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The materiality and social value of amber objects during the Middle Jomon in Japan

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This exploratory paper features ongoing research, focusing on the interregional, long-distance exchange networks during the Middle Jomon (c. 3500~2500 BC), with regards to an important but frequently overlooked exchange item: amber, which was often made into beads or pendants. In Japan, a great deal of important research on beadstone ornament exchange has focused on sourcing and establishing the extent of the circulation (by means of compiling production and distribution sites), and reconstructing the production processes and typologies. However, although much information is present in excavation site reports concerning structures and artefacts at these sites, relatively little attention has been devoted to the social context in which these ornaments circulated, and the reasons for the appeal of the ornaments leading to such high demand, or the motivation behind the production activities. This paper deals with the materiality of amber, suggesting how its unique physical attributes and the use of ornaments made of this specific material may have mediated social relations in the hunter-gatherer communities of Jomon Japan, as well as their possible role in creating specific identities. Some preliminary evidence will be presented to support the hypothesis that amber ornaments from Awashidai at the Pacific Coast were made by and for hunters, creating social relations among hunters as a group, and may have been used both for sympathetic magic and a sign of personal identity. A brief comparison with the materiality and use context of jade items will be made.

1 Introduction

This paper will focus on the social aspects of exchange relations in the prehistoric forager society of the Jomon period in Japan, particularly from the point of view of the producers of rare products that were widely distributed over large parts of Japan: ornaments made of amber, specifically. The word 'ornament' may sound misleadingly like 'accessory', but I do not use it in this sense. These rare, exotic items were produced for the purpose of creating social relations, sometimes locally, sometimes over long distances. What does the character of the production contexts tell us about the artefact producers? What is their motive for wishing to engage in specific relations? What role does the materiality of their products play in the structuring and maintenance of long-distance relations?

Jomon foragers lived in the diverse landscapes and ecosystems that comprise the Japanese archipelago, seasonally exploiting the specific resources found in their region. As will be shown below, no community could be entirely self-sufficient, and long-distance exchange relations were essential for survival. The spatial and temporal scope of this paper is Central Honshu (fig. 1) during the Middle Jomon (3500~2500 calBC). This period is generally considered the apex of the Jomon in this region; an abundance of craftsmanship and ritual activities was accompanied by an unprecedented population increase. There is ample evidence for the rapidly expanding exchange networks, including an immediate increase in the production and circulation of jade and amber ornaments. It will be argued here that these rare and precious items were indeed used for the creation and maintenance of interregional and interpersonal relationships, with a special focus on amber. Both these scarce minerals are good subjects for research on exchange mechanisms; they are derived from distinct, spatially limited source areas within Japan, and their distribution is archaeologically visible, frequently in contexts of intentional deposition, such as burial. To illustrate the ubiquity of jade and amber ornaments in Central Honshu during this phase: it has been calculated that of the 200 Middle Jomon jadeite pendants recorded from all over Japan in 1995, a whopping 70% were found in Central Honshu (Teramura 1995, 122), and according to Yoshioka (2003) almost two thirds of distribution sites with amber ornaments belong to this region and period.

As will be shown below, jade and amber have similar distribution spheres, but they may have been used in different social contexts, and been perceived in different ways due to their specific physical attributes.

1.1 Objects and the creation and mediation of social relations and identities

In terms of exchange, a distinction is usually made between contrasting types of exchange relations: reciprocal gift exchange (social relations) versus 'ordinary' market exchange (economic relations). Since the seminal anthropological research of Malinowski (1922) and Mauss (1925), there is

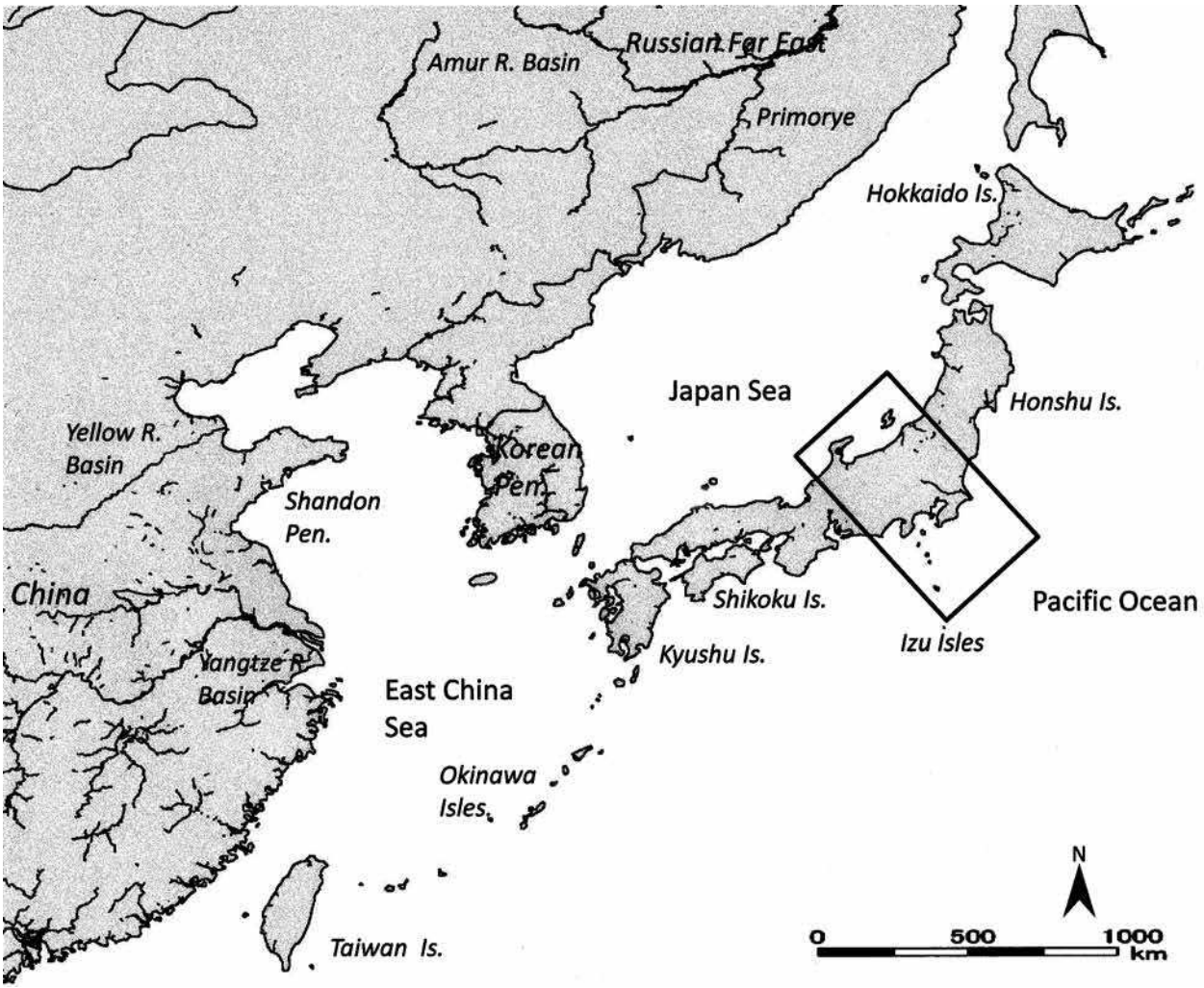

Figure 1 Overview map of Japan in a regional context, indicating the research area.

much awareness of the vital role of 'gifts' in the creation and maintenance of social relations, and how expansive these can be, both spatially and temporally. At different ends of the value spectrum, we find 'inalienable goods' and 'commodities'. Commodities can be exchanged for other commodities of equivalent value; such value can range from the ordinary (*e.g.* daily utilities) to the very high, like luxury items, or prestige goods (*e.g.* Appadurai 1986). However, inalienable goods (called 'singularities' by Kopytoff 1986) are unique, have a culturally-subjective value, are vessels for symbolic and economic power, and are intrinsically connected to social identity, cosmology and authority (*e.g.* Weiner 1992, 6, 11). Such objects, conferring identity, are suitable for a parallel ceremonial gift exchange, in which objects may symbolize persons ("objectification"; Strathern 1988, 176-178). Fontijn (2002, 26-27) makes an important distinction between the role of such objects in the construction of identities: specific *personal* identities versus *communal* identities, an insight which is also highly relevant to this paper, in interpreting the role of amber. Of course, due to social interaction, all human beings have multiple identities.

The process also works the other way around: the idea of an object biography, whereby identities accrete to the object as well. In the words of Gosden and Marshall (1999, 169): "As people and objects gather time, movement and change, they are constantly transformed, and these transformations of person and object are tied up with each other".

The seminal research of Alfred Gell (1998) makes that dialectical relation particularly clear in his argument about the agency of material culture and how it can mediate and create social relations and identities. Although he mainly references "art", I also find some aspects applicable to other

object types, such as the Jomon jade and amber pendants. Gell explains how objects ("indexes") are designed by their creators for the purpose of social interaction, objectifying their intentions in order to elicit some type of emotional response from the "recipients" (*e.g.* fear, religious awe, solidarity or admiration). He demonstrates the various ways in which material objects can have a profound social and/or cognitive impact on the recipient (and sometimes even on the "artist"), being ascribed certain characteristics by persons. This is salient to this paper, which hypothesizes that certain powers or identities are attributed to amber objects during the Jomon. Moreover, also relevant, is his concept of "captivation", in which a recipient is overcome by awe for an object, through not being able to comprehend its origin or production process (Gell 1998, 68-72).

As Hoskins (2006, 77) rightfully points out, Gell mostly focuses on the agency of material objects as derived from their "visual power". However, as I will argue below, the simultaneous stimulation of other senses through the 'physicality' of a material or object may also form an essential factor in the construction of the social (and possibly cognitive) value of objects. The inclusion in the *Handbook of Material Culture* of several exploratory chapters on the relation between material culture and various senses (*e.g.* Young 2006 on the visual impact of colour; Howes 2006 on scent, sound and tactile sensations) indicates that this insight is gradually acknowledged in recent research. In short, these concepts may help to understand the agency of the producers of amber in their dealings with the recipients of their products, as well as the effect that the materiality of an object can have.

Of course, as Kopytoff (1986) remarked, the social values attributed to material culture are anything but constant, but are subject to change at any time along a scale from inalienable (singular) object to commodity or vice versa. Unfortunately there is little scope in this paper to fully investigate the changes in Middle Jomon ornament social values over time (but see Bausch 2010a).

1.2 Exchange and social value in Jomon archaeology

Among Japanese archaeologists, recently research on Jomon exchange also has started to regain popularity. However, most studies are highly localized in scope (because the researchers are employed by prefectural institutes), and only tend to concentrate on one single item or material, merely identifying the source area and subsequent distribution within one prefecture. Some studies have considered the mechanisms behind the (re)distribution of goods (*e.g.* Kurishima 1985; Kanayama 1998) or put the exchange networks in a wider perspective, viewing interregional exchange of a variety of exchange goods as part of the "total subsistence system" (Kosugi 2003, 27).

In the past few years, there has been a surge of interest in Japan – scientific as well as popular – in Jomon jadeite and amber pendants. Particularly jade studies have taken flight (perhaps at the expense of amber studies), with annual conferences and the scientific journal *Gyoku Bunka (Journal of Jade Ornament Culture Studies)* which has yearly publications since 2004. In addition to its scarcity, the hard, endurable quality of jadeite and its green colour are often characterized as reasons behind its perceived value. According to Kobayashi (2004, 161) the colour green had a psychological effect on the Jomon, who, like people elsewhere, "were enticed by the bewitching and calming deep colour green" of jade, while many other scholars have interpreted the colour green as symbolizing universal values like plant ecology, fertility and renewal (*e.g.* Kurishima 1985**,** 42; Teramura 1995, 137-139). There is less speculation about the reasons for the appreciation of amber, but it is also assumed to have been a prestige object, based on its frequent occurrence in burials (*e.g.* Yoshioka 2003, 246; Kurishima 2012). Noshiro (2004, 41) has suggested that amber possessed an "intrinsic value" in Jomon society, as seen in the fact that unprocessed amber nodules also circulated at sites.

However, although Jomon jade and amber items are both commonly and implicitly assumed to have been used as prestige objects and/or magical items, most research focuses on 'Processual' approaches concerning production processes, typology and distribution scope – instead of on context – and so far the reasons behind these attributed 'social values' have been left underexplored. I will make an attempt to explore this issue here, focusing mainly on amber, inspired by Gell (1998) and Weiner (1992).

My argument on the social value of amber during the Jomon is founded on a few hypotheses concerning certain intrinsic properties of this material – especially in the realm of the visual and the tactile senses – which may have made it extra suitable as potential medium, imbued with social and/or cognitive 'agency' in the eyes of the Jomon foragers. Additionally, I will also take a brief look at the production and subsequent exchange of amber 'ornaments' during the Middle Jomon in the Central Honshu region, to see how they mediate social relations and local identities. The main focus area is the Pacific Coast area at Choshi Peninsula, Chiba prefecture, which is the location of the Choshi amber source. A very brief comparison is made with jade items, which originated in one small source/production area along the Hokuriku Japan Sea Coast and also entered wide distribution networks.

The main distribution areas under consideration are 1) the Central Mountain area, encompassing Nagano and Yamanashi prefectures; a mountainous area with high-quality obsidian sources; and 2) the Kanto Plains around present-day

Tokyo, covering Tokyo, Kanagawa and Chiba prefectures (fig. 1). The locations of Choshi source area and sites mentioned in the text are depicted on the map in figure 9.

2 Jomon environment, subsistence and social organization

With the recent publication of several excellent and extensive English-language syntheses on Jomon culture research (Habu 2004; Kobayashi 2004), the lavish Jomon data has become much more accessible to non-Japanese scholars.

Japan consists of four main islands (Hokkaido, Honshu, Shikoku and Kyushu), as well as many smaller islands including Okinawa. Due to its elongated shape, Japan covers various climate and vegetation zones, from sub-arctic to subtropical, from conifer to evergreen forests. Our target area, Central Honshu, has a temperate climate and deciduous broadleaf forests. A very mountainous country, there is a great deal of diversity in landscape, micro-climates and natural resources, even among nearby regions. Nevertheless, however isolated a community, long-distance contact and exchange of resources have always been a defining feature of Jomon society, as seen in the long history of long-distance distribution of exchange items like obsidian.

The Jomon period in Japan precedes the introduction of wet-rice cultivation, metallurgy, and social stratification from the mainland. Named after one of the earliest ceramic traditions in the world, with great spatial and temporal stylistic variation, the Jomon are often referred to as "affluent foragers" (*e.g.* Barnes 1993, 77) due to the diversity of their material culture. Subsistence was mostly based on hunting, fishing and gathering, seasonally exploiting different resources. Zooarchaeological analysis shows that hunters particularly favoured large mammals such as wild boar and deer. However, there is also scattered evidence for small-scale plant husbandry, notably cultigens such as bottle gourd, burdock, buckwheat, barley, barnyard millet, spicy herbs like shiso and egoma, and several species of beans (Habu 2004, 59). Throughout the period, the Eastern part of Japan was more densely populated than the West, probably due to a more productive and predictable ecosystem (Akazawa 1986).

2.1 Periodization

The Jomon is generally divided into six periods, based on distinct developments in overall pottery styles and technology (see table 1). Although the very earliest pottery, found in Northern Japan, was dated at 16,500 cal BP (*e.g.* Habu 2004, 28-32), such dates are still exceptional. Moreover, the results of calibrated dating in Japan are very controversial (Habu 2004, 37-41). The synthesis of the most recent dating analyses presented by Kobayashi (2008) is representative for the Jomon phases in Eastern Japan in general (which centres on Central Honshu Mountain area and the Kanto Plains around Tokyo). Being based on a limited number of samples, the dates remain of course approximate.

Period phase	data Kobayashi (2008)	BC
Incipient Jomon	15,700~11,600 cal BP	13,700~9600 cal BC
Initial Jomon	11,500~ 7000 cal BP	9500~5000 cal BC
Early Jomon	7000~ 5470 cal BP	5000~3470 cal BC
Middle Jomon	5470~ 4420 cal BP	3470~2420 cal BC
Late Jomon	4420~ 3220 cal BP	2420~1220 cal BC
Final Jomon	3220~ 2350 cal BP	1220~ 350 cal BC

Table 1 Chronology of Jomon Phases in Eastern Japan (after K. Kobayashi 2008, 896-903). The dates are calibrated AMS radiocarbon dates.

2.2 Middle Jomon subsistence and exchange

Tool composition in Central Honshu settlements during the Middle Jomon suggests that plant foods such as nuts and roots occupied a relatively important part of the diet, especially in the Inland Mountains area – an impression confirmed by isotope analysis on human bone collagen (Kobayashi 2004, 85). Although theories on 'Jomon agriculture' as an explanation for maintaining such a large population density during the Middle Jomon keep cropping up, there is no evidence for this yet, beyond the limited plant husbandry. I follow Barnes (1993, 80-90) in postulating the importance of elaborate exchange networks as an explanation for the Middle Jomon 'affluence'. Although of course not limited to these areas, there appear to have been especially strong relations between the three major eco-zones of Central Honshu: the coastal area of Tokyo Plains Coast and Hokuriku Japan Sea Coast (providing marine products and bead stones like amber and jade, respectively) and the mountain area (nuts and obsidian for tools).

2.3 Jomon Society

Permanent settlements with pit dwellings surrounding a central open plaza with burial pits developed in most areas by the Early Jomon, and the Middle Jomon period in Central Honshu is characterized by a drastic and unprecedented increase in population density (archaeologically visible both in terms of settlement numbers, and house numbers), particularly during the latter half of this period (Imamura 1996, 93-96). It also has a very rich material culture, featuring regionally diverse styles of abundantly decorated ceramics, and an increase in the occurrence of various presumably ceremonial paraphernalia, including anthropomorphic clay figurines (*e.g.* Kaner 2009; Bausch 2010b) and

stone phalli, as well as a marked increase in the production and circulation of jade and amber ornaments.

Apart from the occasional occurrence of (very small quantities of) jade and amber at large-scale long-term settlements, there is no variability in burial goods or in the size and location of burials and houses. Archaeologists generally agree that there was no significant institutionalized social stratification during the Middle Jomon, but that people with special skills, such as religious experts and hunters, may have had distinguished social roles (*e.g.* Habu 2004, 138). However there is some discussion about the development of social complexity. Using ethnographic parallels of strongly hunting-oriented societies like the First Nations of the American Northwest Coast and the Ainu people from Hokkaido, Watanabe (1990) has postulated some degree of hereditary social differentiation in favour of hunters in Northern Japan, based on occupational differentiation during the Later Jomon period. Moreover, on the basis of a statistical study on the presence of grave goods in burial contexts through time, Nakamura (2000) suggests a slight increase in social differentiation during the Late and Final Jomon, particularly in Northern Japan, where "precious ornaments" were found in the burials of children. However, Pearson (2007) finds no evidence of ascribed social hierarchy in Jomon Japan; instead he observes that due to the spatially heterogeneous resource distribution, landscape elevation and subsequent "packing", no single group could monopolize resources, having had to rely on exchange and solidarity in order to ensure their access to resources. He explains the occurrence of "luxury goods" such as fine pottery and ornaments as part of the creation of social networks through gift exchange (Pearson 2007, 382), rather than signalling personal status and identity. However, I would suggest that such gifts gain more 'biography' through exchange, and conversely may also confer identity upon the recipient.

3 The 'social agency' of exotic objects

I would argue that both jade and amber have several intrinsic, unique qualities which would make them a suitable vessel for social identities and cognitive projections. However, these properties are quite distinct, and in some ways perhaps even complementary. There is no scope in this paper to deal in detail with the social role of jade (but see Bausch 2004; 2005; 2010a).

3.1 The physical qualities of amber

Amber, an organic material consisting of fossilized pine resin, occurs as irregular nodules in recent sediments deposited under estuarine (shallow water) conditions. Inclusions of flora and fauna (*e.g.* the famous insects) or inorganic matter: minerals, liquids and gasses are fairly rare. Amber can be found worldwide; the best-known sources with a long history of exploitation include the Baltic, Rumania and Sicily in Europe, and Burma, Mexico and the Dominican Republic (Fraquet 1987, 2-3). The oldest amber use in Japan is during the Palaeolithic in Hokkaido (Noshiro 2004, 40), but its use in the Central Honshu area started in the Early Jomon, and reached its peak during the Middle Jomon.

As an organic material, amber is comparatively very soft (and brittle); its hardness on Mohs' Scale is *c.* 2.0~2.5. (In fact, this probably is one of the main reasons why so few objects are recovered archaeologically, let alone in an undamaged state). Moreover, with a very low Specific Gravity ('density') of *c.* 1.1, it is a remarkably light material – light enough to be easily transported by water.

Optically, the material is very striking. Its visual appearance may also be described as 'lively': amber can be clear or opaque ('cloudy'), and potentially its colours range from almost colourless, a variety of yellow, gold-brown and reddish-brown shades, to deep red and even (almost) black. At the Choshi source, transparent amber with golden- or reddish-brown shades is most common. The examples in figure 2 (from Awashimadai itself) and figure 3 (from recipient Sakai A site) are golden-brown and a dark red (the colour of dried blood – although it is possible that the colour darkened due to erosive processes) respectively.

Very distinctive tactile properties are the facts that amber feels warm to the touch, and may attract small objects through static electricity when rubbed. Both phenomena are caused by the very low thermal and electrical conductivity of amber – hence the fact that the word 'electricity' originated from the Greek name for amber, *electron* (Fraquet 1987, 1-2).

Finally, when heated, amber emits a scent – a characteristic unique to living organisms like animals, people and plants, not to 'lifeless' objects.

To me, the combined visual and tactile properties are very evocative, imbuing amber items with an almost 'alive', zoomorphic quality. It is not impossible that such characteristics also presented a unique appeal to a certain category of the Jomon people, and may have allowed them to project certain 'psychological intentionality' onto such items (*sensu* Gell), reflecting their cognitive understanding of the world. Of course, this is speculation, but below I will present some arguments for a possible interpretation as 'hunting amulet', as well as an emblem of more personal as well as interpersonal identity, based on both the circumstances at the Awashimadai production site, and some of its recipient site contexts.

3.2 Amber sources

In Japan, there are only three active amber source areas in the Middle Jomon period, all along the Pacific Coast of Eastern Honshu. The largest one (past and present) is located about 500 km north of Tokyo, in north-eastern Honshû near

Figure 2 Amber from Choshi source, found at the Middle Jomon amber processing site of Awashimadai, Choshi Peninsula, Chiba Prefecture. Figure 2a shows an amber fragment; Figure 2b an unfinished ornament which broke during the hole-drilling stage. (Photograph taken by Junzo Uchiyama, at the Chiba Prefectural Archives).

Figure 3a and b Two angles of a broken amber bead (probably produced at Awashimadai), that was surface-collected at the jade-producing site Sakai A at the Japan Sea CoaSt. Note the reddish colour. (Photo taken by Ilona Bausch, at the Toyama Prefectural Archaeology Centre).

Kuji, Iwate prefecture. The second amber source is Iwaki in Fukushima prefecture (*c*. 200 km north of Tokyo), while the third, Choshi – the focus of this paper – is located off the tip of Choshi Peninsula, Chiba prefecture, within a distance of 100 km from Tokyo, and is indicated by the star in figure 9).

Sourcing amber artefacts to their original source remains problematic. Theoretically, amber from different source areas can be distinguished through chemical analysis of its components – Infrared Absorption Spectrum analysis – since 1974 (Matsushita 1995, 194), but in practice such analysis is rarely carried out. Moreover, there are many problems with unreliable sourcing results, due to the organic nature of the material (*e.g*. Yoshioka 2003; Noshiro 2004). Nevertheless, the picture emerging from the few available source analyses indicates that from the Middle Jomon onwards, there are two main distribution spheres. The Kuji source supplied northern Japan, with production increasing from the late part of the Jomon onwards, while the Choshi source predominantly supplied Central Honshu, and appears to have been most heavily used during the Early and Middle Jomon periods (Yoshioka 2003, 246-7). Therefore, in this paper it will be assumed that a majority of the amber found in Central Honshu was derived from the Choshi source.

Figure 4 A modern view of the 'Amber Coast', Choshi Peninsula, Chiba prefecture.

Figure 5 The modern location of Awashimadai 1989 (Photograph by Junzo Uchiyama). Foreground: area with the shell midden; down the terrace at the bottom the deposit with animal bones, amber and lackered pottery.

Because the outcrop of the Choshi amber is located in sediments just off the coast, small pebbles are usually eroded and transported to the beach – jokingly referred to by mineralogists as the 'Amber Coast' (fig. 4). During spring and summer, larger pieces could – in the past – be collected from the sediment at low tide (Yamada 2000, 394-395). This source is located at a distance of about 2.5 km from the Jomon period production site Awashimadai (fig. 5) which will be described later. It is very likely that the source of the amber was jealously kept secret from 'outsiders' by those who exploited them; possibly a group of hunters based near the source area, as I will argue later, with the example of the Awashimadai site near Choshi.

4 The Choshi 'Amber Coast' production

So far, the only known Choshi amber processing site that has yielded evidence of all stages of bead production (plus the appropriate manufacturing tools) is Awashimadai site on the Choshi Peninsula, at the Pacific Coast, *c.* 100 km east of Tokyo.

4.1 Special activity deposits

This site complex consists of a larger residential site with an Early Jomon house and a small Middle Jomon shell midden on top of a terrace, with several smaller affiliated sites nearby (see fig. 5). The section excavated in 1989 is an early phase Middle Jomon lowland peat waterlogged site, comprising a special activity site, with evidence of both hunter-related activities and amber ornament production. Despite its small size, this deposition area contained unprecedented quantities of amber, including half-finished items, cores and flakes (figs 6a and b); tools, finely crafted Middle Jomon lacquered ceramics (fig. 7); an abundance of animal bones (particularly the Sika Deer; fig. 8); and bone pendants and spears (Awashimadai Site Excavation Group 1990). In his analysis of the faunal remains, Uchiyama (1996; 1999) found that the site was only used from spring to summer, and postulated its use as a seasonal deer hunting camp.

Amber production evidence contained various 'failures' due to its brittle nature, also including various roughly shaped half-finished items with multiple attempts at drilling. It has been suggested that these multiple attempts on a single piece are an indication of the scarcity and value of amber as a material (Naumann 2000, 54). Alternatively, such 'failures' could also have been re-used for practice or teaching purposes. The forms of Middle Jomon amber ornaments (in so far as they have been well preserved) appear to be far more diverse than those of contemporaneous jadeite pendants, and also less 'processed'. Middle Jomon amber pendants also appear to be generally smaller in size than jades: even the larger amber pendants are usually less than five centimetres long.

Interestingly, all these deposits were associated with Middle Jomon pottery; moreover, they were not associated with any nearby contemporaneous domestic context. Most amber was recovered from a slope and a lowland special activity spot (which, as pointed out by Uchiyama 1999, was strongly related to hunting and butchering activities). Both these findings suggest that a large proportion of amber production evidence at Awashimadai remains yet to be discovered; and that at this point it is difficult to infer the temporal and spatial scale of amber production.

It is tempting to assume that the same people were responsible for the butchering evidence and the amber production. The presence of the finely crafted ceramics suggests that this deposition area was not a mere waste area, but that ceremonial practices (possibly involving both amber and animal remains) may also have been carried out, implying a hunting-related ritual.

Located in a relatively flat and open part of Japan, this site was located in the immediate vicinity of the Pacific Ocean, with the availability of a great variety of marine resources:

Figure 6a Evidence of amber processing at Awashimadai 1989: a sample of cores, flakes and unfinished ornaments. (Photograph courtesy of Choshi Municipal Board of Education 2000, colourplate 159).

Figure 6b A close-up of one of the discarded unfinished pendants, showing two drilling holes. (Photograph taken by Junzo Uchiyama, at the Chiba Prefectural Archives).

shellfish, fish (including the large and nutritious salmon and trout), and sea mammals. Moreover, luscious deciduous forests ensured the availability of both plant foods and large hunting game such as boar and deer. Strangely, evidence of marine resource consumption is relatively scarce (Uchiyama 1996). Moreover, since deer and boar meat appears to have been the preferred source of protein, it is possible that the hunting activity was a conscious choice, and an important aspect of the personal identity. Part of this may be based on cultural preferences for meat over fish; but the hunting of large mammals may also have been seen as a more dangerous 'masculine' activity, conferring peer group status as well as social prestige. For example, ethnographic records describe how in the Ainu society in Hokkaido, prestige hunting of dangerous game was intricately linked with the privilege of carrying out rituals that mediated supernatural power (Watanabe 1973).

4.2 The agency of the hunter-artisan-trader?

Based on the associated faunal evidence and possibly ritual evidence of the lacquered pottery, Uchiyama (1996, 42) has suggested that Awashimadai site amber production discovered so far may have represented the seasonal activities of a small group of rather prestigious, specialized game hunters, who also engaged in part-time amber production and perhaps even managed the amber resources. The discovery of a completed amber pendant (albeit surface-collected) at another section of the Awashimadai site implies that the producers also did use the ornaments themselves. Since the establishment of exchange relations as a socio-economic 'safety net' does not seem to be the primary reason behind the production and circulation of amber ornaments, the motivation may have differed from that of the Jadeite Coast. Uchiyama and Bausch (2010, 93) have postulated that "amber ornaments may have functioned as special hunting amulets made by and exchanged among hunters along long distances." In this scenario, the amber pendants may have been carried as emblems of personal 'hunter' identity by the Awashimadai hunters and given as tokens of friendship in exchange to other hunter groups, thus possibly acquiring hunting rights in alien territories.

Interestingly, the exchange of distinctive amber artefacts as way of forging long-distance relationships between prestigious hunters has also recently been proposed in the case of Mesolithic Scandinavia (*e.g.* Nash 1998), a region with a subsistence base very similar to that of the Jomon in Japan. As several of the beautifully worked Mesolithic Scandinavian items – derived from the Baltic amber source – were manufactured in the form of game animals (fowl, deer, etc.), they are often interpreted as hunting amulets. Indeed, as has been tentatively suggested above, perhaps the particular 'dynamic' qualities of amber make it especially suitable as a 'hunting amulet': its specific colouring (various hues of gold-brown, sometimes with a reddish tinge), its lack of weight (so light it can float), its electricity (attracting small objects), and its warmth to the touch – almost as if 'alive'.

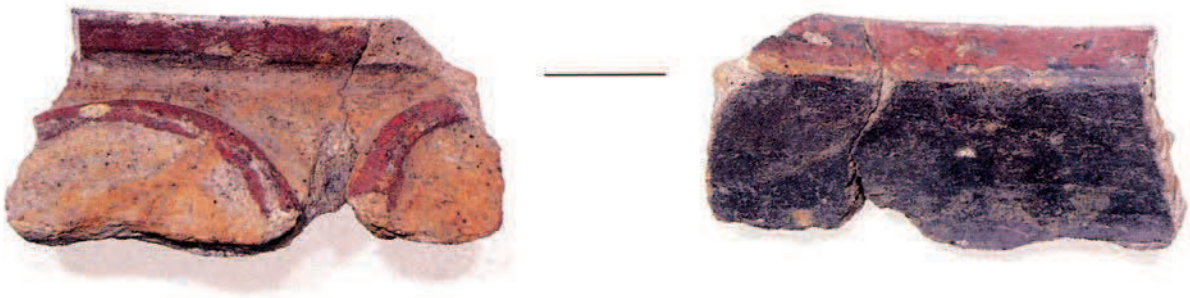

Figure 7 Finely crafted lacquered piece of ceramics (outside and inside) found at Awashimadai (Photograph courtesy of Choshi Municipal Board of Education 2000, colourplate 145, nr 24).

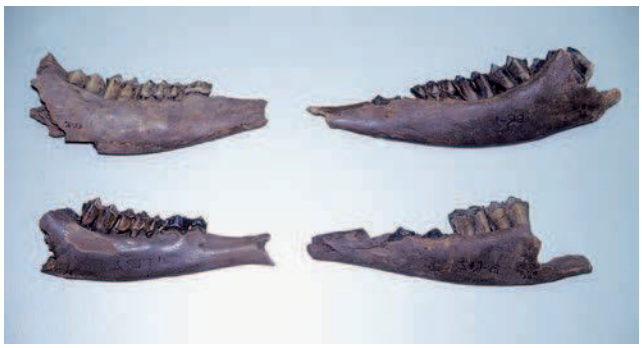

Figure 8 *Sika* deer bones found at Awashimadai 1989. (Photograph taken by Junzo Uchiyama, at the Chiba Prefectural Archives).

Unfortunately no nearby settlement or cemetery has been found, so amber cannot be directly associated with individuals, nor can a gender analysis be carried out. Theoretically, it is possible that the amber ornament was a female ornament, but considering the find context together in relation to physicality of amber and crudeness of form, this is less likely. Furthermore, we also suggest the possibility that hunters as a specialized sub-group within Middle Jomon communities may have engaged in long-distance trade activities themselves, on the premise that specialized hunters may frequently travel beyond the boundaries of the known world and have the social prestige and esoteric skills to do so (cf. Helms 1993, 74-75; Uchiyama and Bausch 2010, 95).

4.3 Awashimadai 'imports'

So far, a tentative case has been made for the hypothesis on the social identity of the amber ornament producers, based on circumstantial evidence. However, further types of evidence might provide a further argument in its support – for example, if exchange items related to hunting attributes (*e.g.* obsidian, arrowheads) were to be present in associated contexts at both production and distribution sites. According to the Awashimadai site reports, indeed a considerable quantity of obsidian – a material highly suited for arrowheads – was found at the Awashimadai site. Although a very small quantity was derived from the high-quality 'Shinshu' obsidian source in the proximity of Suwa Lake area (one of the core Middle Jomon areas, with very high population densities, where relatively many amber ornaments are distributed), the majority of the samples were sourced to another important obsidian source: Kozu Island, one of the Izu islands in Tokyo Bay (Choshi Municipal Board of Education 2000, 435-439).

Of course, there may be an as yet undiscovered village nearby, which was settled throughout the year, and where amber processing activities were also performed. If so, the possibility exists that production was not monopolized by a specific occupational group (or gender), but carried out by a larger village group. Moreover, it is also possible that access to amber was free instead of regulated by a specific group; the Choshi source location was not particularly inaccessible for people with boats. However, preliminary research supports the 'hunter amulet' hypothesis.

5 AMBER RECIPIENT SITES

Examples of 'recipient' sites may offer a further clue. Although the occurrences of amber are much scarcer due to bad preservation, as the percentages in table 2 show, both jade and amber are distributed in the same areas in Central Honshu, notably at Central Mountain area where the ornaments are usually found inside burials. However, although the distribution area of amber ornaments frequently overlaps with that of jades, and even frequently occurs at the same site, the exact contexts are different, as will be argued below.

5.1 Amber distribution in Central Japan

Figure 9 shows a distribution map by Kurishima (2012, 11), with drawings representing the variety in size and shape

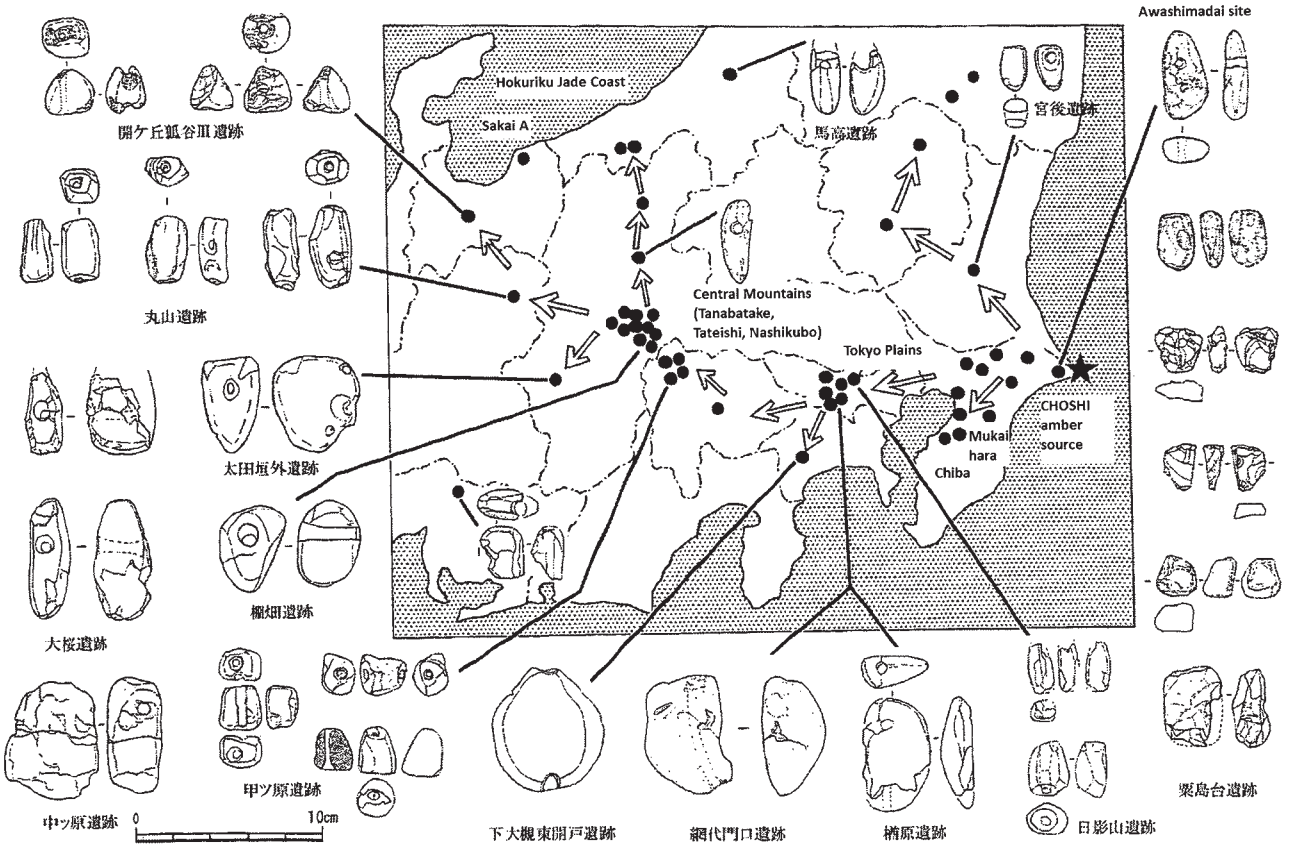

Figure 9 Distribution map of amber in Central Japan (Taken from Kurishima 2012, 11). The Choshi source is indicated with a star; the locations of the sites mentioned in the text are also indicated.

Central Honshu Region	Sites with Amber	Sites with Jade
Chiba Pacific Coast (Chiba; amber source)	12 (29%)	20 (11%)
Tokyo Plains (Tokyo and Kanagawa)	7 (17%)	29 (16%)
Central Mountains (Nagano and Yamanashi)	18 (43%)	80 (44%)
Hokuriku Japan Sea (Toyama and Niigata; jade source)	5 (12%)	54 (30%)
Total sample	42 (100%)	183 (100%)

Table 2 Distribution per region: numbers of distribution sites with Middle Jomon amber (after Kurishima 2012, 11) and jade (after Takahashi 2005, 42-54)

among the distributed amber ornaments. The distance from Awashimadai to the Tokyo Plains sites was *c*. 150 km; to the Suwa Lake sites in the Central Mountain area *c*. 250 km, and further north *c*. 350 km; Kurishima also notes that the sizes of many increase with distance from the source (ibid. 10). This is indeed significant, since it does imply that amber played a prestigious role as a ceremonial gift, objectifying social relations with members of more distant but influential communities (who may or may not have been directly linked with hunters). From the illustrations (fig. 9) it also becomes clear that there is no 'standardization' in processing shape; aesthetic appeal was not the first requirement.

Figure 10 An example of a Middle Jomon site in the Central Mountain area which featured both jade pendants and a piece of amber: Tateishi site, Nagano Prefecture. (Photograph taken by Ilona Bausch, at the Togariishi Site Museum, Nagano prefecture).

5.2 Hunter exchange

In the case of amber gift recipients, it is remarkable that they are often based at settlements which are potentially relevant for hunters (Bausch 2004). This is manifested in various ways. First, amber distribution frequently seems associated with the proximity of high-quality obsidian sources. For example, large-scale settlements in the Central Mountains such as the Nashikubo, Tanabatake and Tateishi sites near Suwa Lake (Nagano prefecture) exploited and processed large quantities of the local high-quality obsidian source (Nashikubo Site Research Group 1985; Tanabatake Site Research Group 1990). At many Suwa Lake sites, jades and amber ornaments are both found at the site (see the ornaments from the Tateishi site in figure 10) – but interestingly, never in the same burial, indicating that the social identities of the two were unrelated.

Furthermore there is also an example of a distributed amber ornament at the Izu Islands, *c*. 150 km distant from Kozu Island, which is another regional source with widely-distributed, high quality obsidian: "Amber believed to be from the Choshi source was found on Kurawa site on Hachijo Island, one of the more distant Izu Islands – *c*. 300 km from Choshi-city area. This amber consists of small beads, and was found in burial pits belonging to the final part of the Early Jomon until the start of the Middle Jomon" (Gomi 1993, 15). This indicates that the exchange relation with this island chain may have existed since before the start of the Middle Jomon.

Amber distribution within Chiba was very dense. Closer to Awashimadai (*c*. 50 km away), a small settlement, the Mukaihara site in Chiba, featured only a few pit dwellings, but yielded a remarkably high quantity of arrowheads, as well as an amber ornament. This site is usually interpreted as a specialized arrow production site, because of the enormous quantities of debitage and unfinished arrowheads (Chiba Prefectural Centre for Cultural Properties 1989).

5.3 The agency of amber

Finally, unlike jade ornaments, amber is almost exclusively deposited in burial contexts, giving a stronger indication that the amber was linked to the personal identity of the recipient. Unfortunately, no associated bones have been recovered in Central Honshu burials so far; therefore there is no available information on gender. Moreover, during the Middle Jomon, arrowheads were apparently not considered as suitable grave goods, so the burial context offers no further clue to the social identity of the amber owner. The evidence for the speculation that amber owners may have been connected with a subgroup of hunters is strictly circumstantial.

However, I believe I have presented several arguments to support the hypothesis that amber pendants may have been produced and exchanged by and between members of a specific occupation, namely hunters. Perhaps such amber pendants had multiple identities too; they may have functioned as an amulet of sympathetic magic (cf. Gell 1998) to ensure a good hunt; worn as a badge of hunter personal identity, and occasionally functioned as a kind of 'passport' membership token among a group of (probably intercommunal) peers, probably paving the way towards establishing relations between different groups of hunters, enabling the exchange of important information about game migrations, of stone materials for making arrowheads, or permission for visiting hunters to temporarily use one's own hunting grounds. As described above, in Central Japan circulation appears to have taken place especially towards the end of the Early Jomon and during the earlier part of the Middle Jomon. This is consistent with the fact that hunting still played a vital role then, while during the latter half of the Middle Jomon the explosive population growth in Central Japan led to a greater nutritional dependence on plant foods. This subsistence shift is reflected in the composition of the tool kit at the sites; the percentage of plant processing tools increased drastically, at the expense of hunting evidence like arrowheads and pit traps (Imamura 1996, 90).

5.4 Jade agency

Conversely, this subsistence shift may also be the reason that the circulation of jadeite pendants started to expand strongly from the Middle Jomon onwards. From the middle phase onwards, jadeite pendants start to appear more frequently at Central Japanese sites. In earlier papers (Bausch 2004; 2010a) I have argued that the middle phase – the start of the population growth – was the time for creating long-distance exchange relations; large jadeite pendants were passed on between 'linked' settlements.

Although the exact meaning of these pendants is of course unknown, it is possible that these were valued – on the basis of characteristics such as green colour and durability – as regenerative amulets, transmitted through generations with a communal identity as inalienable good representing a settlement, perennially stimulating the natural environment, particularly the flora. The new trend to deposit jadeite large pendants in mortuary contexts, which took place during the late phase of the Middle Jomon in the Suwa Lake/Central Mountain area in particular, may perhaps be interpreted in the context of ecological deterioration. It is possible that these burial contexts represent attempts by over-large settlements to ritually cultivate exchange relations with the 'other world'; a kind of sacrifice of a valued object in order to halt the decline of their main subsistence base – plant foods (Bausch 2004; 2010a). In any case, after the Middle Jomon the occurrence of amber also sharply decreased – perhaps due to a change in social value, or lack of access to the material.

6 Conclusion

It has been suggested that both jadeite and amber were used for the creation and maintenance of long-distance exchange relations, and simultaneously conferring an identity on both the producers and the recipient. These relations were necessary for creating a context for other forms of exchange, such as artefacts, marriage partners, information – and access to important subsistence resources in other territories, be these plant foods, obsidian or hunting rights. Such wide-ranging contacts were essential for survival in the Jomon world.

Currently, there is an increasing awareness of the cultural importance of Jomon finds in Japan, at several levels. In academic circles, conferences and publications on jade (and to a lesser degree, amber) have increased in the last decade. At local and national government levels, awareness of the importance of heritage management, and increase of public interest and pride in the Jomon Culture as part of national history, has led to the protection of both material culture and landscape. The Cretaceous formations at Choshi in Chiba, which contain the amber source, have recently been named Natural Monuments (Noshiro 2004). The jadeite outcrops at the mountains in Omi in Niigata have been declared National Monuments, as well as – very recently – the jadeite production sites of Sakai A and Teraji, including their entire collection of finds. These objects are now admired by the general public, who travel far to visit special exhibitions at museums. So, in the spirit of Gosden and Marshall (1999), the Jomon ornaments, production sites and their source areas have been revived, and provided with a new, different social value, are still connecting people through time and space, and possibly conferring a new social identity.

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