Dharma Civilization and Stitched Outrigger Navigation: Contributions to the ECAI Project on Maritime Buddhism

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Abstract

I am member of the international collaborative—Electronic Cultural Atlas Initiative (ECAI) Austronesia Team and Project on Maritime Buddhism. My purpose here is to explore information and research on the transport networks of Buddhism in South and Southeast Asia, documentation of Buddhist pilgrims, ethnology of ship technology, navigation, and historic trade routes. ECAI supports mapping of Maritime Buddhist sites for constructing a method to integrate data into an interactive map interface.

My contributions and research goals are to explore the physical feasibilities of the stitched sea craft with outigger and its variations across Monsoon Asia: a navigation network of staged voyaging from early history across the Indian Ocean to Southeast Asia and the South China Sea. Destinations were to seats of kingdoms and trade centers where the word of the dharma and its faith developed in a healthy
or vigorous way, especially as the result of a particularly congenial environment of Southeast Asia. I trace the earliest evidence of transocean sailing craft across Monsoon Asia.

ECAI contributes to the UN Millennium Goals by reaffirming the indispensable common house (United Nations) of the human family, "through which we will seek to realize our universal aspirations for peace, cooperation and development. We therefore pledge our unstinting support for these common objectives and our determination to achieve them."1 Our project is re-examining Buddhist transmission and its contribution to humanity’s general welfare. The outcome is a multi-dimensional interactive Web-based visual anthropology/cultural atlas of peoples with vibrant ethnographic portraits serving as a local community bulletin board for scholarly exchange.

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Introduction

Dharma Inheritance

When the dharma was being transmitted physically, culturally, and linguistically through channels created by Southern Asian pilgrims, what forms did it take, what was it, why it spread elsewhere? As a philosophical term, the concept dharma is perhaps most commonly used to refer to a scope of mental and physical laws of nature—and related back to what people experience, and perceive as truths, or phenomena. There are innumerable systems employed for splicing phenomena into different categories. For instance, the individual can be viewed as a conglomeration of aggregates—the body, feelings, perceptions, mental formations, and consciousness—all of which are dharma.

The term dharma predates the Buddhist tradition, appearing in the texts of the Vedic hymns. Buddhism is a continuum of Southern Asian beliefs, and adopted the term referring to (1.) the collection of the Buddha’s teachings, which are recorded in various compilations of sutras, and (2.) phenomena of nature in general. The collection of the Buddhist teachings varies in scope depending on the region. For example, various indigenous texts have come to be regarded as canonical throughout the history of Chinese Buddhism, thus Chinese, Tibetan, and Thai Buddhists all refer to something different when they say “Buddha-Dharma.” However, in principle there are core texts, practices, and beliefs that connect Buddhist traditions together. The essence of the dharma should be the same everywhere, yet there is debate as to what constitutes this essence. That is, until an individual confirms the truth of the dharma through practice.

For the Buddhist practitioner working on understanding the nature of reality, there are Three Jewels to help. They are the dharma (cosmic law), the essential form of the Buddha (awakened), and the sangha (community). With these three attributes to embrace, the believer grasps onto something that gives a sense of worth and continuity with the world at large.2

I use dharma as a term to describe the early South Asian notion of maintaining cosmic order by spiritual awareness, devoted to a path, and assuring human continuity with respect for life. It originated in literature from Vedic times (1500 to 500 BCE), and grew with Buddhism from the 3rd century BCE. In the 1st millennium it spread as a term or notion ushering Southern Asian beliefs carried through derivatives of the Sanskrit language. These beliefs were considered

1. Quoted from the UN Millennium Goals 8th plenary meeting, September 2000.

2. Source of text provided by Chris Rowe, 2014.
Buddhist, Jain, and Hindu—all modern glosses for historical and complex sets of beliefs deriving from sources predating the present day organized religions. Yet, there is an underlying aesthetic sense of a flourishing dharma, or cosmic flow, from the Neolithic circulating across the Indian Ocean. Buddhism, a complexity of pre-Vedic derived beliefs, and pre-existing notions mixed to produce a raj—the authority ordering civilization in place and time.

I see this as key to understanding the cohesive weave of concepts found in rasa: a holistic aesthetic value system of fundamental ideas for life that are pervasive in the region. It is an aesthetic system dealing with the value of perception, taste, and related experiences. It identifies traits and clues within the workings of a culture to create understandings and judgments. This aesthetic experience forms intrinsic attitudes vis-à-vis things specifically or generally recognized as worthy of attention in a society (see Blundell 1996).3

Early metropolitan Southern Asia ascended through cultural exchange from a prehistoric common dominator shared across the Monsoon region. Urbanization was seeded from a spirit that proliferated cultural diversity with a social structure of theocratic civil administration. The vital energy embodied in an ancient standing stone was refined to immaculate form: a stone stele depicting priests backed against the monistic divine. The transition from the Neolithic to metal tools and civilization transformed development processes with continuity in Southern Asia.

The dharma circulated by sea, yet my question concerns the navigators who operated the ships. Going back in time, to early history to the Vedic days about 3,500 years ago, and before writing to the Neolithic cultural stratum, across Southern Asia, coexistence with the solar cycle (wheel), air (ether, wind, or lofty), soil (earth layer, organic base), and water (conveying hydraulics from lakes, rivers to oceans) meant the basis of substance. It was a prime for basic life, and for humans to respect, and give their observance, at first in the oral traditions, later in text.

I believe the seafaring Neolithic cultures of Monsoon Asia expanded and continued on demand for the trade opportunities. Today known as Austronesian speakers, this language family navigated the seas along the East Asian coast, to Taiwan, the archipelagos of the Philippines, Indonesia, and Malaysia. These navigators sailed directly from Borneo to East Africa, landing on Madagascar. The voyages are traced through artifacts and languages from the first millennia BCE. The Austronesian speaking navigation diaspora provided transportation to merchants and monks plying to Southeast Asia. What they shared in common were animist origins, a belief in nature—the stars, flora of life, sacred rocks, flowing water, gales of prevailing winds. At ports, like the ones found in Southern Sri Lanka, merchants, monks, and mariners (see Devendra 2013)4 boarded ships with outrigger to traverse Monsoon ocean expanses (see Fig. 1).

In 2014 excavation and salvage operations commenced in the sea near the fishing village of Godavaya, southern Sri Lanka. German archaeologists in the 1990s discovered the importance of this place—a harbor along the Indian Ocean maritime trade route. There an ocean-going ship dating back about 2,000 years ago sunk to the coastal seabed, now about 30 meters below the surface. The remains are a broken cargo of glass ingots and pottery and a mound of corroded metal bars. Deborah Carlson, directing the underwater survey, believes when the Romans acquired Egypt in the first century BCE and gained direct access to the Red Sea, a route from the Mediterranean to Southern Asia and further across the Indian Ocean to the South China Sea increased in trade volume (Gannon 2014).5 Around the 3rd century BCE to the tenth century CE from South Asian ports launched an un fettered dharma across to new lands carried by heavy cargo laden ships.

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Through using evidence from texts, inscriptions, ethnography, and archaeology, it is traced through regional, yet interconnected networks across Southern Asia, origins of the state, aesthetic systems, trade routes, and theocracies. My work on this project started in the 1970s. Since then I have explored dharma civilization in Sri Lanka, mapping it's ancient hydraulic networks creating a granary for southern Asia (Blundell 1989).

Across India Buddhist shrines flourished and many were later re-molded by Hindu practitioners. Recently in Nasik, Western India, I visited Buddhist caves dating back to the third century BCE (Fig. 2). Later Jain monks inhabited the caves. With the raise of Hinduism, the caves were related to the story of Rama with a dedication to Hanuman (Fig. 3). The sculpted rock caves above Nasik gracefully attest to Buddhism's flourishing across Southern Asia with mathematics, astronomy, irrigation, iron works, aesthetic systems, and enduring philosophies. For me, the concept of ahimsa (non-violence) is the most meaningful aspect, yet often most forgotten. From the first millennia BCE, a multitude of beliefs prevailed from a megalithic common denominator coalesced as the overarching dharma, then continued in transformation through clashes supported by political and military powers. These processes continue up through the present day.

Interests in Monsoon Asia brought me from Buddhist studies in Sri Lanka to Taiwan where I research about Formosan indigenous peoples and their connection to the sea trading nephrite jade in the first couple of millennia BCE. It was an extensive network across Monsoon Asia, carrying goods and languages to distant ports. My motivation is to piece my ethnographies into the larger fabric of history.

From April 8th to 12th, 2003, an international congress for world heritage entitled Enter the Past: The E-way into the Four Dimensions of Cultural Heritage was held at the Vienna City Hall, Austria. A number of committees were convened, including one for the crisis of the invasion of Iraq, in terms of evaluating ancient cultural heritage. Thomas Klestil, the Austrian President addressed the congress to state:


7. Transformation of holy shrines is common worldwide. In Mexico, the site of a pre-Columbian hilltop temple became a Catholic shrine re-designed by the Spanish. In Turkey, ancient churches became Islamic mosques, and in Spain mosques became Christian churches.

Current events demonstrate that—despite strong international concern—the cultural heritage of humanity is once again exposed to unforeseeable threats. Tragic examples are the complete destruction of the two 1500-year-old Buddha statues in Afghanistan or the threat to the most important archaeological sites by the war in Iraq.

Invaluable documents containing the oldest known form of writing and the first concept of the rule of law are menaced by this current military conflict. Let us not forget that the history of Mesopotamia marks the beginning of our own European civilization.

This provided one of the points of departure for thinking about this paper. I have often thought the idea of world heritage is linked to European origins with the concept of heritage sites coming as a result of the European Enlightenment and the Age of Reason. According to Dario Gamboni (a professor at the Institute of Art History of the University of Amsterdam) since the French Revolution our idea of “world heritage” is more recent stemming from the twentieth century. Gamboni cites in his article for *Conservation* that French author and statesman André Malraux wrote in 1957, “for a long time the worlds of art were as mutually exclusive as were humanity’s different religions” drawing our attention to civilizations having their own “holy places,” being listed for humanity. Malraux further observed that for the first time, “dying fetishes have taken on a significance they never had before, in the world of the images with which human creativity has defied the passage of time, a world which has at last conquered time” (Gamboni 2001).

It is useful to distinguish between the past, what happened, thus *history*, accounts of the past; and *heritage*, which is those parts of the past that affect us in the present. To be more precise as a student of history, it depends on the documentation of the past, as in writing. Otherwise the events that have transpired are no longer directly knowable. The past is knowable only indirectly through histories, such as descriptions and narratives of what happened. For any aspect of the past, there may be many narratives or none. Histories are always multiple and incomplete. Many factors influence what histories are, or can be written. As heritage is legacy from the past that we compose life with in the present and give to the future as reference for local identity, it’s also a marker for universal human appreciation.

### Unfolding from Prehistory

By mid-first millennium BEC, the South Asian *dharma* spread out as a written language in an ocean going Eurasia trade system across Monsoon regions of tropical peninsulas and islands. Since early migrations and settlements in the region dating back to the Paleolithic Age, let’s say 40,000 to 30,000 years ago, hunter-gathers and cave dwellers spread across vast areas. With Neolithic technology arriving, people began utilizing new forms of built architecture, weaving, pottery making, agriculture, refined stone tools, and ceremonies requiring large erect stone and mounds. Migrations from 10,000 to 7,000 years often required sea craft. Tempered bamboo was lashed together as rafts. Later dugout canoes with stitched wood planks were made for long-distance voyaging. These ocean-going vessels are made today with similar (often ritualized technology) across the Indo-Pacific region.

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9. It was in March 2001 when the Taliban authorities in Afghanistan willfully destroyed the monuments and frescos at the site of the largest standing Buddha statues of 53 meters in height sculpted from the sandstone cliffs at Bamiyan, Afghanistan.


From river systems flowing down valleys, across plains to coasts, Neolithic peoples devised watercraft of lashed bamboo to outrigger canoes to reach other lands and islands. This process began about 8,000 years ago to reach and sail from the Asian coasts. Coastlines were residing from a post-glacial period to a warmer age. From about 6,500 to 4,500 years ago, as people moved out from continental lands and settled on islands, languages incubated in stages.

In the dominant contending hypothesis of Bellwood (1995, 1997, 2009) and Blust (1986, 1996), narrative migration of Austronesian speakers originates from Taiwan. They sailed across the South China Sea to islands of the Philippines and Indonesia, settling coastal areas in land valleys. In these migrations, languages evolved yet connected as a lingua franca network. Throughout the region navigation and trade spread interactively with groups of older populations of specific cultural antecedents. They were integrated into the increasingly widespread dominant Neolithic system further evolving diverse cultures and languages while maintaining commonality (Paz 1999).

It was the start of an incubation period for the formation of the multiple Austronesian languages. Language incubations were staged along seafaring routes. The dispersal took several thousand years and was staged across ocean island areas with incubation periods creating a language system. This process is similar to the Indo-European dispersal of Central Asia, and Bantu/Swahili of Eastern Africa. Austronesia is a language region of the present-day based primarily on islands across the Pacific and Indian oceans. Taiwan is the northern most of the islands with the greatest diversity of languages known as Formosan. Since Taiwan is located where the sea currents of Eastern Asia gather north and south at the Tropic of Cancer, it was a prime cultural exchange and transfer region, a stepping stone between Northeast Asia, Southeast Asia, and the Pacific.

South of Taiwan from about 4,500 years ago, in the Batanes Islands, Formosan evidence is found scattered across the islands. Nephrite jade, earthenware, slate artifacts, and figurines from Taiwan are found in worksites for further export to Southeast Asia. It is evidence of the trade and industry out of Taiwan over 4000 years ago circulating to the regions of the monsoon winds, such as Vietnam and Borneo. With the sea trade, especially in nephrite sourced from Hualien, Taiwan, and interacting with other islands and continental coasts, the languages dispersed to become a lingua franca of communication. Navigation played an important role in this process. At seaports, the traders on ships were important to knowledge exchange, and goods to peoples in towns and villages, across the region.

Traders voyaged from the Philippines to more southern islands, navigating into the lands of the Andaman Sea, such as Myanmar and India. The languages further incubated in Sumatra creating the trade language of Malay in the first millennia BCE. Further east incubation occurred in Micronesia, the periphery of Papua New Guinea, and Polynesia. Settlements and temporary camps could later be found

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in regions in the process of the dispersal, such as the south coast harbors of Sri Lanka or northern Australia for seasonal fishing.

The stitched ocean-going sailing vessel *oru* was a navigation craft in a network of staged voyaging across the Indian Ocean to Southeast Asia and the South China Sea. Somasiri Devendra (2013), a pioneer of underwater archaeology in Sri Lanka, has written on early navigation as vernacular nautical architecture describing local ship design and seafaring techniques. In his "Mariners, Merchants, Monks" he examined the physical characteristics and functions of the stitched sea craft known as *oru* and variations of ocean-going ships across Monsoon Asia.

The *oru* consists of the main hull and the supportive lighter log that maintains the balance. The main hull is made out of a low weight large log. The inside of the log is taken out to enable the log to float easily and carry a substantial weight. The main hull log is further raised up to carry more weight by stitching together timber side planks. This stitching is a special technique and carefully done in order to maintain the strength of the boat and to be long lasting. The *oru* stitching requires coir strands made out of coconut husk. Coconut husks are soaked under water and once they are softened the fiber is taken out to prepare strands by hand. Other fibers come from young coconut leaves. For sealing the boat, caulking is prepared from the plant *gahala* by boiling to make a paste like a gum (*dummala*) that can be applied to cover the stitching as waterproofing. Main wooden hull and the wooden planks are kept together and aligned with small holes made by using a hand drill in the plank as well as in the main log in four inch intervals. The stitching is a cross pattern and tightened. After the stitching the gum paste is applied to the stitch as a sealer.

Stitched ocean-going ships with outrigger date back to the earliest navigation of Monsoon Asia. Mariners traversed open expanses of seas to link trading networks with emerging civilizations.

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**Neolithic Origins to Hydraulic Civilizations**

There was a continuum from the Neolithic cultures to hydraulic civilizations in the Monsoon region. The stone-age peoples planted areca nut palm, root plants, and grains with spirits and ancestors for their societies. As the *dharma* riturgy arrived through water transport and circulated further afar, the people of nature received it with amenability, and helped develop literate administration of hydraulic civilization. It created an overlay of existing values with literacy extending a conceptual worldview from Neolithic hunting, gathering, and horticulture into large-scale agriculture and trans-regional connections.

The story takes us to earlier origins, tracing back primary concepts of divine kingship in the metropolitan ascent of southern Asia prior to the first millennium BCE. It is my premise that there has been a moral syncretism of religious elements embedded in a human stratum that no spatial boundaries or delineations confined. This was the international culture carried by the symbolic vehicles of dynastic genesis and spiritual firmament of various strengths. Its sanctity originated from a dualism connecting the indigenous and foreign. Peoples who had erected shrines on high places and mountains embraced new reinforcing mythologies on the plain. The divine monarch was an unequivocal declaration ordering assigned roles in the expanding cosmic process and his capital that pierced the atmosphere and flourished in symmetrical order as horizontal-scape to the churning sea, was the earthly expression of the universe in replica. In the following, I have dealt with concepts of the gathering and mixing of people under a sanctified authority during the rise of the urban form as the nexus of diverse human specialization in a world network.

The exposed limestone massive, like an elephant’s back in the distance, stood as monolith above forested bathos. The pale mountain knew humility and affirmed man in his universe beneath the gray of a laden sky thrusting sudden winds to earth with a flash. Torrential

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rains penetrated the wood with uproarious laughter to a flood-depth that violated order. In this tumult, a smoke whisper drifted against the stone palisade from a hollow originating from a human fire that brought char to the outside of green bamboo cooking vessels containing hybrid legumes, cucumbers, and red peppers. As floral fertility weighed heavily on the strength of men who made their challenge in perpetual dusk, a creative breath drew their passion to favor organized seed cultivation in the amber soil on hill flanks that rose above the endless forest canopy ten thousand years ago.²⁰

Sri Lanka has been inhabited by Mesolithic societies for about 30,000 years with evidence discovered in Fa Hien Cave at Pahiyangala. It is probably the largest cave site of its kind in the land near Balangoda. P. E. P. Deraniyagala and Douglas Osborne first examined it in the 1960s. A 3.75-meter habitation deposit rich in charcoal provided evidence of a Mesolithic industry and habitation site with the remains of worked stones, dried food, shells, animal bones and people. The term Mesolithic has been used since the late 19th century to define the transition period from hunting and gathering to food producing societies (Kennedy 1984).²¹ Such remains were also found in prominent caves such as Kitulgala and Batadomba. I especially mention Fa Hien Cave for here is a historic connection.

It was here at Pahiyangala that the traveling Chinese Buddhist mendicant, known as Fa Hsien, sojourned at the cave (Fig 4.) in the fifth century CE during the reign of King Mahanama. Currently, a Buddhist shrine remains in the center of the cave with a reclining Buddha statue and a side chamber dating from the Kandyan era of the 17th-18th centuries. Kenneth Kennedy affirms that there is a biological-historic continuum connecting the vanniyalette (vedda, forest hunters)²² with early occupation at Batadombalena (ca. 31,000-13,000 BP) and other sites where Mesolithic remains have been excavated, such as Beliana Kitulgala (ca. 30,000-9,000 BP), Bellanbandi Palassa (ca. 6,500 BP), and the Phiyangala caves. These are currently the earliest known anatomically modern humans from South Asia (Kennedy cited in Deranyagala 2002). A skull found at Fa Hien Cave, Pahiyangala, has been dated to 37,000 B.P. making it the oldest Mesolithic finds in South Asia. Indications show that the region was exploited for fauna during this entire timespan in a similar way (Kennedy and Deranyagala 1989).²³

Earlier during the Middle Pleistocene, the chopping-tool complex at Soan, upper Indus Valley Basin and the choppers of Southeast Asia were of similar design. In the late Stone Age, the microlithic tools of South Asia and Java, Sulawesi and Australia provide evidence of the universal transfer of ideas and perhaps people in the Southern seas of Monsoon rhythmic winds, warm and humid.

Remnants of earlier cultural existences tended to alter their ways

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according to ideological responsiveness in isolation, assimilation, or escape. The present Semai, the most numerous of the nineteen orang asli hunting-gathering groups in Peninsular Malaysia, have evolved under the pressure of alien cultural choice since the coming of the “opposite people” outsiders such as traders or the mainstream Malay population of today. Over the centuries, orang asli cultural groups have split to follow the low-country agrarian pattern of the western Malays while high in the eastward mountains, other peoples who became restless or depressed under any system that would restrain their freedom of action or hinder their mobility, continue to live by forest means.24

The Semai reflect an era when the Austroasiatic (Munda-Mon-Khmer) linguistic stratum embraced various ethnic types in one extended oral tradition. Along Neolithic pathways, this primacy of language diffused from the Mekong region to the Chota Nagpur Plateau beyond the Bangla Plain in India. The ancient whisper that emerged from Southeast Asia strengthened clans with myths of origins that paralleled indigenous totems.25 It was not possible to draw a division that would separate South Asia from Southeast Asia and Southern China.

The ascendancy of heavy basalt adzes for woodworking and pointed drills revolutionized the durability of bark-and-skin-sewn river craft to the ones of oceangoing timber planks. Sailboats with slim graceful lines bending into long curved ends, built for strength and allowing for flexibility that would counter the dynamics of the water for speed and stability, carried men away from the shoals and coastal waters to voyage the seas of peninsular and island Asia. Seafarers of the outriggers carried taro cultivation to Japan and diffused the ideas of geometric forms associated with pottery, wood, tattoos, bark cloth, and petroglyphs (Fig. 5)26 to the isles south and east. Banded spirals and geometric forms were of magical primacy to the peoples of Oceana.27

During the first millennium BCE, irrigated rice agriculture diffused out of Southeast Asia to reach ascendancy from the lower Ganges plain south along wooded deltas to Tamil land. Sea traffic facilitated seeding and planting of the coconut, sugar cane, yam, areca nut, betel leaf and pepper, along with the hundred varieties of the banana, to find new receptive soils west, and the horticultural revolution of ten thousand years was revealed to a people savored monsoon harmony (Fig. 6).

Previous to the state system, at sacred spots, there existed an order that was grounded deeply in the foundation of the temple stone planted in both ground and sky by equal dimensions. People built monumental shrines rooted in nature by the primary material of stones, erect menhir (Fig. 7),28 recumbent dolmen (Fig. 8.), and seats from carved rock.

The megalith was erected in an organized effort to secure from

the dead secret wisdom and prosperity. In the course of a rite, the deposited soul would enter the underworld, the abode of spirits, with the potential of giving benefit to those above. The builder of the monument would gain merit and the magic qualities of fertility would insure the succession of generations. The gesture of the active pillar, on a built mound, functioned as the clan’s ancestral devotion. The deity did not rest upon the mountain like Zeus on Mount Ida, but embodied the living stone. Earth worship was a thread of cultural continuum that reached across Southern Asia in the veneration of stone on sacred space.29

The dolmen was the repository for human ash, bone, and spirit. Under the mounted stone and earth, salvation was retained and the future was sealed. It reflected the muted radiance of the moon in a silent calm. And like the moon, the deceased kinsman’s virtue, compacted in stone, held the essence of life’s cycle. The mound was passive, providing a seat on which the living could rest and commune. The simple concept exerted a powerful influence over the convictions of men. The soil of the vulva was intimately connected with the enigma of nature. Upon elaboration, the forest stone was divided to form a larger sphere over the place where the warm and cool substances unite into a non-dual being. Of the vertical posture, there was the horizontal spread. The slopes of sacred Mount Meru30 (Sanskrit), also called Sumeru (in Sanskrit) or Sineru (in Pāli) folded into the soft foothills until eventual extinction on the plain.

Near Cochin, Kerala, monuments of a megalithic complex were assembled at the foot of the hillock or on high rocky ground above irrigated fields. The dead were entered collectively into urns, sarcophagi, pits, dolmens with open portals or underground circular rock-cut vaults among iron and black-and-red ceramics.31 The Iron Age megalithic burial monuments of multiple inward-leaning laterite blocks of Malabar and the granitic slab chamber-tomb of Xuan-Loc, Vietnam, find common ground in the Malay Peninsula and Sunda Islands.32 In the region of Marayur, Idukki District, Kerala, India, clusters of dolmens (Fig. 8), also known as muniyara, or portal graves were made of upright stones placed on edge and covered by a top stone. In Brahmagiri, Karnataka, India, dolmens were conceived as a hemisphere of earth fill and piled stones over a square slab chamber as a preserver for cairn burials.33

The stone ages moved into technologies of metal tools, at different times across the South Asia region. About 2,300 years ago with Buddhism, the earthen heaped up reliquaries became the stupa, and the megalithic became a literary dharma.

On Mihintale Ridge, Sri Lanka, the inside of a stupa revealed that a lower relic chamber sat on level ground under the apex of the earthen and plaster dome (Fig. 9). Beneath the lower wall, buried in the soil, a cell held the basement of the subterranean ocean, the element of naga. Above, in the chamber, stood an image of cosmic Meru centered by four cardinal stones: the chamber space embodied the sky portrayed by frescoed deities in airy heavens from wall-to-wall.

An inner jewel-casket crowned Meru as a guiding light in a void above the layers of horizontal brick in the stupa’s chamber. The repository of a higher universe remained silent: nirvana. The inception of the stupa was at the threshold of human coalescence into the state system, the umbrella

29-30. Central mountain feature of the landscape venerated as sacred in nature and replicated as temple shrines.

of small traditions. With Mauryan ascendancy in the name of Asoka, Sinhala King Devanampiya Tissa embraces the Three-Jeweled faith of Buddhism so that Sri Lanka could flourish under the shade branch of a bodhi or pipal tree (Fig. 10).

“When the Ruler [King of Lanka] of the earth [Sinhala soil] had completed the beautiful thupa in Thuparama [Anuradhapura], he caused it to be worshiped perpetually with gifts. Women of royal households, the nobles, ministers, people of the town and countryside brought their offerings” to the wheel of law and the guardians of the four quarters (Mahavamsa). A cast of built stones pierced the universe above an expansive ceremonial nexus that radiated a social ethos of the omniscient tradition.

A young sapling or a shaman’s stone defined geometric space that could only be settled once sanctified. Around the local focus the open field was flooded with pure water as an expansive temple floor reaching to a bountiful dark forest, the structure of the outer wall. The design was a reflection of savanna, where human cultivation was not wild, but planned along lines of demarcation. The incipient grain emerged as a watered ecotype round an embodied pivot, transmuting economic reciprocity to a new differentiated social hierarchy. A chief of the stone regulated the immediate resources to the natural complex of streams and lakes manifesting man’s technical awareness in collective bond. Hard work and personal sensitivity to the environment twisted the magic flow into a patterned shrine complex as observed from above.

The integrated hydraulic structure of terraced fields and stepped spillways for a water transfer system produced an ecological complex responsive to the sustenance of a defined human space sanctified by deities. The water reservoir nearest the sacred mountain source provided ritual bathing and the essential waters flowed to the labor of domestic needs and eventually to the paddy fields. Water had no priority over the service to agriculture and devotion.

Statecraft ecological harmony was not the outcome of central administrative planning, but rather a cumulative series of integrated irrigation and water reservoir systems constructed and maintained at the local level. A canal network of skillful gradients etched fertile Mekong Delta lands a thousand years before Khmer hegemony. The polity of cosmic order was known as B’iu-Nam (Oc Eo, Fu-nan), (Fig. 11) from the first century CE. Later texts of the annalists of the Southern Ch’i (Qi) dynasty of East Asia (479-502 CE) reported elaborate Southeast Asian reciprocal arrangements with local

34. Bodhi or pipal tree (Ficus religiosa) of the Gangetic Plain held sacred to Buddhists since under this species of tree the Prince Gauthama Sidhartha became Sakyamuni at Bodh Gaya. A sapling of this sacred tree was planted at Anuradhapura, Sri Lanka, in the third century BCE. It is considered to be the oldest historically known planted and nurtured tree.


institutions becoming spheres of state. Communities were integrated in the water complex in dwelling clusters constructed from light materials such as wood, bamboo, and *nipa* fronds, and supported by timber piles. Elevated ground or the mound was reserved for the enshrined cult image presiding over the layout from the mountain to the sea. "Na-Chia-Hsien or monk Nagasena stated that it was the custom of the people to make offerings to the celestial Mo-His-Shou-Lo (Mahesvara) descending continuously on Mount Mua-Tam (Mo-Tan) so that the climate there is constantly mild and herbs and trees do not wither." 37 At these interconnected centers, brick and granite shrines seemed to float amidst water networks.

**Conclusion**

From the beginning of the Asoka Era, Buddhist entrepreneurs and monks not inhibited by sea travel, commissioned skilled navigators to sail in ocean-going ships—wood plank hull stitched together with lashed outrigger—to voyage across the monsoon swept Bay of Bengal. Ancient depictions of ships are featured in architecture, such as the stone relief panel of the ninth century Buddhist monument Borobudur, Java, Indonesia (see Fig. 1). Destinations were the seats of kingdoms and trade centers, where the word of the *dharma* and its faith developed in a healthy, vigorous way, as the result of a particularly congenial environment of Southeast Asia.

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37. Tzu-Hsien Hsio. *Nan-Chi'I Chu*, Chuan 58, ff. 10, Verso-11 recto. The statement was recorded when an embassy from B’iu-Nam visited China in 484 CE.
