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Bagyo Prasetyo
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Truman Simanjuntak



AUSTRONESIAN DIASPORA

A NEW PERSPECTIVE



The National Research Centre of Archaeology
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on Austronesian Diaspora

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BALI IN THE GLOBAL CONTACTS AND THE RISE OF COMPLEX SOCIETY

I Wayan Ardika

Introduction

Recent archaeological discoveries at Sembiran and Pacung in northeastern Bali indicate that contacts between Bali and India, mainland Southeast Asia, and Cina might have had already occurred in the late second century BC. The discoveries of Indian potteries, stone and glass beads, as well as gold foil eye covers at Sembiran, Pacung, and several burial sites such as Gilimanuk, Pangkungliplip, and Margatengah suggest the early contacts between Bali and India. Sembiran and Pacung in Northeastern Bali could be an ancient port or harbour which produced the largest collection of Indian potteries so far in Southeast Asia (Ardika 1991, 2013; Ardika and Bellwood 1991).

Sembiran and Pacung also produced the south Indian coarse dishes, as well as local Indian-style dishes. In Southeast Asia, India style coarse dishes are also known together with Rouletted Ware, from Khao Sam Kaeo and Phu Khao Thong in peninsular Thailand, and Batujaya in north-western Sumatra. To date, the total count of fine Indian sherds from Sembiran and Pacung can be conservatively estimated at over 600, with similar quantity of coarse-fabric sherds of possible Indian manufacture (Calo *et al.* 2015: 383-384, fig. 5j). In addition, Han style paddle-impressed pottery was found at a depth of 3.1 -3.2m at SBN XIX, in association with other wares of possible Mainland Southeast Asian origin (Calo *et al.* 2015: 385).

Han bronze mirrors recently were discovered at the site of Pangkung Paruk in Northwestern of Bali. The bronze mirrors were found at Pangkung Paruk are believed derived from the first century AD, i.e. during the reign of king Ma Huan from Xin dynasty (Eastern Han) who ruled from the year 8 to 23 CE (personal communication with Dr. Hung 2009; Westerlaken 2011: 13). The bronze mirrors at Pangkung Paruk, Northwestern Bali were discovered in sarchopagus A and B as burial goods.

A selection of bronze burial goods, and bronze artefacts from SBN XIX layer 8 have been incorporated within the Southeast Asia Lead Isotope Project. All of the Pacung samples, and one of the Sembiran socketed point are made of leaded bronze. The results indicate that lead isotope signatures are consistent with the bulk of broadly contemporaneous (500 BC-AD 200) leaded bronze Southeast Asia Lead Isotope Project database for Cambodia, Thailand and Vietnam. The lead isotope signatures of the points suggest the melting of imported bronze in Bali for local re-casting.

Indian and Chinese artefacts such as potteries, stone and glass beads, gold foil eye covers, as well as bronze mirrors were found as burial goods. These findings suggest that the demand of foreign prestige artefacts might have increased since the appearance of ranked or complex society in Bali between the first century BC and the first century AD. In addition, the discoveries of several fragments of moulds for casting metal objects indicate the increasing of metallurgy in Bali. It is believed that metal artefacts are most valuable for status symbol in the Balinese society since the raw materials of metal are absent in the island.

Indian Contact with Bali

Archaeological excavations at Sembiran and Pacung in Northeastern Bali brought a new light at the beginning of contacts between India and Bali. Several Indian Rouletted Wares, Arikamedu type 10, Arikamedu type 18, Arikamedu type 141, and a sherd with Kharosthi or Brahmi script was discovered at Sembiran and Pacung in Northeastern Bali. Sembiran and Pacung in Northeastern Bali produced more than one hundred Indian sherds, the largest Indian Rouletted sherds yet found in Southeast so far (Ardika 1991; Ardika et al. 1997: 194). Sembiran and Pacung which are close to the village of Julah could be the ancient harbour or port site in Northeastern Bali (Ardika 2013). A complete rouletted ware bowl has been found at Kobak Kendal in west Java, though to have been part of the kingdom of Taruma (see fig 1). It should be noted that rouletted ware sherds were also discovered recently at Batujaya, West Java (Manguin 2004: 288-289; Djafar 2010: 97, fig. 3.57).

Rouletted ware was manufactured in India and/or Sri Lanka perhaps between 150 BC and AD 200. The earliest rouletted ware probably appeared in Bali and Indonesia in AD 1-200 (Ardika and Bellwood 1991: 229). Some rouletted wares at Sembiran were found in a layer in association with a large black-slipped storage jar tempered with rice husk; this has been dated by AMS radiocarbon to 2660+/-100 BP (Ardika and Bellwood 1991). However, recent excavations at Sembiran and Pacung produced an AMS date obtained from charcoal at 2.9-3.0 m depth at SBN XIX is 142 cal BC-AD 25 (S-ANU 37107). Pacung trench IX, on the other hand, revealed a dense beach cemetery, with more elaborate burial practices, including the use of jar burials and richer burial goods. The sites have produced a cultural sequence starting from the late second century BC for the burials, to the twelfth century AD, a date represented at 2.2 m depth at Sembiran, just below the ash layer. At 95.4% probability, the bayesian model of eight direct AMS dates from the bones of seven Pacung individuals, and one from charcoal closely associated with burial XIII, confirms that the burials started between 163 cal BC and AD 13 and ended between 51 cal BC and AD 137 (Calo et al. 2015: 381).



Figure 1. Rouletted sherds, Arikamedu sherd of type 10, and a complete rouletted ware bowl from Kobak Kendal, West Java

X-ray diffraction (XRD) analysis has been performed on one rouletted sherd from Sembiran IV, four from Anuradhapura, and three from Arikamedu. All have essentially the same mineral: mainly quartz with traces of mica, muscovite, potassium feldspar, and plagioclase feldspar. The XRD result conclusively supports an India origin (Ardika and Bellwood 1991: 224; Ardika 1991; Ardika et al. 1993).

In addition to XRD analysis, nine samples of rouletted wares (two from Anuradhapura, two from Arikamedu, one from Karaikadu [Tamil Nadu], three from Sembiran, and a single sherd from Pacung) have also been subject to neutron activation analysis (NAA) for 20 rare elements. The result indicates that all the rouletted wares are so close in composition with that of the Indian manufacturing source which is suggested for all the samples listed. The rouletted sherd does not separate cluster in principal components and average link cluster analysis from 90% of the presumed Balinese manufacture (Ardika and Bellwood 1991: 224; Ardika et al. 1993).

Apart from rouletted wares, two sherds of Arikamedu type 10 (fig.1) have also been found at Sembiran. Outside Arikamedu, this type of pottery has also been at the site of Chandraketurah in West Bengal, and Alangankulam on the Vaigai river in Tamil Nadu (H.P. Ray pers com; Ardika and Bellwood 1991: 224). No information is at present available on its occurrence elsewhere.

A sherd of Arikamedu type 18 was also found at Sembiran (fig.2). The sherd of apparent Arikamedu type 18c was reported from Bukit Tengku Lembu in Northern Malaya (Sieveking 1962: 29; see fig.2a). An inscribed sherd was found in Sembiran VII. The sherd is black-slipped inside and outside and the fabric is coarser than that of the Rouletted ware, Arikamedu type 10 and type 18. Three characters are clearly visible on the inside surface of this sherd (see fig.2). According to Prof. B.N. Mukherjee of Calcutta University the script is Kharosthi, and his preliminary reading is *te sra vi* (Ardika 1991: 53, fig. 4.4; see fig. 2b). He (Mukherjee 1989 a,b; 1990a,b) believes that a group of people who used the Kharosthi script extended their interests from Northwest India to West Bengal, where they became very active as traders from about the last quarter of the 1st century AD to about the

beginning of the 5th century AD. These traders probably conducted maritime commerce with Southeast Asia and reputedly had accessed to a supply of central Asian horses (Mukherjee 1990a:2).



Figure 2. A sherd of Arikamedu type 18, an inscribed sherd of Kharosthi or Brahmi script, and gold beads from Sembiran

Beads of glass and stone have been found in several Indonesian sites. Glass beads were discovered in several Indonesian sites including Sembiran, Gilimanuk (Bali), Plawangan (central Java), Leang Bua (Flores), and Pasemah (South Sumatra). Five glass beads from Sembiran have been analysed by Kishor Basa at the Institute of Archaeology in London. One of them can be categorised as mixed-alkali glass, and four are potash glass. Basa (1991) believes that the Sembiran beads are similar to south Indian samples in terms of raw materials and were probably manufactured at Arikamedu.

Roman glass has been newly identified in Sembiran (SBM 1919) through chemical data, indicating indirect contact with the Roman world via India, and ²²⁶Ra compositional data from gold and carnelian artefacts suggest a route from the north Indian subcontinent to Indonesia, via mainland Southeast Asia. A red bead with grey striation is made of Roman soda natron glass. Moreover, two drawn beads with gold foil analysed as comparative samples from a cluster of 40 found in a sarcophagus at the site of Pangkung Paruk, to the west of Sembiran, were also made of soda natron glass. These finds constitute the first evidence of Roman materials in a prehistoric context in Island Southeast Asia (Calo *et al.* 2015: 384, 389, fig.8d and 8e).

Indo-Roman commerce had generated a rising demand for exotic and prestigious items of consumption and adornment in the urban civilization of the Mediterranean Basin - that "splendid and trifling" trade in spices, perfumes, precious stones and pearls, silks and muslin, tortoiseshell, ivory, and rhinoceros horns, dyes and unguents, ghee, lac and so on (Bellina and Glover 2004: 70). The demand for exotic products in the west, one need only look at the spice trade and particularly at the trade in cloves, the unopened flower buds of eastern Indonesia. Cloves were already known in China in the third century BC, and were described by Pliny in Rome in the first century AD. At the production end, the trade in cloves, nutmeg and mace transformed Moluccan society from scattered kin-based communities of

hunter-gatherers and shifting cultivations to stratified coastal trading states and petty empires.

Carnelian and gold beads were also discovered in Sembiran. Several prehistoric sites in Bali including Sembiran, Gilimanuk, Nongan, Margatengah, Pujungan, and Ambinarsari produced carnelian beads. Carnelian beads are generally believed to have been imported from India, although some may have been made in Southeast Asia since carnelian scrap occurs in some sites including Kuala Selinsing in West Malaysia.

Gold foil eye covers have been found in several burial and sarcophagus sites in Bali. These sites including Gilimanuk (burial site), Pangkunglipip, and Margatengah (sarcophagus sites). These artifacts were also found at Oton on Panay island in the Philippines and at Santubong in Sarawak (O'Connor and Harrison 1971: 72-73). These gold foil eye covers are similar to artifacts reported from graves at Adichanallur on Tamil Nadu coast (O'Connor and Harrison 1971; Ray 1989: 51).

It is interesting to note is the result of analysis of ancient mitochondrial DNA from the human tooth of Pacung III in Northeastern Bali. The tooth sample is generally associated with haplogroup A which is clearly clustered closest to Indian sequences followed by most Nepalese and Tibetan sequences (i.e., 16240 G. 16261 T) (Lansing et al. 2004: 288-90). AMS radiocarbon analysis of the tooth indicates its age as 2050 \pm 40 BP (conventional radiocarbon age 2110 \pm 40 BP) (Lansing et al. 2004: 288). In addition, preliminary results of Y-Chromosome data were taken from a sample of 551 modern Balinese men indicate significant prehistoric connections between India and Bali (Karafet et al. 2005).

Early Contacts between Bali, Mainland Southeast Asia and China

New chemical composition data for glass beads and bracelets excavated in 2012 from a burial context and directly above it at Sembiran and Pacung indicate strong links to Vietnam and, to a lesser extent, elsewhere in Mainland Southeast Asia, India and the Roman world. Some 119 out of a total of 759 samples from Sembiran (SBN) XIX, and 33 out of a total of 361 from Pacung (PCN) IX, plus comparative samples from broadly contemporaneous sites in northern Bali have been analysed using Laser Ablation Inductively Coupled Plasma Mass Spectrometry in the Institut des Recherches sur les Archeomateriaux of the Centre National de la Recherche Scientific (CNRS), Orlean, France.

Eighty per cent or more of the analysed samples from both Sembiran and Pacung were potash glass, compositionally similar to the low-lime potash glass (mKA) which is most strongly associated with Dong son sites, and the moderate-lime, moderate-alumina potash glass (mKCA) associated with Sa Hyunh and Dong Nai sites in Vietnam. Potash (potassium oxide) silica glass of at least three types was most common in Mainland Southeast Asia from the fourth to the second century BC, although with the occurrence of North Indian high-

alumina, high-uranium soda glass at Khao Sam Kaeo and Ban Don Ta Phet (Calo *et al.* 2015: 388, fig 9).

Two volcanic tuff moulds were discovered at Sembiran, one is for a Pejeng drum found in 1989, and the other one is for a socketed axe found in 2012. Both were found in the same layer. The first stone mould was carved with geometric motives typical of the decoration on Pejeng type bronze drums (Ardika 1991; Ardika and Bellwood 1991). Similar stone mould is still kept at the Pura Puseh temple at the village of Manuaba, Gianyar (figure 3).

The second stone mould was excavated in SBN XIX layer 8, which corresponds to the layer where Ardika found the first mould in SBN VII. The conical mould was analysed using portable XRF, and its surface give significant reading for copper, tin and lead, exceeding those detected in the associated soil. The conical shape suggests that it would have been used in the lost-wax casting of socketed bronze axe of Soejono type Vb (Calo *et al.* 2015: 389-390, fig. 10).

The selection of bronze burial goods, and bronze artefacts SBN XIX layer 8 have been incorporated within the Southeast Asia Lead Isotope Project. All of the Pacung samples, and one of the Sembiran socketed point are made of leaded bronze. The results indicate that lead isotope signatures are consistent with the bulk of broadly contemporaneous (500 BC- AD 200) leaded bronze Southeast Asia Lead Isotope Project database for Cambodia, Thailand and Vietnam. The lead isotope signatures of the points suggest the melting of imported bronze in Bali for local re-casting.

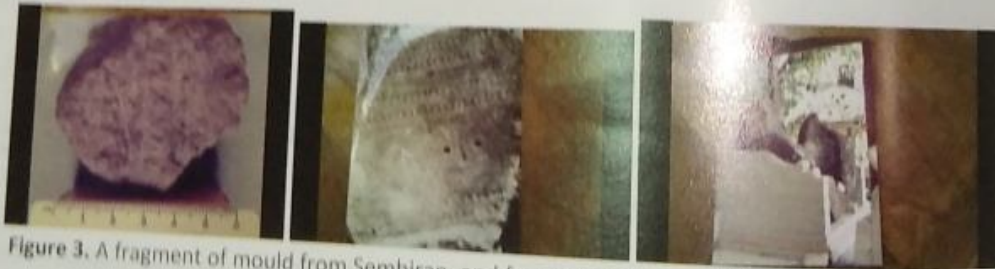


Figure 3. A fragment of mould from Sembiran, and fragments of a mould kept at Manuaba village, Gianyar regency

Archaeological discovery at Pangkung Paruk, in Northwestern Bali produced evidence of the earliest contacts between Bali and China. Two bronze mirrors were found as burial goods in the sarcophagus A and B on the site of Pangkung Paruk, Seririt District, Buleleng Regency during recent excavations by the Balai Arkeologi Denpasar. The bronze mirrors probably originated from Xin dynasty (Eastern Han) under King Wang Mang, who ruled from the year 8 to 23 CE (personal communication with Dr. Hung 2009; Westerlaken 2011: 13).



Figure 4. A Completed and broken bronze mirrors from Pangkung Paruk, Seririt, Buleleng (Northwest Bali)

It is interesting to note that new evidence of Han-style pottery was found in SBN XIX during the excavation program in 2012. This pottery was found at a depth of 3.1-3.2m, in association with other wares of possible Mainland Southeast Asian origin (Calo 2015: 385, fig. 6a).

Stratified or Ranked Society in Bali

Indian artifacts such as gold foil eye covers, glass and stone beads have also been discovered as burial goods at the sarcophagus burials in Bali. These artifacts are believed to be manufactured in India, and these might have been utilized as status symbol by the local elites in Bali.



Figure 5. Showing different types of burials: sarcophagus, bronze drum (centre), and without container

Social stratification or ranking in the Balinese society was manifested in the burial systems during the beginning of Indian contact with Bali. Some individuals were buried in the sarcophagi, jars or even in the bronze drum. However, other individuals were buried directly in the ground without containers (Ardika 1987). Social differentiation was reflected in the different types of burial systems (see figure 5). Hegemony and hedonism might have been practiced in the Balinese society during the beginning of contact between India and Bali. Imported goods such as Indian artifacts show higher status for the owner than the local ones. Only the elites of the Balinese people might have had access to obtain such valuable artifacts.

The Balinese society at the beginning of Indian contact has already practiced metallurgy and produced artifacts such as bronze drums and axes with unique forms. The raw material of metals including copper and tin are not available in Bali. Therefore, these materials could have been obtained from other islands or regions in Southeast Asia. In other words, Bali has involved in long distance trade during the late second century BC.

The local elites of the Balinese society could be very active at the beginning of Indian contact with Bali. The local elites of the Balinese society search for imported products for their status symbol, even ideology beyond them.

The distribution of sarcophagus burials and inscriptions of early Hinduism and Buddhism in Bali between the 8th and 9th century AD are overlapped (Ardika 1987: 45; fig. 4.1). This phenomenon suggests that the development of social complexity in Bali was a continuous process. The local elites of pre-Hinduism and Buddhism adopted and adapted Hindu and Buddhism ideologies for their status symbols.

Contacts between India and Bali might have also involved Buddhism and Brahmanical priests. The epigraphic sources dated from the 8th to 11th century also indicate close relationship between Bali and India. Bali also produced hundreds of clay stupas which have been found at Pejeng and Blahbatuh villages, Gianyar regency, and Kalibukbuk in Buleleng regency, in the northern coast of Bali. The stupas contain certain tiny seals, in pairs, covered up with lumps of clay. The seals are stamped with a well known recitation of faith, so called *ye-te* formula. Similar clay seals and stupas were also discovered near Borobudur in Central Java (Kempers, 1991: 95-96). The texts on seals are in Siddhamatrka script. On the basis of palaeography, the date of the seal is estimated from 800 to 1000 AD (Griffiths, 2014: 183; fig. 12). Two pieces of gold foils, a silver foil bearing a few *aksaras*, and a terracotta tablet bearing *ye dharma* formula were discovered during the preparation for reconstruction of Pura Pagulingan, at Tampak Siring, Gianyar regency. The foundations of Pura Pagulingan showed an octagonal groundplan.



Figure 6. Clay stupas, dhyani Buddha and seals *ye dharma* stored at Museum Bali

The appearance of *dharanis* and *mantras* in Bali suggests that the island is an integral part of the ancient Buddhist world. Griffiths (2014: 186) argues that the text used in this part of Buddhist world must have been quite similar to the texts that were used in other Buddhist countries.

It is interesting to note that the Balinese inscriptions dated from the late 10th up to 11th century mentioned several places names in India such as Waranasi, Nalanda, and Amarawati. These places names were associated with court of justice, high functionary, the residence of Buddhist priests, and the name of a shrine or a sacred place.

The inscription of Sembiran B dated from Saka 873 or AD 951 states III.2. ...*da dikara di panglapuan di waranasi tuha dara* (Goris, 1954: 72-73; Ardika and Beratha, 1996: 106). It is translated as follows: the honorable *Dhikara* (functionary) of court of justice at Waranasi is Tuha Neko.

The term Nalanda was first mentioned in the inscription of Serai All, dated from Saka Baranasi/Waranasi is Tuha Dara. The inscription of Gobleg, Pura Desa II dated from Saka 905 or AD 983 mentioned IV.2. ...*da senapati waranasi tuha neko*,... (Goris, 1954: 79; Ardika and Beratha, 1996: 123). Translation: the high functionary or army commander (*Senapati*) at the year of 915 or AD 993. The inscription stated as follows: Va. 5. ...*mpungku di nalenda dang upadhyaya dhanawan* or the Buddhist priest at Nalenda (Nalanda) was Dang Upadhyaya (*honorefic* teacher) Dhanawan (Goris, 1954: 83; Ardika and Beratha, 1996: 135-136). It is interesting to note that Tuha Gato was mentioned as *Senapati* at Waranasi in this inscription. On the basis of the inscription of Gobleg, Pura Desa II dated from AD 983 and the inscription of Serai All, dated from AD 993 that Tuha Neko was replaced by Tuha Gato as *Senapati* (army-commander or high functionary) at Waranasi.

The inscription of Bwahan A dated from Saka 916 or AD 994 noted that the Buddhist priest at Nalanda was Dang Upadhyaya Dhanawan and the Buddhist priest at Waranasi was Dang Acaryya Sucandra (Goris, 1954: 86; Ardika and Beratha, 1998: 35). This inscription indicates that Nalanda and Waranasi were residence of Buddhist priests. Further more, the inscription also mentioned Brahmanical priests (*kasaiwan*) as well as Buddhist priests (*kasoghatan*) were members of court functionaries.

The inscription of Tengkulak A dated from Saka 945 or AD 1023 mentioned the hermitage (*katyagan*) at Pakerisan river called Amarawati (Ginarsa, 1961: 4-8 ; Ardika and Beratha, 1998: 86). The Balinese inscriptions indicate that the Indian places names such as Waranasi, Nalanda, and Amarawati were transferred to the local place in Bali. These places are associated with the centre of Buddhism in India. Amarawati was the Buddhist influence site in the lower Krishna valley under the Mauryas (Ray, 1994: 140). However, it is still not clear whether the Balinese might have visited to the Buddhist centres such as Waranasi, Nalanda, and Amarawati and other places in India or they knew the places cognitively? New data from India or Bali are needed for further studies.



Figure 7. Stupa Pagulingan and Gunung Kawi rock arts

Archaeological evidence that was discovered at Sembiran and Pacung indicate revolutionary process involving different types of cultural interaction that led to the formation of Indic-based state in Bali by the first millennium AD.

Conclusions

Global contacts with India, mainland Southeast Asia, and China have stimulated the appearance of complex society in Bali. Imported artefacts such as potteries, glass and stone beads, gold foil eye covers, metal objects were utilized as status symbols by elites of the Balinese society. In addition, contacts between Bali and mainland Southeast Asia also triggered the existence of early metallurgy in the island.

The second waves of contact between Bali and India might have occurred around 800 AD. The existence of clay stupas which contain *dharanis* and *mantras* in Bali suggests that the island is an integral part of the ancient Buddhist world. It is believed that the text used in this part of Buddhist world must have been quite similar to the texts that were used in other Buddhist countries.

At the late 9th century AD, Indic-based state appeared in Bali. It is interesting to note that several Indian places' name such as Waranasi, Nalanda, and Amarawati were transformed to local places in Bali. The phenomena suggest the intensity of contacts between India and Bali occurred in the 9th century.

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