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WOOD CULTURES IN PRE-MODERN HOKKAIDO ISLAND: A COMPARATIVE STUDY BETWEEN CENTRAL JAPAN

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INTRODUCTION

Wood is one of the most common materials, which is used all over the world. With woody materials, humans have formed "wood culture" in various regions. Knowledge of wood utilization history can give us a better understanding of the culture and relativize modern forestry activities. This article discusses wood utilization based on the culture (hereafter wood culture) of Japanese archipelago, especially Hokkaido Island (hereafter Hokkaido), the northernmost island in pre-modern times. Archeological studies show that there were three different cultures in Japanese archipelago; "the northern culture," "the central culture," and "the southern culture" (Fujimoto 1988). In Hokkaido, the indigenous Ainu people were hunter-gathers and traded with the southern Japanese people and formed a unique culture quite different from the so-called "Japanese culture."

Although many researchers have discussed the wood culture and the history of wood utilization in Japan, most focus on the wood culture of central Japan and little is discussed concerning Hokkaido (e.g. Kohara 1972, Totman 1989, Yamada 1991, Koike 2012, Totman 2014). Furthermore, although many fragmental studies on wood utilization of each period has been performed in archaeology,

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history and ethnology, very few studies comprehensively discuss on wood cultures in Hokkaido (Sapporo Gakuin University 1988, Tezuka et al. 2018).

I hypothesized that wood culture could be changed by ethnics and period even if multiple wood cultures would co-exist in similar environments. Therefore, the wood culture of the Ainu in Hokkaido may be different from that of central Japan. Moreover, it can be hypothesized that wood culture of the Ainu changed with time, and though they lived in same Hokkaido, Japanese and Ainu had a different wood culture. To examine this hypothesis, first I outlined the wood cultures in Hokkaido during the pre-modern period by synthesizing previous researches in research fields of archeology, ethnology and history from a viewpoint of wood culture. Second, focusing on Ainu culture and the Satsumon culture (700~1300 A.D.; incipient Ainu culture), a comparison was done on wood culture with that of central Japan, especially focusing on selection of the wood species. Furthermore, wood utilization of Japanese in Hokkaido during the Edo period (17–19th C. when the Tokugawa Shugunate governed whole Japan except Hokkaido) is illustrated to show that different wood cultures existed in the same region.

CENTRAL JAPAN AND HOKKAIDO ISLAND; FLORAE AND HISTORY

The Japanese archipelago stretches north-south latitude between about 20°N to 45°N and mainly consisted of four islands, Kyushu, Shikoku, Honshu and Hokkaido (e.g. Koike 2012; Totman 2014). Hokkaido is the most northern island and is between about 41°N and 45°N. The southwest archipelago is located at the edge of the southern Japanese archipelago. In this article, islands except Hokkaido and southwest archipelago are termed as "central Japan".

The flora of Hokkaido is distinguished from central Japan; Tatewaki (1955) placed Hokkaido excluding Oshima Peninsula (located in southwest Hokkaido) in the "Pan Mixed Forest Zone" though he regarded central Japan as a part of the "Temperate Eastern Asiatic Zone." The "Pan Mixed Forest Zone" contains the Schmidt's line located in south Sakhalin Island, southern Kurile Islands, eastern Manchuria, and Russian Far East (see fig. 1). Furthermore, compared to Hokkaido more plant species naturally distribute in central Japan. It is important that many coniferous trees, which plays an essential role in central Japan wood culture does not distribute in Hokkaido.

Hokkaido has a different history from central Japan (see table 1). In the Japanese archipelago, hunting-gathering was the major life style until the Jomon period (12,000~400 B.C.). In central Japan, rice crop production started in the Yayoi period (1,000 B.C.~300 A.D.). After that, an ancient nation was formed by an emperor and the so-called, "Japanese culture" gradually developed. However, rice production in Hokkaido was never conducted until modern times mainly due to the cool climate. As a result, an independent nation was never formed in Hokkaido.

During the Yayoi period, hunting life society was continued in Hokkaido by the Ainu. It is called the Epi-Jomon period (from about 2,300 to 1,700 years

Table 1. Periodization of Hokkaido Island (modified from Hokkaido Archaeological Operations Center 2004)

Tabela 1. Periodyzacja Wyspy Hokkaido (zmienione, Archeologiczne Centrum Operacyjne Hokkaido 2004)

<table>
<tr><th>Honshu region</th><th>Christen era</th><th colspan="2">Hokkaido Island</th></tr>
<tr><td>Paleolithic Age</td><td>B.C. 25,000
B.C. 12,000</td><td colspan="2">Paleolithic Age</td></tr>
<tr><td>Jomon</td><td rowspan="2">B.C. 300</td><td colspan="2">Jomon</td></tr>
<tr><td>Yayoi</td><td rowspan="4">Epi-Jomon</td><td rowspan="3">Okhotsk</td></tr>
<tr><td>Kofun</td><td>A.D. 400
A.D. 600</td></tr>
<tr><td>Asuka</td><td rowspan="3">A.D. 800</td></tr>
<tr><td>Nara</td><td rowspan="2">Satsumon</td></tr>
<tr><td>Heian</td><td>A.D. 1,200</td><td rowspan="4">the Ainu</td></tr>
<tr><td>Kamakura</td><td>A.D. 1,300</td><td rowspan="2">Middle ages</td></tr>
<tr><td>Muromachi</td><td>A.D. 1,600</td></tr>
<tr><td>Edo</td><td>A.D. 1,900</td><td>Early Modern</td></tr>
<tr><td>Meiji-Heisei</td><td></td><td colspan="2">modern times</td></tr>
</table>

ago). The division of Hokkaido history is generally based on archeology. From the Epi-Jomon antecedents, the Satsumon culture appeared. On the other hand, the Okhotsk Culture (named after location facing to the Okhotsk sea in northern Japan), which appeared on Sakhalin Island, expanded throughout northern Hokkaido during the terminal period of Epi-Jomon, i.e. Okhotsk Culture period (from about 1,500 to 900 years ago). The Satsumon Culture gradually merged with the Okhotsk Culture and, in about 800 years, it was replaced by the Ainu Culture (Tezuka 2016). In this article, I focused on the Satsumon culture and the Ainu culture.

THE WOOD CULTURE IN CENTRAL JAPAN

In this chapter, I explain how "Japanese wood culture" has been discussed so far by focusing on woody species which is considered as the symbol of wood culture. Kohara (1972) indicated that coniferous trees (= softwoods) are frequently used for Japanese traditional architectures and interiors. In contrast, Western architectures and furniture are usually made of broadleaf trees (= hardwoods). From this fact, he argued that Japan is a "softwood culture," based especially on

Japanese cypress (*Chamaecyparis obtusa*, see fig. 2) which is preferably used in many cases.

Sugi-cedar (*Cryptomeria japonica*) is also regarded as a symbol of the Japanese wood culture. Sugi cedar has high cleavability; therefore easy to make plates from a logs by axes. Such plates have been used as *Kokera-Ita* (thin roof sheets made by splitting a log), barrels and tubs. Toyama (1976) also indicated these facts, and termed Japanese wood culture as the "the culture of Sugi-cedar = soft wood".

Modern forestry in Central Japan is also influenced by this wood culture. After World War II, the Sugi- cedar was intensively planted to solve the shortage of timber demand. This drastically changed naturally regenerating forests into plantation forests (Koike 2012, Totman 2014). However, in contrary to expected increase in timber, the demand of domestic timbers declined due to the trade liberalization of wood from 1965, followed by the westernization of life styles in Japan. Consequently, man-made forests are in many cases neglected or abandon and are not sustainable managed, especially after 1960's.

Although both Japanese cypress and Sugi cedar played a vital role in Japanese wood culture, they do not grow naturally in Hokkaido. Therefore, "Japanese wood culture" discussed so far should be called "the wood culture of central Japan". Then, what kind of woody species was preferably used in Hokkaido?

THE WOOD CULTURE OF THE AINU IN HOKKAIDO

In this section, I pay attention to the wood culture of the Ainu people and their ancestors: indigenous people in Hokkaido in pre-modern times.

Species composition in Hokkaido is different from the Honshu islands as mentioned above: dominant coniferous trees are fir (*Abies sachalinensis*) and spruce (*Picea jezoensis* and *P. glehnii*), etc. (fig. 8). These species are composed of natural stands and are also used to make plantation forests in northern Japan (Matsuda et al. 2002). If the Ainu people and their ancestors shared the practice of wood usage of central Japan, it can be predicted that they also prefer to use these coniferous trees for buildings and instruments. However, studies on the Ainu culture and archeology in Hokkaido show different facts; softwood was not the main materials for constructing houses. Mino (2000, 2002) investigated charred woods excavated from burnt pit dwellings from Jomon period to the Ainu culture period in Hokkaido. He reported that coniferous trees were not used for building pit dwellings and broadleaf trees such as ash (*Fraxinus* sp.) and deciduous oak (*Quercus* sp.) were commonly used instead.

Exceptionally, in the Okhotsk culture, coniferous trees like fir were used as the main material for pit dwellings. In Hokkaido, although pit dwellings disappeared from the Ainu culture period, hardwood is still a common material for housing (Taguchi 2018). Furthermore, there are relatively new records (Takabeya 1939, Kayano 1978) that show materials of the *Ciset*, i.e. traditional house of the Ainu (see fig. 5) was mainly made by hardwood. In addition, materials for folk articles,

dugout canoes and dishes were also made of hardwood and their bark. On the other hand, softwood was only used for limited objects, such as a bow (by yew: *Taxus* sp.) and clothes dryer (by Sakhalin fir) (Kayano 1978). Therefore, in Ainu wood culture, a variety of hardwood was used and did not prefer specific softwood. Why did the people employ non-softwood for daily use?

From studies on building materials of pit dwellings in the Ishikari lowland zone (located in Central Hokkaido) from the Epi-Jomon period, it is suggested that softwood was not frequently used since many coniferous trees did not distribute where they settled (Sano 2005). Ancient people without means of transporting large wood, prepared materials for pit dwellings from forests near their village. In Ishikari lowland, the surrounding vegetation is characterized by riparian forests and wetlands. In fact, it was found that tree species that were used for pit dwellings were found at riparian forest such as ash, alder (*Alnus* sp.), and willow (*Salix* sp.) (Moriya et al. 2007, Moriya 2015). It seems that one of the features of the Ainu wood culture is that wood materials were supplied from riparian forests.

On the other hand, this may not always be the case. Some artifacts found in Ishikari lowland from Epi-Jomon period sites, show that the people used softwood, such as large blocks of wooden plates and natural trees of softwood (mainly fir) at sites of the Epi-Jomon period in Ishikari lowland (Watanabe et al. 2016). This indicated that people lived in the Ishikari lowland could use conifers. In general, mixed forests (also seen in Hokkaido) usually have lower proportion of conifers if they would develop at lower elevation areas, so further analyses must be made to reveal how and why softwood was used.

"THE TIMBER RESOURCES TRANSITION TO SOFTWOOD" IN CENTRAL JAPAN

Hokkaido, during the pre-modern times, is not the only region where softwood was not preferably used. Archeological studies on wood indicate that softwood was mainly used throughout central Japan from the later Yayoi period. Before then, in the Jomon period, wood utilization was dependent on hardwood, such as chestnut (*Castanea* sp.; Suzuki 2008, Murakami 2011). In this article, I termed this change as the "timber resources transition to softwood." From historical studies on wood utilization in central Japan, social and technical factors suggest various reasons of the timber resource transition to softwood as follows.

1. Systematic consumption of timber for buildings

The beginning of large-sized building construction is considered as one of the factors of increasing utilization of softwood. In central Japan, complex large-sized building such as huge Buddhist temples were built (Totman 2014). Large-sized buildings require many beams and pillars, and the coniferous tree like Japanese

cypress is the only woody material that can be used to obtain large sized timber (Totman 1989, Suzuki 2008, Totman 2014). In constructions of ancient cities like Nara and Kyoto (both are historical old capitals in Japan), the consumption of large diameter wood was too high to meet the supply from the forests around Nara and Kyoto. Therefore, they were obliged to carry timber from remote places (Totman 1989, 2014). Furthermore, softwood is suitable for mass transportation because their specific gravities are generally lighter than hardwood, and seldom cause cracks and deform (Yamada 2008). For systematic consumption, a premise of constructing large-sized buildings is necessary. In this case, an appearance of strong authority such an Imperial court (=ancient "nation") is essential political structure. This is a unique historical characteristic observed in central Japan, which differs from the Ainu history.

2. Production of wooden plate materials by the "splitting technology"

In central Japan, wooden plate materials were produced by splitting large diameter logs from the Yayoi period when wood utilization technology rapidly progressed. It is suggested that high clevability (defined as the degree of ease with which a material can be split) of softwood lead to the expansion of wooden plates for architectures in central Japan (Yamada 1991, 2007). Furthermore, in the middle ages (1200~1573 A.D.), "*magemono,*" a container made by bending a thin wooden plate (see fig. 6), was spread and played an important role in the transition to softwood (Yamada 1991).

In the Satsumon culture and the Ainu culture in Hokkaido, however it is considered that the transition to softwood never occurred because these phenomena were not as notable. Systematic consumption did not occur in the Ainu culture, as they never formed their own independent nation. However, in the meantime, utilization of plate materials was confirmed in Hokkaido. In the next chapter, I analyzed wood utilization since the Satsumon culture by way of focusing on wood splitting technology and the utilization of plate materials.

UTILIZATION OF PLATES IN THE SATSUMON CULTURE AND THE AINU CULTURE

1. The Satsumon Culture: Development of technology of dividing method or timber use

Previous studies show that the Satsumon culture period is a period when wood processing technologies developed. In this period, ironware such as hatchets, "spear plane" (an ancient tool for making timbers flat) and knives were brought through trades with central Japan. The ironware made the splitting processing easier and people during the Satsumon culture began to use plates for their boats and houses (Koshida 2003, Suzuki 200). Appearance o*f itaomacip* (Board

Binding Boat in Ainu word) is one example of this change. It is a semi-structured ship where wooden plates are fastened to the sides of a canoe by ropes. These canoes were used for crossing the sea for trading (see fig. 3). Parts of *itaomacip* are often excavated in historical sites and the oldest one was found from the Satsumon period site (Suzuki 2003).

Materials for pit dwellings also changed in the Satsumon culture. Sano et al. (2005) reported that boxed heart timbers were obtained from pith and woods collected from near pith based on the observation of timber used for pit dwellings of the Epi-Jomon period in the K-39 site (central Hokkaido).

On the other hand, woody materials regarded as sapwood of a stem of large sized trees (at least 20~30 cm) were used in the pit dwellings in the same K-39 site during the Satsumon period (Sano et al. 2009). From these facts, Sano et al. (2005, 2009) discussed that people in the Epi-Jomon period often used woody materials with small sized trees without splitting as wood processing technology was still not developed. However, as time passed, at the Satsumon period people were able to use timbers made by splitting large-diameter logs as the development of tools and technologies progressed.

The utilization of wooden plates for pit-dwellings was also established in the Satsumon culture. For example, 14 wooden plates inferred as materials for flue ceilings were excavated from pit dwellings in the site of Archaeological K-39 site (see fig. 4) (Arayama et al. 2012). Utilization of plate materials for the pit dwellings in the Satsumon culture is also verified in other areas in Hokkaido (Segawa 1996).

An interesting change in the species selection between the Epi-Jomon period and the Satsumon culture period is also reported. Moriya (2015) pointed out that wood used for building pit dwellings changed from diverse to uniform between the Epi-Jomon and the Satsumon culture, based on results from wood identification of charred wood artifacts excavated in burnt pit dwellings. In other words, one or two broadleaf trees became to be commonly used for building pit-dwellings in Satsumon culture. Especially, ash was often used in central Hokkaido, including the K-39 site (Moriya 2015).

Yachidamo ash (*Fraxinus mandshurica* var. *japonica*) is a common ash species in Hokkaido, and its high clevability is mentioned by the Ainu people (Chiri 1953). As, wooden plates inferred as materials for the flue mentioned above were identified as ash, ash may have been commonly used (Arayama et al. 2012).

In central Japan, progress of the wood splitting technology caused timber usage to change to softwood (its clevanility is higher than hardwood). On the other hand, in central Hokkaido during the Satsumon culture period, the change in wood usage probably resulted from intensive usage of Yachidamo ash which has high clevanility.

2. The Ainu Culture Period: Declining of Plate Production

Even in the Ainu culture when pit dwellings were replaced by flat-land dwellings, plates were excavated from stratums deposited sites before 1667 (Segawa 1996, Kobayashi 2010). However, Kobayashi (2010) pointed out that plate materials cannot be confirmed in Ainu houses (*ciset*) from pictures until the late 18th century (see fig. 5). Moreover, constructional materials for *ciset* are only wood with a small diameter (Kobayashi 2010). This means that Ainu wood culture from the 18th century was not inherited from Satsumon wood culture. Therefore, it is rather similar to wood culture of the Epi-Jomon period, where wood with small diameter was used for houses without splitting.

Wood used for *ciset* roofs is reported to be various kinds of hardwood (Takabeya 1939). From this, I suggested that the utilization of split timbers such as plates became to decline in the *ciset* in the early 20th century. Therefore, they did not employ clevability as an important criterion in selecting woody species for building material.

However, *itaomacip* can be found in pictures in the same period (see fig. 3). Therefore, it can be said that the Ainu avoided producing wooden plates though they maintained technologies for the processing. This may be attributed to limitation in steel trade and exhaustion between the Ainu and Japanese society (Kobayashi 2010). According to an observation on Ainu's buildings in the early 19th century (Murakami et al. 1990), the used wooden plates were not cut by saws. So, it can be assumed that production of wooden plates required intensive labor. The exploitation of Ainu people by the Japanese people may have robbed time and/or labor from them to produce wooden plates and consequently the Ainu may have been obliged to use limited wooden plates for a part of *itaomacip*: special wooden boat.

3. Import and Reuse of Wooden Plate Materials

Evidence shows that the Ainu imported wooden plates and instruments made of wooden plates like "*magemono*", i.e. barrels boxes from the Japanese. In records concerning Ainu boxes (*suop*) written in 20th century, it is described that the Ainu obtained plates for making boxes by trade and pulling plates off from drifting old boats, since it was difficult to make plates due to limitation of special tools for making "*magemono*", like planes (Kindaichi et al. 1942, Kayano 1976).

It can be archeologically confirmed that the Ainu acquired wooden plate materials by trade. *Magemono* and barrels are discovered in sites of the Satsumon and the Ainu culture periods in central Hokkaido (see fig. 6). These goods are made of softwood such as *Thujopsis* sp. and *Cryptomeria* sp. which don't naturally grow in this area. This means that people living in these sites obtained these wooden goods by trading with central Japan. Furthermore, in some cases, imported wooden goods were reused to make chopsticks, boat material, and so on (Shimizu 2015).

In summary, ancestors of the Ainu had splitting technology and produced plates, however, later on, production of wooden plates decreased, except in some cases such as making *itaomatip*. On the other hand, they were able to obtained plate materials from trade and reused them to make other objects. Therefore, even though coniferous trees surround the Ainu, fir and spruce were not much desired as materials of plates and the transition to softwood did not progress.

THE WOOD CULTURE OF JAPANESE IN HOKKAIDO: SOFTWOOD CULTURE

The Japanese people began to emigrate to southwest Hokkaido from the Kamakura period (1185–1333) and by the Edo period (1603–1867), the Matsumae "han" (one of the feudal domains of Tokugawa Shogunate member) was established (Hokkaido 1970).

Previous studies show that the Japanese in Hokkaido harvested many coniferous trees. Aomori cypress is only species of Cupressaceae that naturally grows in Southwest Hokkaido (see fig. 7). It was intensely harvested and eliminated by Japanese merchants in the 17th century and caused Aomori cypress *Thujopsis dolabrata* forests to decline. The Matsumae domain, like other domains in central Japan began to protect the forests from the18th century. However, later, spruce (*Picea* sp.) which distributed at the interior of Hokkaido Island (see fig. 8) was cut by merchants with permission from the Matsumae domain in 18th century (Hokkaido 1970, Kikuchi 2003).

The Matsumae domain and Tokugawa Shogunate, brought young seedlings of Sugi-cypress and pine from Central Japan and planted them from the 18th century (Hokkaido 1970, Natsume 2000). So, even though Sugi-cypress does not naturally grow in Hokkaido, Sugi-cypress plantations can be seen throughout southwest Hokkaido.

The wood utilization of Japanese in Hokkaido in the Edo period meet the conditions of the transition from hardwood usage to softwood usage; construction of large-size buildings, transportation of timber, and production of plate materials. Softwood was used for large-size architectures. For example, all timbers used for repairing the Fukuyama castle in 1639 were provided from Aomori cypress forests (Hokkaido 1970). Furthermore, when the Matsumae castle was built in 1850, the plantation forests of Sugi-cypress were cut down (Natsume 2000). Other artifacts show that Compared to the other species, Ezo-spruce (*Picea jezoensis*) was special. It was cut down in the inland central Hokkaido and was transported by sea to Edo and Osaka via Ishikari River. They were proceeded to "*magemono*", materials used for barrels and had a good reputation, known as "Ezo-Hinoki" (nickname as Japanese cypress in Hokkaido) (Hokkaido 1970, Kikuchi 2003). It is interesting that *P. jezoensis* is regarded as a kind of Japanese cypress belonging to Cupressaceae though it belongs to Pinaceae rather than Cupressaceae.

The Ainu was able to use spruce as it distributes widely in Hokkaido. However, there is no evidence that indicates preference of spruce use in Ainu culture during the Edo and earlier periods. For this reason, it can be considered that the Ainu, unlike the Japanese, did not frequently make wooden plates from large diameter logs.

In short, two different wood cultures certainly existed together during the same period of the Edo; Japanese softwood culture and the Ainu wood culture which did not often use softwood. This case shows that different ethnics can have different wood cultures even if they exist in same region.

CONCLUSION

Modern forestry is based on the previously formed culture. Wood culture is often considered as a tradition that does not change with time. However, this article showed that Ainu and Japanese migrated from the south formed completely different wood cultures in pre-modern Hokkaido. Therefore, I propose that wood culture can change by ethnics and time periods, and wood culture can be different between cultures that share same or similar environments. Also, from the case of "the transition to softwood" in Central Japan and differences between the Satsumon and the Ainu culture, we found that forms of wood utilization can be influenced by social and technological factors.

Today, plantation forests in Hokkaido consist of Sakhalin fir, larch (*Larix* sp.) and spruce (mainly use of *Picea glehnii*). Among these, Japanese larch (*Larix kaempferi*) is an alien species introduced from Central Japan to Hokkaido. This means that modern forestry is under the influence of the Tokugawa Shugunate (=Edo) period, when native forest trees were heavily harvested and alien coniferous trees were planted in Hokkaido. On the other hand, there is a clear gap between modern forestry in Hokkaido and Ainu wood culture, where the Ainu did not prefer a specific woody species. So, it can be speculated that modern forestry chose only a few species out of the many various possibilities which existed in the pre-modern period.

Now, plantation forests have reached a point where we cannot turn back, as we carry vast plantations where unprofitable trees grow unmanaged. In order to break through this situation, we need to reconstruct a new wood culture. There is a possibility that wood cultures that existed in the past can guide us to a solution.

"Fools say they learn from experience; I prefer to learn from the experience of others." It is an epigram by Otto von Bismarck. I strongly believe that wood utilization should be studied as "forest science" and reconsider the history of wood utilization to intensively examine possibilities that were abandoned in the process of modernization.

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WOOD CULTURES IN PRE-MODERN HOKKAIDO ISLAND: A COMPARATIVE STUDY BETWEEN CENTRAL JAPAN

S u m m a r y

A comparative study was done on "wood culture", defined as wood selection and utilization methods based on previous researches in archeology, ethnology, and history, between Hokkaido (the most northern island of Japan) and central Japan in pre-modern times, focusing on the four topics shown as follows.

1) "Japanese wood culture" has been regarded as the culture of using softwood such as Sugi-cedar (*Cryptomeria japonica*) and Japanese cypress (*Chamaecyparis obtuse*). However, previous studies show that wood culture of the Ainu (Indigenous people of Hokkaido, Japan) was different, where they did not specifically use softwood, but used various hardwoods.
2) In Central Japan, systematic timber consumption for buildings and production of the wooden plate materials employed by splitting technology from the latter "Yayoi" period (400 B.C. ~300A.D), are suggested for high softwood usage. Especially, during the "Satsumon" (700~1300 A.D.) culture and the Ainu culture in Hokkaido, the transition of timber utilization from hardwoods to softwoods did not occur as these phenomena were not as notable as in Central Japan.
3) In the Satsumon culture, wooden plates and split woods were often used for housing and boat construction. However, in the Ainu culture, they were not used for housing construction until the 18th century. The Ainu people reused them for making new goods for their own use.
4) Japanese people who migrated from Honshu to Hokkaido during the Edo period

(A.D. 1603–1867) harvested large amounts of conifers and planted non-native conifers such as Sugi-Cypress. These facts suggested that wood culture in Hokkaido may have changed by influences of ethnics and time.

Keywords: Wood culture, wood utilization, the Ainu people, woody species, Hokkaido Island

KULTURY DREWNA NA WYSPIE HOKKAIDO W OKRESIE PRZEDNOWOCZESNYM: STUDIUM PORÓWNAWCZE Z CENTRALNĄ JAPONIĄ

S t r e s z c z e n i e

Studia porównawcze poświęcone „kulturze drewna", zdefiniowanej jako sposoby selekcji i użytkowania bazujące na poprzednich badaniach archeologicznych, etnologicznych i historii, przeprowadzono między Hokkaido (najbardziej na północ oddaloną wyspą Japonii) a centralną Japonią w czasach przednowoczesnych. Skupiono się na czterech następujących zagadnieniach:

1) „Japońska kultura drewna" uważana za kulturę posługującą się miękkim drewnem, takim jak drewno szydlicy japońskiej (*Cryptomeria japonica*) i cyprysika japońskiego (*Chamaecyparis obtuse*). Jednakże wcześniejsze badania pokazują, że kultura drewna Ainu (tubylczy lud Hokkaido) była inna, zamiast miękkiego drewna stosowano różne rodzaje drewna twardego.
2) Duże zużycie miękkiego drewna w centralnej Japonii było spowodowane przypuszczalnie jego systematycznym stosowaniem w budownictwie i do produkcji płyt drewnianych wykorzystywanych w technologii łupania od późnego okresu Yayoi (400 rok przed naszą erą ~300 rok naszej ery). Szczególnie w okresie kultury Satsumon (700~1300 rok naszej ery) i kultury Ainu na Hokkaido przejście od używania twardego do miękkiego drewna nie nastąpiło, ponieważ te zjawiska nie były tak zauważalne, jak w centralnej Japonii.
3) W kulturze Satsumon płyty drewniane i drewno łupane były często używane do konstrukcji domów i łodzi. W kulturze Ainu nie było ono jednak używane do budowy domów aż do XVIII wieku. Lud Ainu używał go do wytwarzania nowych produktów na własny użytek.
4) Japończycy, którzy przenieśli się z Honsiu na Hokkaido w okresie Edo (A.D. 1603–1867) pozyskiwali duże ilości drzew iglastych i pochodzących z sadzenia obcych gatunków iglastych, takich jak cyprysik japoński. Te fakty sugerują, że kultura drewna na Hokkaido mogła zmieniać się na skutek wpływów etnicznych i czasu.

Słowa kluczowe: kultura drewna, użytkowanie drewna, lud Ainu, gatunki drzewiaste, Wyspa Hokkaido

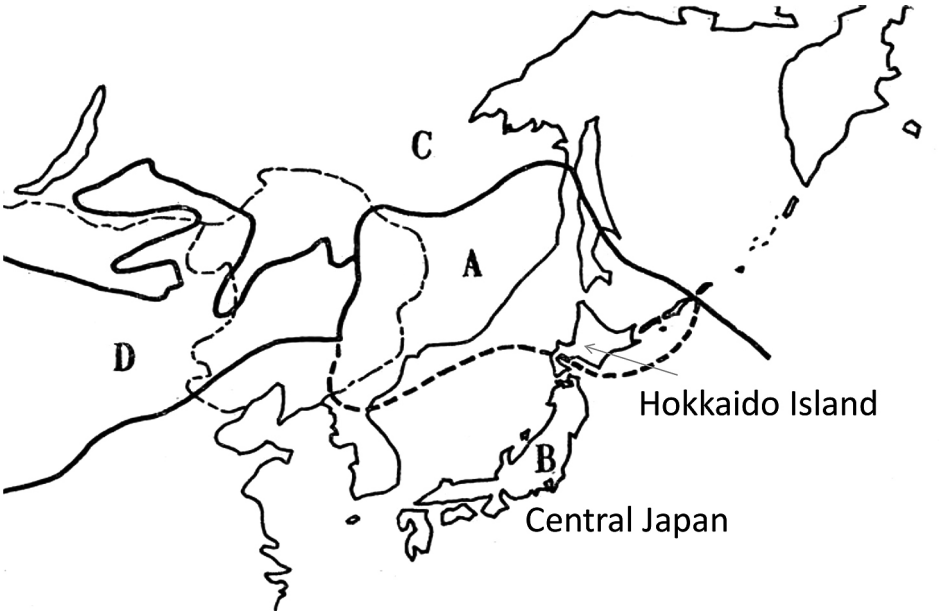

Fig. 1. Floras surrounding Hokkaido Island (modified Tatewaki 1955)
A – Pan Mixed Forest Zone, B – Temperate Eastern Asiatic Zone, C – Coniferous Forest Zone, D – Steppe Zone.
Ryc. 1. Flora otaczająca wyspę Hokkaido (Tatewaki 1995, zmienione)

Fig. 2. Logs of Japanese cypress from plantation forest sold at Kumano lumber market in Mie prefecture, Central Japan (photo by the author)
Ryc. 2. Kłody cyprysika japońskiego z plantacji leśnej sprzedawane na targu drzewnym Kumano w prefekturze Mie, centralna Japonia (fot. autora)

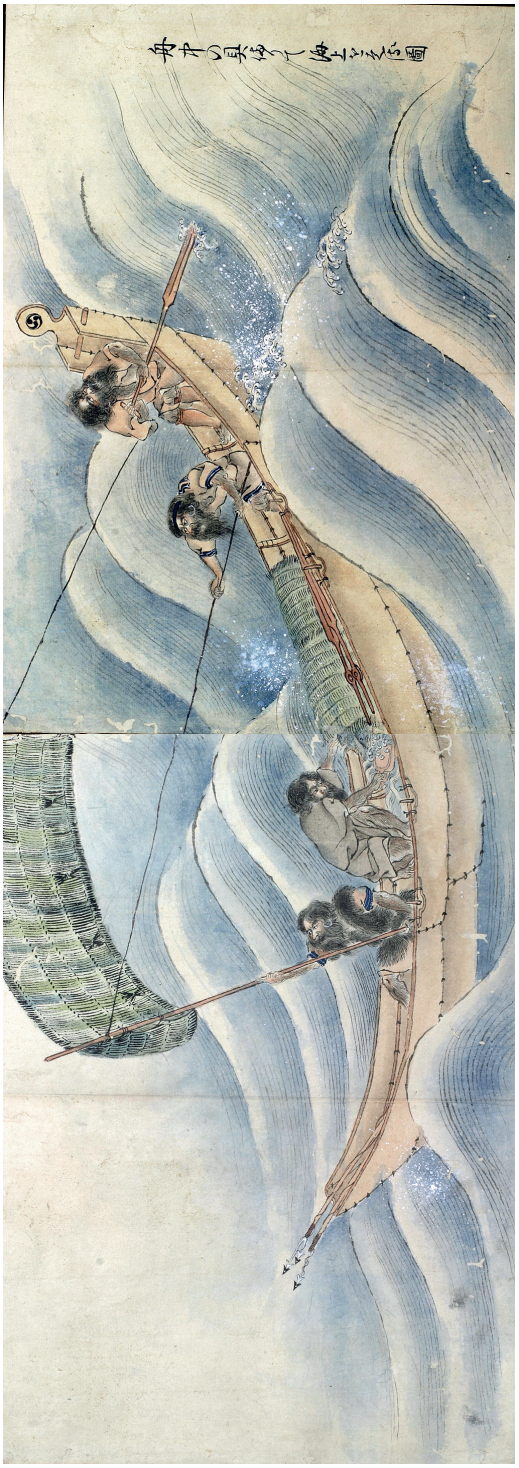

Fig. 3. *Itaomacip* depictured in *Ezogashima-Zusetsu* (complied in 1823, owned by Hakodate City Central Library)
Ryc. 3. *Itaomacip* przedstawiony w *Ezogashima-Zusetsu* (sporządzony w 1823 roku, w posiadaniu Centralnej Biblioteki Hakodate)

Fig. 4. Wooden plates made by *Fraxinus* sp. (Yachidamo ash) excavated in K-39 site. They are considered as materials for the flue of pit-dwellings in the Satsumon culture. Size of a plate is about 10 cm × 40 cm (owned by Hokkaido University Archeological Research Center)

Ryc. 4. Drewniane płytki wykonane z jesionowego drewna *Fraxinus* sp. (jesion Yachidamo) wydobyte na stanowisku K-39. Są one uważane za materiał do przewodów kominowych ziemianek w kulturze Satsumon. Rozmiar płytki wynosi około 10 cm × 40 cm (w posiadaniu Archeologicznego Centrum Badawczego Uniwersytetu Hokkaido)

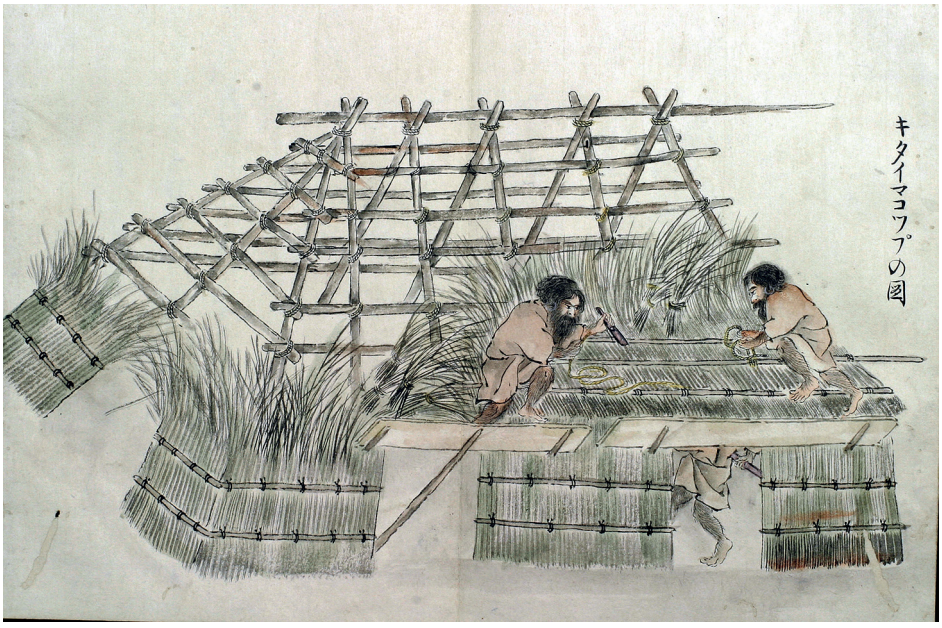

Fig. 5. Building *Ciset* (the Ainu's house) depictured in *Ezogasima-Zusetsu*, complied in 1823 (owned by Hakodate City Central Library)

Ryc. 5. Budynek *Ciset* (dom tubylczej ludności Ainu) opisany w *Ezogasima-Zusetsu*, rys. sporządzony w 1823 roku

Fig. 6. *Magemono* made of *Thujopsis* sp. and excavated in Yukanboshi C-15 site (owned by Hokkaido Archaeological Operations Center)

Ryc. 6. *Magemono* wykonany z *Thujopsis* sp. i wykopany na stanowisku archeologicznym Yukanboshi C-15 (własność Centrum Operacji Archeologicznych Hokkaido)

Fig. 7. Aomori cypress (*Thujopsis dolabrata*) forest in Southwest Hokkaido (Dobashi Nature Observation Education Forest, Assabe town; photos taken by the author)

Ryc. 7. Las żywotnikowca japońskiego (*Thujopsis dolabrata*) na południowo-zachodniej Hokkaido (Las Edukacyjny Dobashi, miasto Assabe; zdjęcia autora)

Fig. 8. Natural Forest of *Picea glehnii* in Hokkaido (Uryu Experimental Forest of Hokkaido University, photo by the author)

Ryc. 8. Las naturalny *Picea glehnii* na Hokkaido (Las Doświadczalny Uryu Uniwersytetu Hokkaido; fot. autora)