

The Find

In 2007, fishermen found a small overgrown jarlet hooked onto a net that they had cast into the Java Sea. They reported their find to friends ashore, who in turn contacted an Indonesian salvage company, PT Nautik Recovery Asia. Subsequent dives on the site revealed a mound of ceramics covered with mud and sand in 55m depth.

After having obtained the necessary licenses, the Indonesian salvager in June 2008 started to excavate the site. Salvage conditions were to prove difficult; not only the extreme depth – allowing for no more than 25' bottom-time per dive!–, but more so the very low visibility on the site severely obstruct controlled excavating. Though, however intricate the circumstances of the find, underwater operations are conducted following a thorough archaeological protocol: After a first bathymetric recording of the site, a grid of 2x2m, recording the position of each artefact, was applied; a database, custom-made in accordance with the characteristics of the ceramic artefacts, records individually tailored measurements and descriptions of the items, and will eventually allow a comprehensive computer-based evaluation of the find.

Position and cargo of the wreck indicate, that the vessel most probably was bound for the Island of Java – it is hardly imaginable, that traders would carry a cargo of Chinese, Indian and Middle East provenance in the direction of the Straits of Malacca, wherein were found the very ports trading in these commodities. The first coins and ceramics surfaced place the find into the 10th Century AD: Lead Kai Yuan Tong Bao 開元通寶 cash, with Min 闽 or Fu 福 on the reverse, minted in the quasi-independent Kingdom of Min in Fujian between 916 and 946, a singular Qian Heng Zhong Bao 乾亨重宝 coin of the Demesne of Nánhàn, thriving around Guangzhou (the Western 'Canton') between 917 and 971, and glaze and form of better part of the ceramic objects allude to the era of the 'Five Dynasties and Ten Kingdoms' between China's Táng and Sòng Dynasties. Though their presence in sites around the shores of the Malay Archipelago and the Indian Ocean is well attested, the particulars of the 10th Century's trade in Chinese ceramics are still puzzling, and the extent and impact of their production and exchange are topics of an ongoing scholarly discussion. A fastidious evaluation of the find will thus become key to a number of yet unsolved academic questions.

A Cargo for Java

The second half of the first millennium saw the rise of a sophisticated civilization on the island of Java: Since, at the latest, the 7th Century AD an increasing population concentrating in the plains around the island's central volcano range started erecting Hindu and Buddhist sanctuaries, culminating in the construction of the famous complexes of Ratu Boko, Prambanan and Båråbudur in the 8th and 9th Centuries. These 'Indian' religions had reached Java by sea – the Malay Archipelago's wealth in rare products of jungle and ocean had attracted the attention of merchants for long, and it has to be assumed that Hindu and Buddhist beliefs arrived in the wake of a trade already well established in the times of Ptolemeios. The 'new' beliefs accentuated the position of leaders, who in turn had to highlight their status by displays of wealth, and thus to

further encourage and promote commerce; a *perpetuum mobile* of trade, religion and power that led to the integration of the Malay Archipelago into the World's trade systems.

Surprisingly, during the rule of King Siṅḍok, at around 925 the seat of the Javanese realm moved to the eastern part of the island, abandoning the monuments finished only some decades earlier. Scholars have tried to explain this rather sudden shift of power as result of earthquakes, volcanic eruptions, famine and diseases, but the need for easier access to and control over the sea-ports of the eastern part of the island, the natural stepping stones to the fabulous Spice Islands of the Moluccas, must have played a major role amongst the reasons. However, though undoubtedly a time of considerable cultural activities –the first Javanese versions of the Ramayana and the Mahabharata were composed during this period–, we barely know the names of the rulers of the short-lived Isana Dynasty founded by Siṅḍok from an inscription of 1066, half-a-century after the downfall of the dynasty's last sovereign, and cannot definitely associate any major building activities with any of these kings. The only reference to historic events of the time is noted in the annals of the Chinese Sòng Dynasty: In 992 the first Javanese ambassador for more than a hundred years reported “that his country was in enmity with Śrīvijaya and that they were always fighting together”¹, while a Sumatran envoy who had left China two years earlier was compelled to return to the Sòng court to ask for Chinese mediation to end that conflict.

Chinese sources of later centuries mention, too, the various imports Java called for: “Foreign merchants use in trading [to Java] gold and silver of various degrees of fineness, vessels made of gold and silver, silk stuffs, black damasks, (ssi)-chüan-kung [a species of levisticum, used as a cure for malaria (ibid.:83)], orris-root, cinnabar, copperas, alum, borax, arsenic, laquer-ware, iron tripods and green (or blue) and white porcelain-ware.”² Surely, the latter, the “high fired [Chinese] ceramics were the cellphones and iPods of their day, that is, highly sought-after, high technology products”³, and thus an article of constant demand throughout Southeast Asia and beyond:

For a villager in Southeast Asia, a prosperous merchant in Iraq or an Ottoman Turk, Chinese, Japanese, Thai and Vietnamese ceramics were durable, beautiful and exotic. They represented an extraordinary improvement over the low-fired pottery available locally. Kings and princes collected them as prestigious objects to impress rivals and subjects. Borneo headmen used them to hold water, wine and the bones of ancestors. Nothing else was so practical. [...] They were a valuable commodity that could be traded internationally for rice, cloth, pearls, spices, exotic foods, gold and silver. Asian trade ceramics have a robust vitality that makes them as attractive today as when they were new.⁴

As the perfect bulk cargo, ceramics were destined for maritime trade, and thus an ideal commodity to satisfy the demands of an island marketplace as developed as Java. Java, too, has next to none indigenous sources of metals – crude, prefabricated and finished metal, tools and weapons hence were another major import. And – if it were necessary to ‘display wealth’ in order to maintain status, the thriving commerce along the sea lanes of the Indian Ocean and the China Sea was the perfect source for a wide range of exotic, luxury and novel products.

¹ Groeneveldt, W.P. 1880: ‘Notes on the Malay Archipelago and Malacca from Chinese Sources’. *Verhandelingen van de Bataafsche Genootschap* 39: i-x, pg. 18.

² Chau Ju-Kua (Hirth, F. & Rockwell, W.W., transl., ed.) 1911: *Chau Ju-Kua: His work on the Chinese and Arab Trade in the twelfth and thirteenth Centuries, entitled "Chu-fan-chi"*. Imperial Academy of Sciences, St. Petersburg, pg.78.

³ Rehfuss, D. 2006: *Glorious Pots. A Millenium of Southeast Asian Trade*. Washington Oriental Ceramics Group, pg.1.

⁴ *ibid*: pgs.3-4.

The initial finds surfaced off the Karawang Wreck confirm these assumptions. Besides diverse trade ware ceramics, a number of ingots and concreted metal implements (including the first tripod feet!) were recovered – and the very first ‘exotica’, fragments of perfume flacons, finely decorated Chinese mirrors, brilliantly worked crystal beads, paraphernalia of ivory and horn. Clearly, this find will be ‘worth’ more than the artefacts’ mere collector’s value: It is a unique insight into Java’s 10th Century economy and culture.

An Empire of Trade

Ptolemeios’ *Iabadiou* and the Mahabharata’s *Yavadvipa* must have referred to Java – but Java was only an offshoot of the main maritime route between the West and China leading through the Straits of Malacca. It is the Sanskrit *Suvarnavdipa*, the ‘Island/Peninsula of Gold’, Roman notions of *Chryse* and *Argyre*, the ‘Lands of Gold and Silver’, and the fabled ‘Golden Chersonese’ of the Greek geographers which represent the principal lane of maritime communications between East and West. Evidently, as early as the 5th Century AD sailing vessels carrying clerics, merchants and their goods routinely made their way through the Straits, and in the 6th Century the Chinese annals start recording diplomatic missions, which doubtlessly came from the lands bordering that sea-lane. The 7th Century, then, saw the rise of the most powerful and lasting of these states, the Thalassocracy of Śrīvijaya.

In her beginnings centred on the lower reaches of the River Musi, Śrīvijaya expanded to become the guardian of the Straits, controlling ports and strongholds on both the Sumatran and the Malayan shores of the waterway. Besides a handful of inscriptions in Old Malay and scattered notes in Chinese, Indian and Middle Eastern sources, not much is known of her political history: Though a distinct style of Buddhist architecture labelled ‘Śrīvijayan’ spread to what today is southern Thailand, and inscriptions seem to indicate dynastical ties between Sumatra, Java and Cambodia, it is unclear whether ‘Śrīvijaya’ stands for a centralised power, a ruling house, or a confederation of trading ports, and even the very location of the seat of her sovereign is still disputed. However, by the 9th Century Śrīvijaya had sent a train of missions to the Chinese courts of Sui and Táng, and erected monasteries in India, thus delineating her key position between the biggest economies of her days, Imperial China and the Indian and Arab-Persian Worlds.

For Arab and Persian traders Śrīvijaya was

the Kingdom of the Maharaja, King of the isles of Zābag, among which are Kalah and Sribuza and other islands in the sea of China. [...] This empire of the Maharaja has an enormous population and innumerable armies; no one can within two years, with a ship of the utmost speed, go over all these isles, each of which is inhabited. Their king is in possession of more varieties of perfume and aromatics than has any other king. Its territory produces camphor, aloes, cloves, sandal, nutmeg, cardamom, cubeb etc..⁵

In these traders’ view, her power was closely connected to commerce. The Persian sea-captain Buzurg in his 10th Century’s compilation of sailors’ tales quotes a merchant relating that “in the money-changer’s market I have counted up to 800 money changers, without counting those in other markets”⁶ – evidently Śrīvijaya was deeply linked into the international economy of her

⁵ Coedès, G. 1944: ‘The Empire of the South Seas’, *JTRS* 35.1, pgs.9-10, quoting the geographer Masudi, 996.

⁶ Buzurg (transl. Freeman-Grenville, G.S.P.) 1981: *The Book of the Wonders of India*. East-West Publications, London, pg. 80.

days. But, not only finances, even more so navigation was the pillar of her might: In 1154 Al-Idrisi reports that

the people of Komr [Madagascar] and the merchants of the land of the Maharaja visit them [the nations of the Eastern coast of Africa] and are well received and trade with them [...] The people of the islands of Zabag come to the land of the Zenj [East Africa] in large and small ships and they export merchandise from it since they understand one another's language.⁷

Al-Idrisi relates, too, that “a large amount” of the African iron “preferred by the Indian smiths [...was...] carried yearly to India by ships from the islands of Zābag”⁸. Unmistakably, Śrīvijaya was not only a major marketplace of international trade, but, too, an important supplier of shipping space and nautical expertise.

As it is the case with Java, the 10th Century's political history of this Empire of the Straits is only vaguely known: No indigenous inscriptions survived; except the report on the state of war with Java in 992, the Chinese sources merely relate arrival and departure of missions; the Persian and Arab accounts are too much anecdotal to be regarded as factual information. Śrīvijaya's position as a major market is recognised, but we are still in the dark about the particulars of this commerce. It is, however, apparent that Śrīvijaya derived her economic and political power from her location on the junction of the shipping lanes connecting the Far East with the Western World.

The cargo of the Karawang wreck matches with Śrīvijaya's role of nearest major entrepôt for this trade: The first fragments of Middle Eastern glassware found amongst the predominately Chinese ceramics undoubtedly indicate, that the vessel had hailed from a port where products of both China and the western parts of the Indian Ocean were available. Śrīvijaya's proficiencies in marine affairs and Java's lack of these (the Javanese ambassadors of 992 “had come to the Song court [...by the...] guidance of a Chinese owner of many vessels and great merchant”⁹, i.e., not on a bottom of their own) make it only reasonable to assume that the ship carrying the Karawang freight belonged to the Straits Malay tradition of navigation. The only two previous methodically recorded finds of foundered vessels in the Java Sea of the same time period, the Intan and Nan-Han/Cirebon Wrecks, proved to have been built in the ‘Western Austronesian’ shipbuilding technique – and, both carried a comparable array of cargo items. It hence has to be assumed, that a meticulous analysis of the cargo and any remains of the ship's hull will shed light not only onto the nautical technology and the commerce between Śrīvijaya and Java of the 10th Century, but, even more so, will ameliorate the preliminary conclusions gathered from these two wrecks.

One of these findings is the indication that the comparably low population numbers in the area limited market demands, and thus narrowed the need for cargo space – most probably, between Śrīvijaya and Java the average year saw not much more than two or three voyages of vessels of the carrying capacity of the Intan, Nan-Han/Cirebon or Karawang ships. Each of these voyages doubtlessly constituted one of the fairly rare chances of conveying freight and passengers to Java; accordingly, as found on the Intan and Nan-Han/Cirebon wreck sites, ships were loaded heavily with a vast range of goods and, very likely, a large number of passengers. The vessels must have likened to floating warehouses, burdened not only with a bulk cargo of ceramics, metal and cloth,

⁷ Mauny, R. 1965: ‘The Wakwak and the Indonesian Invasion in East Africa 945 A.D.’. *Studia* 15, pgs.7-16.

⁸ Chau Ju-Kua 1911: 19, fn.2

⁹ Groeneveldt 1880: 18

but, too, with a considerable variety of rather small, but highly valuable merchandise from all over the Indian Ocean and the South China Sea which was destined for the more affluent customers at courts and religious institutions. Without doubt, the artefacts still to be retrieved from the Karawang site will try these assumptions.

The Ceramics

'Five Dynasties' ceramics exhibit a certain austerity, which frequently is interpreted as a conscious abjuration of the colourful ceramic styles of Táng times, an epoch that in the opinion of many a witness had ended in debauchery and licentiousness which eventually lead into the bloodshed and atrocities of the unremitting wars over the Táng legacies. Until the rise and consolidation of the Sòng Dynasty, Northern China was the major field of these campaigns, while conditions in the southern part of the Celestial Empire were far more settled: The fairly stable southern dominions became destination of large numbers of refugees fleeing the war zones, thus increasingly 'sinicising' areas that previously had been only administratively linked to the Empire¹⁰.

Warfare needs funds. Sure enough, particularly the northern areas experienced a severe shortage of precious metals: Several of the various warlords vying over the vacant throne of the Celestial Empire issued decrees for the confiscation of copper, the long-established base metal of Chinese cash, from private and clerical sources; others decided to use iron, tin and lead as materials for their coinage – just as are the Min and Nánhàn cash surfaced until now. Trade in ceramics, already under the Táng a major article of export to the World of the Indian Ocean, thus became a welcome means for generating the capital necessary for the sustained fighting and the splendour of the various military and regal ménages.

For China's southern regions overseas trade since long had been a reliable source of revenue – it even was that very trade which had lured the Han Dynasty into incorporating Southern China into the Empire's administrative spheres. With the streams of refugees during the early 10th Century arrived, too, the workforce and technologies necessary to encourage a local production in export products, thus enabling cities like Hangzhou, Zhangzhou and Guangzhou to become the staples of an ever-increasing trade. Hence, not surprisingly, "the tradition of stoneware production in Zhejiang province, where the earliest green-glazed high-fired ceramics had been made, reached its height during the Five Dynasties period"¹¹, while the two coastal 'Empires' of Min and Nánhàn, the sources of the coins found until now, during the 10th Century developed their own manufactures in export ceramics¹².

The latter realm, "the 'mysterious' Southern Han, about which researchers have little knowledge"¹³, in Arab and Persian sources of the time is referred to as the seat of "the Baghbur, the ruler of China", or, the "the capital of Great China"¹⁴ – evidently, the unsettled conditions of the Celestial Empire did not impede Southern China's international trade. Though "that port could

¹⁰ See, e.g., Wang Gungwu 1958: 'The Nanhai Trade', *JMBRAS*, 31.2, passim.

¹¹ Gray, B. 1984: *Sung Porcelain and Stoneware*. Faber & Faber, London, pg.25

¹² For a map of, e.g., kilns in Fujian see, Green, J. (ed.) 1997: *Maritime Archaeology in the People's Republic of China*. Spec.Publ.1, Australian National Centre for Maritime Archaeology, pg.84.

¹³ <http://www.china.org.cn/english/features/Archaeology/149496.htm>

¹⁴ Freeman-Grenville, G.S.P. 1981: 77, 84.

not yet compare with Canton in the empire of Han”, today’s Quanzhou in the Min territory “seems to have been especially prosperous as a result [...] of her] overseas trade with the countries of the South China Sea and the Indian Archipelago”¹⁵, and various sources relate, that the ruler of Min on the occasion of the last recorded embassy of Śrīvijaya to the waning court of Táng in 904 which had passed through one of his harbours “summoned the barbarian merchants from overseas”¹⁶ to trade in his realm. Not surprisingly, thus

it is reported, that Wang Yen-Pin, the nephew of Shen-chih [the first quasi-independent ruler of Min –t.a.] and Prefect of Ch’üan [Quanzhou] until his degradation early in 921 [...] brought great prosperity to his Prefecture through his administration, whose economy was chiefly supported by foreign trade represented by the ships of the ‘Southern Outlanders’.¹⁷

It, consequently, has to be assumed that the ports under control by the authorities that had issued the coins found in the Karawang cargo were known to and frequented by the ‘Southern Barbarians’, the very people propelling the trade in ceramics which eventually would pass through the Straits of Malacca. However, though the Chinese Dynastic Histories record arrival and, often enough, details of numerous ‘embassies’ of foreign traders and officials, “ceramics do not appear as gifts to friendly governments at this time and were not sufficiently highly regarded to warrant mention as a significant component of the trade”¹⁸ – and, even more so, the original court records of the southern kingdoms are lost:

The virtual absence of contemporary histories of the tenth-century states written by their own historiographic bureaus [...] is explained by [...] an example of their common fate, the situation in Southern T’ang, where, under the moral pressure of the new Sung empire, and presumably for more practical reasons too, the high minded historians burned their own drafts.¹⁹

Surprisingly, not on one of the around 15.000 ceramic objects and shards examined until now was found a *kuan*, a potter mark, thus, as yet, leaving us in the dark about the details of their actual provenance; it, however, has to be trusted that an analysis of clays and glazes could encircle possible origins of the ceramics. All wares except vases and kendi are –more-or-less– high-fired stoneware, and while better part of the ceramics obviously displayed a fairly thin green-greyish (and sometimes lightly blue-tinted) ‘celadon’ glaze, in between the bowls and plates examined up to now were found some two dozen unbroken ‘pre-porcelain’ white-wares. It as yet remains unanswerable whether all green-glazed wares were produced at the same kiln(s), but a fair variation in quality and workmanship is obvious and at least indicates the hands of potters of diverse degrees of skill.

Preliminary evaluation of the composition of the classifiable ceramic artefacts reveals that about two-thirds of the items are grouped in some 20 different types of bowls and plates, while half of the remainder consists of roughly half-a-dozen types of jars and jarlets, and a fair collection of ewers (6% to overall numbers), covers and lids (4%), vases and kendi (2%, respect.); a comparison to, e.g., the Nánhàn/Cirebon cargo bares a rather analogous composition of the different types of ceramics. It could be assumed, that both these cargoes –and, additionally, the Intan find

¹⁵ Schafer, E.H. 1954 (2006): *The Empire of Min*. Floating World Editions, Warren, pg.77

¹⁶ *ibid.*: 78

¹⁷ *ibid.*

¹⁸ Guy, J. 1980: *Oriental Trade Ceramics in South-East Asia Ninth to Sixteenth Centuries*. National Gallery of Victoria, Melbourne, pg.14.

¹⁹ Schafer 1954 (2006): xi

mentioned above— represent the average demand of Java's 10th Century markets; however, marked distinctions in glazes and forms of the ceramics most probably would point onto different production sites, and, thus, help to explicate the development and increasing involvement of South China's ceramic industries into the international trade in pottery that became so important under the ensuing Northern and, even more so, Southern Sòng dynasties.

The Research

Assessing a ship wreck's cargo in many an aspect differs from the examination of an archaeological site on land: Particularly regarding trade ceramics, the sheer amount of artefacts does not effectively allow for an approach focussing on 'individual' items, but necessitates the development of methods that eventually could furnish the researcher with means for groupings and categorisations of the recovered objects, aiming at meaningful selections and choices. The salvage company hence invited Indonesia's Agency for Marine and Fisheries Research to develop a tailor-made database that could record measurements and criteria of the various types of potter ware for further computer-based processing. Until now, this database contains around 6,500 individually numbered artefacts plus roughly 28,000 shards, surfaced during the first campaign on sea; it is estimated, that these items constitute around 40% of the whole cargo.

For the time being, measurements are taken off the individually numbered ceramics, recording between 10 (for a bowl) and 17 (for a ewer) different measurements, and up to six form criteria based on the various observable characteristics and attributes of the different types of ceramics. Collection of the data is carried out by senior students of the Department of Archaeology of the Universitas Indonesia, Jakarta, the country's leading academic institution. As assembling of the data is still ongoing, attempts at evaluation are still premature; however, intermittent examinations of the data prove the applicability of a computerised analysis, and outline the possibilities of this novel and coherent approach applied to the Karawang find. An assiduous evaluation of the Karawang find, evidently a comprehensive collection of a trade ware cargo, will thus furnish us with as yet unachieved insights into the various aspects of production processes, market structures and customers' preferences of the 10th century's international commerce in ceramics – a rare view into an arcane period of Asia's History.