

Discoveries of iron armour on the Korean Peninsula

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The spectacular recent finds of iron armour in South Korean protohistoric tombs have renewed debate over the relationship of the Korean Peninsula and the Japanese Islands in the period of early state formation. Since the immediate post-World War II period, two theses have been vying for acceptance: that there was a Horserider conquest of Yamato by Puyö/Paekche peoples in the late 4th century AD (Egami 1964; Ledyard 1975) or that the Yamato state had a colony on the southern Korean Peninsula named Mimana (Suematsu 1958). Much ink has been spilled on both sides of the question but especially in rejecting the Horserider Theory (Kirkland 1981; Edwards 1983; Kidder 1985). The new finds of iron armour in the Kaya region—many of which types are already known from Japanese tombs—reopen the question of the role of military aggression during state formation. While these larger questions go unanswered here in this brief descriptive paper, the recent discoveries are introduced followed by commentary on their political significance, and a proposal is made for the origins of the early Pen/Insular¹ armour with reference to data from Mainland China.

Chinese precedents

The practice of wearing body armour in East Asia dates back to the protohistoric periods on the China Mainland (*cf.* Dien 1981/82; Yang 1985). Bronze helmets are known from the Shang period (Table 1), iron plate helmets have been excavated from the Late Zhou period, and full body armour is depicted on the terracotta army statues from the tomb of the First Qin Emperor—well known through international exhibitions (Cotterell 1981). The types of armour represented on the Qin sculptures are quite varied in accordance with function and/or military status. Vests were constructed with longer or shorter aprons in front depending on whether the soldier

¹ The term Pen/Insular (with a slash) is used in this article to denote the Korean Peninsula and the Japanese Islands as an integral developmental unit vis-à-vis China (*cf.* Barnes 1993).

was riding a horse, driving a chariot or walking; and draped shoulder protectors could be added to the ensemble (*cf.* Dien 1981/82).

All the body armour depicted on the Qin sculptures was made of rectangular plates—some smaller, some larger. Since these plates were anchored onto a backing (or to each other) at more than one spot, the armour is called lamellar. Scale armour, in contrast, has plates attached only at the top, with the bottoms left loose to flap freely. On the Qin replicas, thongs can be seen crossing over the boundaries of some plates, while other plates have only small dots or bosses to show the connecting element. These are thought by Chinese archaeologists to represent rivets, but they could equally well represent knots of the thongs which are brought to the front through the hole, knotted, and immediately passed to the back again through the same hole (Bishop 1989). The plates themselves are thought to have been made of leather, perhaps lacquered; this would partly explain the dearth of real armour finds from this period, since the organic matter of leather plates and leather thongs would have decayed quickly. Had the armour been made of iron, then one would expect to have found some remains in archaeological excavations; moreover, had the plates been rivetted, one would expect to find rivetted armour in the earliest sequences of Korea and Japan, but this is not the case.

Flexible lamellar armour was carried forward into Han Dynasty times, when jade body suits of similar construction were made for certain deceased persons such as Liu Sheng and his wife, buried in the rock-cut tombs at Mancheng, Hebei (Ku 1973; Institute of Archaeology 1981; Kao & Yang 1983). Only for the Han period has iron armour begun to be recovered through excavation, such as the lamellar jacket from Huhehot (Dien 1982/82: fig. 15), but other types are known through tomb murals.

Figurines and tomb paintings from the Northern Wei Dynasty show the development of lamellar armour suitable for mounted warfare. Some of the figure representations, however, are wearing what look to be solid or fixed-plate chest protectors (Figure 1). The solid type was probably transformed into a type of chest armour known as *liangtai* in the Tang period, as depicted on tomb figurines (*cf.* Yang 1985: 54-5). Among the Northern Wei fixed-plate chest protectors, some are clearly shown as composed of long vertical strips, and vertical-strip chest armour is also depicted in the tomb of Dong Shou (d. 357) on the Korean peninsula (Figure 2).² As we shall see below, vertical-plate cuirasses are the earliest known form of body armour in the Pen/Insular region. Thus, Northern Wei might be the immediate source of inspiration for the development of the fixed-plate cuirass in the 4th-century Yamato and Kaya areas.

Given the dearth of Chinese examples of actual body armour (despite all the elite tombs excavated from the early historic periods), the recovery of iron body armour

on the southeastern Korean Peninsula in the early 1980s was most surprising. More curious yet, the material being recovered from the unassuming stone pit-chamber graves at the Kaya sites of Pokch'ŏn-dong and Okjŏn, for example, very much

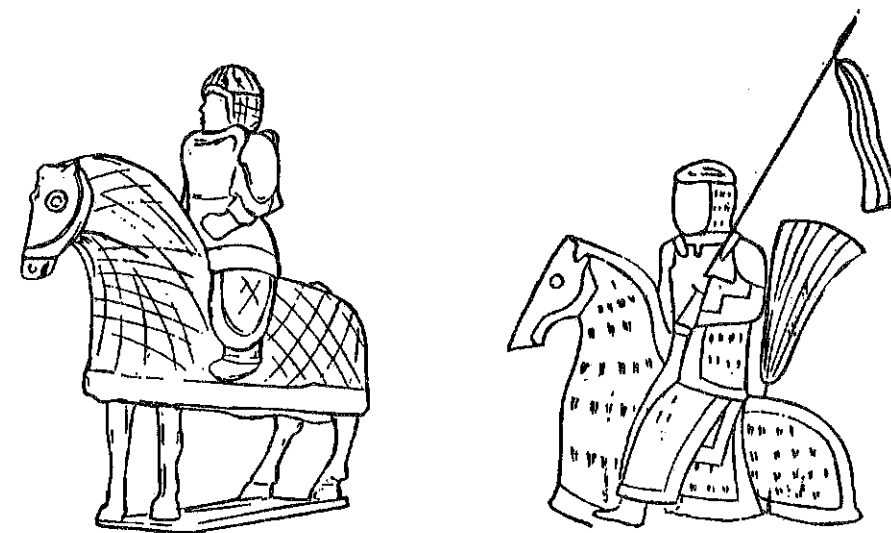


Figure 1 Northern Wei figurines and tomb painting depicting chest protectors of various construction. (Yang 1985: figs. 28, 31)

² Dong Shou is thought to have been an independent Chinese 'governor' who ruled the P'yŏngyang region between the destruction of Lelang by Koguryŏ in AD 330 and the removal of the Koguryŏ capital from Tonggou to P'yŏngyang in 374 (Gardiner 1969: 42).

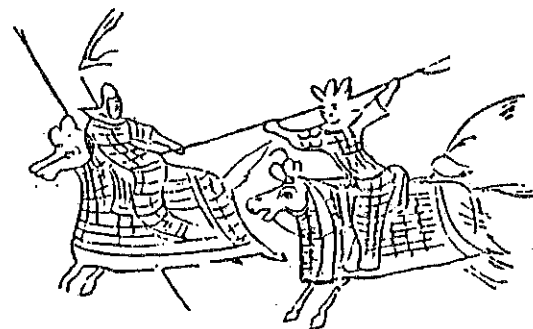


Figure 2
Vertical-strip chest armour
depicted in the Dong Shou
tomb mural, P'yongyang.
(Yang 1985: fig. 31.4)

resembles the examples of armour periodically excavated from the monumental tombs of the Kofun period (300-710) in the Japanese Islands. To put these discoveries into chronological and developmental perspective, both the sites and the armour types will be examined in some detail below.

Table 1 Chronology of transformations in East Asian armour types relevant to cuirass development.

1700-1050 BC	Shang	cast bronze helmet
475-221 BC	L. Zhou	iron plate helmet from Yan
220-206 BC	Qin	terracotta army, some statues depicted wearing armour
206 BC-AD 220	Han	iron plate jacket from Huhehot, Inner Mongolia; jade body suits from Mancheng tombs, Hebei
AD 386-534	N. Wei	figurines and tomb paintings showing lamellar body suits and bib-like chest protectors
4th c.	Paekche	bone lamellae for horse bardings at Mongch'on
4th c.	Yamato & Kaya	iron vertical-plate cuirass, thonged
5th c.	Koguryō	lamellar-suited horseriders in tomb murals
5th c.	Yamato & Kaya	iron horizontal-plate cuirass, rivetted; lamellar suits
AD 618-907	Tang	liangtai chest plates depicted on tomb figurines



Peninsular discoveries

Protohistoric armour was previously known from the Korean Peninsula in the form of 5th- and 6th-century mural paintings in the Koguryō tombs (Figure 3). Excavations in 1985 at the Mongch'on T'osōng site at the edge of the Han River in Seoul provided the first examples of real armour on the peninsula (Mongch'on 1985); these were, however, rectangular plates of bone! Each piece, ca. 10.1-11.4 cm long x 2.4-3.3cm wide, has several holes for tying together with thongs (Figure 4), and the resultant armour is interpreted by some archaeologists as horse armour—specifically, the bardings (drappings) which cover the horse's body. The fortified site of Mongch'on might have belonged to the early Paekche state, which occupied the Han River basin before being pushed south by Koguryō in AD 474.

Figure 3 Drawings of Koguryō
armour in 6th-century tomb
murals at Donggou.
(Dien 1981/82: fig. 26)

top and centre:
Three-chambered Tomb
bottom:
Tomb #12

Iron armour was first discovered in southeastern Korea (the Yŏngnam area) during the Japanese occupation. Most of these finds belong to the Okura collection of the Tokyo National Museum, but the whereabouts of some of the actual objects are unknown and only their drawings remain (Anazawa & Manome 1991). Other early finds, lacking exact provenience, are kept in the Sungjŏn and Korea University museums (*ibid.*: 252-3). Since the mid-1980s, several new sites—mostly cemeteries consisting primarily of pit-chamber stone-lined graves—have been excavated in the Yŏngnam region by Korean universities and museums. These sites have yielded many different varieties and combinations of armour. If the graves once had mounds, they were very low and small—thus very different from the large round and keyhole-shaped mounded tombs which have yielded iron armour in Japan.³ As of February 1993, pieces of armour had been recovered from 33 graves in Kaya territory and 9 in Silla territory, with material known from another 11 localities where the depositional context is unclear (Shin, K.C. 1993, pers. comm.). It is significant that these sites are mainly in the southeastern Kaya region, and no iron armour finds have yet been made in central Paekche or Koguryŏ territory. It is thought that these states simply did not have the custom of burying armour with the deceased, although its apparent absence might be caused by previous looting of the above-ground Koguryŏ stone pyramid tombs or insufficient excavation of Paekche tombs.

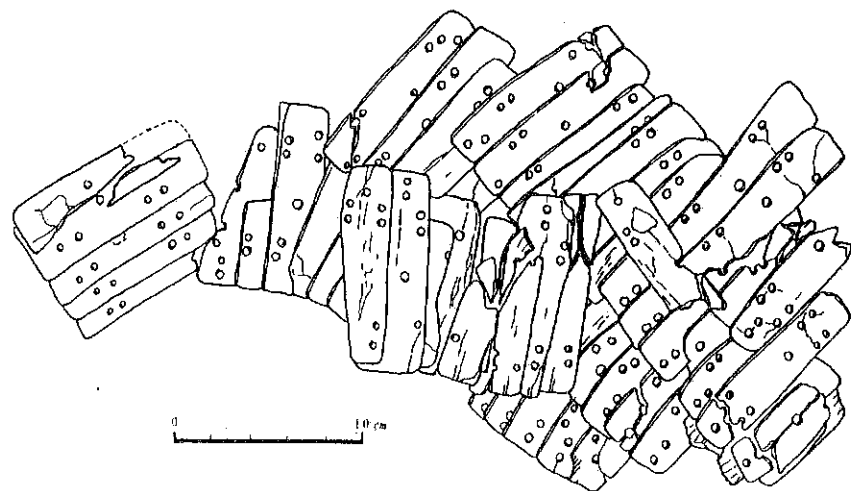


Figure 4 Bone lamellae for horse bardings, excavated at Mongch'on Tosŏng near Seoul. (Mongch'on 1985: fig. 61)

³ K.C. Shin believes that highly mounded tombs were not built in the Yŏngnam region until the mid-5th century (Shin 1992: 143).

The sites

The new sites yielding armour are large cemeteries in southern Korea (Figure 5) spanning the Late Iron Age and Three Kingdoms periods (*ca.* 1st to 6th centuries AD). These cemeteries contain a variety of burials whose structures and contents changed through time. The facilities changed from popular wood coffin burials in the 2nd century, to wood-chamber burials in the 3rd century, to pit-style stone chamber burials in the 4th century, with the introduction of the corridor-type stone chamber in the late 5th century. The special Silla-type stone-mounded wooden chamber appeared in the late 4th century, as did the first high earth-mounded tomb, also in Silla territory. In many Kaya cemeteries, earlier style burials continued even as newer ones superseded them in popularity. One important trend was for 4th-century high-ranking burials to have two chambers: the main chamber containing the deceased, made in the new stone pit-chamber style, and an accessory chamber in the older wooden chamber style or plain pit. Armour is often found in the accessory chambers rather than in the main chambers, where gold crowns provide evidence of higher status.

Some Kaya cemeteries which have recently been excavated on a large scale are Chisan-dong, Imdang-dong/Choyong-dong, Okjŏn, Pan'gyeje, Pokch'ŏn-dong, Taesung-dong, Wŏlsan-ri and Yangdong-ri.⁴ (Site numbers are keyed to Figure 5.)

1. Chisan-dong: Located west of Koryŏng village in South Kyŏngsang province on a ridge of 160-180 m m.s.l., the cemetery is comprised of several large mounded tombs, *ca.* 20 m in diameter, and medium-sized tombs, *ca.* 10 m in diameter. Other stone chambers whose mound sizes are unclear are also known. Mound size appears to be correlated with altitude, with the largest positioned at the highest points on the ridge. These are thought to be the burials of the Tae-Kaya kings (tombs #47-51) and nobles (#44-45). Excavations were carried out in the late 1970s, and the largest armour find came from tomb #32, a medium-sized mound. Included was a 5th-century set comprised of rectangular-plated rivetted cuirass, rivetted keeled helmet, and the two halves of a yoke-guard (see type descriptions below, Figure 16). This combination of armour and helmet, well known from 5th-century tombs in Japan, is the first set to be discovered in Korea.

2. Imdang-dong/Choyong-dong: This cemetery is spread across two administrative districts near Kyŏngsan City in South Kyŏngsang province, giving rise to its two names. At Imdang-dong are 10 medium-sized tombs, 7-10 m in diameter, plus several smaller tombs. Excavated in 1982, 1987 and 1989, the cemetery yielded 10 gold crowns, gilt bronze and silver ornaments, weapons, horse trappings and armour, including helmet, neck-guard and lamellar suit.

3. Okch'ŏn: Located in Hapch'ŏn county, South Kyŏngsang province, this cemetery is believed to be the central burial grounds of the Tara-Kaya leaders. Tombs yielding armour included tomb #28 (Mongolian helmet, rectangular-plated

⁴ Descriptions are compiled from Tokyo National Museum (1992).

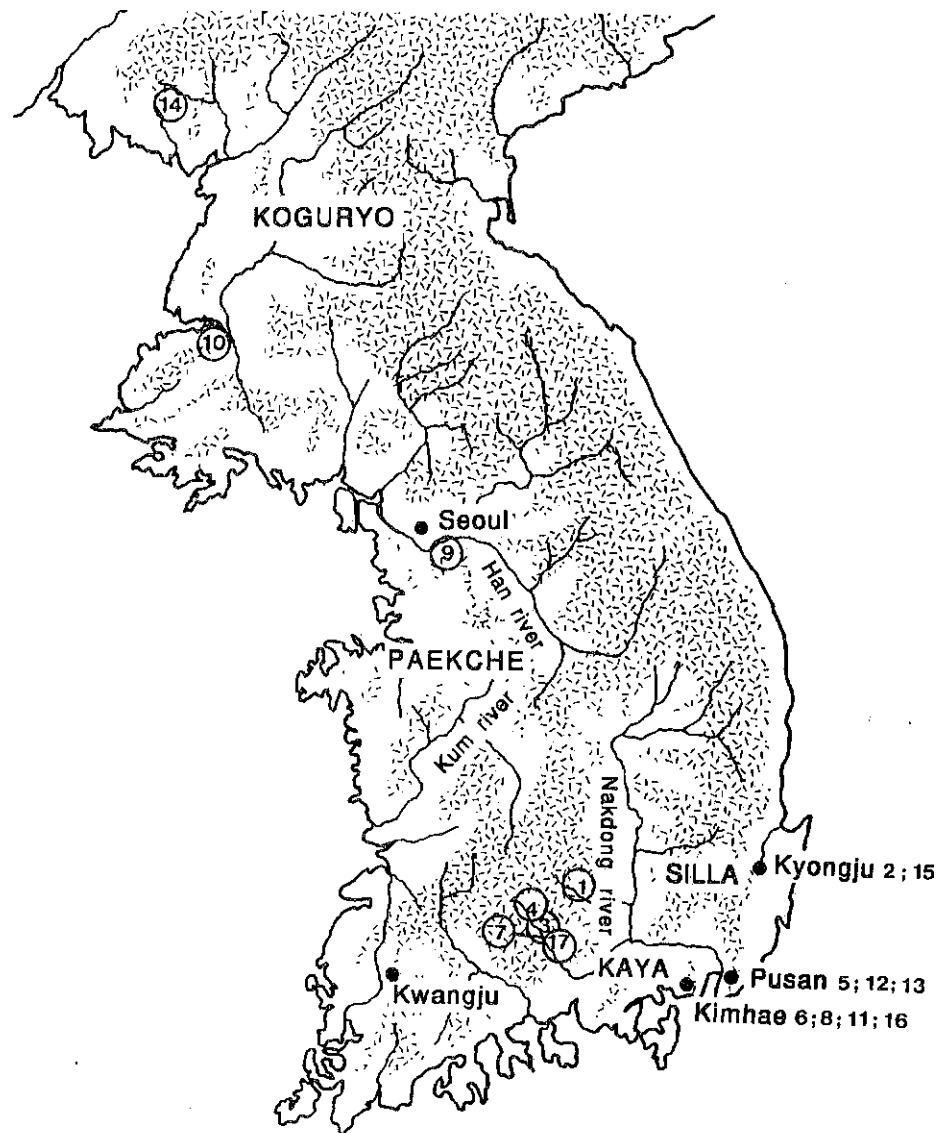


Figure 5 Sites mentioned in the text.

1. Chisan-dong; 2. Imdang-dong/Choyang-dong; 3. Okjön; 4. Pan'gyeje; 5. Pokch'ön-dong; 6. Taesung-dong; 7. Wölsan-ri; 8. Yangdong-ri; 9. Mongch'on T'osöng; 10. Koguryö mural tombs; 11. Yean-ri; 12. Tongnae; 13. Yönsan-dong; 14. Nong'o-ri Sansöng; 15. Kujöng-dong; 16. T'oena-ri; 17. Sangpaeng-ri; 18. Yönsang-dong

riveted cuirass, chamfron, and bardings—all dating to the 5th century); tomb #8 (5th-6th century Mongolian helmet); tomb M-3 (a 5-6th-century gilt riveted helmet and 2 chamfrons of the same date); and tomb #68 (5th-century triangular-plated cuirass, thonged). Tomb M-3 is assessed to have belonged to the highest-ranking warrior.

4. Pan'gyeje: Excavated as part of the Hapch'ön Dam project in South Kyöng-sang province between 1984 and 1986, this cemetery consisted of three tomb clusters (areas Na, Ta, Ka), each containing two large tombs and many small tombs. The largest tomb in area Ka, tomb Ka-A, yielded a square-plated helmet topped by a crown-shaped cap. A rare type, it is thought to be related to a Chinese helmet type first seen at Yan Xiadu tomb #44 in the Late Zhou period (cf. Nogami 1992: pl. 65).

5. Pokch'ön-dong: Located on a hill promontory 700 m long by 80-100 m wide in Tongnae-ku, Pusan City, this is one of the largest Kaya cemeteries, probably part of Kungwan Kaya. It was mainly used in the 4th and 5th centuries, with the largest tombs built on the highest hill points and smaller tombs on the slopes. Excavated in the early 1980s, several of the large tombs were ascertained to have multiple chambers; at tomb #42, both chambers were made of wood, but at tombs #10-11 and #21-22, the main chambers were of stone and the accessory chambers of wood.

6. Taesöng-dong: Thought to be the burial place of the Kungwan Kaya kings or royal family, this cemetery is located in Kimhae, west of Pusan. It has been excavated several times, yielding horse trappings and armour as well as an astonishing group of objects from the Japanese islands (bronze ferrules, *tomoe*-shaped bronze ornaments, and several imitation talc objects such as arrowheads and the enigmatic three-tiered concentric circular boss).

7. Wölsan-ri: Located in Namwön-gun, northeast of Kwangju City, this cemetery consists of 9 tombs positioned at 45 m m.s.l. The largest mound, M1, covered 7 burials, the richest of which was M1-A. In this stone chamber measuring 8.6 m long were found a vertical-plate helmet, a standup neck-guard, and shin-guards.

The armour

The types of iron armour so far recovered on the peninsula are as follows, with thonged fixings generally being older and riveted fixings newer among them (cf. Han 1991; square brackets enclose locations of discoveries or repository for unprovenienced goods, and dates [e.g., 5c = 5th century]):

1. Helmets:

A. Vertical-plated helmet (Figure 6), with the plates thonged together; may have horizontal neck-guard plates attached at back or square-plated flaps attached at the sides. Probably of the same lineage as the later so-called 'Mongolian' helmet but with a different top formation. The plates curve inwards at the top without recurving upwards again as in the Mongolian helmet. Most of the top fixtures

themselves are missing; an exception is an unusually small (8.7cm high) vertical-plate rivetted helmet with a projecting nose-guard and a completed top ring topped by a double-bowl-shaped ornament holder. [Yean-ri #150; Wölsan-ri #M1-A 5-6c; *chön*-Tongnae = odd example]⁵

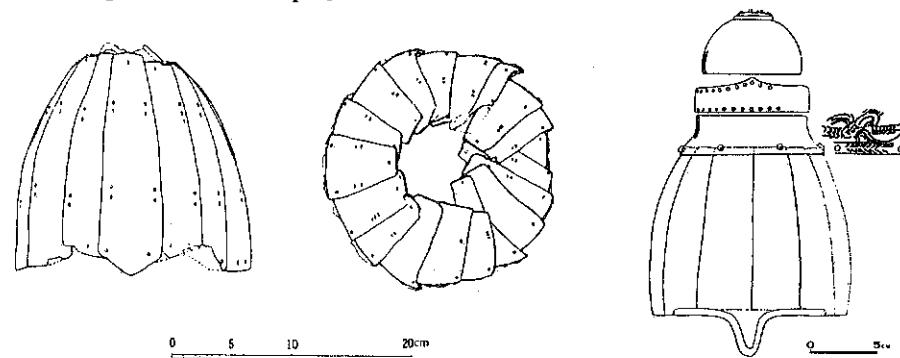


Figure 6 Vertical-plate helmets: left, *thonged* (Chöng & Shin 1991: fig. 2); right, *rivetted* (Anazawa & Manome 1991: fig. 5).

B. Visored (Figure 7); the foundation plates usually run vertically and are rivetted to three ranks of horizontal bands. The top is usually covered by an inverted bowl-shaped piece from which projects a plume-holder. The visor is often decorated with openwork designs, and horizontal neck-guard plates may be attached at the back. [Sungjön University Museum = this one is Medieval in date!; Korea University Museum; *chön*-Yönsan-dong; Samseong Museum of Publishing]

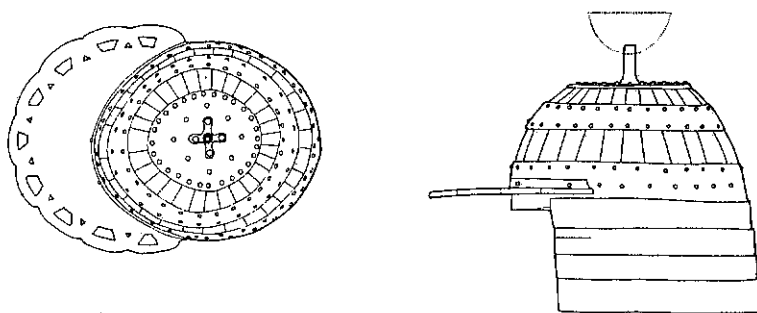


Figure 7 Visored helmet with horizontal neck-guard plates. (Anazawa & Manome 1991: fig. 1)

⁵ The prefix '*chön*-' denotes alleged provenience.

C. Keeled (sometimes referred to as 'peach-shaped') (Figure 8). The component plates are layered horizontally, and the vertical seam of the helmet where the plates converge is covered with a separate plate, forming a keel, that also extends over the crown. The keel is positioned at the front, and horizontal neck-guard plates may be attached at the back. [Chisan-dong #32, rivetted, 5c]

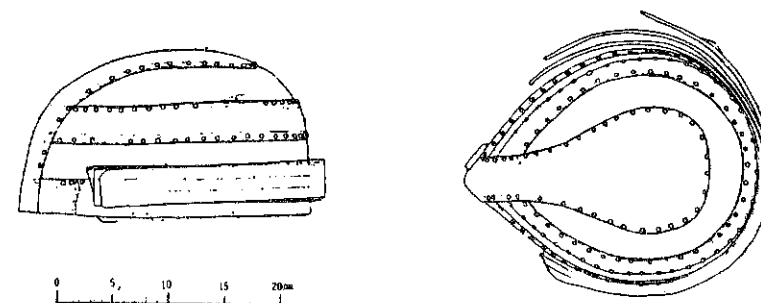


Figure 8 Keeled helmet with horizontal plates. (Chöng & Shin 1991: fig. 4.3)

D. Mongolian (also called recurved helmets) (Figure 9); made of vertical strips secured with thongs or rivets, surmounted by an overturned bowl-shaped cap supporting a plume; may occur with horizontal neck-guard plates or ranks of squarish neck-guard plates; and/or vertical cheek-guard plates. A projection over the bridge of the nose and arches following the eyebrows are stylistic peculiarities of this type of helmet. [Chisan-dong #32; Wölsan-ri M1-A; Pokch'ön-dong #11 & #10, 5c; Pokch'ön-dong #21-22 accessory chamber; Okjön #28, 5c; Okjön #8, 5-6c; *chön*-Kümhae]

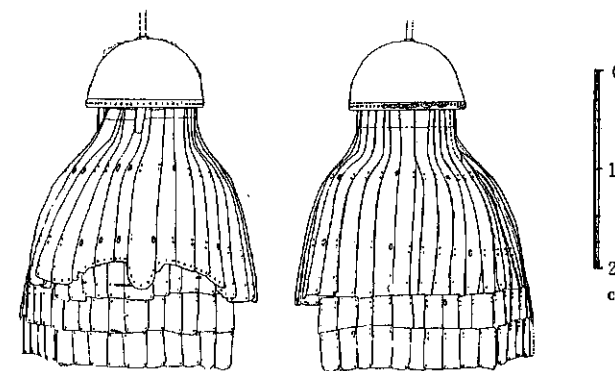


Figure 9 Mongolian helmet with square-plated neck guard. (Fukuo 1991: fig. 3.2)

E. Square-plated (Figure 10); an unusual helmet composed of small square plates thonged together, perhaps of the lineage of the Late Zhou-period helmet from Yan Xiadu tomb #44 (cf. Li 1985: fig. 145; surmounted by crown-shaped cap (see below). [Pan'gyeje Ka-A; Okjŏn M3]

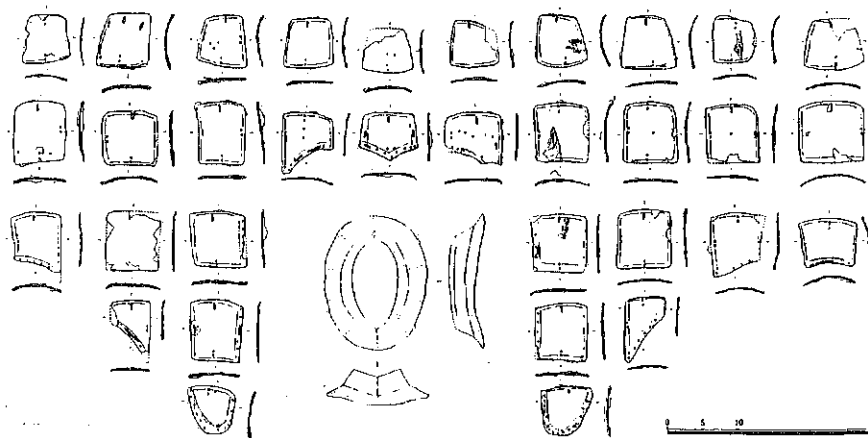


Figure 10 Square-plated helmet from Pan'gyeje, disassembled. (Chinju National Museum 1987: fig. 20)

F. Crown-shaped caps (Figure 11); one made of gilt bronze bearing an impressed dotted line pattern in wave and vine forms, another made of iron. [Pan'gyeje; chŏn-Yŏnsan-dong]

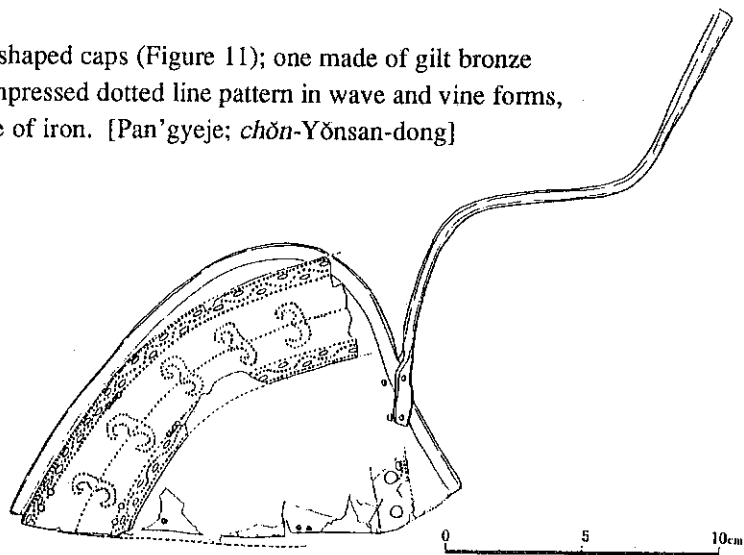


Figure 11 Crown-shaped cap, gilt bronze. (Chinju National Museum 1987: fig. 20)

G. Gilt iron rivetted helmet, plate shape and method of fixation not known, but possibly large plates moulded around the head and finished at the top with a top band much like the Nongo-ri find (Han 1991: fig. 94). [Okjŏn #M-3, 5-6c; Nongo-ri Sansŏng]

H. Bowl-shaped helmet, with no obvious seams (Anazawa & Manome 1991: 255, fig. 10). [Sungjŏn University Museum]

2. Cuirasses: These are rigid upper body protectors made of iron plates fastened together with either thongs or rivets. Cuirasses are usually made in three sections, solid back with right and left front portions opening down the middle front from side hinges. The component plates making up these sections might be square or triangular plates, or long rectangles arranged vertically or horizontally; some mixing of plate shapes also occurs on individual cuirasses. The different combinations of plate shape and orientation, coupled with the two different anchoring techniques, gave rise to a great variety in known constructions:

A. Vertical plated cuirass (Figure 12), thonged [Kujŏng-dong] or rivetted [chŏn-T'oenae-ri, 5c; Pokch'ŏn-dong #46, 4c; Pokch'ŏn-dong #10, 5c; 2 chŏn-Kimhae]; front opening; may have a back collar-like neck guard (these are later in date) and chest ornaments both front and back. [Pusan City Museum, Pokch'ŏn-dong #10, T'oenae-ri; rivetting technology not found in Japan on vertical plated cuirasses (Nogami 1991: 10)]

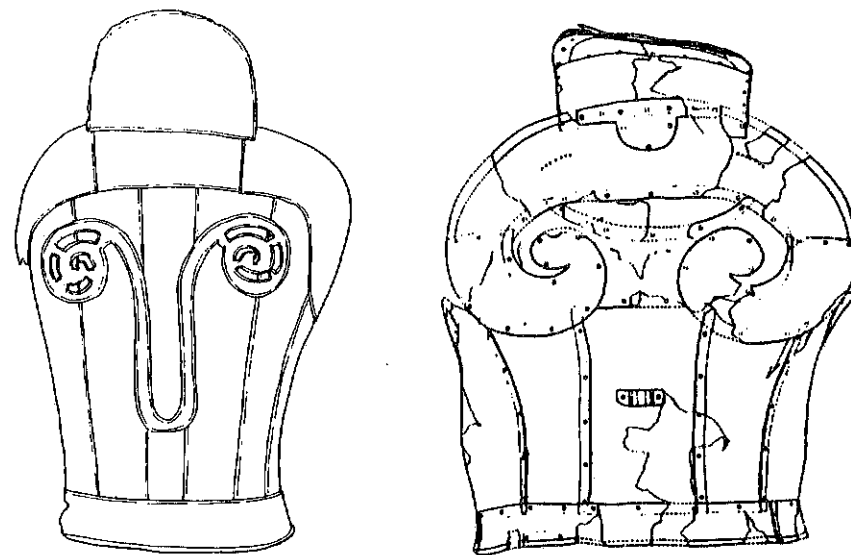


Figure 12 Examples of vertical-plate cuirasses. (Fujita 1991: figs. 3, 4)

B. Horizontal plated cuirass (Figure 13)

a. rectangular plate, rivetted. [Chisan-dong #32, front opening, 5c; Okjön #28, front opening, 5c]

b. triangular plate, thonged [Okjön #68, 5c]; rivetted, front opening. [Sangpaeng-ri, front opening w/ right side hinges, 5c; chön-Yönsan-dong; Okjön #68, thonged]

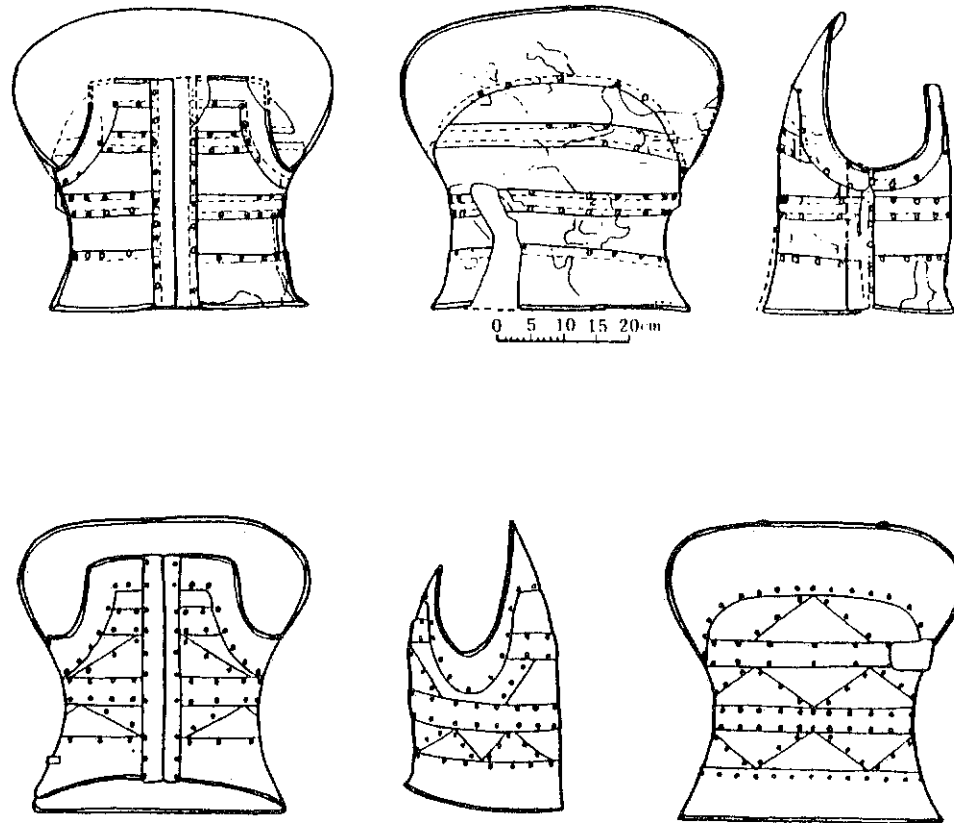


Figure 13 Horizontal-plate cuirasses, front, side and back views. (Kobayashi 1991: figs. 8, 9)
top: rectangular plated, rivetted
bottom: triangular plated, rivetted

3. Lamellar long-suit armour: These are thigh-length coats of armour made of small plates thonged or rivetted together. Since these types of suits are depicted in the Koguryö tomb paintings, they are considered to be a northern style and are identified with a horserider culture. [Pokch'ön-dong #11, 5c]

4. Accessories: shoulder guards, neck guards, belts and gauntlets are some of the small pieces of armour that accompany the major coverings.

a. Standup neck-guard for lamellar suit (Figure 14); vertical plates, thonged but some rivets; front neck panels on hinges. [Pokch'ön-dong #11, 5c; Pokch'ön-dong #21, 5c; Wölsan-ri M1-A, 5-6c]

b. Shin-guards (Figure 15) [Pokch'ön-dong #11, 5c; Wölsan-ri M1-A]

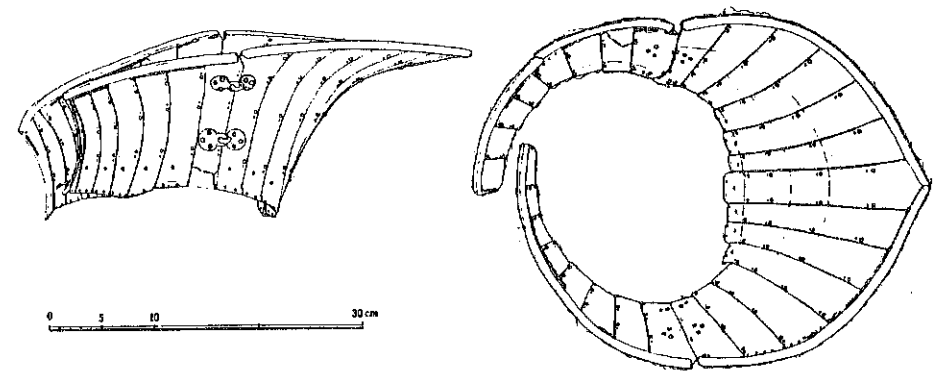


Figure 14 Standup neck-guard for lamellar suit. (Chöng & Shin 1991: fig. 6).

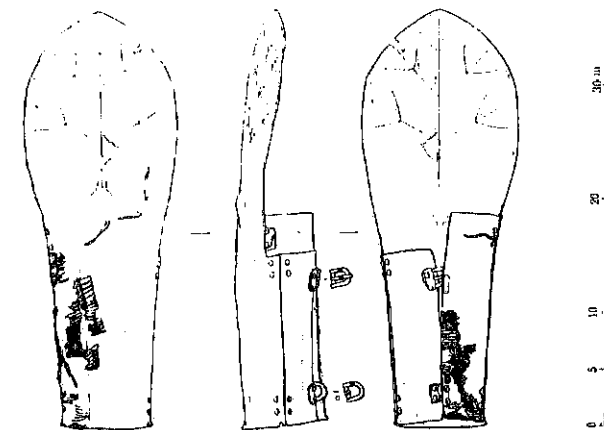


Figure 15 Shin-guards. (Pusan University Museum 1982: fig. 69)

c. Yoke-guard (Figure 16); two squarish sheet-metal pieces with rounded neck openings, worn over the shoulders. [Chisan-dong #32, rivetted, 5c]

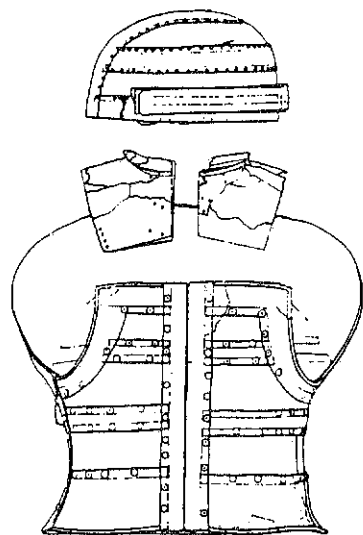


Figure 16 Neck-guard as part of a cuirass and helmet set. (Fujita 1991: fig. 5)

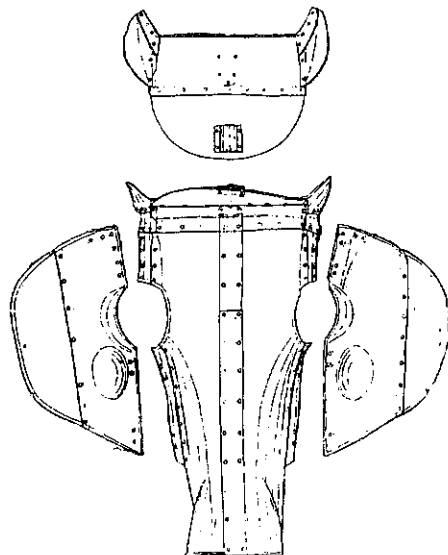
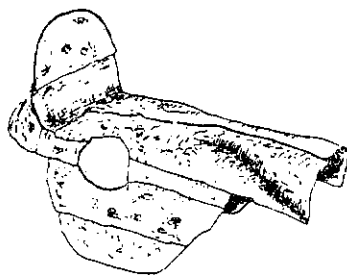


Figure 17 Chamfron parts (right) and drawn in oblique profile (upper left). (Han'guk Kogo Misul Yōn'guso 1984: 37)

5. Horse armour:

a. Chamfron (face plate) (Figure 17; made of wide iron plates moulded to horsehead morphology, with eye perforations and standup crest. [Pokch'ōn-dong #10, 5c; two from Okjōn #M-3, 5-6c; Okjōn #28, 5c]

b. Bardings; thonged square-plated armour draped over horse's body. [Okjōn #28, 5c]

Miscellaneous plates from these various forms of armour are often found isolated or disarticulated in the burials. It is rarely easy to determine from which type of armour they came.

Shin (1991) has divided these armour types into two main groups: local (helmet types 1-A,B,C; and cuirass type 2) and foreign (Mongolian helmet type 1-D; lamellar suit type 3; accessory type 4a). However, there are problems with this divisioning. Even the 'local' types might have originated elsewhere on the continent; and some of the types are shared with Japan—engendering dissenting opinions as to their locus of manufacture. Nevertheless, it is agreed by all researchers that a whole new type of armour was introduced into the southern peninsula and islands in the early 5th century by Koguryō. This armour consisted of so-called Mongolian helmets (1-D) and long lamellar suits (3) with various accoutrements (4a) as well as horse bardings. Indigenous 4th-century armour is considered to have belonged to warriors conducting foot warfare, while the foreign, Koguryō-type armour is assessed as horserider equipment. Despite the adoption of lamellar suits by the southern elite in the 5th century, cuirasses, the 'local' body armour, did not disappear. Instead, this older type of armour was relegated to lower ranks in the political hierarchy, as evidenced by its occurring in small, subsidiary tombs or being worn by 'followers in death'⁶ (Shin 1992: 139).

'Local' peninsular armour of the 4th century was mainly thonged; rivetting was a later technology. But one rivetted vertical-plated cuirass has been recovered from Pokch'ōn-dong tomb #46, dated to the 4th century; if this dating is accurate, this is the earliest incidence of riveting in either Korea or Japan, where the origin of the technique is hotly debated (Kitano 1991; Yoshimura 1991). From the 5th century, rivetting was adopted in local cuirass and helmet manufacture and became the standard technique on both the Korean peninsula and Japanese islands. The 'local' rivetted types include both vertical- and horizontal-plate cuirasses as well as visored and keeled helmets. All of these types also occur in Japan, and opinions differ concerning the area to which the various forms are indigenous. Most vertical-plate cuirasses have been excavated in Korea, whereas horizontal-plate cuirasses are more common in Japan. It thus seems reasonable to propose that these different types are native to different areas.

Local armour and its political significance

Peninsular armour in Yamato

The oldest examples of vertical-plate cuirasses were actually found in Japan and are thonged,⁷ while most of the peninsular vertical-plate cuirasses are of the newer,

⁶ This term indicates subordinate(s) who were buried with a leader, though the archaeological record does not reveal whether these were voluntary or sacrificial deaths.

⁷ at Omaruyama tomb, Yamanashi prefecture, and Shikinzan tomb, Osaka prefecture (Nogami 1991: 9; caption plate 29).

riveted type. Nogami concludes rightly that the peninsular riveted examples cannot be the prototypes of the insular thonged ones (1991: pl. 29 caption), implying that the vertical-plate cuirass originated in Yamato. But Fujita argues that the thonged examples found in Yamato were probably imports from the peninsula (1991: 397-8). The mechanisms by which cuirasses of Yōngnam manufacture might have come to rest in Yamato tombs must be investigated in the context of an Paekche-Yamato alliance of the late 4th and early 5th centuries (*cf.* Hirano 1977).⁸ In the late 4th century, Paekche was busy defending itself from Koguryō incursions from the north, which forced Paekche to move its capital from the Han River valley south to the Kūm River drainage in 375. Paekche tried to bolster its position vis-à-vis Koguryō by developing alliances with the Chinese dynasties (sending tribute to Eastern Jin in 372 [Shin 1992]) as well as placating Yamato (a prince was sent to Yamato in 397 [Hirano 1977: 55]). The seven-branched sword, manufactured in Paekche in 369 but housed at the Isonokami Shrine in Nara, is believed to have been presented to Yamato as part of the alliance in 372 (*cf.* Shinpō 1975; Hirano 1977: 56). In these relations between Paekche and Yamato, "Kara [Kaya] apparently acted as an intermediary" (Hirano 1977: 59); thus avenues and opportunities were evidently available for the transfer of small numbers of material objects, including Yōngnam iron, from the peninsula to the islands in the 4th century.

Yamato armour in Yōngnam

Again, several examples of similar helmets and horizontal-plate cuirasses are known from both Korea and Japan. Among those discovered on the peninsula, some (3 visored helmets in the Korea University and Sungjōn University Museum collections) are determined to have been made by entirely different techniques than those in Japan, while others (1 visored helmet from the Yōnsang-dong tomb in the Okura collection and 2 triangular-plated cuirasses, one in the Tokyo National Museum and one excavated in 1972 from the Sangpaeng-ri tomb) are identical to the Japanese examples (Anazawa and Manome 1991: 235-6).

Initially, when the latter, Yamato types of armour were discovered in Korea, Japanese scholars claimed these constituted proof of the Mimana hypothesis—that the southern peninsula was under Yamato military control in the 4th century as written in the *Nihon Shoki*.⁹ This interpretation is now disputed by both Korean and Japanese scholars on the basis of minute typological work on the armour finds. Firstly, the triangular-plated cuirasses and visored helmets of Yamato type found on the peninsula are late 5th-century products, not 4th-century, and so are too late to support the Mimana hypothesis. Secondly, they are so few in number among other local armour types that they can hardly be indicative of a military occupation (Shin 1992). Thirdly, Shin notes that the cuirasses and helmets, even if made in Yamato,

⁸ The interpretation of an alliance is diametrically opposed to the Horserider Theory, which postulates hostile and competitive relationships between Paekche and Yamato.

⁹ See Aston (1896) for the original documentation and Barnes (1990) for a discussion of the political interpretations.

were buried with political subordinates, while the Yōngnam 5th-century elite were wearing Koguryō-style lamellar suits and Mongolian helmets (Shin 1992).

Nevertheless, it is still possible that the Yamato-type examples excavated in Korea were actually made in Yamato, since they so closely resemble Japanese examples;¹⁰ in any case, it must be explained how they got to Korea. Anazawa and Manome (1991: 263-4) have developed two main hypotheses: 1) they were traded or gifted from Yamato to Kaya; or 2) they belonged to Yamato militarists who invaded Kaya territory, died, and were buried on the peninsula, or the armour was captured from Yamato soldiers by Kaya warriors and buried with the latter instead.

Finally the inscription of the Kwanggaet'o stele, erected in AD 414 in the Koguryō capital at Tonggou, must be taken into account. Part of the text, though highly controversial (Szczesniak 1946), has been interpreted to say that "in the Naktong river basin, [King Kwanggaet'o] crushed a Wa Japanese force attacking Silla" (Lee 1984: 38). And a few lines later, it is said that "The pieces of armour and helmets, that were captured, numbered over ten thousand" (Szczesniak 1946: 263). It is not clear whether these two statements relate to the same incident, but the general idea provides a vehicle for the presence of Yamato objects on the Korean peninsula.

High- and low-status Kaya warriors

As stated above, Shin and others believe that the highest class of 5th-century Kaya warriors or political leaders wore only Koguryō-type lamellar armour suits but that both lamellar armour and cuirasses (made with the new riveting techniques) were available also to lower-ranking warriors. These interpretations derive from only a few excavated examples—especially Pokch'ōng-dong tombs #11/10 and #22/21 (Table 2), and the Pan'gyeje 'Ka'-area and 'Ta'-area tombs.

In these examples, differences in size and construction of burial, and in quantity and kinds of grave goods are interpreted as reflecting status differences among the deceased (Figures 18, 19). In terms of the former variables, there are vast differences between the simple earthen pit of #21 and the stone-built chamber of #22. As for contents, the main burials not only had many more objects than the accessory burials in the same categories (stoneware, iron tools), they also had prestige goods (crown and earrings, beads, edge-curved and end-curved knives), wealth goods (iron ingots) and power goods (iron weapons) that were virtually absent from the latter. In these chamber sets, the cuirass is indeed absent from the highest status burials, and lamellar armour occurs in both main and accessory burials—as stated by Shin.

Similar status differences and the presence of lamellar armour at the top levels of the hierarchy can be seen at Pan'gyeje (Chinju National Museum 1987), though

¹⁰ The Yōnsan-dong example resembles a cuirass from Hakayama #1 tomb in Nara, and the Sangpaeng-ri example is very close to the Kurohimeyama tomb find in Osaka (Anazawa & Manome 1992: 235).

armour is much more scarce here. Areas 'Ka' and 'Ta' both contain large and small burials, with vast differences between the largest (Ka-A) and others. Ka-A is a pit-style stone chamber, 2.1m x 6.3m, that was filled with some 450 artefacts including: stoneware vessels; iron tools such as chisels, sickles and knife blades; iron nails and brackets; belt buckles and ornaments; and then a full complement of weapons (arrowheads, ring-handled straight single-edged swords), horsegear (bits, stirrups, ornaments, bells, saddle edgings) and some armour (a lamellar helmet with gilt bronze keeled cap ornament [type E, above]). In contrast, the smaller tombs in area Ka, whose chambers averaged about 2.5m in length, all have several stoneware vessels and perhaps one knife blade or arrowhead or spindle whorl each—but no armour.

In area Ta, there were two large tombs, Ta-A and Ta-B; neither, however, was as large or as rich as Ka-A. Ta-A, whose chamber was 5.5m long, held some 115 artefacts, including stoneware vessels, cylindrical net weights, spindle whorl, chipped stone tools, adzes, sickles, arrowheads, stirrup, bit and cheekplate, socketed spearpoints, belt buckles, plume spike, iron rings, nails and brackets—but no armour. Ta-B's chamber was 3.4m long and held 65 articles (stoneware vessels, knives, brackets, a wrapped adze and sickle, a socketed spearpoint, arrowheads, ring, buckle, and rivetted plaques)—but no armour. Correspondingly, the smaller tombs in area Ta had just a few vessels and maybe one small iron object, as in area Ka, and no armour.

The largest tombs in areas Ka and Ta can thus be ordered in terms of size and contents, with Ka-A the greatest, then Ta-A and finally Ta-B. Though ranging in size from 6.3m down to 3.4m in chamber length and varying from 450 to 65 grave goods, all three of these tombs contained armour or horse trappings—in contrast to even smaller graves of maximum 2.5m length and less than 10 objects which had no armour or trappings. Thus, at least three levels of the warrior hierarchy had access to the new 'foreign'-style goods in term of horse trappings or lamellar armour.

In assessing these data for armour and status relations, it must be noted that the 'high status' Pokch'ön-dong tomb #22 had no armour at all and that the 'high status' Pan'gyeje Ka-A tomb had only a Mongolian helmet. These cases recall the earlier statement cited above that main chambers often had gold crowns as their high status good and that armour was relegated to accessory chambers. I perceive here difficulties in interpretation based on small sample size and considerable variation in the burial assemblages. Are main chambers with lamellar armour, though 'high' status', still lower than one with a gold crown? Is some differentiation between king and warrior being indicated—such as I have suggested for the 5th-century Yamato tomb of Mesuriyama (based on an equally small sample size; Barnes 1988: 193)? Only a thorough database analysis of Yöngnam materials will allow us to accept or refute the generalisations being made in the current archaeological literature.

However, one insight attainable from these data is that the variation in Yöngnam burials suggests decentralised manufacture and use of armour in local political systems—just what we might expect of the many small Kaya polities as described in

the historical literature. This situation contrasts greatly with the case that is currently being made for organised, centralised production of iron armour in 5th-century Yamato (Yoshimura 1991).

Table 2 Comparison of grave goods in main and accessory burials at Pokch'ön-dong. (compiled from Pusan University Museum 1990)

<u>Main chamber (#11)</u>	<u>Accessory chamber (#10)</u>
Lamellar suit with standup neck-guard	Vertical-plate cuirass
Mongolian helmet, thonged	Mongolian helmet, thonged
Shin-guards, set	—
Gilt bronze crown & earrings	—
Iron weapons: arrowheads, socketed spearheads, edge-curved spear- heads, swords	—
Quiver fixings: buckles, rivets, edgings	—
Iron ingots	—
—	Chamfron
—	Horse trappings; saddlery, bit, stirrups, buckles, bell
Stoneware	Stoneware
Iron tools: knives, curl-end knives, socketed axe/adzes, sickles, point planes, bracket nails	Iron tools: chisel, knives
<u>Main chamber (#22)</u>	<u>Accessory chamber (#21)</u>
—	Lamellar armour waist-plates
—	Standup neck-guard
—	Mongolian helmet with vertical neck-plates
Horse trappings: stirrups, bells, saddlery, bit	Horse trappings: bit, stirrups, buckles
Iron weapons: arrowheads, edge- curved spearheads, socketed spearheads, swords	Iron weapons: arrowheads
Quiver fixings: buckles, edging, plaques	—
Iron ingots	—
Personal ornaments: beads, earrings	—
Stoneware	Stoneware
Iron tools: knives, curl-end knives, socketed axe/adze, socketed spade shoe, bracket nails	Iron tools: sickles, knives, socketed axe/adzes

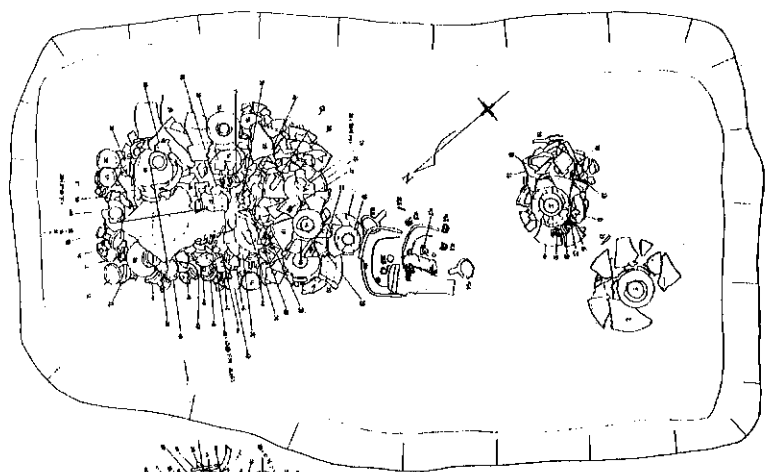
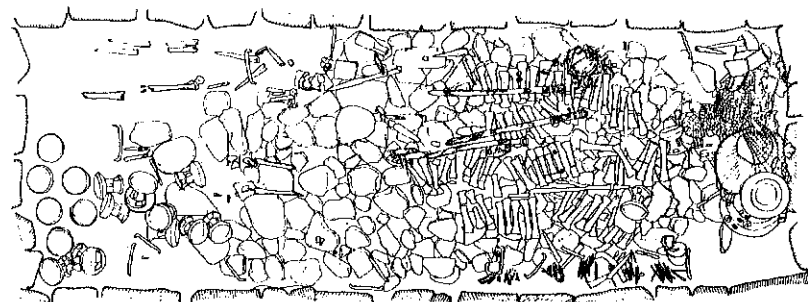


Figure 18 Main burial #11 (above) and accessory burial #10 (below) at Pokch'ŏn-dong. (Pusan University Museum 1982: figs. 6, 14)

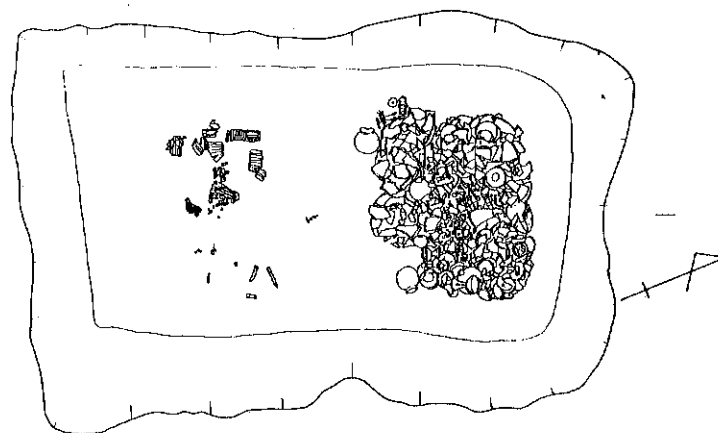
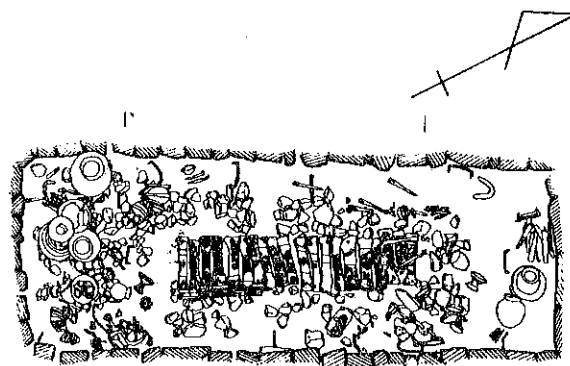
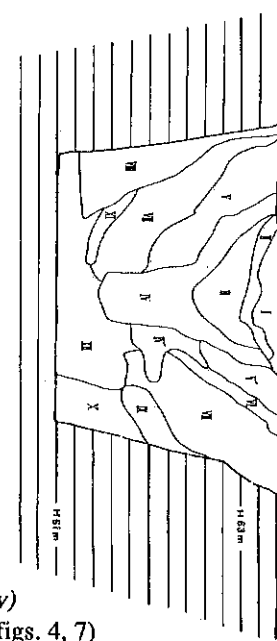
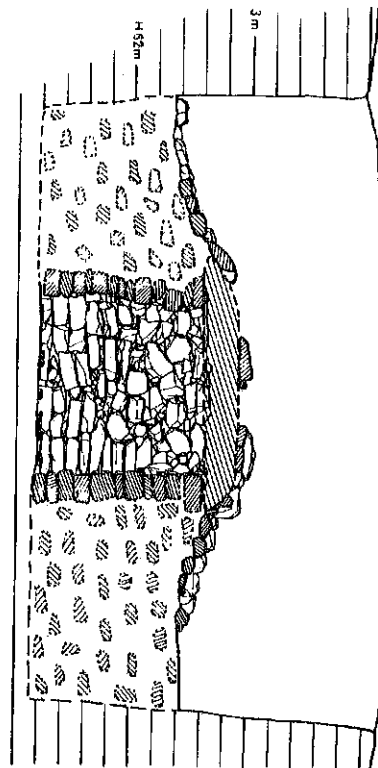


Figure 19 Main burial #22 (above) and accessory burial #21 (below) at Pokch'ŏn-dong. (Pusan University Museum 1990: figs. 4, 7)



Concluding remarks

It is notable that the tomb construction and accompanying grave goods in these burials with armour on the south Korean coast are entirely peninsular in nature. A minute number of objects that obviously came from the Japan Islands—such as the talc and bronze pieces in the Taesong-dong tombs—are significant in their rarity. It is very difficult to argue on this basis that the armour-bearing tombs might belong to Yamato militarists holding the fort at Mimana.

More difficult to determine from these data are the relationships between the Kaya polities in the Yōngnam region and the larger states of Koguryō, Silla and Paekche. Are some of the Yōngnam burials with lamellar armour actually Koguryō warriors, as suggested by the Kwanggaet'o stele inscription? Or did the Kaya elite merely adopt lamellar armour from the Koguryō at this time? Ethnic identity cannot be established on stylistic data alone—such as the type of armour or style of ornamentation. But by understanding the social position of the wearers of armour and the means by which such armour was produced and came into their possession, we might gain insights into the social organisation of Yōngnam society and its relations with its neighbours. Undoubtedly the region's historic reputation as a source of iron for the surrounding peoples (*cf.* Gardiner 1969: 48) was responsible for much of Kaya's interaction with other Pen/Insular states. Whether the iron armour discovered in Yōngnam's tombs helped the wearer to protect such iron resources from encroachment or whether it represents efforts to co-opt those resources is the greatest question facing us today.

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Objects, sinkers, nets, behaviour and subsistence:

the use of culturally specific and relational analogies in
archaeological reasoning

Youn-sik CHOO

I am the very model of a modern Archaeologist:

a geoethnoarchaeoeconomobiologist.

I've seventeen research degrees, from fifteen different colleges...

Patty Jo Watson, 1986

Introduction

Many of the generalisations about archaeological cultures are drawn by analogy with living ethnographic or folk cultures. Whether the very early uses of analogical inference in archaeology are traced back to the ancient Athenian times (Charlton 1981: 133) or to the 16th century in England (Orme 1981: 3), they show that the use of analogy has a long history. Such analogical inference has been accomplished through different types of analogy used in different geographical regions according to the nature of the archaeological record archaeologists deal with.

Broadly speaking, in the Old World, paralleling the expanding ethnographic knowledge of the New World, general comparative analogy had been widely applied to prehistoric culture of the Old World "for the understanding of artefacts and for the comprehension of development in human culture" (Orme 1981: 13), and it became conceptually linked with the 19th century unilineal evolutionary schemes. A typical example of general comparative analogy conceived in the tradition of unilineal evolutionism was Sollas's *Ancient Hunters* (Sollas 1924). However, these