscape. *International Journal of Nautical Archaeology*, *21*(1), 5–14. https://doi.org/10.1111/j.1095-9270.1992.tb00336.x

Westerdahl, C. (2012). The Maritime Cultural Landscape. In A. Catsambis, B. Ford, & D. L. Hamilton (Eds.), *The Oxford handbook of maritime archaeology.* Oxford University Press.