The Sa Huynh Culture in Ancient Regional Trade Networks: A Comparative Study of Ornaments

Nguyen Kim Dung

Research on the Sa Huynh culture (ca 2500–1980/1800 BP) has been ongoing for more than a century, since the Sa Huynh site was discovered and excavated by French archaeologists in 1909. Hundreds of Sa Huynh jar-burial sites have been discovered from the coastal plains to the inland highlands and offshore islands in Central and Southern Vietnam. Numerous significant ritual objects and ornaments have been recovered in association with the jar burials and provide evidence for the wide geographic distribution of trading contacts across Southeast Asia during the Sa Huynh Period. This paper focuses on a comparative study of ornaments manufactured from semi-precious stone, metals and glass recovered from Sa Huynh jar-burial sites with those from contemporary sites across Southeast Asia and demonstrates how Sa Huynh society played a significant role in regional trade networks during the Iron Age.

Introduction

During the early Iron Age (ca. 2500–1900/1800 BP), Vietnam was geographically divided by three well-known cultures: Dong Son in the north, Sa Huynh occupying the central regions and Oc Eo in the south. The cultural influence of Sa Huynh extended from Hue in the north to the northern fringes of the Mekong Delta in the south (Dong Nai Province and Ho Chi Minh City), and from the coastal plains to the interior highlands (Pham 2009; Lam 2011). Trade and exchange networks extended from the Sa Huynh region of influence, not only to their Dong Son and Oc Eo neighbours, but more broadly across Southeast Asia (SEA). These exchange networks are a key characteristic of the Sa Huynh culture and span the period from its early formation and development in the Bronze Age (3000–2500 BP) through to the period of Typical Sa-Huynh (ca. 2500–1900/1800 BP), preceding the rise of Cham society in the first millennium AD (1900–1500 BP; C.Q. Vu 1991; Lam 2008, 2009).

Figure 18.1 Map of Southern and Central Vietnam showing the general locations of the pre-Sa Huynh and Sa Huynh sites discussed in the text (1. Sa Huynh, Phu Khuong, Thanh Duc; 2. Long Thanh, Dong Cuom; 3. Phu Hoa, Dau Giay, Suoi Chon, Hang Gon; 4. Go Dinh, Hon Do; 5. Dai Lanh, My Tuong, Go Mun; 6. Con Rang; 7. Pa Xua; 8. Tam My; 9. Go Dua, Binh Yen, Que Loc; 10. Go Ma Voi; 11. Hua Xa I and II, Lai Nghi, An Bang; 12. Xom Oc, Suoi Chinh; 13. Go Que; 14. Hoa Vinh, Bau Hoe; 15. Giong Ca Vo, Giong Phet; 16. Giong Lon, Giong Ca Trang; 17. Hoa Diem).

Source: Redrawn by Philip Piper from an original by Hoang (2010): map of Southeast Asia (top right) modified from a Created with GMT from publicly released GLOBE data by Sadalmelik image.

Probably the most significant trade and exchange networks in SEA developed in the Bronze Age or even earlier during the Neolithic and involved maritime crossings of the South China Sea, or East Sea in Vietnamese (Ha 1998; Ngo 1987). By the beginning of the Iron Age (*ca.* 2500 BP), coastal connections became more evident as exchange intensified across the region and established the foundations for the long-distance trading networks that connected China and SEA with India and the Mediterranean.

The integration of the Sa Huynh culture within these maritime networks was first suggested by Wilhelm Solheim II who recognised the strong similarities between Sa Huynh and Kalanay pottery in the Philippines with the distinctive two-headed animal (bicephalous) ear pendants and penannular tri-projection earrings that are found both in Vietnam and across SEA (Solheim 1957, 2002). As a result, Solheim (1964, 2006) promoted the concept of the Nusantara Maritime Trading and Communication Network. Similarly, Loofs-Wissowa (1982), Higham (1989), Glover (1990), Bellwood (1997), Bellina and Glover (2004), and Hung et al. (2007, 2013) have all developed hypotheses orientated around various aspects of maritime interaction that have included the Sa Huynh culture.

The following discussion is a culmination of research on Sa Huynh material cultural remains by the author since 1995, including the excavations at Giong Ca Vo and Giong Phet (Nguyen K.D. 1995, 2001). This typological study of Sa Huynh ornamentation focuses on the geographic distribution of specific types of jewellery commonly found associated with jar burials in central Vietnam manufactured from semi-precious stone, glass and gold, with special reference to two very typical Sa Huynh ornaments: the tri-projection penannular earring and the bicephalous ear pendant (Nguyen K.D. 2010a, 2010b). The study demonstrates that societies within the Sa Huynh sphere were firmly integrated into transregional trading networks extending from China in the east, across SEA as far west as the Indian subcontinent. It illustrates that communities within the Sa Huynh culture not only imported a variety of ornaments and raw materials for their local production from a diversity of sources, but were also an important contributor to the exchange networks, not only exporting their own distinctive ornamental types but also the techniques used in their production.

Sa Huynh jar-burial sites and ornaments

One of the best known and key features of Sa Huynh, which has drawn the attention of many Vietnamese and international scholars (Solheim 1964; Loofs-Wissowa 1982; Ngo 1987; C.Q. Vu 1991; Glover 1996; Ha V.T. 1998; Bellina 2003; Yamagata 2006; Hung et al. 2007; Lam 2008; Hung and Bellwood 2010), are the hundreds of burial sites containing thousands of inhumations within large jars excavated across central and Southern Vietnam (see Figure 18.1). In addition to the burials, these sites have also produced a wide variety of other material culture that includes objects related to daily life and ritual, including bronze and iron implements, pottery and ornaments of various types, either placed within the jars (with the body) or buried adjacent to them. A diversity of imported articles is included within this burial repertoire (Nguyen K.D. 1995, 1998, 2014; Lam 2008) that includes Indo-Pacific glass beads, siliceous stone beads and metal (Hung and Bellwood 2010; Hung et al. 2013).

Ornaments were first discovered during the earliest archaeological excavations at Sa Huynh jar-burial sites by French archaeologists in the early twentieth century, at the type-site of Sa Huynh, as well as Phu Khuong and Long Thanh (Parmentier 1924: 325–343; Colani 1935; Figure 18.1), and later at Phu Hoa, Dau Giay and Suoi Chon in Dong Nai Province (Fontaine and Hoàng 1975; Figure 18.1). In total, French researchers investigated more than 20 Sa Huynh sites and identified more than 1,000 jar burials. For example, in 1903 Labarre uncovered 120 jar burials

at the site of Thanh Duc (Figure 18.1), and a further 120 at Phu Khuong. In 1923, Colani excavated 55 jar burials at Long Thanh (see Parmentier 1924: 325–343) and 187 jars at Phu Khuong and Thanh Duc in 1934 (Colani 1935). Large collections of ornaments from these sites are curated and stored in the National Museum of History in Hanoi and in Ho Chi Minh City.

Over succeeding years, hundreds of Sa Huynh sites have been discovered and excavated in central Vietnam and associated ornaments have been abundantly recovered. Two of the most significant centres of Sa Huynh Culture are Quang Nam and Quang Ngai Provinces. In these provinces, Sa Huynh sites are not only located along the coast, but have also been identified inland adjacent to large rivers, and even in the mountainous highlands. The coastal provinces of Binh Dinh, Ninh Thuan and Binh Thuan have also produced many Sa Huynh jar-burial sites. These areas are also well known for their remarkable pre-Sa Huynh Period sites such as Hon Do, My Tuong and Go Dinh (Figure 18.1).

Due to the considerable number of sites excavated, and the thousands of ornaments collected, a cross-section of sites and artefacts is discussed below, with additional information presented in Tables 18.1 and 18.2. The artefacts illustrate the diversity and temporal and spatial distributions of different types of material culture associated with the Sa Huynh burials.

Table 18.1 Summary data on sites with ornaments that are discussed in the text.

Site	Location	Year(s) excavated	Excavated area	No. of jar burials	Comments	Reference
Con Rang	Hue	1993, 1995, 2004	2422 m ²	243	8 ear plugs	Bui et al. 2008
Dai Lanh	Quang Nam	1977		About 100		Trinh 1982
Pa Xua	Quang Nam	1985	86 m ²	60–70		Q.H. Vu 1991a
Tam My	Quang Nam	1977	About 300 m ²	24		Trinh and Pham 1977
Binh Yen	Quang Nam	1999	35 m ²	8		Bùi and Yamagata 2004
Go Ma Voi	Quang Nam	1998–2000	242 m ²	60	1 Taiwan nephrite lingling-o	Reinecke et al. 2002
Go Dua	Quang Nam	1999	16 m ²	6		Lam 2008
Lai Nghi	Quang Nam	2002–2004	192 m ²	59		Nguyen T.B.H. 2012
Hua Xa 1 & II	Quang Nam	1993–1994		30		Tran 2004
Suoi Chinh	Quang Nai	2000, 2005	52 m ² (2000), 28 m ² (2005)	6 (2000), 3 (2005)		This contribution
Go Que	Quang Nai	2005	2,000 m ²			This contribution
Dong Cuom	Binh Dinh	2003	300 m ²	50		Pham 2009
Phu Hoa	Dong Nai	1971, 1972, 1975		46		Fontaine and Hoàng 1975
Hang Gon	Dong Nai	1963		62		Saurin 1963
Suoi Chon	Dong Nai	1977–1979	133 m ² (1978), 50 m ² (1979)	16		Q.H. Vu 1991b
Giong Ca Vo	Ho Chi Minh (HCM) City	1993–1994	255 m ²	339	1 square blank, 1 discoid core	Nguyen K.D. 1995, 2001
Giong Phet	HCM City	1993	45 m ²	82		Nguyen K.D. 1995, 2001
Giong Lon	Vung Tau	2003, 2005	544 m ²	8	Later than Giong Ca Vo and Giong Phet	Q.H. Vu et al. 2008

Source: N. Kim Dung.

Con Rang (Figure 18.1) is a jar-burial site located in Hue City. Over 240 jar burials were identified within the *ca.* 2,400 m² area of excavation. Ornaments associated with the burials include numerous carnelian and shell beads, flat and thin (Dong Son-style) slit rings (12 pieces), five tri-projection lingling-o earrings, two bicephalous ear pendants and 40 small cylindrical beads (Bui et al. 2008).

Dai Lanh (Figure 18.1) is probably the most interesting of the 34 Sa Huynh jar-burial sites so far identified in Quang Nam Province. The site is located in Dai Lanh village, Dai Loc district. About 100 jar burials have been found in the site. The ornaments recovered include numerous carnelian, agate and glass beads and 13 small gold beads, together with three and four projection glass earrings, more than 30 tri-point lingling-os and two-headed animal earrings, Dong Son-style slit rings and many small cylindrical beads, including 25 manufactured from jade (Trinh 1982). Pa Xua (Figure 18.1) is also located away from the coast at an elevated location in Giang District. The remains of up to 70 broken jars that had been destroyed by local people searching for carnelian beads were identified within the *ca.* 100 m² excavated area. Lingling-os and bicephalous ear pendants of jade/nephrite, Dong Son-style slit rings and numerous carnelian and glass beads as well as iron implements were all recovered (Q.H. Vu 1991a).

At Tam My (Tam Ky – Quang Nam; Figure 18.1), excavated in 1977, 24 jar burials were unearthed, and associated with these were two lingling-os, three bicephalous ear pendants and six Dong Son-style slit rings, beads manufactured from a variety of raw materials and some Indo-Pacific trade beads, together with an iron implement (Trinh and Pham 1977). Jar Burial 97BYH2M1 at the site of Binh Yen (Que Phuoc, Que Son; Figure 18.1) was excavated in 1999. It produced one jade lingling-o, 30 carnelian beads, 75 glass beads and 80 Indo-Pacific beads. Associated with the inhumation in Jar 97BYH2M1a were two jade lingling-os, eight banded agate beads, 19 carnelian beads and 24 glass Indo-Pacific beads. No bicephalous ear pendants were recovered (Bùi and Yamagata 2004). The ‘Typical’ Sa Huynh site of Go Ma Voi in Duy Xuyen District (Figure 18.1) was excavated three times between 1998 and 2000, covering a total area of 242 m². In addition to the 60 jar burials unearthed, more than 2,000 ritual objects were discovered including pottery, ceramic bowls and lamps, and numerous bronze and iron axes. Ornamental articles included a large quantity of carnelian, glass and gold beads, several clay and three jade lingling-os, and Dong Son-style slit rings (Reinecke et al. 2002).

The site of Go Dua (Figure 18.1), in Thu Bon village, Duy Tan Commune, Duy Xuyen District is considered to be associated with the final phases of the Sa Huynh Culture in the Thu Bon River valley. A 16 m² excavation in 1999 produced six ‘high jar burials’, similar to those recorded at Dai Lanh and Hau Xa II (held at the Museum of Sa Huynh and Champa in Duy Xuyen district, Quang Nam Province). Besides ritual pottery, a Han Dynasty bronze mirror, bronze bowl and iron implements, several carnelian, glass and one jade lingling-o were recovered along with one flat jade Dong Son-style slit ring (Lam 2008). A rather special site within the Hoi An City area is Lai Nghi (Dien Ban District; Figure 18.1) where an excavated area of 192 m² dug between 2002–2004 produced 59 jar and six extended burials. The discovery of a collection of Eastern Han Dynasty bronze coins, a mirror and container date the site to between the third century BC and first century AD (corresponding to *ca.* 2200–1900 BP). This site produced an exceptional number of jade ornaments, including 20 jade Dong Son-style slit rings together with six complete and three fragments of lingling-os and more than 50 cylindrical beads. In addition, more than 10,000 gold, glass, carnelian and agate beads were recovered. Trading contacts with the west, including India and beyond, are evidenced through the presence of a bird pendant manufactured from crystal, a tiger pendant of carnelian, alkali-etched and gold plate glass beads, and glass collared beads (Nguyen T.B.H. 2012: 53–54). A group of 30 jar burials were found at the sites of An Bang, Hua Xa I & II and Dong Na (Figure 18.1) in Hoi An City in 1996. According to the

excavation records, more than 2,121 ornaments were unearthed including 1,279 manufactured from jade, 637 of glass and several in carnelian, plus nine tri-projection earrings (four of jade and five of glass) (Tran 2004).

In Quang Ngai Province, a number of other sites have produced jade ornaments such as Long Thanh, the upper layers at Phu Khuong, Xom Oc and Suoi Chinh (Figure 18.1). So far, some 30 jade earrings have been found including bicephalous ear pendants, lingling-os, Dong Son-style slit rings and hundreds of cylindrical beads. The two largest assemblages have come from Sa Huynh itself, and Go Que (Figure 18.1). Along with typical beads and ornaments these sites have also produced four-projection circular earrings and flat, square-surfaced slit earrings.

Madeleine Colani initially excavated Dong Cuom in Binh Dinh Province in 1934, under the site name of Tang Long (Figure 18.1). More recent investigations in 2002 conducted by the National Museum of History, Hanoi, uncovered 62 burials in an area of 300 m². Included was Jar Burial 03DC.H1M20, which produced a pair of small jade lingling-os associated with 766 glass Indo-Pacific beads, and Burial 03DC.H1M21, which also contained a small jade lingling-o (Pham 2009).

The eastern part of Southern Vietnam possesses a special group of Sa Huynh Culture sites such as Bau Hoe, Hoa Vinh (Binh Thuan); Hang Gon, Dau Giay, Phu Hoa, Suoi Chon (Dong Nai Province, Figure 18.1); Giong Ca Vo, Giong Phet (Figure 18.1) and 12 other sites (Ho Chi Minh City); and Giong Lon (Ba Ria-Vung Tau, Figure 18.1). These are primarily located on low-lying landscapes in close proximity to the coast adjacent to the two most important maritime transportation routes of the Sai Gon and Dong Nai estuaries. Together the sites provide a continuous cultural sequence dating from *ca.* 2500 to 1850 BP (the first or second century AD). The archaeological sites can be divided into three phases: the Early Period (*ca.* 2500–2300 BP) represented by Suoi Chon, Phu Hoa, Hang Gon, Dau Giay; the Middle Period (*ca.* 2400–2100 BP) with Giong Ca Vo and Giong Phet; and the Late Period (*ca.* 2100–1700 BP) of Giong Lon and Giong Ca Trang (Figure 18.1). These later phase sites already have material culture characteristics typically found in succeeding Oc Eo societies.

Phu Hoa (Xuan Loc, Dong Nai) was discovered in 1961 by H. Fontaine and Hoàng, but only excavated in three seasons between 1971 and 1975. Forty-six jar burials were unearthed and produced 6,000 beads of carnelian, agate, crystal, glass and gold. Jade ornaments include two bicephalous ear pendants, six tri-projection earrings and four cylindrical bracelets. Two radiocarbon samples analysed at the Centre des Faibles Radioactivités (CFR Paris) on charcoal from Burial No. 11 and pottery from Burial No. 13 produced dates of 2400±140 BP and 2590±290 BP respectively (no lab codes; Fontaine and Hoàng 1975). The dates respectively correlate to 2778–2121 BP and 3399–1991 BP at the 95 per cent confidence interval (Oxcal 4.2; Bronk Ramsey 2015).

The site of Hang Gon (also known as Suoi Da), Xuan Loc District, Dong Nai Province produced 62 jar burials with a rich assemblage of gold earrings, a jade bicephalous ornament, small jade beads and five conical-shaped clay earrings with parallels at Giong Ca Vo. Two C¹⁴ charcoal samples analysed at CFR Paris produced dates of 2300±150 BP and 2190±150 BP (Saurin 1963), which respectively calibrate to 2738–1995 and 2700–1830 BP at the 95 per cent confidence interval (Bronk Ramsey 2015). Suoi Chon, also in Xuan Loc was excavated in 1977, 1978 (133 m²) and 1979 (50 m²). Two cultural layers were identified, with eight jar burials distributed in the upper horizon. Two typical jade lingling-os associated with a further tri-projection earring with long projections and glass bracelets were recovered (Q.H. Vu 1991b).

In the coastal regions of Ho Chi Minh City, the excavations at the Giong Ca Vo and Giong Phet jar burial sites have supplied the largest collection of ritual objects including a diverse range of pottery, iron or bronze tools and ornaments. Giong Ca Vo was first discovered and investigated

in 1993 when 25 m² of the site was excavated, with a further 300 m² dug in 1994. A total of 339 jar-burials, of which 306 contained human skeletons, and 10 extended burials were unearthed. This site has also produced the largest collection of Sa Huynh ornaments (3,474 items), which includes 3,000 beads manufactured from carnelian, jade, garnet, agate, rock, crystal, tektite, glass, shell, gold and clay. There were 465 glass, 289 jade and shell and 27 bronze bracelets, a gold finger ring, gold beads and gold plate, 27 bicephalous pendants (19 of jade and eight of glass) and seven tri-projection lingling-os (Dang and Vu 1995; Dang et al. 1998). The most remarkable discoveries were the jade ornaments found in association with over 2,000 semi-precious stone and glass beads, 26 gold ornaments, and a carnelian lingling-o. In addition a square 'blank' of jade 5 cm² in area and 4 cm thick was found together with a discoid core with perforation traces at both ends, another thin broken flat blank and a jade object resembling a knife. A single C¹⁴ sample (material not listed) produced a date of 2350±60 BP (ANU-10372), which calibrates to 2700–2161 BP at the 95 per cent confidence interval (Nguyen K.D. 1995, 2001).¹ Giong Phet, close to Giong Ca Vo and Ho Chi Minh City, was investigated in 1993. Eighty-two jar burials were identified in the 45 m² of excavation. The site produced jade bicephalous earrings, three bracelets, 55 cylindrical beads and hundreds of Indo-Pacific glass and semi-precious stone beads. A C¹⁴ assay on charcoal returned a date of 2230±60 BP (ANU-10373; Dang et al. 1998), which calibrates to 2352–2069 BP at the 95 per cent confidence interval (Bronk Ramsey 2015).

Table 18.2 Jade ornament typology and presence of raw jade at the sites discussed in the text.

Site	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Raw jade
Con Rang	2	5		12		40		
Dai Lanh	42*	6	1	5	1	25	2	Present
Pa Xua	3	2		2				
Tam My	3	2				6		
Binh Yen		7		5	1			
Go Ma Voi		3		Some				
Go Dua		1		1				
Lai Nghi		9**		20	1	400		
Hua Xa 1 & II		4		3	1			
Suoi Chinh		1		2				
Go Que	Present	2	3	12	1	Some	6	
Dong Cuom		3		3		5		
Phu Hoa	2	6		30	4	Some	4	
Hang Gon	1	2				Some		
Suoi Chon	Present	2		2		Some		
Giong Ca Vo	46***	7		1****		608	28	Present
Giong Phet	2	1		3	2	5	2	
Giong Lon						Some	12	

* 17 Type 1a, 1b and 25 Type 2b ornaments.

** 6 complete and 3 broken pieces.

*** 19 Type 1a, 1b and 27 Type 2a and 2b ornaments.

**** Made of glass.

For references to sites, see Table 18.1.

Source: N. Kim Dung.

¹ This date would appear to be the date of 2480±50 BP on charcoal published in Nguyen (2001). At around that time, The Australian National University Radiocarbon Dating Laboratory was using a slightly inaccurate method for measuring radiocarbon ages, which were corrected in recalibrated dates subsequently issued by the laboratory to the sample submitters (editors).

The site of Giong Lon (Ba Ria – Vung Tau) was discovered in 2002 and excavated twice in 2003 (344 m²) and 2005 (200 m²). The excavations produced five jar burials and 49 extended burials, and a total of 2,034 ornaments manufactured from a variety of different materials. This includes 178 gold beads, 15 gold objects (including three human faces), four gold earrings similar to those found at Lai Nghi (Quang Nam) and Prohear (Cambodia), two other earrings in different styles and 12 jade cylindrical tube bracelets. Two C¹⁴ dates (material not specified) at depths of 0.7 m and 1 m below modern ground surface produced dates of 2220±70 BP (03GL HII M1 – HNK-188/2) and 2680±55 BP (03GL HII M2 – HNK-188/1), which respectively calibrate to 2921–2734 and 2352–2045 BP (Bronk Ramsey 2015).

Figure 18.2 Types of jade/nephrite ornaments recovered from Sa Huynh burials.

Type 1. Two-headed (bicephalous) animal earring. Plate 1, Type 1a from Phu Hoa. Plate 2, Type 1b from Giong Ca Vo.

Type 2. Three-projection earring. Plate 3, Type 2a, from Go Ma Voi. Plate 4, Type 2b, from An Bang.

Type 3. Four-projection earring. Plate 5, from Sa Huynh.

Type 4. Dong Son-style slit ring. Plate 6, from Go Dua.

Type 5. Square-shaped earring. Plate 7, from Sa Huynh.

Type 6. Cylindrical bead. Plate 8, from Giong Ca Vo.

Type 7. Bracelet. Plate 9, from Giong Ca Vo.

Type 8. Square blank raw material. Plate 10, from Giong Ca Vo.

Source: Photographs by N. Kim Dung.

Both these dates are considered unreliable in view of a feature that makes Giong Lon distinctive from the other sites mentioned above, namely that it produced no bicephalous or tri-projection jade earrings so characteristic of Sa Huynh sites (Table 18.2). In this respect it is very similar to Hoa Diem in Khanh Hoa Province (Figure 18.1), which dates from around 1850 BP (the second century AD) onwards. Perhaps this indicates that from the second century AD, the typical jade

earrings of Sa Huynh had dropped out of favour in the ancient trading networks of the region (but see Yamagata and Matsumura, Chapter 19, this volume, for a different interpretation of Hoa Diem).

Typology of Sa Huynh jade

The thousands of jade objects recovered from hundreds of Sa Huynh sites have been analysed and classified into seven types of ornament and one raw material type (Nguyen K.D. 1995, 2007a, 2014).

Ornaments

Type 1: Two types of bicephalous (animal-headed) ear pendants can be distinguished. The Type 1a (Figure 18.2, Plate 1) animal heads have a thick and fat body, short face and horns, with an almost circular-shaped eye without eyelashes. The ear fitment is curved and short. This type of earring has been recovered from sites such as Suoi Chon, Phu Hoa, Giong Ca Vo, Giong Phet and Dai Lanh. The Type 1b (Figure 18.2, Plate 2) animals have a small, thin body section and long, slightly curved horns with eyelashes carefully crafted over both eyes. The curved hook that fits to the ear is often angular. This type is represented in many sites such as Giong Ca Vo, Dai Lanh, Khuong My, Suoi Chon and Go Que.

Type 2: The penannular tri-projection lingling-o can be separated into two distinctive types. The Type 2a (Figure 18.2, Plate 3) lingling-o is large in size and relatively heavy with a round ball-shaped body and short projections. The distribution of this type seems to be limited to the sites of Go Ma Voi and Hau Xa II. The Type 2b (Figure 18.2, Plate 4) version has a flat body, and the distance from the butt end of the ear fitment to the central projection is greater than the distance from the left projection to the opposing right one. This type is sometimes called the 'pear' shaped lingling-o. Almost all Sa Huynh sites have this type. Considerable numbers have been found at Dai Lanh, Sa Huynh, Lai Nghi and Binh Yen.

Type 3: Earrings with four short pointed projections (Figure 18.2, Plate 5) are significant in that they have been recovered both in the pre-Sa Huynh sites of Long Thanh and Hon Do, and a few Sa Huynh sites such as Sa Huynh itself, Go Que and Dai Lanh.

Type 4: Dong Son-style slit rings (Figure 18.2, Plate 6) have been recovered in their hundreds across a diversity of Sa Huynh sites. Most jade slit rings found in Sa Huynh cultural sites have flat, thin cross-sections, with parallel lines incised on the body such as those unearthed at Lai Nghi, Hau Xa and Sa Huynh.

Type 5: Slit rings with square, flat surfaces and a thin section are generally very small in size (2 cm²). They possess a narrow hole in the middle, a V-shaped cross-section and have manufacturing traces on both surfaces (Figure 18.2, Plate 7). Only about 10 of this type of jade ornament have been found, on eight sites. However, it is notable that they are found on pre-Sa Huynh sites (Long Thanh and Hon Do) as well as Sa Huynh sites (Binh Yen, Hau Xa, Lai Nghi, Que Loc (Figure 18.1), Go Que and Sa Huynh).

Type 6: Cylindrical beads (Figure 18.2, Plate 8) are often relatively small in size, measuring no more than 0.5–3.0 cm in length and 0.3–0.6 cm in diameter. They have been found on several sites such as Giong Phet, Phu Hoa, Suoi Chon, Dai Lanh, Go Que and Giong Lon, and sometimes in quite substantial numbers. For example, Giong Ca Vo yielded 608 and Lai Nghi 400 items of this type of bead. Another rare type of bead is the 'comma' shaped pendant bead. These have been unearthed at Giong Ca Vo, Binh Yen, Dai Lanh and Lai Nghi.

Type 7: Jade bracelets (Figure 18.2, Plate 9) have been found at Giong Ca Vo (28 items), Giong Phet (2), Phu Hoa (4), Go Que (6), Dai Lanh (2) and Giong Lon (12). Among these bracelets, those found at Giong Lon and Phu Hoa and some in Giong Ca Vo share the same material, shape and size. They are cylindrical with a length of 4.1–5.0 cm. Furthermore, jade bracelets found from Giong Ca Vo include another type: rectangular cross-section and D section. The thickness is about 0.2–0.4 cm, and the diameter is limited between 5.2–6.8 cm.

Raw Material

Type 8: Jade raw materials (Figure 18.2, Plate 10) consist of square blanks or discoid cores. A square blank (5.5 cm x 5.5 cm x 4.0 cm) and discoid core (diameter 4.5 cm and thickness 2.1 cm) were found at Giong Ca Vo in jar burials nos 94GCVH4M81 and 94GCV.H3M30 respectively. The presence of these raw materials strongly implies the local manufacture of jade rings at Giong Ca Vo.

The trade in Sa Huynh jade ornaments

The origin of three-pointed projections and two-headed animal earring

The manufacture of jade/nephrite earrings has a very long tradition in Vietnam. The earliest examples appear to be the Sa Huynh Type 3 with four projections and the Type 5 small slit rings with a square surface. These types have been found on pre-Sa Huynh archaeological sites such as Long Thanh dating to 3000 BP or earlier in association with clay earrings, as well as on several Sa Huynh sites on the coastal plains of central Vietnam including Vinh Tuong, Hon Do and My Tuong (Pham 2009; Nguyen K.D. 2010b). The presence of both these types of jade ornament bridging pre-Sa Huynh and Sa Huynh sites indicates that the production of jade earrings clearly has origins in Vietnam. What is currently less clear is the evolution of the penannular tri-projection earrings from earlier forms. As yet there are no intermediates that possess characteristics of the two different earring styles, though Hung et al. (2013) have suggested that a Vietnamese black nephrite lingling-o without projections from the site of Bai Coi, Ha Tinh Province, might be a prototype for the later penannular tri-projection earrings.

Beyer (1948) and Loofs-Wissowa (1982) were some of the first to note that the penannular lingling-o and bicephalous ear pendants found by researchers such as Colani (1935) in Sa Huynh burials had a much wider geographic distribution across Southeast Asia. Kano (1946: 233) also discussed the typology of earrings with three and four projections from Lanyu Island, Taiwan, and noted that they were being recovered across Southeast Asia from central Vietnam to the Philippines and Taiwan. Potential trading networks implied by the discovery of lingling-os with similar morphology found across Southeast Asia were discussed by Loofs-Wissowa (1982), and Ha and Trinh (1977) produced a paper in reference to the relationship of bicephalous ear pendants found across the same region. Over the years, most of the penannular lingling-o and bicephalous ear pendant types found beyond central Vietnam have been recorded in the Northern Philippines bordering the southern fringes of the South China Sea. For example, Fox (1970) reported on lingling-os and bicephalous ear pendants manufactured from nephrite and glass associated with jar burials from sites such as Uyaw, Duyong, Guri and Rito-Fabian (Figure 18.3, Plates 3 and 4) in central Palawan. Ille rockshelter site close to El Nido in Northern Palawan has produced penannular lingling-os manufactured from nephrite and shell (Paz pers. comm. 2012). Tri-projection lingling-os produced in shell and nephrite were identified at Arku Cave in the Peñablanca region of Northern Luzon (Thiel 1986–1987). Discarded debris produced during the manufacture of nephrite lingling-os was unearthed on Anaro, Itbayat Island in the Northern

Philippines dating to 2600–2400 BP. The raw material was sourced to Fengtian in Southeastern Taiwan, demonstrating that it was being exported from Taiwan to the Northern Philippines for ornament production (Hung and Iizuka 2013; see also below). An example of the tri-projection penannular lingling-o produced from Fengtian nephrite was found at Savidug Dune Site close to the base of a jar burial in a layer dated to 2416 ± 30 BP, which calibrates to 2590–2390 BP (Wk-21809). Other tri-projection lingling-os have been recovered from Hengchun and Lanyu Island in Southern Taiwan (Hung and Iizuka 2013).

A single nephrite lingling-o recovered from the West Mouth of Niah Caves in Malaysian Borneo was also sourced to Fengtian (Iizuka et al. 2005). In Southeastern Thailand, a set of completed and unfinished nephrite ornaments was recovered from the port settlement of Khao Sam Kaeo dating to around 2300–2000 BP, or the fourth to first centuries BC (Figure 18.3, Plate 2; see also below). This site also produced an unfinished pre-form of a bicephalous ear pendant in the process of being carved from a square ‘blank’ of jade. The techniques being applied to sawing and cutting the ornament from the raw material appear to be exactly the same as the methods utilised for the same process at Giong Ca Vo, where a similar artefact in the early stages of manufacture was recovered (Nguyen K.D. 2007b; Bellina 2007; Bellina and Silapanth 2006). A bicephalous ear pendant has also been found at Ban Don Ta Phet in Kanchanaburi Province (Figure 18.3, Plate 1; Glover 1990).

Chemical analyses on the nephrite lingling-os from across Southeast Asia from Taiwan to Vietnam (including the Philippines and Thailand) have indicated that the raw material used in their production was sourced from Fengtian in Eastern Taiwan (Hung and Iizuka 2013). Hung et al. (2013) placed this raw material source in the context of the recent discovery of the production of penannular lingling-os on the Batanes Islands in the Northern Philippines and the Taiwanese islands of Lanyu and Luda (Hung and Iizuka 2013), as well as the presence of several examples of nephrite lingling-os in Taiwan, the Philippines, Thailand, Malaysia and Cambodia, and a few two-headed animal earrings in the Philippines and Thailand (Figure 18.3, Plates 1 and 3). These led Hung et al. (2013: 390) to infer that perhaps the penannular lingling-o has its origins in Taiwan or the Philippines and it was introduced as part of trade networks linking the Austronesian world with coastal Vietnam.

However, far more nephrite/jade, glass and clay penannular lingling-os and bicephalous ear pendants have been recovered from the hundreds of Sa Huynh jar-burial sites in Central Vietnam than anywhere else. Furthermore, the outcomes of the nephrite studies reported by Hung et al. (2013) are somewhat more complicated than implied. Although the Electron Probe Micro Analysis (EPMA) conducted by Iizuka (Academia Sinica, Taipei) clearly demonstrated that some of the nephrite used in the manufacture of penannular tri-projection lingling-os from across Southeast Asia had been produced from Fengtian nephrite (Hung et al. 2007; Hung and Bellwood 2010; Iizuka et al. 2007), these studies only included a small, selective number of objects from Sa Huynh sites, and only a few of these were provenanced to Taiwan. The 18 samples analysed in Taiwan included Types 2a and 2b lingling-os from Go Ma Voi (Figure 18.2, Plates 3 and 4) and Go Dua respectively, two small broken fragments from Lai Nghi and four Type 2b fragments from other Sa Huynh sites, plus a Type 1a bicephalous ear pendant (from the collection of the Anthropological Museum of Hanoi National University), a nephrite ‘blank’ from Giong Ca Vo and another 10 jade objects and fragments from bicephalous earrings and beads (Figure 18.2, Types 1b and 6). Of these only the lingling-o from Go Ma Voi (Hung et al. 2007) and the jade square ‘blank’ from Giong Ca Vo (reported by Iizuka in January 2015 to the Hanoi University, Hue and Da Nang Museums) have been sourced to Fengtian. All the other 16 samples were probably produced from jade and nephrite sources found locally in

Vietnam (Iizuka, January 2015, pers. comm.). Potential, though unstudied, nephrite sources are well known in Vietnam, especially in the Song Ma District of Son La Province, and others are probably still to be discovered.

The interpretation of multiple sources of nephrite used in the production of Sa Huynh ornaments compares well with macroscopic observations of the ornaments by the author. Of the 28 sites studied, variations in the colour and matrices of nephrite raw materials suggest complex origins. At Giong Ca Vo and Giong Phet, for example, five differently coloured nephrite types used in the manufacture of lingling-o and bicephalous earrings were identified, while Binh Yen and Hau Xa have at least three colours and Lai Nghi two. The tri-projection lingling-o and bicephalous ear pendants are classic markers of the Sa Huynh culture. They are found extensively across the Sa Huynh region, and often with numerous examples recovered from a single site (Nguyen K.D. 2014; Table 18.2). For example, among the 18 Sa Huynh jar-burial sites studied by Nguyen K.D. (2014), 49 bicephalous animal-headed earrings were recovered from eight of the sites, and penannular lingling-os were recorded in every burial site. The bicephalous earrings also have a very distinctive geographic distribution with two major 'centres' of production identified, at Giong Ca Vo and Giong Phet (together these include 21 bicephalous ear pendants) where unfinished artefacts and square 'blanks' (the piece of Fengtian nephrite) have been recovered, and Dai Lanh (25 bicephalous ear pendants; Nguyen K.D. 1995, 2014). This clearly indicates that lingling-os and bicephalous ear pendants were being produced from a range of imported nephrite raw materials within the Sa Huynh cultural sphere. In Reinecke's (1996) detailed study of bicephalous ear pendants, he noted that Sa Huynh was almost certainly the centre for their production and utilisation where far more have been recovered than anywhere else in SEA.

Rather than considering the penannular lingling-o and bicephalous ear pendants as imports, it is perhaps more likely that the appearance of these ornaments that typify the Sa Huynh culture are coincident with its emergence and their wide geographic distribution and abundance are tangible expressions of the types of ideology that made the culture so cohesive. Sa Huynh crafts people imported raw materials from a variety of different sources and exported the technologies on how to produce them, the raw materials and the finished ornaments across Southeast Asia, and possibly even the cultural and social ideologies embedded within them. They were perhaps even itinerant.

Trade beads and pendants

Beads represent over 90 per cent of the ornaments recovered from Sa Huynh burial sites (Figure 18.4). Some sites and individual burials contained considerable numbers of beads manufactured from various materials. For example, Burial 7 at Phu Hoa produced 1,263 beads, and 1,279 beads of semi-precious stones and 637 of glass were unearthed from the 'Group of Four sites' in Ho Chi Minh City (Tran 2004). At Go Ma Voi, 40 carnelian, numerous glass and two gold beads were recovered (Reinecke 2004) and excavations at Lai Nghi produced over 7,000 beads manufactured from glass, jade, carnelian, agate, amethyst, crystal and gold, as well as tiger and bird carnelian beads (or pendants; Nguyen T.B.H. 2012; Figure 18.4, Plates 1–3 and 7). Many of the beads appear to have been imported into Vietnam from elsewhere. At the coastal site of Giong Ca Vo for instance, of the 2,916 identified beads it is possible that as many as 1,000 were trade items. These include several hundred Indo-Pacific mutisalah beads, banded beads, etched beads and collared beads made of crystal or carnelian as well as gold beads (Nguyen K.D. 1995, 2001). Burial M20 at Dong Cuom included 694 Indo-Pacific mutisalah beads together with jade/nephrite beads (Pham 2004) and Hoa Diem produced 1,280 trade beads including a number manufactured from gold (Nguyen K.D. and Bui 2012). These imports are also found

far inland in the mountainous regions surrounding the Thu Bon River Valley in Quang Nam Province at sites such as Pa Xua, Dai Lanh, Binh Yen and Go Dinh which have produced Indo-Pacific mutisalah, blue glass, and carnelian and agate beads (Búi and Yamagata 2004).

Indo-Pacific glass beads are the beads found in the greatest quantities in Sa Huynh sites (Figure 18.4, Plate 9). They were manufactured using the Lada technique that originated in India. The Indian settlements of Khambhat and Arikamedu are considered as two of the largest centres of production of Indo-Pacific glass beads (including collared beads and etched beads) from the second half of the first century BC to the first or second century AD, around 2000–1850 BP (Francis 2002). However, recent investigations have produced small pieces of broken glass tube wasters (broken during drawing), black slag and tubular preforms of uncut glass beads at Giong Ca Vo (and Khao Sam Kheo, Thailand) that indicate that at least some of the glass beads were produced locally (Nguyen K.D. 1995, 2001: 109; Hirano 2008; Lankton and Dussubieux 2006) or elsewhere in Southeast Asia using imported Indian technology (Bellina 2014).

Figure 18.3 Sa Huynh Ornaments found across Southeast Asia.

1. Trading objects from Ban Don Ta Phet, Thailand (Original: Glover 1990).
2. Unfinished two headed earring (Taiwan jade) from Khao Sam Kaeo, Thailand (Reproduced with the permission of B. Bellina).
3. Two-headed animal earring (Taiwan jade) from Tabon Cave, Philippines (Original: Fox 1970).
4. Three-pointed earring (Taiwan jade) from Duyong Cave, Palawan, Philippines (Original: Fox 1970).
5. Gold earrings from Prohear (1,2) and Bit Meas (3,4) (Reinecke et al. 2009).

Source: Photographs 1–3: N. Kim Dung. 4: Hsiao-chun Hung. 5: Reinecke et al. (2009), reproduced with the permission of A. Reinecke.

Figure 18.4 Sa Huynh beads and pendants.

1. Tiger carnelian pendant, from Lai Nghi.
2. Bird carnelian pendant, from Lai Nghi
3. Beads in different materials, from Lai Nghi.
4. Beads in different materials, from Hoa Diem.
5. Carnelian beads, from Giong Lon.
6. Beads, from Giong Ca Vo.
7. Beads, from Lai Nghi.
8. Carnelian beads, from Giong Ca Vo.
9. Indo-Pacific glass beads, from Giong Lon.
10. Glass beads, from Giong Lon.
11. Crystal beads, from Hoa Diem.

Source: Photographs 1, 3-11: N. Kim Dung, 2: Andreas Reinecke; reproduced with permission.

Indian carnelian and agate beads occur in various sizes, styles and colours. Some of them have been decorated with white lines (etched beads) or with differently coloured bands on the surface (banded agate). The tiger and bird shaped carnelian beads from Lai Nghi are particularly exquisite examples of this type of bead manufacture (Figure 18.4, Plates 1 and 2). Similar carnelian and agate beads have been unearthed at sites contemporaneous with those in Central Vietnam such as Ban Don Ta Phet, Khuan Lukpad, Phu Khao Thong and Khao Sam Kaeo in Thailand, and Halin in the Semon Valley of Myanmar (Bellina and Glover 2004; Hudson 2005; Bellina 2014; Figure 18.4, Plates 5 and 8). Glover (1990) argued that the ornaments manufactured from carnelian, agate, crystal and garnet found at Ban Don Ta Phet were produced in India, whereas those excavated from Ban Dong Phlong and Khok Charoen in Thailand had a Thai origin at Noen U-Loke (Higham and Thosarat 1998). The port site of Khao Sam Kaeo in Thailand appears to have been an important centre for the manufacture and distribution of semi-precious stone and glass beads.

Other, more technologically advanced bead types include 'alkaline-etched' and 'collared' beads were made from semi-precious stones like carnelian and agate as well as glass. These also originated in India, and were probably first introduced across Southeast Asia and into the Sa Huynh culture (found at Lai Nghi, Dai Lanh, Go Mun (Figure 18.1), Giong Ca Vo, Phu Hoa, Hoa Diem and Con Rang) in the early fourth century BC, *ca.* 2350–2300 BP (Glover 1990; Bellina 2014). Banded beads are widely distributed in Sa Huynh sites (Phu Hoa, Giong Ca Vo, Lai Nghi, Hau Xa, Con Rang and Go Mun) but only occur in small numbers.

The geographic distribution of Indo-Pacific trade beads indicates that complex trading routes had already developed widely from SEA to the Indian sub-continent, and possibly as far as the Mediterranean by the early to mid-first millennium BC (*ca.* 2350 BP). Not only were finished ornaments and raw materials traded but evidence from Thailand and Vietnam demonstrates that technological innovation and manufacturing skill were also exchanged between different cultures (Glover 1990; Nguyen K.D. 1995; Bellina and Glover 2004: 70).

Gold objects

Artefacts of gold have been recovered from numerous Sa Huynh sites including Giong Ca Vo, Giong Phet, Giong Lon, Phu Hoa, Hang Gon, Go Que, Go Ma Voi, Go Mun, Lai Nghi, Binh Yen, Con Rang and Hoa Diem (Figure 18.5). The earliest gold ornaments have been unearthed at Giong Ca Vo, Giong Phet and Go Ma Voi and probably date to the fourth century BC (*ca.* 2300 BP). Unlike most other ornament types, which are distributed in varying numbers across numerous burials, gold artefacts are generally concentrated with one or two individuals. For example, at Giong Lon four gold earrings and two masks were found in Burial 03GLHIVM1 and another two earrings and a mask in 05GLH1M1 (Figure 18.4, Plates 1–5). At Lai Nghi all four gold earrings found on the site were excavated from Burial M7 (Figure 18.5, Plate 6).

The most common gold artefact is the bead. Many of these beads have a characteristic octagonal shape and are similar to specimens recorded at Noen U-Loke in the Mun Valley of Northeast Thailand dating to the third or fourth century BC, around 2250 BP (Higham et al. 2007: 77). Some gold beads, such as examples from Giong Ca Vo, are long, narrow cylinders with five points or projections, or small shaped balls associated with gold finger rings and thin gold plate (Dang et al. 1998; Nguyen K.D. 1995). At Hoa Diem tens of very small thin beads shaped like flowers that were perhaps sewn into clothes were recovered. Also, two large polyhedral gold beads stylistically identical to examples from Khao Sam Kaeo in Thailand were unearthed (Figure 18.5, Plate 7; Nguyen K.D. and Bui 2012). Gold earrings and a finger ring have been recovered from Giong Ca Vo, Giong Phet, Phu Hoa and Giong Lon. Two different types of earring have been

identified. Lai Nghi produced four examples of Type 1, while Giong Lon produced six Type 1 and two Type 2 earrings (Figure 18.5, Plates 3, 4 and 6). The latter is a form identified at no other Sa Huynh site so far (Vu et al. 2008).

Figure 18.5 Gold objects in Sa Huynh cultural sites.

1. Gold mask from Giong Lon.
2. Gold mask from Giong Lon.
3. Gold earrings (Type 1) from Giong Lon.
4. Gold earrings (Type 2) from Giong Lon.
5. Gold in snake shape from Giong Lon.
6. Gold beads and earrings from Lai Nghi.
7. Gold beads from Hoa Diem.

Source: Photographs 1–5 and 7: N. Kim Dung 6: Andreas Reinecke, reproduced with permission.

Reinecke et al. (2009) probably undertook the most significant study of ancient gold in Vietnam. The Vietnamese samples were compared with gold earrings from various regions of the world including Cambodia, Thailand, Java, Afghanistan, Bactria and Germany. They noted that the Type 1 gold earrings found at Giong Lon and Lai Nghi had parallels at two important Iron Age sites in Cambodia, Prohear and Bit Meas (Figure 18.3, Plate 5). Analysis of the earrings

indicated that among the four examples recovered from Lai Nghi, three were imported and one was locally manufactured. At Giong Lon at least four of the earrings were locally produced and two traded in.

Another remarkable example of traded gold ornaments is masks. Archaeological excavations at Giong Lon have produced three masks as well as several thin gold plates (Figure 18.5, Plates 1 and 2).

Trade and exchange during the Sa Huynh period

More than 100 archaeological sites dating to the Sa Huynh period in Central and Southern Vietnam have been excavated so far consisting primarily of jar burials dating from *ca.* 2500–1850 BP (sixth century BC to first–second centuries AD). A wide variety of ornaments manufactured from bronze, gold, jade/nephrite, semi-precious stones, glass and clay have been recovered in association with the inhumations and pottery, placed within the burial urn with the body, or adjacent to it in the excavated burial pit. These artefacts have provided a considerable amount of information with regards to domestic and ritual activities, culture, society and ideology. The broad geographic origins and diversity of identified ornaments provide important insights into the role Sa Huynh society played in these burgeoning exchange networks.

Large numbers of Indo-Pacific trade beads and other exotic items with their origins far to the west on the Indian subcontinent have been recovered from some of the earliest Sa Huynh burials in the fifth century BC (around 2500 BP). They indicate that the Sa Huynh inhabitants of Central Vietnam were already well connected to trans-regional trading networks that may have begun to develop perhaps before 3000 BP (as early as the second millennium BC). Effective internal exchange systems within the sphere of Sa Huynh influence is evidenced by the recovery of these trade beads a considerable distance from the coast along major rivers into the interior mountainous regions. There is evidence from sites such as Giong Ca Vo that not only were finished ornaments imported, so too were the knowledge and technology necessary to produce glass beads and gold earrings for the local market. In some instances, such as the unique type of gold earrings from Giong Lon, the gold smiths modified existing templates to produce jewellery specially commissioned to suit local tastes.

The geographic distribution and prevalence of the bicephalous ear pendant and penannular lingling-o are particularly informative in terms of how Sa Huynh society participated in international trading systems. These two iconic symbols of Sa Huynh have been recovered in considerable numbers across Central and Southern Vietnam. The majority were manufactured from various types of jade/nephrite, but they were also produced in clay, precious stones and glass. The emergence of the bicephalous ear pendant and penannular tri-projection earring in the early Sa Huynh phase, their ubiquity throughout the Sa Huynh cultural sphere, and their very distinctive morphologies suggest that a considerable amount of cultural, social and perhaps even religious ideology was embedded within their form. Manufacturing debris indicates that these artefacts were also being produced locally from local and imported nephrite, and glass and carnelian.

However, the bicephalous ear pendant and penannular tri-projection lingling-o have also been found in land masses encircling the South China Sea and especially on the fringing Philippine Islands where a number of lidded jar burials very similar to Sa Huynh examples have been recovered (see Fox 1970). Many of the ornaments were produced using Fengtian nephrite sourced in Southeastern Taiwan (Hung et al. 2007) including some from Sa Huynh sites. The penannular tri-projection lingling-o is particularly common in the Northern Philippines

where evidence for its production has been identified in the Batanes Islands, and close by on Lanyu and Luda, Taiwan. The production of bicephalous ear pendants has also been recorded at Khao Sam Kaeo in Southern Thailand.

Thus, the evidence suggests that Sa Huynh society played a significant role in trans-regional exchange networks. Not only were desirable exotic materials imported for local consumption, but also traders and manufacturers exported their own distinctive ornaments and the knowledge and technology of how to produce them.

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