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Reassessing the concept of the 'Neolithic' in the Jomon of Western Japan

Simon Kaner and Takeshi Ishikawa
Sainsbury Institute for the Study of Japanese Arts and Cultures, UK
s.kaner@sainsbury-institute.org
t.ishikawa@sainsbury-institute.org

ABSTRACT – *The concept of the Mesolithic/Neolithic transition is difficult to apply in the Japanese archipelago. The earliest pottery usage occurs in late Palaeolithic contexts. Holocene foragers lived in stable, permanent village settlements and constructed large scale monuments, and the first real 'agriculture' arrived as part of a cultural package which also included metallurgy. This paper will examine the use of the term 'Neolithic' in the history of Japanese archaeology, with particular emphasis on what happened in the western part of the archipelago in the latter part of the Jomon period (*c. *5000 BC –* c. *500 BC). Recent investigations in Kyushu and Western Honshu are leading to a re-assessment of the nature of Jomon culture and society in this region, traditionally considered to have 'lagged behind' the more developed societies of the eastern part of the archipelago, expressed in part through much lower population densities.*

IZVLEČEK – *Koncept mezolitsko-neolitske tranzicije je težko aplicirati na Japonski arhipelag. Prva uporaba keramike se tu pojavlja že v mlajše paleolitskih kontekstih. Holocenski nabiralci hrane so živeli v trdnih, stalno poseljenih vaseh, kjer so gradili velike spomenike. Prvo pravo »poljedelstvo« je prispelo kot del kulturnega paketa, ki je vseboval tudi metalurgijo. V članku bomo analizirali uporabo termina »neolitik« v zgodovini japonske arheologije. Poseben poudarek namenjamo dogajanju na zahodnem delu arhipelaga v mlajšem obdobju Jomon (okoli 5000 BC – okoli 500 BC). Nedavne raziskave na otokih Kiušu in zahodni Honšu vodijo k ponovni oceni narave Jomon kulture in družbe v tej pokrajini. Zanjo velja, da je zaostajala za bolj razvitimi skupnostmi na vzhodnem delu arhipelaga. Posledica je mnogo manjša gostoti poseljenosti.*

KEY WORDS – *Jomon; Western Japan; Jomon-Yayoi transition; AMS dating; Amida; Kaminabe; Shorakuji*

Introduction

The concept of the Mesolithic/Neolithic transition is difficult to apply in the Japanese archipelago. The earliest pottery usage occurs in late Paleolithic contexts. Holocene foragers lived in stable, permanent village settlements and constructed large scale monuments, and the first real 'agriculture' arrived as part of a cultural package which also included metallurgy. This paper will examine the use of the term 'Neolithic' in the history of Japanese archaeology, with particular emphasis on what happened in the western part of the archipelago in the later part of the Jomon period (*c.* 5000 BC – *c.* 500 BC). Recent investigations in Kyushu and Western Honshu are leading to a re-assessment of the nature of Jomon culture and society in this region, traditionally considered to have 'lagged behind' the more developed societies of the eastern part of the archipelago, expressed in part through much lower population densities.

The Neolithic in prehistoric Japan

In 1908, when the Scottish doctor, archaeologist and anthropologist, Neil Gordon Munro published 'Prehi-

storic Japan', the first English-language synthesis of Japanese archaeology, he dedicated a whole chapter to the Neolithic. He noted that "*traces of neolithic culture abound in many parts of these islands*", that "*these remains have been disinterred by agricultural operations, and bear witness that a widespread primitive population had been settled during a considerable period*" (*Munro 1908.44*). What Munro termed Neolithic, another early foreign archaeologist in Japan, the American zoologist and excavator of the Omori shell middens, Edward Sylvester Morse, termed Jomon, on the basis of the cord-marked pottery sherds he recovered from Omori (*Morse 1879*). Munro was correct in thinking that the Jomon was a long period: it is now considered to begin with the appearance of pottery in the Japanese archipelago, the earliest dates being some 16 000 years ago at Odai Yamamoto in Aomori Prefecture at the northern tip of the main island, Honshu (*Odai Yamamoto 1999*). The Jomon is usually thought to have ended towards the end of the first millennium BC, but as we will see shortly, there is now some debate as to when exactly the transition to the succeeding Yayoi period occurred (*Shoda 2007*).

Munro also noted that "*the sites are very much more numerous in the northern than in the southern half of Japan*" and that there were fewer sites in Hokkaido (the large northern island) than in Honshu, subsequently home to the aboriginal Ainu populations which Munro was to study later in his career. Munro was concerned to understand why there should be such a difference between Eastern and Western Japan, and suggested it had something to do with topography, an idea which has often been repeated in later literature on the topic. Western Japan is characterized by steep mountain slopes with little of the extensive terrace development which was traditionally thought to provide favoured habitation locations for Jomon fisher-hunter-gatherers in Eastern Japan.

One of the most influential studies of Jomon settlement densities and their relationship to subsistence practices is that published by Koyama Shuzo.[1] Koyama estimated population densities for a series of different regions within the Jomon on the basis of site numbers from different phases, which he backed up with the available radiocarbon dates (*Koyama 1979*). Koyama argued that the differences between Eastern and Western Japan were caused by different food stuffs being available, based on the ecological divide between Eastern and Western Japan that has long been recognized, with the forests of Eastern Japan being dominated by temperate deciduous forests and the western part of the archipelago characterized by warm temperate evergreen oak forests. This research was complemented by studies undertaken by Nishida Masaki and others which reconstructed the biomass available to prehistoric foragers in the archipelago (*Nishida 1983*).

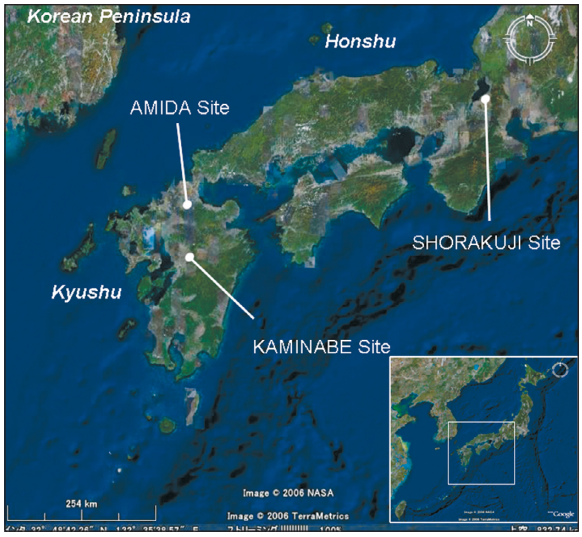

Fig. 1. Western Japan and the locations of sites mentioned in the paper.

In Central and Eastern Japan, in particular during the Middle Jomon period (around 3500 BC) population densities among Jomon fisher-gatherer-hunters reached some of the highest levels recorded for temperate foragers anywhere in the world. These foragers lived in relatively stable village communities containing pit dwellings, extensive storage and burial facilities and fixed dump areas, many examples of which have been excavated. These settlements tend to be located on well-drained river terraces which abound in Eastern Japan. Despite influential theories such as the Middle Jomon Farming Hypothesis proposed by Fujimori Eichi in the 1960s and 1970s, however, there is still no firm evidence for any form of established agriculture during the Jomon period, although there may have been some limited cultivation of nuts and plants used as condiments, such as perilla (*Rowley-Conwy 1984*). These foragers did make extensive use of pottery and polished stone tools. Large pit dwelling villages became

1 Japanese personal names in this paper have been given in Japanese order, *i.e.* family name before given name. Macrons have been omitted.

less common in the later part of the Jomon, however, and it seems that there was more extensive exploitation of low-lying, wetter areas. Literature on the Jomon published prior to 1990 is listed and discussed in Kaner (*1990*) and recent developments are covered in Kobayashi (*2004*).

AMS dating and the beginning of the Yayoi period

In 2003, a research team from the National Museum of Japanese History made an announcement that, based on their results of AMS dating, the beginning of the Yayoi period should be dated to the 10th century BC, although previously the Yayoi period had been thought to begin from around the 4th century BC (*Harunari et al. 2003; 2004*). Many scholars have been highly critical of this research because it contradicts what were previously accepted as well-established facts about the chronological relationships between the Japanese archipelago and mainland China and the Korean peninsula at this time (*Takakura 2003*). In this controversial situation, Kyushu University developed a new research project and sent samples of skeletal remains and deer bone for AMS dating to the Oxford University radiocarbon dating laboratory. In the presentation of their results, the Kyushu University researchers claimed that their evidence was consistent with the traditional dating based on the archaeological method, *i.e.* arguing for the later start of the Yayoi period (*Tanaka et al. 2004; 2005*). In what follows, we will briefly summarise the current situation in regard to the debate about the dating of the Yayoi period.

Firstly, we will briefly introduce the methods and results of the traditional chronology for the Yayoi period. In the northern Kyushu area, which is adjacent to the Korean peninsula and was the first region in the Japanese archipelago to accept agriculture and the other components of the cultural package from the Peninsula at the beginning of Yayoi period (which included iron metallurgy and weaving along with paddy-field agriculture), there were many bronze mirrors imported from Han dynasty China. These are mainly excavated from jar burials from after the late Middle Yayoi period. Based on the dating of these bronze materials, it was considered that the late Middle Yayoi period dates to around the 1st century BC. Subsequent archaeological phases were also dated based on the same method. In addition, archaeologists have attempted to estimate the duration of each archaeological phase with reference to these well-dated foreign materials, and it is estimated that each phase lasted approximately 70 years (*Takakura 2003*). Earlier phases such as the Initial and Early Yayoi periods, for which we do not have materials with what were considered reliable relative dates, were also dated in accordance with these estimates. In this manner, the beginning of the Yayoi period was dated to the 5th century BC (*Takakura 2003*).
The AMS dating by National Museum of Japanese History research team dated carbonized remains and soot attached to the surface of pottery sherds from the end of Jomon period to the Kofun period, and included a number of samples from Korea. The results suggested that the beginning of the Yayoi should be revised to the 10th century BC, some 500 years earlier than the above mentioned previously accepted dates. But this dating was inconsistent with the established chronological relationship with neighbouring areas of mainland China and the Korean Peninsula (*Takakura 2003*). Inconsistencies include the following: Chinese bronze mirrors imported into the Japanese archipelago now become earlier than the Chinese originals; and the earliest iron artefacts excavated in Japan become earlier than the originals in China from where those iron objects were imported into the archipelago (*cf. Takakura 2003*). Although many scholars have criticized the new chronology, mainly based on these inconsistencies with the established chronological relationship with the neighbouring East Asian continent, studies based on the new chronology have started to appear.

In addition to the critique based on inconsistencies with the existing relative chronology, the research team from Kyushu University presented other results of their AMS dating programme using human bone and deer bone, the latter being used for analysis to try to exclude the marine reservoir effect. Their results indicated that the beginning of the Yayoi should indeed be dated later than that suggested by the National Museum of Japanese History, but still earlier than the previously accepted dating. The Kyushu researchers still think that some influence of the marine reservoir effect needs to be taken into consideration, although they selected samples from inland sites in order to reduce the effect. They accordingly suggested that, based on their results and taking into consideration the marine reservoir effect, the absolute dates for the each Yayoi phase must be later than the dates obtained from the skeletal remains (*Tanaka et al. 2004; 2005*).

At present, then, there are two different positions in regard to the dating of the beginning of the Yayoi period and subsequent phases of the Yayoi, and also

about the later part of the preceding Jomon period. These different positions are both based on the results of the same dating method, AMS dating, but are based on the analysis of dates from different materials. So the differences of the results between the two indicate the possibility that there is some kind of systemic 'noise' caused by the nature of materials being analysed.

Some recent Late and Final Jomon period sites from Western Japan

We would now like to introduce three sites from Western Japan, one from the Kansai area to the east, and the other two from Kyushu (Fig. 1), which are indicative of our changing understanding of the nature of the later part of the Jomon period in Western Japan in the lead up to the start of the Yayoi period. All three date to the Late and Final parts of the Jomon period.

From the Kansai area, a little further to the east, the Shorakuji site is a particularly interesting example, as it reveals the spatial structure of a Late Jomon settlement. The site is located near the southern shore of Lake Biwa and was occupied during the early part of the Late Jomon period (*Notokawa Town Board of Education 1996*). During this period, the Western Japanese Jomon is considered to have experienced intensive cultural influence from Eastern Japan. The excavations at Shorakuji produced a lot of pottery from different regions, including different parts of Eastern Japan. Elements of settlement structure included a feature resembling a wooden circle in the south-western area, associated with a relict river bed (Fig. 2), and a series of storage pits dug alongside the water's edge. Further to the south-west, many post-holes which would have supported wooden pillars were excavated. Although not many pit dwellings were excavated because of the limits of the excavated area, we can discern what appears to be the structure of a planned sedentary settlement, with a distinct area for storage pits and storehouses in another part of the site (*cf. Hayashi 1997*). The wooden circle may reflect the effects from nearby regions of Eastern Japan. The function of this kind of feature remains unclear, but researchers at this site and other scholars have speculated that it might relate to certain kinds of ritual (*Notokawa Town Board of Education 1996; cf. Kaner 2007*).

From the Kyushu area, we will introduce two sites, which provide important information for understanding settlement structure. The first is the Amida site from the northern part of Kyushu (Fig. 3). Unfortunately, since it was this area where the Yayoi cultural package is first thought to have arrived from the Korean Peninsula, there are still currently no particularly good examples of Late Jomon settlements in the Fukuoka Plain from which we can derive a clear picture of settlement structure. Therefore, we have selected a site from the area adjacent to the Fukuoka Plain. This site was occupied during the middle part of the Late Jomon to the initial part of the Final Jomon period. The site comprised many pit dwellings as seen in Figure 3, and the spatial distribution of these pit dwellings seems to be divided into two parts. Some scholars have suggested that the western group of pit dwellings formed a circular structure around a central public space, reminiscent of the settlement structure familiar from Jomon settlements in Eastern Japan (*Matsumoto 2000*).

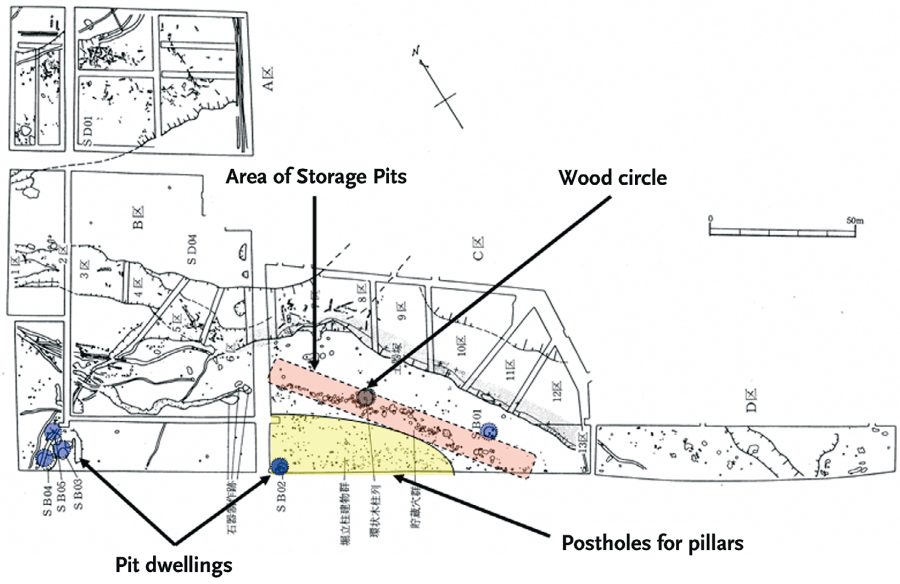

Fig. 2. Site plan of Shorakuji Site (Notokawa Town Board of Education 1996 with modifications). Source of figure: NOTOKAWA TOWN BOARD OF EDUCATION. 1996. Shorakuji iseki: Notokawa-cho maizo bunkazai chosa hokokusyo (Shorakuji Site: A report on the excavations of Notokawa Town), Vol. 40. Notokawa-cho Kyoiku Iinkai. Shiga.

Fig. 3. Site plan of Amida Site (Kaho Town Board of Education 1989). Source of figure: KAHO TOWN BOARD OF EDUCATION. 1989. Amida iseki: Fukuoka-ken Kaho-gun Kaho-machi syozai iseki no hakkutsu chosa (Amida Site: A Report on Excavations at Kaho Town, Fukuoka Prefecture – in Japanese), Vol. 10. Kaho-machi Kyoiku Iinkai. Fukuoka.

The second site from Kyushu is Kaminabe, in the central part of Kyushu (Fig. 4). This site is located at the western foot of the large volcanic massif of Mount Aso. The occupation of this site lasted from the later part of the Late Jomon to the early part of the Final Jomon. The Kaminabe site is one of the most famous Jomon sites in this region and may also have functioned as a central settlement for this region as many of clay figurines and pit dwellings and other special materials were excavated (*cf. Miyauchi 1981; Tomita 1982*). Like Amida, Kaminabe also comprised a circular structure, within which pit dwellings, pottery, and other material culture were distributed (*Tomita 1982*).

Conclusions: reassessing the concept of the Neolithic in Western Japan

In this short paper, we have considered the implications of the dating controversy currently being discussed within Japanese archaeology, and we have also introduced a series of later Jomon sites from Western Japan which are helping us to better understand the nature of the occupation of the western part of the archipelago prior to the adoption of paddy-rice farming. We began with Neil Gordon Munro's account of the Japanese 'Neolithic', formulated 100 years ago, and suggested that the term, implying a period of agriculture prior to the appearance of metallurgy, was not appropriate for the Japanese archipelago. Interestingly, one of the possible outcomes of the current debate about the chronology of Japanese prehistory may be an acceptance that there was a period in Northern Kyushu during the Jomon-Yayoi transition, when rice agriculture had been adopted, but when no metallurgy was being practiced, which might represent an Incipient Yayoi period. If this is the case, then we might have a brief period in Japanese prehistory which can be recognized as truly Neolithic in the European and Chinese sense, *i.e.* the presence of agriculture prior to metallurgy. Only further investigation and clarification of the chronological detail and the nature of the occupation of Western Japan at this critical stage will elucidate this transition further. What is clear, however, is that the Western Japanese Jomon should no longer necessarily be regarded as the 'poor relation' of the culture of the complex fisher-gatherer-

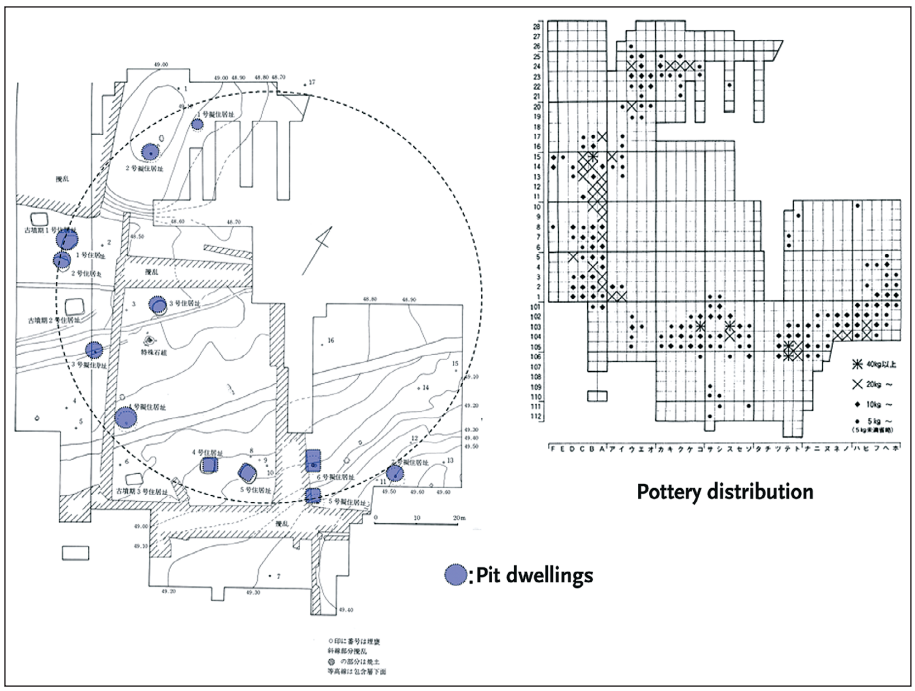

Fig. 4. Site plan of Kaminabe Site (Kumamoto City Board of Education 1981, with modifications). Source of figure: KUMAMOTO CITY BOARD OF EDUCATION. 1981. Kaminabe iseki hakkutsu chosa hokokusyo (A report on excavations at Kaminabe Site) (in Japanese). Kumamoto-shi Kyoiku Iinkai. Kumamoto.

hunters who are known from further east in the archipelago. This means that we need to rethink the role the Western Jomon in this crucial phase of the prehistory of the Japanese archipelago. Until now, models for this transition from the Jomon to Yayoi have emphasized either the adoption of agriculture by indigenous foragers, all heavily influenced by Eastern Japan, or the arrival of a Yayoi economic and cultural 'package' brought to the archipelago by immigrants from the continent (*cf. Hudson 1999; Mizoguchi 2003*). If the 'Neolithic' does exist in Western Japan, then it was a centre of creativity and innovation, drawing together new adoptions from the continent and a rich indigenous tradition.

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REFERENCES

HARUNARI H., FUJIO S., IMAMURA M., SAKAMOTO M. 2003. Yayoi-jidai no kaishi nendai (The dating of the beginning of Yayoi period) (in Japanese). In Japanese Archaeological Association (ed.), *Nihon Koko-gakkai dai rokujyukyukai sokai kenkyu-happyo yoshi (Abstracts book of the 69th annual meeting of the Japanese Archaeological Association)*. Japanese Archaeological Association. Tokyo: 65–68.

HARUNARI H., IMAMURA M., FUJIO S., SAKAMOTO M., and KOBAYASHI K. 2004. Yayoi-jidai no jitsunendai (Absolute dating of the Yayoi period) (in Japanese). In Japanese Archaeological Association (ed.), *Nihon Koko-gakkai dai nanajyukkai sokai kenkyu-happyo yoshi (Abstracts book of the 70th annual meeting of the Japanese Archaeological Association).* Japanese Archaeological Association. Tokyo: 73–73.

HAYASHI K. 1997. Jomon shakai no shigen riyo, tochi riyo: "Jomon toshi-ron hihan" (The resource and land utilization in Jomon society: Critique of "the arguments of urban settlement in Jomon period") (in Japanese). *Kokogaku Kenkyu (Quaterly of Archaeological Studies) 44–3: 35–50*.

HUDSON M. 1999. *Ruins of Identity: ethnogenesis in the Japanese archipelago*. University of Hawaii Press. Honolulu.

KANER S. 1990. The western-language Jomon. In G. L. Barnes (ed.), *Hoabinhian, Jomon, Yayoi, Early Korean States: Bibliographic reviews of Far Eastern Archaeology*. Oxbow Books. Oxford: 31–62.

2007. The archaeology of cult in Jomon Japan. In D. Barraclough and C. Malone (eds.), *The Archaeology of Cult*. Oxbow Books. Oxford.

KOBAYASHI T. 2004. *Jomon Reflections*. (Edited by S. Kaner and O. Nakamura). Oxbow Books. Oxford.

KOYAMA S. 1979. Jomon subsistence and population. *Senri Ethnological Studies 2: 1–65*.

MATSUMOTO N. 2000. *Ninchi kokogaku no riron to jissenteki kenkyu: Jomon kara Yayoi heno shakai-bunka henka no purosesu (Theoretical and Practical Study of Cognitive Archaeology: The transformation process of Society and Culture from Jomon to Yayoi) (in Japanese)*. Kyushu University Press. Fukuoka.

MIYAUCHI K. 1980. Kyushu Jomon jidai dogu no kenkyu (A study on clay figurines of Jomon period in Kyushu). *Kyushu Kokogaku (The Journal of the Archaeological Society of Kyushu) 55: 23–35*.

MIZOGUCHI K. 2003. *An archaeological history of Japan, 30,000 BC – 700 AD*. University of Pennsylvania Press. Philadelphia.

MORSE E. S. 1879. *The shell mound of Omori*. Memoirs of the Science Department, University of Tokyo 1.1.

MUNRO N. G. 1908. *Prehistoric Japan*. Yokohama.

NISHIDA M. 1983. The emergence of food production in Neolithic Japan. *Journal of Anthropological Archaeology 2: 305–322*.

NOTOKAWA TOWN BOARD OF EDUCATION. 1996. *Shorakuji iseki: Notokawa-cho maizo bunkazai chosa hokokusho (Shorakuji Site: A report on the excavations of Notokawa Town)*, Vol. 40. Notokawa-cho Kyoiku Iinkai. Shiga (in Japanese).

ODAI YAMAMOTO I EXCAVATION TEAM (eds). 1999. Archaeological research at the Odai Yamamoto I site. Kokugakuin University. Tokyo (in Japanese with English summary).

ROWLEY-CONWY P. 1984. Postglacial foraging and early farming economies in Japan and Korea: a west European perspective. *World Archaeology 16.1: 28–42*.

SHODA S. 2007. A comment on the Yayoi period dating controversy. *Bulletin of the Society for East Asian Archaeology 1* on-line http://www.seaa-web.org/ on 21 June 2007.

TAKAKURA H. 2003. Yayoi-bunka kaishiki no aratana nenndai-kan wo megutte (Problems surrounding the new outcome of the dating of the beginning of the Yayoi period) (in Japanese). *Kokogaku jyaanaru (Archaeological Journal) 510: 4–7*.

TANAKA Y., MIZOGUCHI K., IWANAGA S., HIGHAM T. 2004. Yayoi jinkotsu wo mochiita AMS nendai sokutei (yosatsu) (A preliminary report of the AMS dating of human skeletal remains of Yayoi period Northern Kyushu, Japan.) (in Japanese). In Archaeological Society of Kyushu and Yongnam Archaeological Society (ed.), *Ni-Kan koryu no kokogaku (The Archaeology of Interaction between Japan and Korea)*. Yongnam Archaeological Society. Busan: 245–251.

TANAKA Y., MIZOGUCHI K., IWANAGA S., HIGHAM T. 2005. A preliminary report of the AMS dating of human and animal skeletal remains of Yayoi period Northern Kyushu, Japan. *Interaction and Transformations 3: 39–47*.

TOMITA K. 1982. Kaminabe iseki shutsudo dogu no kansatsu (Examination of the clay figurines excavated from Kaminabe Site, Kumamoto Prefecture) (in Japanese). In *Mori Teijiro hakase koki kinen kobunka ronshu (Festschrift on Ancient Culture in honour of the Seventieth Birthday of Dr Mori Teijiro)*, Vol. 1. Mori Teijiro hakase koki kinen ronbunshu kankokai. Fukuoka.