DOI: 10.17746/1563-0110.2020.48.2.059-068

I.S. Gnezdilova, A.L. Nesterkina, E.A. Solovyeva, and A.I. Solovyev
Institute of Archaeology and Ethnography,
Siberian Branch, Russian Academy of Sciences,
Pr. Akademika Lavrentieva 17, Novosibirsk, 630090, Russia
E-mail: gnezdilova06@mail.ru; a.l.subbotina@yandex.ru;
easolovievy@mail.ru

Wooden Constructions in Bronze and Iron Age Burials in Japan and Korea

Throughout the period from 300 BC to 700 AD, significant changes took place in the life of population of Japanese Archipelago and Korean Peninsula, which were reflected by the burial rite. Specifically, the practice of using wood in mounded burials became particularly common. Such numerous instances in both regions are analyzed, the placement and several elements of wooden structures, accompanying artifacts, sorts of wood etc. are described in this work. The changes in burial rite practiced in ancient Japan can be seen. During the Yayoi period (300 BC to 300 AD), jar burials gave way to those with wooden structures in Western Japan regions closest to the mainland. It's established that traditions co-occurred with innovations, as seen from the fact that such structures were coated with clay. Further development took place during the Kofun period (300–538 AD), when first log coffins appeared, then composite coffins, and eventually stone coffins. Similar burial practice existed in Korea earlier than in Japan, the peak of this tradition coinciding with the period of Three Kingdoms (200–600 AD). The comparison of the ways the tradition evolved in both regions suggests that it had originated on the mainland, was introduced to Japan by successive immigration waves, and was then adapted to local conditions.

Keywords: *Bronze Age, Iron Age, Yayoi period, Kofun period, burials, wooden constructions, coffin.*

Introduction

Tree is one of the earliest sources of raw materials and symbols of the universe structure, eternal life, and cycles of death and revival, that appear in the beliefs of traditional societies of Eurasia. In some regions, mostly with indistinct seasonal cycles, the concept of the tree does not exist in such accentuated and explicit form, and in the distant past it may have coexisted with, or even replaced by, other symbols of the universe. Their appearance and distribution, observed in archaeological evidence, may indicate active contacts between human communities. This study discusses a rare and specific case of exchange of ideas in the spiritual area, which does not often occur in the pre-literate stage of the history of Northern and Eastern Asia. Contemporaneous evidence from the geographically and culturally close regions of the Japanese Archipelago and the Korean Peninsula provides interesting information for discussing this topic. This study intends to compare the traditions of using wood in the burial rites of the ancient populations inhabiting these territories, identify the common features in using wooden elements in burial structures, and indicate the direction in which this phenomenon spread.

Through the course of the Yayoi period, burial practices in Japan were quite diverse. Burial places were chosen far from the settlements and were marked by moats; earthen mounds (*hōkeishūkōbo*) were built over the burials. Most

Archaeology, Ethnology & Anthropology of Eurasia 48/2 (2020) 59–68 E-mail: Eurasia@archaeology.nsc.ru

often, people were buried in ceramic vessels (less often in pits), and sometimes in wooden structures. It is difficult to establish the structural features of the latter burials because of the poor preservation of wood; nevertheless, it can be asserted that in the Middle and Late Yayoi period mainly composite wooden coffins were used. Wooden coffins (*mokkanbo*) made of longitudinal or transverse planks had the form of a long box with a cover. Stone coffins (*sekkanbo*) were assembled in burial pits from rectangular slabs or large stones. They had the form of a bottomless box; four to five stones served as the cover. A flat burial with a large stone or dolmen on the surface (*shisekibo*) was typical of the Yayoi period. Graves with wooden burial chambers (*mokkakubo*), similar to those created in China in the Yin period, have been discovered in Japan and on Korean Peninsula. The appearance of such burials in Japan can be explained by the influence of Chinese or Korean culture.

Burials with wooden structures in the Japanese Archipelago

Wooden structures in burials appear mainly in western Japan, including Kyushu Island. Given the specific features of such structures, this region can be divided into three zones.

Burial grounds in the Kinki region (modern name Kansai) were usually round- or square-shaped ditch-enclosed slightly elevated burial precincts. There were several graves inside each enclosed area. It is considered that some of these enclosed areas were initially low mounded tombs, whose mounds subsided over time (Yayoijidai-no haka…, 2014: 10). Jar burials, small square grave pits and stone shield graves of eight to nine stones, as well as burials framed around with stone or wood and burials in wooden coffins, have been discovered in this area (Kaneko, 1966: 24). The assumption on the presence of wood in burial structures of the Yayoi period was first confirmed during special studies at the Tano site in 1965. The Tano burial complex in Amagasaki (southeastern part of Hyōgo Prefecture) includes seventeen burials under earthen mounds, including burials with wooden coffins. Their lateral parts and bottoms were made of long planks; the covers were made of short planks (Fig. 1, *1*). This is a typical structure of wooden coffins of the Yayoi period. The assumption that coffins were placed in the graves, not just the planks on which the bodies were laid, is confirmed by distinctive imprints left by the structure on the bottom of the grave. There were probably several varieties of wooden structure for burials (Fig. 1, *2*). The above-mentioned structures were made of Chinese yellowwood (*Podocarpus chinensis*). Typical grave goods included bronze swords, jasper beads and shells-imitating bracelets, and can be considered to be evidence of the influence from the Northern Kyushu Island.

Twenty-two burials were explored at the Tokugo site in Amagasaki; each of the burials was square-shaped ditch-enclosed. Fragments, possibly the plank remainders, were found in several burials. Unfortunately, it was impossible to identify the finds more accurately due to poor preservation resulting from prolonged exposure to an acidic environment. The data about the structural features of the wooden elements have been clarified, making it possible to establish that the remains of wood found at the Ashiya site belonged to Japanese umbrella pine (*Sciadopitys*), and the thickness of the bottom board of the coffin in grave No. 3 was about 13 cm. During the study of the Katsubu site (Osaka Prefecture), elements of a wooden structure were found; its lower part with recesses was preserved relatively well (Yayoijidai-no haka…, 2014: 13).

Several wooden structures, including large ones, have been discovered and investigated at the Tamatsu Tanaka site (Hyōgo Prefecture). For example, a wooden coffin in a good state of preservation, 167 cm long and 52 cm wide, was found in burial No. 40023. The bone remains belonged to a woman 35–45 years old and ca 150 cm tall. A wooden coffin from burial No. 40024 reached 172 cm in length and 57 cm in width; the boards were made of Japanese umbrella pine (Fig. 1, *3*). Thirteen graves were found at the Ashiya site in burial No. 2, which was square-shaped ditch-enclosed. A man ca 40 years old was buried in grave No. 1 in a wooden coffin 164 cm long, made of Japanese cypress (*Chamaecȳparis obtūsa*).

The best known burial sites in the San'in region (modern name Chūgoku) are the Nishidani and Satadani burial complexes. The Satadani complex dates back to the beginning of the Late Yayoi period. Graves were located under earthen mounds, upon which large single round stones or groups of stones were placed. The deceased were placed inside wooden coffins. The walls of the graves were lined with wood. Mounded tomb No. 3 of the Nishidani complex (one of the largest in the San'in region) dates back to the Early Yayoi period. The diameter of its mound was 40 m east-west, and 30 m north-south; its height was 4 m. In the central burial of the mounted tomb, a wooden burial chamber with a coffin, as well as 200 fragments of pottery (both locally produced and brought from the territory of the modern Kyoto and Fukui Prefectures), were discovered, which suggests a fairly well-developed exchange between the territories.

The Tatetsuki mounded tomb (Okayama Prefecture) relates to the end of Late Yayoi period. Its mound was rounded, 80 m long, 43 m wide, and 4.5 m high. On the top, stones were set vertically in one line. In the center of the mound, a pit, a wooden chamber, and a coffin were found. Grave goods contained red lacquered ceremonial vessels (Ibid.: 62–65).

Fig. 1. Burials with wooden structures on the Japanese Archipelago.
1 – coffin-box (reconstruction) from Tano; *2* – constructions of coffins in the burials of the Yayoi period (Jajojdzidaj-no haka…, 2014: 10); *3* – coffins in the burials of the Tamatsu Tanaka site (Ibid.: 14); *4* – types of coffins from the Kofun period: *a* – split-log-shaped coffin (*waritakegata*), *b* – boat-shaped coffin (*funegata*), *c* – box-coffin (hakogata); *5* – burial chamber in the Hokenoyama mounded tomb (Hokenoyama…, 2001: 19); *6* – diagram of the burial of the Hokenoyama mounded tomb (Ibid.: 18); *7* – wooden log coffin from the Shimoikeyama mounded tomb (Okabayashi, 2006: 33).

The Hyakkengawa-Sawade site (Okayama Prefecture) is located on the banks of a river and includes a settlement, a burial ground, and ritual constructions. The deceased were buried in stone or wooden boxes under dolmens. Most likely, this tradition was brought from the Korean Peninsula (Mizoguchi, 2013: 59). The dolmens continued to be built at cemeteries until the Middle Yayoi period.

The sites on Kyushu Island are especially noteworthy. The Etsuji burial complex (Fukuoka Prefecture) is surrounded by moats; burials are grouped in two zones. Excavations in the eastern zone have revealed thirteen composite wooden coffins, one pit burial, and two burials in ceramic vessels. Graves are arranged in rows. The complex with burials includes "granaries", raised-floor storehouses, and dolmens (Ibid.: 62).

At the Sinmachi cemetery (Fukuoka Prefecture), burials can be clearly divided into groups: northern and southern. In the northern group, graves are placed randomly; they contain wooden coffins and vessels; dolmens are set at the top. Graves in the southern group form rows; some burials are closely adjacent to each other, which may indicate the kinship of the buried (Ibid.: 96).

At the Shimo-Tsukiguma Tenjinnomori site (Fukuoka Prefecture), the graves are arranged in rows. Grave pits are square. The deceased were most often buried in composite wooden coffins. Jar burials have also been observed. The burials, where urns were placed on the covers of coffins, can be associated with the transition to this new burial tradition.

The Yoshitake-takagi site (Fukuoka Prefecture) shows burials in wooden coffins and jars arranged in pairs in rows. Burial No. 3, with a composite wooden coffin, is considered the richest. Two daggers, a point, a pickaxe, a *magatama* decoration, a mirror, and 95 jasper beads were found inside. The skeleton has not been preserved (Yoshitake-takagi, 1986: 22).

The study of information about wooden structures in Yayoi burials allows a conclusion to be drawn that the construction of wooden coffins from boards and the presence of red pigment in the burials were typical of the Kinki (Kansai) region. Some burial pits had wooden lining on the walls. Umbrella pine, Chinese yellowwood, and Japanese cypress were usually used as sources of timber. Adults were most often buried in wooden coffins; children and infants were buried in vessels and sometimes in wooden coffins. In the San'in (Chūgoku) region, square-shaped earthen mounds were made over the graves with wooden coffins; the burial place was often marked by large stones. Rich grave goods were left in the burials; cinnabar was used as a red pigment. On Kyushu Island, graves were arranged in rows. Together with the wooden coffin, a vessel was often placed inside the grave, and a dolmen was built on the surface. The rows of graves included burials in wooden coffins (mainly adults), jar burials, and pit graves (mainly children). Throughout the entire territory, burials in wooden coffins and stone coffin-boxes, similar in design to wooden coffins, have been found. By the end of the Yayoi period, wooden structures had been replaced with ceramic urns.

Wooden structures have also been found in the burials of the Kofun period. Initially, coffins were made from a whole tree-trunk. Later, the tradition of burying the dead in wooden coffins coated with clay (in mounded tombs without the stone chamber), as well as wooden composite coffins and boat-shaped, split-log-shaped or house-style stone sarcophagi, became dominant. At the end of the Kofun period, wooden coffins covered with lacquer appeared, as well as coffins made of cloths glued together with lacquer.

Wooden log coffins have been found in large mounded tombs of the Early Kofun period. Starting from the Middle Kofun period, the deceased were buried under large mounds in box-shaped sarcophagi made from wooden planks. Later, wooden coffins were replaced with stone sarcophagi of the same shape.

A split-log-shaped coffin (*waritakegata*) (Fig. 1, *4*, *a*) was made by sawing a round tree-trunk and hollowing it out. Log coffins were made of Japanese umbrella pine. They occur in mounded tombs of the Initial Kofun period. A boat-shaped coffin (*funegata*) (Fig. 1, *4*, *b*) is similar in shape to log coffin of the previous type, but differs in the presence of protrusions in the ends. Due to its unsatisfactory degree of preservation, it is rather difficult to reconstruct its original appearance. Such log coffins have also often been found in mounded tombs of the Initial Kofun period. Wooden coffins in the form of boxes (*hakogata*) (Fig. 1, *4*, *c*) were made of boards. They had been used for burials since the Middle Kofun period. Such structures most often occur in the burials of ordinary members of society.

The earliest log coffin of the Kofun period was discovered in the burial chamber of the Hokenoyama mounded tomb (Nara Prefecture), dated to the period from the early to mid-3rd century AD (Hokenoyama…, 2001: 47). The mounded tomb was built of two mounds adjacent to each other: one round and another trapezoidal. The total length of the mounded tomb was about 80 m. In the round mound, there were two burials from different periods. The earlier one is represented by a burial chamber (Fig. 1, *5*), containing log coffin. The length of the coffin, made of Japanese umbrella pine, is ca 5.3 m; the width in the widest part is 1.3 m. The structure of the burial chamber in the Hokenoyama mounded tomb can be considered a transitional form to the classic arrangement of chambers in the Early Kofun period. The log coffin was located on a stone base inside the wooden enclosure made of boards attached to posts. On the outside, the wooden structure was completely covered with stones (Fig. 1, *6*). The length of the wooden enclosure was ca 5.5 m; the

width was 2.6 m, and the estimated initial height of the chamber was 1.5 m (Okabayashi, 2006: 27). It should be mentioned that typical wooden log coffins of the Early Kofun period usually reached 5–6 m. At a later time, a wooden enclosure was not created in the burials; the log coffin was placed on the pebble or clay base, and a burial chamber of stones or stone slabs was constructed around the log coffin.

The Shimoikeyama mounded tomb is an example of a classic Early Kofun burial chamber. This is the mounded tomb with two mounds adjoining each other: one mound of a square shape at the base, another one trapezoidal. The total length of the mounded tomb was 120 m; the length of the square mound, under which the burial was located, was 60 m, width 57 m; the length of the trapezoidal mound was 57 m, width 27 m. A burial chamber 6.8 m long, 1.3 m wide, and 1.8 m high was found in the central part of the square mound. Although the mound was looted several times in the past, a wooden log coffin made of Japanese umbrella pine has survived inside the chamber. The chamber floor was completely covered with fine gravel; a small elevation about 30 cm high and about 1 m wide had been made in the central part (Ibid.: 29). Grave goods included *magatama* and *kudatama* adornments, glass beads, an iron sword, an iron spearhead, and arrowheads. In addition, a bronze mirror, oriented with its back side up, was discovered in the burial chamber (Yamato-no ko:kogaku…, 2002: 163). The wooden log coffin was poorly preserved; its initial length could have been about 6 m. The central part was hollowed out, length/depth is 3 m and 0.2 m, which means that the space for the buried person was small (Fig. 1, *7*).

A log coffin probably similar to the coffin from the Shimoikeyama mounded tomb was found in the Kurotsuka mounded tomb, Kansai Region (Nara Prefecture). The length of the find was ca 6.2 m; the diameter in the widest part was 1 m. The length of the hollow made in the central part for the body of the deceased was 2.8 m (Kawakami et al., 1999: 99).

A part of a wooden log coffin about 2.7 m long was found inside the burial chamber in the Yamato Tenjinyama mounded tomb (Nara Prefecture). Initially, it was a wooden split-log coffin 5 m long and about 0.7–0.9 m diameter. In the hollow, wooden partitions were retained, dividing it into three parts; human remains were in the central part (Okabayashi, 2006: 29). Thus, it was typical for the Initial Kofun period to place the body of the deceased and the accompanying goods in a hollow in a central part of the log coffin (for example, the Shimoikeyama and Kurozuka mounded tombs). Log coffins with hollows divided into three parts by partitions have also been known. The skeleton of the deceased was placed in the central, usually largest part, while the grave goods were placed in two other parts (the Yamato Tenjinyama mounded tomb).

The log coffins found in the Shimoikeyama and Tenjinyama mounded tombs were made of Japanese umbrella pine. Giant trees 400–500 years old were chosen for that purpose. Wooden coffins of umbrella pine have also been found in the burials of the Late Yayoi period. During the Kofun period, umbrella pine was widely used for creating burial structures in Kansai region (the central part of Honshu Island). In rare cases, it was replaced with cryptomeria (*Cryptomeria japonica*), Sawara cypress (*Chamaecyparis pisifera*), camphor tree (*Cinnamomum camphora*), Japanese zelkova (*Zelkova serrata*), or Japanese chestnut (*Castanea crenata*). Notably, the log coffin discovered in Kurotsuka mounded tomb was made of mulberry (*Morus*) (Ibid.: 30), which is rare for the burials of the Kofun period.

It is unclear why tree-trunks of large sizes were used for burials. Japanese scholars proposed several hypotheses. According to some specialists, large tree-trunks were chosen for containing numerous grave goods; others think that free space inside such a tree-trunk was necessary for carrying out the ritual of transferring the spirit of the chief, during which the candidate for the place of new chief was enclosed for a certain time inside the tree-trunk together with the deceased (Ibid.). However, these explanations do not take into account the fact that hollows in the tree-trunks, although big, were still not large enough to accommodate all the grave goods. Tripartite log coffins (the Tenjinyama mounded tomb) could not have been used for the ritual, because it was impossible to place another person in them. Thus, specialists have not offered convincing explanations for this phenomenon yet. It is possible that first log coffins from the Initial Kofun period burials were boats, which had been used in real life, or models of such boats, specifically made for the burial and reproducing real items in their shapes and sizes.

Box-coffins made of planks were found at the cemeteries where ordinary members of the community were buried. For example, in the group of the Miyanotani mounded tombs (Hyōgo Prefecture), dated to the first half of the Kofun period, wooden box-coffins were found in most of the investigated burials, while stone box-coffins were found in two burials (Terayama…, 2010: 20). The sizes of the wooden coffins varied from 0.95 to 1.9 m in length and from 0.4 to 0.85 m in width. The grave goods included Haji ware, iron knives, swords, and tools (sickle and axe), as well as iron plates, which strengthened working surfaces of wooden shovels and hoes.

Wooden box-coffins (*hakogata*) have also been found in large mounded tombs, although in the structures of the Middle and Late Kofun period, sarcophagi made of stone occur more often. In the Inouchi-inarizuka mounded tomb (Kyoto Prefecture) of the Late Kofun period (first half of the 6th century), a composite wooden box-coffin was discovered in the crypt located under the mound.

The wooden coffin (planks 1.7–1.8 m long, 0.4–0.5 m wide, about 1–2 cm thickness) was located directly at the entrance to the burial chamber (Inouchi-inarizuka…, 1997: 12). There were no grave goods in the coffin; iron swords were found near the wall, in the "corridor", right in front of the entrance to the chamber; iron arrowheads, ceramic vessels, fragments of ceramics, *kudatama* adornments, earrings, and fragments of horse harness were found inside the chamber.

On the Japanese Archipelago, burials in wooden log coffins have been most often discovered in the "elite" large mounded tombs with two mounds, dated to the Early Kofun period. These mounded tombs had burial chambers. Wooden box-coffins were rarely found in the mounded tombs with round and trapezoidal mounds, stone sarcophagi began to be widely used since the Middle Kofun period.

Burials with wooden structures on the Korean Peninsula

The earliest burials with wooden structures (Goejeong-dong, Namsong-ri, Dongseo-ri, Hapsong-ri, Cheongsong-ri, Hoam-dong, Daegok-ri, Chopo-ri) are located in the southwestern part of the Korean Peninsula, and have been attributed to the Early Iron Age (4th–2nd centuries BC). Wooden structures are represented by wood decay. However, judging by the outlines of the finds, these were coffins placed into deep grave pits. Numerous stones found in the filling of the pits probably belonged to stone or stone-earthen mounds (Hanguksa…, 1997: 78–88).

The evidence from the Daho-ri site in Uichang County of Gyeongsangnam-do Province gives an idea of wooden structures in such burials. This site was discovered and partially explored in 1988. In the initial stage of works, it already became clear that it was a cemetery, mostly consisting of burial pits with wooden coffins (Lee Geongmu et al., 1989: 8, 13).

The only well-preserved wooden structures were in burial No. 1, made in a subrectangular grave pit 2.78 × 1.36 m and 2.05 m deep. The buried person was placed with the head possibly to the southeast. Such an assumption can be made taking into account the greater width of the coffin in the southeastern part, as well as glass beads associated with the headdress or upper part of the clothing of the buried (Ibid.: 14).

The wooden coffin discovered in the burial was a log chopped in a longitudinal direction, with a diameter of about 1 m, and a hollowed core. Its length was 2.4 m and width 0.85 m (Fig. 2, *1*, *a*, *b*). The lower part of the split log served as a coffin, while the upper part was the coffin's cover. Four symmetrically located grooves were at one end (at the head) of the coffin. Four square-like through-holes were made in the opposite ends of the coffin and in its cover (Fig. 2, *1*, *c*, *d*). Given the preserved rope fragments, it's safe to assume that the rope was passed through the holes for getting the coffin into the grave pit. The cover and bottom of the log coffin also had square-like through-holes, located one above the other. These holes were used for inserting wedges to secure the attachment of the coffin and its cover in the grave pit, preventing the coffin from falling to the side. It has been established that the coffin was made of about 350 years old oak (*Quércus*) (Ibid.; 2008 teukbyeoljeon…, 2008: 108–124).

Grave goods were found in various parts of the filling of the burial pit, both inside and outside the log coffin (Fig. 2, *2*). A unique find was a distinctive box measuring 65 × 55 × 12 cm, which was a part of the funeral goods. That box was placed in a special pit in the middle part of the burial. The grave goods from the box included two bronze daggers in wooden scabbards, an iron dagger in wooden scabbard, an iron knife with a ring-shaped pommel in a wooden scabbard, a bronze spearhead, four iron spearheads, six iron adzes, two sickles with wooden handles, a bronze mirror with the so-called nebular* design, round bronze plaque with geometric décor and hole in the center, four bronze rings, three Han *wu zhu* coins, bronze bell, and five brushes for painting lacquer products.

Inside the log coffin, there were fragments of plain pottery, fragments of a small wooden table or jewel-box, an iron adze, and glass beads. Iron adzes, a chisel-like tool, a celt axe, hoes with wooden handles, lacquerware objects (a fan handle, a scabbard, a cylindrical box with a lid, lids for vessels, goblets on a *dou* tray), fragments of ceramic pots, wooden onlays on the bow, and fragments of basket and rope were found in the filling of the grave pit (Lee Geonmu et al., 1989: 15–27; Sin Yongmin, 2009: 169).

Burial No. 1 differs from the rest of the burials at the cemetery in its richness and variety of grave goods, including not only local, but also imported items (mirror with the nebular design, *wu zhu* coins), which indicate the elite status of the buried person. The date of burial No. 1 and the Daho-ri site was established from the Han *wu zhu* coins as the first century BC to the first century AD (Lee Gonmu et al., 1989: 15–27, 53).

The presence of the numerous iron tools in the burials under consideration indicates that iron was widely used in this period. Iron was even exported to the neighboring territories. The "Descriptions of Byeonjin" in the

*Nebular design (Japanese 星雲紋 *seisunmon*, literally 'stars and clouds', Korean 성운 문 *sonunmun*) is a type of ornamental décor on bronze mirrors from East Asia. The symbolism of the design is associated with the cosmogonic beliefs of the ancient population, and renders the structural elements of the heavenly vault.

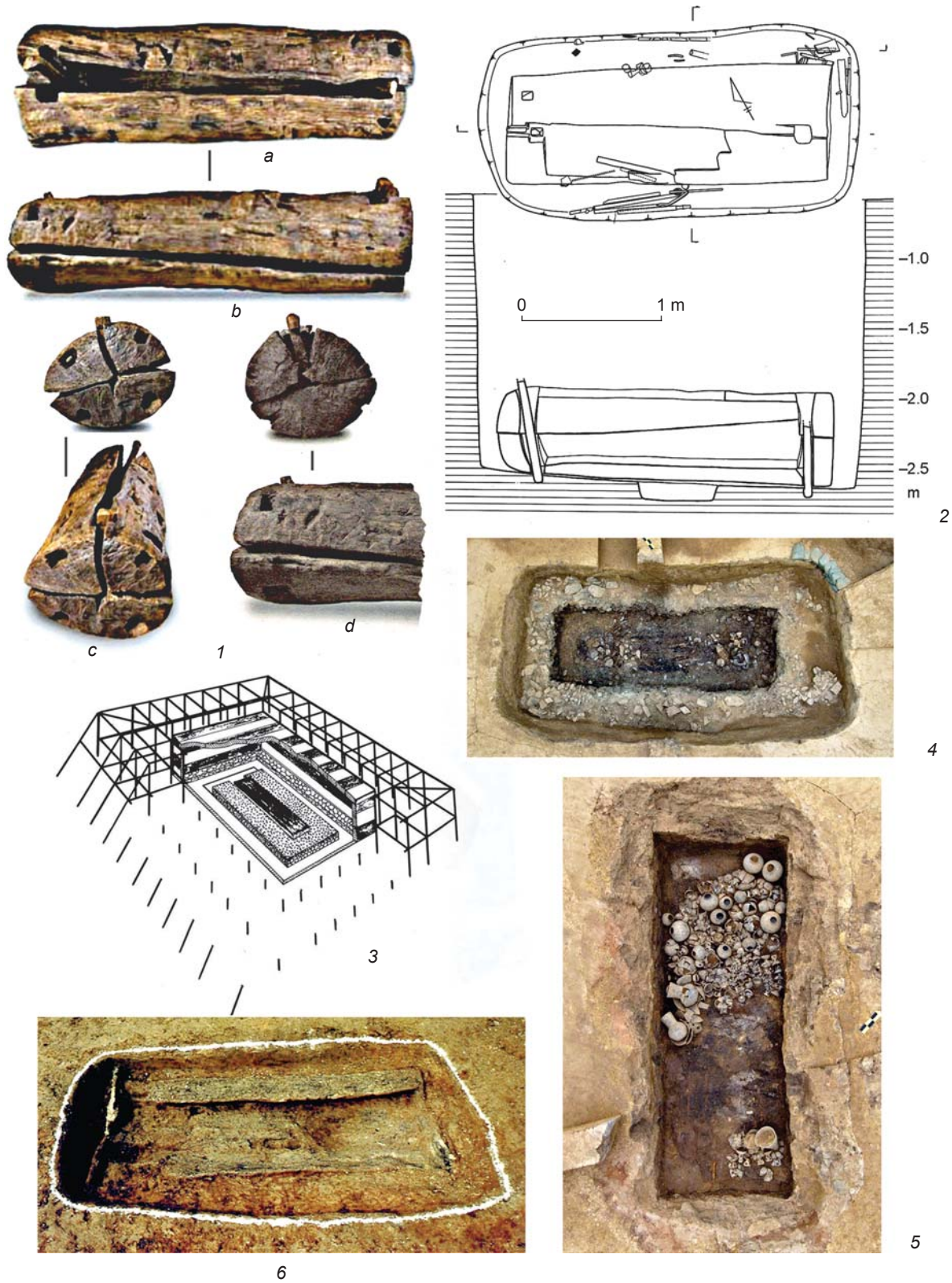

Fig. 2. Burials with wooden structures in the Korean Peninsula.
1 – log coffin from Daho-ri mounded tomb No. 1: *a* – top view, *b* – side view, *c*, *d* – view from the ends (2008 tkhykpkhel'dzhon…, 2008: 118–123); *2* – diagram of the Daho-ri burial with log coffin No. 1 (Lee Geongmu et al., 1989: 133); *3* – burial with wooden chamber in the Hwangnam Daechong mounded tomb (Hwangnam Daechong I…, 1985: Fig. 5); *4*, *5* – burials with wooden coffins No. 1/1 and 1/2 in the Daeri-ri A-2 mounded tomb (Kwon Hyein et al., 2012: 5); *6* – burial with wooden coffin in the Seokchon-dong mounded tomb (Kim Giun, 1991: 33).

"Sānguózhì" ("Records of the Three Kingdoms") about the Korean tribes *Byeonhan and Jinhan*, whose culture included the Daho-ri cemetery, says the following: "The country exports iron, which is acquired here by (Ma)han, Ye, and Wo (Japan). Iron is in circulation on the market here just as coins are used in the Middle Kingdom. Iron is also exported to two districts (Daifang and Lolang)" (cited after (Park, 2001: 32)). A ceramic vessel of the Yayoi period is a testimony to the contacts between the population of Korean Peninsula and islands of the Japanese Archipelago. It was excavated from the cultural layer outside the zone of the burial structures, but initially it probably was in one of the burials. The item belongs to the late version of the Sugu II type (Inoue, 2009: 225–226, 232, 240–241).

Thus, the evidence from burial No. 1 at the Daho-ri cemetery provides unique information on the earliest wooden structures in burials in Korea. In the first century BC, the tradition of burying the dead in stone coffins and burial chambers of megalithic structures typical of the Bronze Age was fading already away, being replaced with skillfully made wooden log coffins. According to the evidence from other sites, burials in wooden log coffins were found in mounded tombs with stone or stone-earthen mounds.

The tradition of constructing wooden coffins was widespread in the Korean Peninsula during the period of the Three Kingdoms (3rd to 6th centuries AD) among the populations of Silla, Gaya, and Baekje kingdoms. Mounded tombs with stone-earthen mounds, wooden chambers and coffins were typical for the Early Silla culture. In most cases, burial took place on the ancient daylight surface level, preliminarily covered with several layers of pebble. The wooden coffin with the body of the deceased and a box with the grave goods were placed on the pebbles. At first, the burial chamber was built over the coffin and grave goods box using wooden boards; then a stone mound was made and covered with soil (Kim Giun, 1991: 63–64). Such a structure was typical of the Hwangnam Daechong mounded tomb (Hwangnamdong No. 98) (Fig. 2, *3*) and Cheonmachong mounded tomb ("Tomb of the Sky Horse"), located in Gyeongju city, in the center of the Silla Kingdom (Hwangnam Daechong I…, 1985: 40–45, 173–174, 383; Hwangnam Daechong II… (dopan, domyeon), 1993: 390; Hwangnam Daechong II… (bonmunpyeon), 1994: 32–36, 221–225; Cheonmachong…, 1974: 58–62).

Mounded tombs with earthen mounds were one of the common types of burials in the Gaya Kingdom. The deceased were buried in wooden plank coffins, which were placed in shallow subrectangular grave pits. The space between the walls of the pit and the coffin was packed with stones. An earthen mound was built over the grave pit (Kim Giun, 1991: 74–75). Five graves in wooden plank coffins were discovered in Daeri-ri mounded tomb No. A-2 in Uiseong County of Gyeongsangbuk-do Province. Wooden plank coffins (No. 1/1, 1/2, 3, and 4) were placed in relatively shallow burial pits, and the space between the walls of the coffin and the pit was packed with soil. Wooden plank coffin No. 2 was set upon the ancient daylight surface level and was covered with rock debris. Wooden plank coffin No. 1/1 had double walls; the space between the outer and inner walls was filled with stones. The width of coffin planks at this site was 0.5–0.7 m (Kwon Hein et al., 2012: 64–161) (Fig. 2, *4*, *5*).

A burial with a wooden coffin was discovered in mounded tomb No. 2 with a stepped stone mound at the Seokchon-dong cemetery, which belonged to the Early Baekje culture (late 3rd to early 4th centuries AD). This burial was located on the rear part of the mound; it was made in a subrectangular grave pit measuring 2.26 × 1.04 m and 0.3 m deep. A wooden coffin 1.81 × × 0.6 × 0.2 m, made of six planks, was placed in the pit (Fig. 2, *6*). On the floor of the burial in the northern part, a ceramic vessel was found, and in the middle part, an iron knife was discovered (Kim Giun, 1991: 32–34; Seokchon-dong…, 1987: 48–52).

In the Bronze and Iron Ages, the practice of using wooden structures in burials was quite widespread in the Korean Peninsula. In the tomb of the Middle Baekje ruler, King Muryeong, and his wife (5th–6th centuries AD), wooden coffins made of Japanese umbrella pine growing in Western Japan were found. It is believed that these coffins were made in Japan and were imported (Park Sangjin, 2013).

Conclusions

Funeral complexes with wooden coffins or wooden planks have been found at the Yayoi and Kofun sites on the Japanese Archipelago, along with burials of other types, mainly in its western part. Later, along with plank coffins, there appeared wooden log coffins destined for burying the high social status people. In the Korean Peninsula, wooden structures in burials appeared a little earlier than in Japan. At the earliest stages, they were placed in rich burials. In the Early Iron Age, the inhabitants of the Korean Peninsula brought tree-trunks from Japan, which indicates constant contacts between the most ancient populations of the two regions. This study has made it possible to assume that the appearance of wooden structures in burials on the Japanese Archipelago was most likely associated with the migration of the Korean Peninsula population to the Archipelago. The inhabitants of the Peninsula introduced their mythology; some of its subjects could have delved into the traditional beliefs of the inhabitants of ancient Japan. It can be supposed that these beliefs reflected the

ideas about the World Tree and woody vegetation as a symbol of the cycle of life. Magical activities could have been performed, aimed at returning the deceased person to the life-giving and regenerating powers of the tree; one of them was associated with placing the body of the deceased into the tree-trunk with which the log coffin was linked. However, the use of wooden structures in burials did not become a ubiquitous and prevailing practice in Japan. This should not be explained by a lack of wood: it is known that storehouses and ritual buildings, which required a huge amount of long and thick logs, were built of wood during the Yayoi and Kofun periods. Most likely, this was a reflection of the stable ideas of the Japanese Archipelago population concerning the universe, which were associated with the symbolism of natural objects, such as stone or clay, which served as tangible manifestations of eternity.

Wood could have been exported from the Japanese Archipelago to the Korean Peninsula. This is confirmed by the coffin from the burial of King Muryeong. However, the choice of wood growing on the Japanese Archipelago as the coffin material can be explained by the fact that according to the chronicles, the King was a native of Honshu Island. It is noteworthy that wooden structures in burials could have been used several times. For instance, in the key-hole-shaped Hazaike mounded tomb (Ehime Prefecture, Shikoku Island), which dates back to the Middle Kofun period, three people were buried in horizontal burial chamber No. 1. Studies have shown that initially the body of about 30 years old deceased was placed in the wooden composite coffin. In ten years, the remains were removed from the coffin and were laid nearby, and the body of a second person of about 40–50 years old was placed in the coffin. In about ten more years, the cover was removed from that wooden coffin and put nearby and the third deceased of about 40 years old was placed on it (Kofunjidai-no osoushiki…, 2014: 14). It is possible that the deceased who were placed in the same burial chamber at different times were relatives. It was believed that placing them in one wooden structure (or its part) ensured the opportunity for the deceased to move on one route to the final point of their afterlife travel, and consequently, to meet each other.

The study of the wood usage in burial structures in ancient Japan over a long period of time (3rd century BC to 4th century AD) allows the conclusion to be drawn that this tradition gradually spread along the Japanese Archipelago from the Korean Peninsula, and was adapted there to the local circumstances.

Acknowledgement

This study was supported by the Russian Foundation for Basic Research (Project No. 18-09-00507).

References

2008 teukbyeoljeon “Galdaebat-sogui nara, Daho-ri – geu balgul-gwa girok”. 2008
[Special Exhibition “Country of Reed Fields Daho-ri – Archaeological Excavation and Research”]. Seoul: National Museum of Korea. (In Korean).

Cheonmachong balgul josa bogoseo. 1974
[Report on the Archaeological Excavation of the Mound Cheonmachong]. Seoul: Cultural Heritage Administration. (In Korean).

Hanguksa – cheongdonggi munhwa-wa cheolgi munhwa. 1997
[History of Korea: Bronze and Iron Age Culture], vol. 3. Seoul: National Institute of Korean History. (In Korean).

Hokenoyama kofun. 2001
Cho:sagaiho: [Kofun Hokenoyama. Results of the Research]. Tokyo: Gakuseisha. (In Japanese).

Hwangnam Daechong I (bukbun) balgul josa bogoseo. 1985
[Report on the Excavation of the Mound Hwangnam Daechong (Northern Tomb) I]. Seoul: National Research Institute of Cultural Heritage. (In Korean).

Hwangnam Daechong II (nambun) balgul josa bogoseo (dopan, domyeon). 1993
[Report on the Excavation of the Mound Hwangnam Daechong (Southern Tomb) II (Tables and Illustrations)]. Seoul: National Research Institute of Cultural Heritage. (In Korean).

Hwangnam Daechong II (nambun) balgul josa bogoseo (bonmunpyeon). 1994
[Report on the Excavation of the Mound Hwangnam Daechong (Southern Tomb) II (Text)]. Seoul: National Research Institute of Cultural Heritage. (In Korean).

Inouchi-inarizukakofun II. 1997
[Burial Mound Inouchi-Inaridzuka II]. Nagaokakyo: Nagaokakyo-sikyoikuiinkai. (In Japanese).

Inoue Ch. 2009
Daho-ri yujeog-e boi-neun wae gwanryeon gogo jaryo-e daehayeo [About Japanese Objects Presented at Daho-ri site]. *Gogohakji teukjipho*, spec. ed.: 224–245. (In Korean and Japanese).

Kaneko E. 1966
Japan: A review of Yayoi period burial practices. *Asian Perspectives*, vol. 9: 1–26.

Kawakami K., Izumi T., Miyahara S., Urabe Yu., Okabayashi K., Nagura S. 1999
Excavation of burial mound Kurotsuka. *Journal of the Japanese Archaeological Association*, vol. 6 (7): 65–104. (In Japanese).

Kim Giun. 1991
Gobun [Mounds]. Seoul: Daewonsa. (In Korean).

Kofunjidai-no osoushiki. 2014
Mito:ho:-no kofun-kara [Kofun Period Heritage. From the Not Plundered Burial Mounds]. Heisei26nen dotokubetsuten [Special Exhibition of 2014]. Matsuyamashi ko:kokan. (In Japanese).

Kwon Hyein, Ryu Jaegeuk, Ku Eunjin, Jang Hyeonok, Lim Minjeong. 2012
Uiseong Daeri-ri 2-ho bun - A bongto [Tumulus No. 2 Daeri-ri in Uiseong County – Mound A]. Yeongcheon: Institute of Culture Properties. (In Korean).

Lee Geonmu, Lee Yeonghun, Yun Gwangjin, Sin Daegon. 1989

Uichang Daho-ri yujeok balgul jinjeon bogo (I) [Research Report of Excavation of the Proto-Three-Kingdoms Burial Site at Daho-ri in Uichang County]. *Gogohakji*, No. 1: 5–174. (In Korean).

Mizoguchi Koji. 2013

Archaeology of Japan: From the Earliest Rice Farming Villages to the Rise of the State. Cambridge: Cambridge University Press.

Okabayashi K. 2006

Kan-to kaku [Coffin and sarcophagus]. In *Yamato-no kofun II*. Kyoto: Jimbunshoin, pp. 25–34. (In Japanese).

Park M.N. 2001

Opisanie koreiskikh plemen nachala nashei ery (po "San'-go chzhi"). In Rossiyskoe koreevedeniye. Moscow: Mezhdunarodnyi tsentr koreevedeniya pri Mosk. Gos. Univ.: Muravei, pp. 17–39. (Almanakh Mezhdunarodnogo tsentra koreevedeniya pri Mosk. Gos. Univ.; iss. 2).

Park Sangjin. 2013

Ilbon-je geumsong-euro mokgwan mandeun baekje Muryeongwang [King Muryeong of Baekje, whose wooden coffin was made of Japanese fir]. Premium Chosun, December 5, 2013 URL: http://premium.chosun.com/site/data/html_dir/2013/12/04/2013120402697.html (Accessed July 18, 2019). (In Korean).

Seokchon-dong gobungun balgul josa bogo. 1987

[Report on the Archaeological Excavations of the Burial Ground Seokchon-dong]. Seoul: Seoul National University Museum. (In Korean).

Sin Yongmin. 2009

Daho-ri yujeok mokgwanmyo sigi-ui myoje [Funerary rites of burials, synchronous with a wooden coffin burial of the Daho-ri]. *Gogohakji teukjipho*, spec. ed.: 141–172. (In Korean).

Terayamakofungun, Miyanotanikofungun, Suwajo:ato. Hakkutsucho:sa ho:kokusho. 2010

[Group of Terayama Mounded Tombs, Group of Miyanotani Mounded Tombs, Settlement Suva. Report on the Results of Archaeological Research]. Kobe: Hyogo-ken kyoikuiinkai. (In Japanese).

Yamato-no ko:kogakuhyakunen. 2002

[100 Years of Yamato Archaeology]. Kashihara: Nara-ken ri tsuKashiharako:kogakukenkyu:jo. (In Japanese).

Yayoijidai-no haka. 2014

Sisja-no sjekaj [Yayoi Period Burials. World of Dead]. Kasihara: Ritsukashiharako (Kashihara Kokogaku Kenkyūsho Fuzoku Hakubutsukan). (In Japanese).

Yoshitake-takagi. 1986

Yayoijidaimaisouiseki-no chosagaio [Yayoi Period Burial Sites Studying Report]. Fukuoka-shikyoikuiinkai. Fukuoka: Nishinihonshimbuninsatsu. (In Japanese).

Received November 1, 2019.
Received in revised form November 20, 2019.