

Importance of Circum-Japan Sea trade networks in the transition from the Yayoi Period to the Kofun Period

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ABSTRACT

The archaeological study of trade networks is critical for our understanding of the transition from the Yayoi to the Kofun period in prehistoric Japan. Based on the archaeological evidence from the waterlogged Aoya Kamijichi site, Tottori City, Tottori Prefecture, this paper highlights the importance of the Circum-Japan Sea Trade Networks during the Yayoi period. The perspective presented here is in contrast with previous studies that have focused on the importance of the Inland Sea Trade Networks. Results of this study also indicate that the Aoya Kamijichi site functioned as a nodal point of multiple trade routes, which are evidenced by the recovery of numerous imported items. Reports of non-local materials from other regions are also discussed to help the reader understand the complexity of trade networks during these periods.

KEYWORDS: Aoya Kamijichi site, trade networks, water-logged site, transition from Yayoi to Kofun, Circum-Japan Sea area, Japan

1. Introduction

(1) Goal

The goal of this paper is to present the possibility that the circum-Japan Sea trade networks in the Yayoi Period (ca. 800 BC–AD 250) functioned equivalently to the Inland Sea networks through analysis of archaeological findings from the Aoya Kamijichi site located in Tottori City, Tottori Prefecture. The Aoya Kamijichi site is widely known as a representative water-logged site of the Yayoi Period in Japan. As evidenced by the sole domestic discovery of part of the brain of a Yayoi person, the excavated archaeological materials are in excellent conditions of preservation, allowing for successive confirmation of phenomena that can overturn the past image of the Yayoi Period. Among those are included many artifacts that suggest transactional relations with various early states and regions, such as China, the Korean peninsula, and the Northern Kyushu and Hokuriku regions. A survey of these artifacts shows that this site functioned as an important core

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settlement in the circum-Japan Sea trade network.

Until recently, research on trade and circulation during the Yayoi Period had focused mainly on the Inland Sea route. In recent years, with the results of reclassification of excavated materials (e.g., beads, bone, iron, and bronze tools, and wooden containers) from the Aoya Kamijichi site, progress has been made in comparative analysis with sites in other regions. However, it cannot be said that these have been correlated in an organized fashion to indicate a reflection of the reality of the Japan Sea trade network on par with the Inland Sea network.

Under these conditions, this paper aims to present characteristics of the Japan Sea trade network of the Yayoi Period and focuses on the existence and role of the maritime traders who participated in this network. By doing so, it aims to show that the perspective of ‘trade’ does not merely tell of the movement of things, but is an important key to the examination of background structures and factors in the transition from the Yayoi Period to the Kofun Period.

(2) Context

From its earliest days, research on the Yayoi Period in western Japan has mainly proceeded with focus on Kinai and Northern Kyushu areas through studies of sites such as Karako/Kagi site (Tawaramoto-cho, Nara Prefecture) and Sugu Okamoto site (Kasuga City, Fukuoka Prefecture). One major reason for this is that it was possible to describe in practical terms the connection between the portrayal of the Wa people noted in the Chinese historical texts of the time and the archaeological evidence found in the areas of the Genkainada coast and Yamato basin. It is natural that under such circumstances interest would concentrate on the route between Northern Kyushu and Kinai (present day Nara and Osaka Prefectures), the two main candidate sites in the debate concerning the Yamatai state. Furthermore, after the terminal Yayoi Period, with the creation of the typology of mound shaped tombs and cylinder shaped *haniwa*, and their correlation with various artifacts, the connection between Kibi (present day Okayama Prefecture) and Kinai regions deepened. This resulted in increased concentration on the Inland Sea route, indicating a certain degree of influence from Kibi on the establishment of funeral rituals associated with keyhole shaped mound tombs in Kinai (e.g., Fukunaga 2002, 2013; Terasawa 2000, 2011).

While those circumstances held sway, in the 1980s new excavations of bronze artifacts were made in the San'in region, such as at Kamba Kojindani site (Izumo City, Shimane Prefecture) (e.g., Matsumoto and Adachi 1996), necessitating the reconsideration of the distribution of power in the Yayoi Period. In addition, the regional characteristics of the San'in and Hokuriku areas became distinct with the illumination of the particular bead-making process on the Japan Sea side, shown by the Yokaichi-jikata site (Komatsu City,

Ishikawa Prefecture).

Yet, even now, it cannot be said that the relations between the San'in and its surrounding regions have been sufficiently studied. Although the existence of the relationship has been hypothesized, the construction of a concrete image of the Japan Sea trade network has just begun. Due to such biases in the research, the subject of the shift from the Yayoi Period to the Kofun Period has proceeded with discussions on the thesis of the Inland Sea; and their viewpoint is most often taken up as a topic of political and social ideology of the Kofun Period. In order to correct this situation and accurately describe the dynamism of the Yayoi society in Western Japan overall, it is effective to fix our gaze on the correlation between the San'in region, particularly with the Aoya Kamijichi site as the nucleus of the trade node, and the Northern Kyushu and Kinai areas. By pursuing our stance of clarifying the diverse networks and bringing their concrete images to the forefront, we can progress toward understanding the true nature of period transition from the perspective of "trade" in the Yayoi Period.

(3) Method

In order to approach these topics, it is necessary to catalogue the imported artifacts confirmed from the Aoya Kamijichi site and understand the nature of trade that can be elucidated from them. The imported artifacts must be catalogued by temporal periods based on results of existing research to accurately show the relationship between trade and the site's rise and decline. By making comparative studies of related regions' imported artifacts, centered on iron tools, pottery, and beads, additional inquiry into the affinity between them and causal relationships will be made.

2. Previous studies

Sixteen excavations have been conducted at the Aoya Kamijichi site as of 2014. Shortly after the first study began, as shown in Figure 1, large scale shore protection structures and rows of plank pilings, as well as a large number of diverse artifacts, were unearthed in very good states of preservation, proving it to be an unprecedentedly important Yayoi Period site (Kitaura *et al.* 2006). With recognition of the importance of this site, a system was established for the site's preservation, use, and upkeep. Since then, studies of the site have proceeded with the aim of its preservation.

In parallel with archaeological excavation, research studies on the various materials have progressed, with certain results achieved, particularly in wooden artifacts, including building materials, bone and antler implements, metal implements, and beads (Chaya and Ietsuka 2008; Kawai 2010, 2011, 2013a; Kimijima 2012; Mizumura 2011; Noda and Chaya 2005). Furthermore, in recent years, it has come to light that the oldest terre verte



Figure 1. Boundary ditch in Aoya Kamijichi site (SD11)

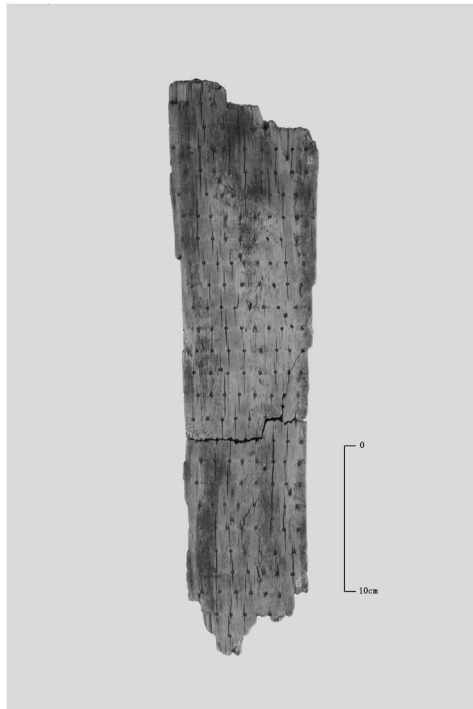


Figure 2. Wooden shield painted by green pigment (Terre verte)

in East Asia was applied to shields of the Late Yayoi Period, which has led to analyses that overturn theories of pigment history (Kimijima and Mizumura *et al.* 2013; Naruse 2010) (see Figure 2).

The following assessment of the site has been arrived at from results of excavations and research:

- 1) This site indicates a representative Yayoi settlement fronting a lagoon on the Japan Sea coast that developed through exchanges with circum-Japan Sea coast regions, including the Korean Peninsula and the Asian continent; and
- 2) Due to the extremely good state of preservation of the many varieties of excavated artifacts, the way of life in the Yayoi Period can be concretely examined.

For these two reasons, the Aoya Kamijichi site was designated a national historic site in March 2008, and the site has become widely recognized for its value.

3. Goals of this paper

The contention of this paper is that, considering the results of studies in various fields, such as archaeology, geography, paleo-environmental studies, and (physical and biological) anthropology, as well as the East Asian state of affairs of the time relying mainly on Chinese historical materials, along with the main route of trade that led from Northern Kyushu to the Inland Sea and on to Kinai, there was also another network that functioned from Northern Kyushu to the Japan Sea coast from the Middle to Late Yayoi Period. However, by the terminal Yayoi Period, with the upsurge in activity to obtain exotic goods and advanced technologies, such as valuable metal implements from the Asian continent, the Kibi region became an indispensable route for the Kinai powers (e.g., Osaka Prefectural Museum of Yayoi Culture 2013), which led to emphasis on the single, direct route through the Inland Sea. Naturally, the impression that studies of the Japan Sea route and its network are insufficient is undeniable, neither can it be said that there have been specific studies of the relation between the Inland Sea and the Japan Sea. However, it is widely acknowledged that both routes were major arteries for trade in the Japanese archipelago around the time of the Late Yayoi Period, as shown by the compilation and study of foreign pottery excavated from the Hakata Bay coastal region (Northern Kyushu) which was the common starting point for both the Japan Sea route and the Inland Sea route (e.g., Hisazumi 2007; Matsui 1997, 2013; Morimoto 2013; Takahashi 2002; Takano 2012; Tsunematsu 1986, 2001).

In order to overturn this perception, it is necessary first to grasp the reality of trade on the Japan Sea side that is insufficiently understood in comparison with the Inland Sea side, and then deepen the understanding of the synchronic relations between the Japan Sea trade route and the Inland Sea trade route. As a first step in that effort, we consider

it effective to position as the basis for discussion the materials from the Aoya Kamijichi site that indicate a variety of networked relations with many regions. With this analysis as a foundation, we will prove that for the study of the transition of historic periods, it is indispensable to incorporate an archaeological understanding of trade, rather than focusing only on religious, ritualistic, and ideological aspects.

In order to consider this thesis, it is effective to survey the rise and fall of the site based on previous research reports, study the causal relationships between similar implements and ancient structural remnants excavated (or not present) from sites in other regions, and conduct analysis of the density and depth of relations between other regions and the Aoya Kamijichi site (eastern San'in region).

4. Result of analysis

(1) Examination of temporal changes

The Aoya Kamijichi site was formed intermittently from the later Early Yayoi Period through the Early Kofun Period. A variety of diverse artifacts remain, but the majority of them have been excavated from cultural layers that span multiple time periods, making it difficult to date them with precision. A review of stratigraphy and calendar years for each layer has been conducted in recent years, which has made it possible to divide the occupational layers into four phases (Kawai 2010). At this point in time, we judge this four-phase division as the most appropriate to discuss the Aoya Kamijichi site, and we will follow it for this paper.

1) Aoya Kamijichi phase I (Late Early–Early Middle Yayoi Period)

According to results of paleo-environmental studies of this site (Ietsuka and Murata 2011; Mizumura 2006), prior occupation of this site to the Aoya Kamijichi Phase I period, a series of flood events during the Late Jomon Period formed a slightly higher area of 200m×200m within the lagoon at the northern edge of the Aoya plain which became the basis for the central area of the site. This coincides with the period when the Japan Sea coastline regressed significantly, which allowed migration of people into the northern edge of the Aoya plain.

We can confirm oyster shell middens and, in the site's southwestern rear wetlands, rice paddy field furrows from Aoya Kamijichi Phase I (Kitaura 2001; Yumura 2002). However, these are the conditions in the periphery outside the central area, leaving many details that remain unclear inside the central area.

Although there are only a few imported artifacts from this period, notable is the oldest iron tool in the San'in region, a fragment of a cast iron axe produced from the Liaotung Peninsula in northeastern China through the northwestern part of the Korean Peninsula

(Murakami 1998; Nojima 1992). The fact that iron, which was extremely precious at the time, was acquired indicates that the Aoya Kamijichi site had become an essential presence in the Japan Sea trade route from the time shortly after the site had become occupied.

2) Aoya Kamijichi phase II (mid to late Middle Yayoi Period)

The increased number of artifacts and features from this period shows that the settlement began to become fully functional. In the latter part of this period, wooden shorings were repeatedly constructed to counter the drifting sands from the beach north of the site that flowed in and accumulated inside the site.

Notable among imported artifacts are the influx of more cast iron axes and large-sized board-shaped iron axes than during the Aoya Kamijichi Phase I. As to bead-making,



Figure 3. Artefacts related with beads-making in Aoya Kamijichi site

cylindrical beads using high quality “Bodai type jasper” that came from the area around Komatsu City in Ishikawa Prefecture were readily produced (Kawai 2013a, b) (see Figure 3). Recent detailed examination has shown that the primary material, such as unworked stone, was brought from the Hokuriku region for production within the site (Kawai 2013a, b). This indicates that the Aoya Kamijichi site was an important location for supplying jasper and cylindrical bead-making products to settlements in the San’in region and the Northern Kyushu region. There are also findings of a certain amount of Kibi-style pottery as well as Bingo region pottery. Discoveries of pottery with triangular clay bands (Nukdo III style: Pusan University Museum 1989) and fishing tools and oracle bones have been made.

3) Aoya Kamijichi phase III (Late Yayoi to beginning of Early Kofun Period)

Due to the change in the current that surrounded the central area, the central area expanded to the east and west, while its northern side fronted on the lagoon (Mizumura 2006). On the shore edge of the central area shoring were constructed of cedar planks (1 m wide) and horizontal boards and pikes, strongly indicating efforts to continuously maintain the living area (Kawai 2014; Mizumura 2012a). Further, along with the expansion of the paddy field area on the southwestern side of the site, there was a significant increase in the number of excavated wooden agricultural tools and seeds (Kimijima 2012).

Excavated imported artifacts were wide-ranging and included tools made of metal, stone, wood, and bone; in addition, as possible traded items, we can note artifacts of green clay mineral with iron made of “green clay (celadonite and glauconite) mineral” (Mizumura 2013). Interaction networks with domestic and foreign locations reached their peak in this phase. Characteristic imported items in Figure 4 included double-banded cast iron axes and their fragments, non-banded cast iron axes, trapezoid cast iron axe fragments, iron axe with shoulder, iron axe with shoulder and chisel, broken Han mirrors (star-cloud pattern mirror, eight-raptorial mirror, mirror with interconnected arcs, mirror with concentric circle pattern) (see Figure 4). Wooden artifacts such as bucket-shaped container, pedestalled dish with petal motif, and hollowed out bucket had designs in common with those found in Kyushu and San’in regions as well as the Hokuriku region (Mizumura 2009). Bone tools such as abalone openers and composite fish hooks were brought over from Northern Kyushu; and pottery from Kinai, northern Kinki, and Hokuriku were discovered here and there. A large number of human bones were buried in a central area eastern boundary ditch, including those with evidence of lethal wounds. These excavated human bones can be categorized as those of the so-called “immigrant-type Yayoi people” (Inoue 2006; Inoue *et al.* 2002).



Figure 4. Imports from other countries such as China and Korea in Aoya Kamijichi

4) Aoya Kamijichi phase IV (Kofun Period–)

The features and excavated artifacts from this period show a marked decline in number. In contrast to the features in the central area boundary ditches, there appear to be hardly any activities to drill anew or construct new shorings. In the paddy field area the uneven surface became even and the ground foundation became stable, preparing the area for the introduction of the land subdivision system (*Jorisei*) (Kitaura *et al.* 2006). Amid this landscape, the ancient San'in-do Route was constructed on the southern side of the central area (Morimoto 2014). As the settlement size decreased, artifacts indicating trade are not in evidence. After the Early Kofun Period, this site was no longer part of the Japan Sea coast trade route.

(2) Analysis of regional and international networks

Through temporal analysis, we can see the connections between the Aoya Kamijichi site and various regions. This section discusses specifics on the relationships with trading partner areas by giving examples of excavated artifacts from the Aoya Kamijichi site. The main focus is on the height of the site occupation (Aoya Kamijichi Phase III), but conditions of Aoya Kamijichi Phases I and II will be referred to as needed. The states and regions related to the Aoya Kamijichi site are noted in Table 1.

1) China

Chinese iron tools include cast iron axes and knives with simple ring pommel; complete artifacts and fragments of cast iron axes number 28 items, by far the largest number in the San'in region (Mizumura 2011). Cast iron axes were reused as board-shaped iron axes by processing the blade section. One simple ring pommel of a sword thought to have been 80cm long has been excavated, which, according to Toshima's (2010) classification is clearly imported from overseas, making high the probability of it having been made in continental China. There are no examples of pommels being cut off from the many swords with simple ring pommels excavated in Northern and Central Kyushu, and the fact that pommels being cut off is limited to the region from eastern Shimane to northern Kinki and Hokuriku, allows us to conclude this to be a custom particular to the Japan Sea coast region (Mizumura 2012b; Murakami 2007). There are five bronze mirrors, three Early Han and two Late Han; no other Yayoi sites show this many continuous Han period mirrors (Okamura 2012). In particular, the star-cloud pattern mirror from the late Early Han (mid-first century BC) is the only example excavated on Honshu from a Yayoi Period site. The four Chinese coins represent the largest number from a Yayoi Period site on the Japan Sea side (Yumura 2002).

2) Korean Peninsula

Rare Nukdo pottery from eastern Korean Peninsula has been excavated in the San'in region, but the quality of the clay (colour, texture) is different from that in the original location. From this, it is unlikely that items made in the locale were brought in to the Aoya Kamijichi site. There are no other types of pottery from the Korean Peninsula that have been excavated from the Aoya Kamijichi site. As to the bronze bell shaped stone artifact that is a multi-sided pyramid with small hole on top, judging from examples excavated from the Nukdo site and Harunotsuji site (e.g., Gyeongnam Archaeological Research Institute 2006; Ashibe Town Board of Education 2002; Board of Education of Nagasaki Prefecture 2005), it is possible that it is an imitation of a balance weight from technically advanced areas (Takesue 2007, 2013).

As to iron tools, the trapezoid cast iron axe was brought in during Aoya Kamijichi

CIRCUM-JAPAN SEA TRADE IN THE YAYOI AND KOFUN PERIODS

Table 1. Relationships of artefacts between Aoya Kamijichi site and other areas

	①China	②Korea	③Northern Kyushu	④Western Tottori & Eastern Shimane	⑤Western Shimane	⑥Bingo	⑦Kibi	⑧Hokuriku	⑨Northern Kinki	⑩Shikoku	⑪Kinki
	◎...Recognizable	○...Recognizable									
Aoya Kamijichi											
Pottery											
Stone implement											
	◎	◎	◎	○	○	○	○	○	○	○	○
Plain pottery (Nukdo type)											
Continental polished stone tool		◎	◎	○	○	○	○	○	○	◎	
Stone net sinker (Kyushu type)			◎	○	○						
Stone net sinker (Setouchi type)			◎	○	○						
Obsidian from Oki island			◎	○	○						
Stone tools made of sanukite								◎	◎	◎	◎
Saw-shaped stone implement								◎	◎	◎	◎
Jasper from Bodai-Nata			○	○		○	○	◎	◎	◎	◎
Jasper from Kasenzan			○	◎				◎	◎	◎	◎
Accessory made of rock crystal			○	◎	○			◎	◎	○	○
Curved bead made of jade			○	◎				◎	◎	○	○
Pedestalled dish with petal motifs			○	○				◎	◎	○	○
Fork-shaped hoe								◎			
Wooden footwear			○	○				○			
Cast iron axe		◎	◎	○							
Trapezoidal cast iron implement			◎	○						○	
Large board-shaped iron axe			○	○							
Iron axe with shoulder			◎	○							
Knife with a simple ring pommel		○	○						○		
Simple ring pommel of a sword											
Chisel		○							○		
Iron axe with a belt			◎	○					○		
Spade and sickle			◎	○					○		
Mirror fragments			◎	○					○		
Huoquan coin		◎	◎	○		○	◎	○	○	○	○
Bronze weight			○								
Bronze bell fragments			◎	○							○
Spatula made of an abalone			○	○							
Fishing hook (Northwestern Kyushu type)			◎	◎							
Oracle bone			○	○					○		○
Yayoi people from overseas		◎	◎	○		○					○
Tooth extraction			○	○							
Eliminating simple ring pommel of a sword				○					○		○

Phase II, while the iron axe with shoulder was brought in during Aoya Kamijichi Phase III. Neither of these has been excavated in Kyushu, suggesting that they may have been acquired by direct trade with the Korean Peninsula, without having gone through Northern Kyushu (e.g., Takesue 2006). This is the only example of an iron axe with shoulder from Yayoi Period sites. Other iron tools that indicate trade with the Korean Peninsula include rare wrought iron items, such as the large-sized board-shaped iron axe and chisel-shaped iron tools.

In the case of bone artifacts, abalone openers and oracle bones show a commonality with those in southeastern Korean Peninsula. The abalone openers are made from deer antlers and have in common the point that both use the base of the antler. In contrast, the abalone openers of Northern Kyushu are made of whale bone. Over 240 oracle bones made of the scapula of wild boar and deer have been found, one of the largest finds in Japan (Kitaura 2008; Mizumura 2010b). In both the Aoya Kamijichi site and the Nukdo site, oracle bone concentrations in which multiple bones were intentionally placed have been recovered. As this feature has been confirmed only at these two sites, this traditional method of treatment of oracle bones can be said to be shared in the circum-Japan Sea region, even across the sea (Mizumura 2009). Physical anthropological characteristics of the peoples of the Nukdo site have strong similarities with human bones from the Doigahama site (Yamaguchi Prefecture) and Aoya Kamijichi site. As extracting the upper incisor (Nakahashi 1990) was also a common custom, this practice, just as with oracle bones, is thought to have been introduced from the Korean Peninsula.

3) Northern Kyushu

Many of the iron tools found at the Aoya Kamijichi site are made of similar materials to those found in Northern Kyushu. Specifically, they are iron axe with shoulder, chisel, plowshare, and sickle. Abalone openers and combined-style fish hooks are from the Northern Kyushu area.

A certain number of Kyushu-style stone weights that suggest a connection with Northern Kyushu have been excavated through the Aoya Kamijichi II and III Phases (Norimatsu 2007; Shimojo 1984). Products specific to Hokuriku and San'in, such as jasper cylindrical beads, crystal beads, and pedestalled dish with petal motif, were exchanged with Northern Kyushu stone artifacts, showing that they supported the trade with Northern Kyushu. A footed jar with decoration and clay flute have also been excavated in the same area, and can be given as examples of items exchanged between the Aoya Kamijichi site and Northern Kyushu.

4) Hōki–Eastern Shimane

Artifacts that show the relations between the Aoya Kamijichi site and the area to its

west include pottery and other objects made of clay: footed jar with decoration, balance weight made with clay, and clay flute; and stone tools, in particular arrowheads made of obsidian from Oki island. The pedestalled dish with petal motif that is representative of the wooden containers from the Aoya Kamijichi site is similar to that from the Himehara Nishi site (Izumo City, Shimane Prefecture). Specific points of similarity include four petals, made of *kaya* wood (*Torreya nucifera*), carved from one piece of wood, the wood cut along the grain, and decorative lobes (Mizumura 2009; Noda *et al.* 2005).

Celadonite has been confirmed in Oki island, and its relation to the celadonite painted on the wooden shields excavated at the Aoya Kamijichi site has been noted in recent years (Akagi 2013; Mizumura 2013; Naruse *et al.* 2013).

5) Western Shimane

This area has scant connection to the Aoya Kamijichi site, with commonalities only in pottery and stone tools. These merely indicate the general conditions in the overall Japan Sea region rather than specific connections between the two areas. Artifacts that correspond to the San'in region include pottery (double rim pottery) and balance weight shaped clay items.

6) Bingo

The pottery of this area has a spout, and is the Shiomachi style pottery decorated with incised lines and zigzag shaped patterns (Yumura 2002). However, as the Shiomachi style pottery excavated from the Aoya Kamijichi site differs slightly from the Shiomachi style pottery of the Bingo region in the types of designs and their combinations, it is possible that this is not a direct import but represent imitated items (Matsui 2007).

7) Kibi

Pottery from this area is characteristic for its jars with a horizontal upraised section above the rim, of which several have been excavated from the Aoya Kamijichi site. Stone tools are evident in the Inland Sea style stone net sinker, and wooden implements such as fork-shaped hoe were produced in Kibi during the first half of Aoya Kamijichi Phase II period, and entered the Aoya Kamijichi site during this phase (Kimijima 2012).

8) Hokuriku

As with the Aoya Kamijichi site, this area and the northern Kinki area had mouths of rivers at their northern edges facing the Japan Sea, which formed lagoons that were natural good harbours. Taking advantage of these geographic characteristics, numerous trading settlements were formed, functioning as the loci for exchange networks on the Japan Sea coast (Goto 2010; Osaka Prefectural Museum of Yayoi Culture 2005).

Evidence of direct connections with Hokuriku are seen in cylindrical beads made of jasper and comma-shaped jade beads; bead-making using jasper from Bodai and Nata (Ishikawa Prefecture) began in the first half of Aoya Kamijichi Phase II. Some 70% of the excavated jasper beads are from Bodai and Nata (Kawai 2013a). The material for comma-shaped jade beads produced with the same technique as cylindrical beads was from Itoigawa.

As to wooden artifacts, the shape and size of pedestalled dish with petal motif, carved out barrel, mug-shaped wooden vessel, and wooden footwear excavated from the Aoya Kamijichi site are similar to those in the various Hokuriku areas (Hayashi 2005).

9) Northern Kinki

Pottery from this area was excavated from the boundary ditch of Aoya Kamijichi Phase III. Due to the concentration of oracle bones and skulls of monkeys and dogs from the surroundings, it is possible that these were used in rituals (Yumura 2002). The same method and material as the Aoya Kamijichi site were employed in Hokuriku sites for bead-making; the similar custom of removing the pommel of the sword can be inferred from the sword excavated from the Myorakuji burial mound (Toyooka City, Hyogo Prefecture). These similarities directly reflect the relationship with Northern Kinki geographically located between the Aoya Kamijichi site in eastern San'in and the Hokuriku region.

10) Shikoku

There is a high possibility that stone material from this area such as sanukite for making chipped stone swords and piemontite schist for stone saws were brought in to the Aoya Kamijichi site. There have been no other artifacts excavated at the Aoya Kamijichi site that might show a connection with the Shikoku region.

11) Kinai

Pottery from Kinai has been excavated in Aoya Kamijichi Phases II and III. Stone implements include items made of sanukite and stone saws made of piemontite schist. Bronze bell-shaped items excavated from the Aoya Kamijichi site include fragments of bronze bell with projecting-lined handle type four or type five (Kitaura 2001; Yumura 2002). As with the Shikoku region, artifacts showing direct connection with the Aoya Kamijichi site may be few, but confirmation has been made of artifacts, such as fragments of several bronze bells that were extremely rare items at the time, indicating the possibility of a strong connection between the two regions.

5. Discussion

(1) Main trade routes associated with the Aoya Kamijichi site (Figure 5)

We have discussed the imported artifacts excavated from the Aoya Kamijichi site and their provenience. Of those, the regions and states with strong connections to the Aoya Kamijichi site are those noted in 2)–4), 8), and 9), mostly facing the Japan Sea (Kitaura *et al.* 2006; Ohno 2007; Takao 2007; Takesue 2013). Many of the imported artifacts excavated from the Aoya Kamijichi site are the result of contact with regions along the Japan Sea coast. However, there are also some items that are shared with regions such as Kibi and Shikoku, indicating that the connections are not necessarily limited to the coastal Japan Sea route.

Next, we will discuss the trade routes that we can assume existed. Route A is the China, Korean Peninsula–Northern Kyushu–San'in–Northern Kinki, Hokuriku route that covers a long distance of over 2,500km. Iron tools such as cast iron tools (fragments) and swords were transported as well as continental polished stone tools using this as the main route of dispersal to various regions of Japan. Furthermore, rice planting

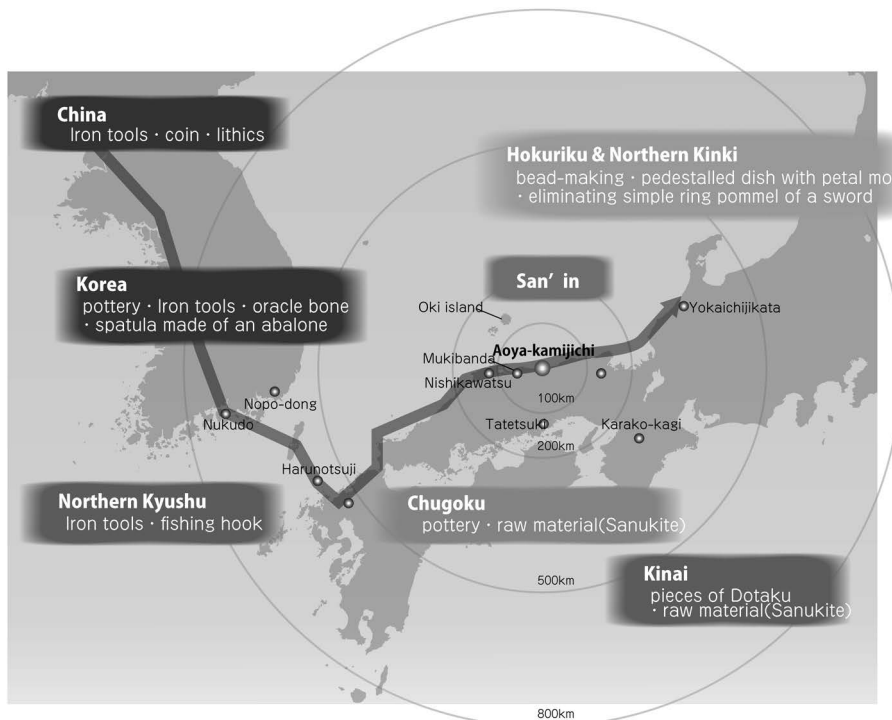


Figure 5. Map of inter-relationships between Aoya Kamijichi site and other areas

techniques as well as people, particularly from the Korean Peninsula, migrated to a wide area (e.g., Takesue 2007, 2009, 2011). The domestic version of Route A was Route B, Northern Kyushu–San’in–Northern Kinki, Hokuriku, where iron axe with shoulder, bone and antler artifacts, and clay flutes were transported.

While many of the past discussions of the Japan Sea trade networks were based on the above two routes, we can also postulate various other routes as well. The reverse direction of Route B, Route C, is evidenced in beads made in the settlements at the Yokaichi-jikata site (Hokuriku), Mejirojinja Minami site (Northern Kinki), and Aoya Kamijichi site (San’in) transported to the Nakabaru site (Karatsu City, Saga Prefecture) in Northern Kyushu (Kawai 2013a). This indicates that the Aoya Kamijichi site played the role of a “transfer point” between the consuming area of Northern Kyushu and the place of origin of Hokuriku.

We can also speculate on the east-west route centered on the Aoya Kamijichi site over the 750km distance in the direct line between Northern Kyushu and Hokuriku, Route D: Northern Kyushu ← San’in → Northern Kinki, Hokuriku. Objects of trade included the design and artifacts of pedestalled dish with petal motif. There is a high probability that products that could be traded for iron tools were sent toward the Northern Kyushu direction. In Hokuriku, there are differences such as many artifacts using zelkova (*Zelkova serrata*), a different wood from the mountain mulberry (*Morus bombycis*) items found at the Aoya Kamijichi site, and lathe work items (Noda *et al.* 2005). From these facts, I would suggest that the design was transmitted from the Aoya Kamijichi site to the Hokuriku region where items were produced with materials and techniques available there.

There were also partial routes within Routes A and B: Northern Kyushu–San’in (Route E) and San’in–Northern Kinki, Hokuriku (Route F). Items traded in Route E include bone and antler artifacts and stone fishing tools, while the custom of removing the simple ring pommel of the sword is applicable to Route F. Route F also coincides with the expansion of mound burials with four projecting corners. In addition, from the excavation of oracle bone collection features and iron axe with a belt, we can surmise the existence of Route G, directly linking the Aoya Kamijichi site to southeastern Korean Peninsula. There is also Route H, the inland north-south route that crosses over the Chugoku region mountain range. However, compared to the marine transport route by planked boats and dugout canoes, movement crossing over 500–1,000m mountains would have physically limited the frequency of north-south exchanges. Despite this, from the existence of fragments of bronze bells and pottery, we can postulate Route I that passes through Kibi and the Inland Sea region to arrive at Kinai.

Of these postulated routes, there are widely theorized routes, such as Routes A and B from the distribution of excavated artifacts, but the other routes have not been presented

in a concrete manner. Moreover, the routes presented here are solely those that have direct connections with the Aoya Kamijichi site. It is thought that people and things, as well as technology, in actuality do not migrate in a single fashion; there are cases of multiple routes connected by a distribution centre such as the Aoya Kamijichi site, or conversely, of interrupted routes. There are also artifacts that bypass the neighboring region and have commonalities with areas beyond (for example footed decorated jars and stamped pattern pottery), indicating that exchanges were not always done within a balanced relationship (Iwahashi 2004). The more we look at the micro level, the more we see that the true picture of the trade route reveals the characteristic of a complex network web.

The factors creating the variations of the trade routes or the affinity (quality and quantity) with the Aoya Kamijichi site are not uniform. Because artifacts are the byproducts accompanying human migration, they are evidence that the existence of the Japan Sea trade routes and the flourishing of the site are closely related, and that it was a necessary condition that the residents actively engage with the open sea that spread out before their eyes.

(2) People who supported the trade networks

There is a commonality in various types of fishing equipment used in the southeastern Korean Peninsula to Northern Kyushu and Shimonoseki (Yamaguchi Prefecture), the Shimane Peninsula, and the Aoya Kamijichi site (Kawai 2010; Shimojo 2005; Takesue 2007). In actuality, there was the existence of “fishing peoples” who went out to sea regularly to engage in fishing. The sea routes that they opened up became the basis for the gradual development of trade routes. Numerous remains of marine animals from the outer sea to the coastal zone to lagoons, from whales to freshwater clams (*Corbicula* clams), have been continuously excavated at the Aoya Kamijichi site. Furthermore, the existence of a variety of fishing tools to catch those animals, as well as planked boats and dugout canoes, and engraved plates depicting a fleet of boats (Figure 6), clearly indicates that the coastal residents made maximum use of the Japan Sea. From these factors, we can consider that they were a group that had close familiarity with combining fishing, trade, and craftsmanship (Mizumura 2011). The members of this maritime-oriented community, while making the sea a focal point of their life, connected the various regions in a relay fashion to share people, objects, and ethnic identity (Goto 2010).

During the latter half of Aoya Kamijichi Phase II to the first half of Phase III, the Inland Sea route that connected Kinai to the Inland Sea and to Northern Kyushu became established as the major maritime route. As the Japan Sea route that included the Aoya Kamijichi site flourished during the same time, this supports the fact that both routes co-existed. However, the Japan Sea side trade network that flourished during Aoya

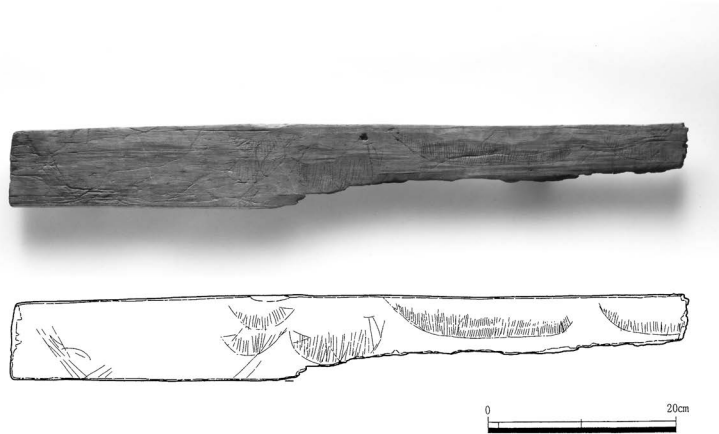


Figure 6. A party of boats engraved on a board from Aoya Kamijichi site

Kamijichi Phases II and III rapidly lost its vigor in the Early Kofun Period. Although further research is warranted, it is possible that changes in the politics and economics of the period caused the Japan Sea route to be swallowed up by the wave of the restructured Inland Sea route. In other words, the restructuring of the entire trade system by the Yamato state to increasingly concentrate and consolidate trade from the Japan Sea coast to the Inland Sea forced changes in the power structure. Supporting this theory is the phenomenon of the increase in the number of octopus pots from the Osaka Bay shore to the Harima Nada region excavated in sites in the Hakata Bay shore in the latter part of the Late Yayoi Period, which further increased in the Early Kofun Period (Ohno 2007). We consider this type of shift in fishing tools, that is, archaeological evidence of the migration of fishing communities, to be a factor related to the significant change in the trade routes.

From this perspective, the rise and fall of trade can be said to be greatly dependent on the movements of the groups engaged in this activity. By carefully examining the physical evidence, i.e., imported items, that indicate their movements, we can grasp the specific movements in terms of scale and direction. During the period of transformation toward a centralized state, from the Yayoi Period to the Kofun Period, should it be possible to be aware of the change in trade routes or the growth and decline of core settlements, that is because of changes in the power relations with surrounding states. In order to understand correctly the archaeological evidence indicating the characteristics of regional networks and their relations and affinities through the fishing communities that promoted the networks, these studies are essential for the examination of the long term trajectory of early history.

6. Conclusion

In this paper, I have argued that the perspective of trade indicated by archaeological methodology is essential in examining the transition from the Yayoi Period to the Kofun Period. By analyzing the “open trade environment” (Murakami 2001) of the Aoya Kamijichi site through its numerous imported artifacts, I have pursued the reality of trade relations along the Japan Sea coast, and clarified the importance of its trade route as rivaling that of the Inland Sea route that has been the focus in the past. I have also made clear the fact that this trade route was not a uni-directional one from China and the Korean Peninsula in the west, but was made up of complex factors of reverse routes, partial routes, and north-south routes; and within that environment, the Aoya Kamijichi site played an essential role as a nodal point.

The people who operated in this trade network were those who based their livelihood on fishing rather than on agriculture, and belonged to communities active in seafaring trade. Particularly after the Middle Yayoi Period, the expansion of the networks, evidenced by the many items and customs dispersed to various locales, was closely linked to the development of these communities. To understand the reality of the period transition and this trade is to understand the rise and fall of the trade routes and networks as being two sides of the same coin in the epochal transformation from the Yayoi Period to the Kofun Period. Therefore, an examination of the transition of these periods necessitates a more comprehensive understanding of the issues in the western Japan Yayoi society as a whole that includes not only the Inland Sea route that has been long discussed but also the Japan Sea route that flourished in synchronicity. Greater understanding of the archaeological evidence of trade by the fishing communities must be emphasized in combination with traditional archaeological approaches which focus on political, economic, and social structures. (Translated by Beth Cary)

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