

Ainu Cultural Elements Found in the Cultures of Indigenous Peoples in Kamchatka

Minoru OSHIMA

Center for Language Studies,
Otaru University of Commerce

カムチャツカ先住民の生業文化にみられるアイヌ文化要素

大 島 稔

小樽商科大学言語センター

1. INTRODUCTION

In order to study the origins of Ainu culture, the diffusion of Ainu cultural elements or typological position of Ainu culture among the World hunter-gatherer societies, we have to take into consideration the immigration of people into the present region, the ecological adaptation to their habitat, and the contact and interaction with neighboring peoples.

Ainu people are believed to have long lived in Hokkaido, Sakhalin, the Kuril Islands, and northeast Honshu mainland in Japan, neighboring with many indigenous peoples in the North. Their northern neighbors are the Nivkh and Tungusic peoples on Sakhalin and in the Amur region. Their eastern neighbors are the peoples in Kamchatka such as the Itel'men and the Chukchee-Koryak and finally the Eskimo-Aleut beyond the Bering Sea. In the south their neighbors are, of course, Japanese.

These neighboring peoples and cultures are most promising candidates when we try to investigate the genetic and diffusion relationships of peoples and cultures because they have lived in similar environments and therefore it is of high probability to share the common features through immigration, contact and interaction.

Although many comparative studies of Ainu culture have already been carried out on the peoples and cultures in the Amur region, it seems that there has been very little on the Itel'men and Chukchee-Koryak, mainly because of a lack of information on their cultures available for Japanese scholars until recent years.

In this paper, based on the new information obtained from our recent researches conducted in Kamchatka since 1993, I will discuss the Ainu elements shared with the cultures of the Itel'men and Chukchee-Koryak, focusing on double foreshaft toggle harpoons, marek-type fish spears, fish weirs and traps, and fishing nets which could be regarded as the core part of the Salmon Culture Complex in the Okhotsk Culture Subzone of the Northern Pacific Maritime Culture Zone

(WATANABE 1988, 1990, 1992).

2. A SHORT HISTORY OF THE STUDY OF NORTH PACIFIC MARITIME CULTURE

One of the main purposes of this paper aims at developing the framework of the late Dr. Hitoshi Watanabe's (1919~1998) hypothesis of the Okhotsk Sea Culture subzone. The second purpose is to discuss the importance of a new approach to comparative studies of Ainu and the indigenous peoples of Kamchatka in addition to the comparisons of Ainu and Japanese and/or the indigenous peoples of the Amur region. The third purpose is what traditional ethnic knowledge has contributed to invent and develop the new implements and techniques in the North.

Previous to Watanabe's hypothesis of the Northern Pacific Maritime Culture Zone were BOGORAZ (RUDENKO 1961) and JOCHELSON (1928), who participated in the Jesup Expedition planned by F. BOAS (1905), and MURDOCK (1968). These three scholars all pointed out that the northern Pacific coast hunting and fishing societies produced high cultures through the highly developed use of maritime resources such as the Pacific salmon and sea mammals including whales. MURDOCK (1968:15), among others, claimed the sedentary hunter-gathers in the North Pacific coastal region are exceptional among the World hunter-gatherer societies, who are basically nomadic.

WATANABE (1988, 1992) used ethnographic data of the indigenous peoples along the northern Pacific coast and developed an analysis based on the common features found among the cultures in the northern Pacific rim area. One of the important comparative methods Watanabe took as his analytical tool is the distinction of general common cultural elements which could possibly be attributed to the adaptation to the similar environments and special common cultural elements which could be derived from genetic or diffusion relationships.

Although Watanabe was only able to have access

to limited ethnographic data from the indigenous peoples of Kamchatka at that time, he suggested many clues to promote the comparative studies in the Northern Pacific Maritime Culture Zone and also in the Okhotsk Culture Subzone. It is one of the four subzones. The others are the Japan Sea Culture subzone, the Bering Sea subzone, and the Northwest Coast subzone.

In this paper, I would like to make some contribution to Watanabe's hypothesis of the Okhotsk Culture subzone. I have made several field studies on the Ainu culture with Dr. Watanabe for 18 years. We have also obtained more information on the indigenous cultures in Kamchatka since the time Watanabe presented his hypothesis (1988, 1992).

3. SEDENTISM OF INDIGENOUS PEOPLES IN KAMCHATKA

When you take a look at the map of traditional settlements in Kamchatka, such as in *Kamchatka: 17c-20c Historico-geographical Map* (ЖДАНОВА, Н. Д., Б. П. ПОЛЕВОГО 1997: 10-11), the settlements of the Itel'men and Nymylyn (Coastal) Koryak were distributed along the sea coasts and river sides, in contrast with the settlement pattern of the nomadic reindeer Chavchuchen who occupied the interior of the Kamchatka peninsula. Itel'men and Coastal Koryak settlement pattern indicates sedentism. They had permanent dwelling houses in the sedentary settlements and, even now when most of them are living in modern cities, seasonal or temporary hunting and fishing huts on their hunting and fishing grounds along the river just like the Ainu hunting hut called *kuca* and the fishing hut called *inun cise*.

The development of annexed structures is also an index of sedentism. Ainu, Itel'men and Koryak have an annexed raised storage house with a notched log ladder, which is substituted by a Russian style step ladder nowadays (Fig.1: a picture from Kinkil near Palana). A place for processing fish and drying racks for fish and meat are annexed to the dwelling house and also to the hunting and fishing hut (Fig.2. a picture from Mikina on the Penzhina River). The Itel'men summer house and Koryak fishing house appears to be a storage house in Fig. 1 and the upstairs was used to sleep and the downstairs was used as a storage room for food. The Ainu has a shed called *sem* or *mosem* attached to the house (Fig.3: HITCHCOCK 1985:94) but the Koryak has an independent structure as a shed close to a storage house or a fishing hut (Fig.4: a picture from Palana).

4. FISHING GEAR AND FISHING METHODS

4-1. Fish Spear and Double Foreshaft Toggle Harpoon

A fish spear, which is called *marek* in the Hokkaido Ainu dialect, consists of a hook, a wooden foreshaft and a shaft. The hook is U-shaped and when the hook is attached upwards in the groove of the foreshaft, the upper pointed part is directed to the fish game, not to the fisherman like a gaff. One end of the strap is tied to the shank of the hook and the other end goes through a

hole at the top of the groove and is tied around the end of the foreshaft and then extends to the shaft. The fisherman holds the end of the strap together with the shaft. The tip of the foreshaft hits the fish or the river bed, the hook comes loose apart from the groove with the hook just hanging from the foreshaft.

Similar *marek*-type fish spears are only found along the Okhotsk Sea (Map 1.), as seen in other papers of Nakada and Watanabe, and of Nutayulgin in this Proceedings. In Kamchatka, Itel'men, Koryak and Chukchee use similar types of fish spear even now. Even the reindeer breeding Koryak and Chukchee use it, too (Fig.5: a picture from Sredni-Pakhachi). The structure and function of a *marek*-type spear from these various peoples are a little different from the Ainu's but the functional principle can be said to be the same.

While the Ainu's *marek* is the most complex type, the fish spear of Chukchee-Koryak is one of the simplest types. It has no foreshaft and groove. One end of the strap is tied to a ring at the shank of the hook, and the other end of the strap is bound at the end of the shaft. The tip of the shank is inserted into the bound strap at the top of the shaft among Koryaks in Karaga on the east coast and Lesnaya on the west coast of Kamchatka, or it is inserted into an iron ring in Sredni-Pakhachi in Alutorsky Chukchee. More varieties of the ways to tie the strap to the shaft can be seen in Fig.6 of Nutayulgin's paper in this Proceedings. A Chukchee or Koryak man always carry a *marek*-type fish hook with a short strap when travelling and occasionally use it in case that they don't have any other ways of fishing. This form of use is related to the simplest way of the structure of the hook and the way to attach it to the shaft. Ainu people regularly used *marek* in daily fishing activities. They constructed a peep-fishing hut called *worunchise* over the stream for using *marek*. There is no information of the similar construction in Kamchatka.

The detailed features of other types of fish spears along the Okhotsk Sea are discussed in Yamaura 1998, based on which I have made Table 1 and classified them into three major types to analyze the structural and functional features.

The *marek*-type fish spear was a then high-tech implement in which a precious iron hook was used, so it is more highly probable to diffuse easily from the original place to adjacent areas in more recent years around 10c Satsumon era (YAMAURA 1998:14).

A double foreshaft toggle harpoon (Fig.7: HITCHCOCK 1985:131) is one of the special common cultural elements that WATANABE (1988, 1992) pointed out in his Northern Pacific Maritime Cultural Zone. V. M. Nutayulgin personally told me that he had seen a double shaft toggled fish spear but nobody now uses it. Further study of double (fore) shaft harpoon or spear is much needed for comparison.

4-2. Fish Basket Traps

As seen in Fig.1 (a box-shaped basket) and 2 (funnel-shaped baskets) in Nutayulgin's paper in this Proceedings, the indigenous peoples of Kamchatka use

various types of fish baskets similar to those used by the Ainu.

Fish baskets are very convenient to catch a lot of fish at a time while the fishermen engage in other activities such as processing, drying and smoking or hunting. In Lesnaya, the fisherman sets the basket upriver near the entrance of the stream which goes up to the spawning place usually in the evening and picks up the fish in the morning. The place to set and the shape of the fence to guide fish to the basket vary according to the size of a river, the depth of water and the time of catching: night or day. In the daytime the salmon are very active so the fisherman puts the branches over the top of the basket to make a shade so the fish can rest.

The similar fish baskets are called *uray* or *raomap* in Ainu (Fig.7: YAMAMOTO 1981:47). They were set mainly in the small rivers or streams. It will take two days for 4 or 5 people to set the whole fish trap including the fences. (WATANABE *et al.* 1983:46). There are two types of fish basket trap: one for upstream running Cherry salmon and the other one for downstream running Cherry salmon. The basket for upstream running salmon has inward sticks to prevent the fish escaping through from the funnel entrance (Fig.8(a): WATANABE *et al.* 1983:46). The basket for downstream running salmon doesn't need inward sticks because the running water pressure is strong enough to keep the fish back at the bottom of the basket (Fig.8(b): WATANABE *et al.* 1983:47). The same device called *tqappə* can be found in Koryak (Fig.9: a picture of a small scale model made in Lesnaya).

4-3. Fish Weirs

Fish weirs, or bigger fish traps without baskets, are also used by the Ainu, Itel'men and Koryak (See Fig.3 to 5 in NUTAYULGIN's paper). Information on Koryak fish weirs have been very little in ethnographies published so far including Jochelson's ethnography in 1908 (JOHELSON 1975).

Koryak people construct a fish weir called *epæp* (Fig. 3 & 4 in NUTAYULGIN's paper) for big salmon running upstream such as dog salmon, pink salmon and East Siberian char in autumn, and small East Siberian char running downstream in spring (Fig.5 in NUTAYULGIN's paper).

In the pool behind the fish dam or fences, the fishermen hook the fish trapped in with a gaff attached on the top of a long shaft. They can get fresh fish every day.

In Lesnaya on the west coast of Kamchatka, in spring the villagers cooperate in constructing a huge fish weir with the V-shaped fences stretched to the both sides of the river to completely block the fish swimming down. At the junction of the fences, short sticks are hammered in to make a ramp, or a slant platform where a fish can jump over the obstacle into a bag net fixed on both sides of the ramp (Fig.5 in NUTAYULGIN's paper).

In autumn, too, fish weirs are set near the spawning places in order to prevent East Siberian char from eating salmon eggs after spawning.

There are four ways to chase the small East Siberian char into the fish weirs. One way is for people to wade in and chase the fish in the shallow places in the daytime. Another is for the fishermen to float a raft with a torch on it downstream in the shallow places at night to frighten the fish and to make them run down to the fish weirs. Another is to make the stream muddy with the dung of cattle or horses to make the fish run down to the weirs. The fishermen explain that East Siberian char always try to avoid muddy streams. This does not seem to be a traditional method; it was probably started after the introduction of cattle and horses in this area by Russians. The other way is to chase the fish on two wooden boats in the case of the fish weir set in the deep river in daytime. The men standing on the bow hold a small bag net together and chase the fish down to the fish weir.

The last method is very similar to the bag net trawling called *yas* of Hokkaido Ainu (Fig.10: WATANABE *et al.* 1983:50) .

The Ainu people construct a huge fish weir called *tes* with long fences which are extended to both sides of the stream to catch the fish running up. A platform called *tes san* is set in front of the fence and the fisherman stands on the platform and scoops up fish with a hand net (Fig.11: WATANABE *et al.* 1983:44).

The Itel'men have the same kind of huge fish weirs as *tes* with a platform called *tqapez* (ХАЛОЙМОВА, К. М. ДЮПП, Э. КАСТЕН, С. ЛОНГИНОВ 1996: 82). More detailed information of *tqapez* is very much needed.

These big-scaled fish weirs compared above are economically important because people can get a great amount of fish for food at peak seasons of fish running and store dry fish for the winter. They are also socially important. Constructing fish weirs needs the cooperation of people such as extended families or the whole village (which consists of 5 original families in Lesnaya) in the case of Koryak, and *Itokpa* (male-ancestor mark) groups of families in the case of Ainu.

4-4. Fishing on a Boat

A fishing method using a river dugout boat in Kamchatka is a casting net (Fig. 12: a picture from Lesnaya on the west coast) which is greatly different from the Ainu trawling net called *yas ya*. The fishermen on the two boats floating down the deep river hold the handles of both ends of the trawling net to catch the salmon running up the river. A Koryak fisherman use two boats joined together to cast a gill net into the river from the stern floating down the river. A man on the shore holds one end of the net rope and runs down along the river on the bank. The fisherman beaches the boat to the shore to join the man on the shore and they pull the gill net together to the shore and get the fish out of the net and hit with a stunning club. The Koryak's stunning club is not decorated and doesn't seem to have a religious significance like Ainu's *ipakikni* or *isapakikni* according to the information from older people in Lesnaya.

4-5. Other Fishing Methods

There are many other fishing methods in Kamchatka. Koryak's fishing methods are explained in Nutayulgin's paper in this Proceedings such as string fishing in the bay or lagoon (Fig.7 in NUTAYULGIN's paper) and rod fishing in the lake (Fig.9 in NUTAYULGIN's paper), and set net fishing near the sea coast and the big river side (Fig.10 in NUTAYULGIN's paper).

When setting a gill net in the river or the sea coast, an interesting method is used by Koryaks which has not been found in Ainu's way of setting a net (WATANABE *et al.* 1984:52). A Koryak fisherman uses a long jointed pole to push the gill nets into the river and the sea coast. The pole is called *giḥḥangiŋ*, which is kept near the fishing place or instantly made at the place to fish. Some poles are more than 20m (Fig.13: a picture from Lesnaya). This fishing method can be done by a single fisherman. The fisherman set the net at the coast when the salmon run is low, and set the net in the river the salmon run is high. During the peak season of the salmon run the fish baskets or fish weirs are constructed which needs more people to cooperate for fishing. At the sea coast, the fisherman doesn't set the net, instead he runs up along the coast holding a net with a pole to catch the salmon running up along the coast.

One more way to catch salmon at the river mouth or in the reef at an ebb tide in big rivers such as the Penzhina river is in a bag net held by one fisherman (Fig.14: a picture from Shestakova on the Penzhina river). The shape and use of the net is similar to Ainu's *yas ya*. Ainu people use this net in the shallow river or the mouth of the river (WATANABE 1972:23).

5. TERMS REFERRING TO MAREK-TYPE FISH SPEARS

From the functional and structural point of view, the marek-type fish spears along the Okhotsk Sea are very similar and can be thought to be diffused from one original place. A more interesting thing is that similar words are used among different ethnic groups to refer to the fish spear. Similar words such as *marek* or *marep* of the Hokkaido Ainu are used by the Sakhalin Ainu and their neighbors, the Nivkh (YAMAURA 1998: 8, 10) and by the Itel'men in Kamchatka.

The Sakhalin Ainu call a simpler type of fish spear *marex* and the Nivkh call it *marix*. *Marex* must be derived from an older word form of *marek* or *marep*. In fact, there is a regular phonetic correspondence of the two dialects: Hokkaido /p, t, k/ vs. Sakhalin /x/. It is likely that the three distinct sounds /p, t, k/ can merge into one sound /x/ but it is difficult to suppose that one sound /x/ might split into three sounds /p, t, k/. Therefore, we have to give up the hypothesis that the Nivkh's *marix* was borrowed into the Sakhalin Ainu's *marex* and then that the Sakhalin Ainu's *marex* was borrowed into the Hokkaido Ainu's *marek* or *marep*, because we can't predict the correct borrowing form in the Hokkaido Ainu dialect among *marep*, **maret* and *marek*. More possible

is the opposite explanation, because we can predict that the borrowed form of *marek* will be *marex* in Sakhalin Ainu dialect. Based on the linguistic analysis of the words, we can infer the route which the word *marek* traveled: that is from Hokkaido Ainu to Sakhalin Ainu and then to Nivkh.

In the eastern rim of the Okhotsk Sea, Itel'men has similar words for the marek-type fish spear: *marekan'* found in Dybovski's Dictionary of Itel'men Language which is a collection of words around the end of 19th century (ДЫБОВСКИ 1998: 204) and *marek* in Kovran dialect on the west coast of Kamchatka and *marik* in the inland Mil'kovo dialect (ХАЛОЙМОВА, ДЮПП, КАСТЕН, 1996:83).

In Kamchatka there is a problem concerning the terminology of marek-type fish spears. As Nutayulgin uses the term *marik* as a Russian word in addition to his native Koryak words: *attiat*, *acceaj*, *kjeney* (although the Koryak never use the word *marik* as their native word), the word *marik* is generally used in Kamchatka as a local Russian dialect and as an academic terminology in ethnography.

The problem is whether local Russians adopted the word from Itel'men or vice versa. Local Russians adopted many words from the indigenous languages, especially the terms of fish and fishery such as the Russian *kizhuch*, a scientific term *kisutchi* came from the Itel'men's *ksus* (ХАЛОЙМОВА, ДЮПП, КАСТЕН 1996: 82) (*takannə* or *jekannə* in Koryak) and the Russian *keta* and a scientific term *keta* came from Koryak's *qetaqet*. A fish basket is locally called *chiruch*, for example, by Lesnaya Koryak although their native word is *assəngiŋ* or *echchəngiŋ*. This *chiruch* seems to have come from Itel'men's *ch'ruch'* (ХАЛОЙМОВА, ДЮПП, КАСТЕН 1996: 82) because an apostrophe (') in Itel'men words such as *ch'ruch'* shows glottalization the Russian language doesn't have. If Itel'men borrowed the word from Russian, we can predict the Itel'men's borrowed form would be *chiruch*, but this is not the case, whereas if Russian borrowed the word from Itel'men, the form would be *chruch* or the like, and this is a correct prediction. Local Russians learned the names of new salmon species and new fishing implements from native tongues in Kamchatka. The word *marik* is also safely said to be borrowed from Itel'men by local Russians who got to know this exotic fish spear. It is supported by the fact that there are variant forms of Itel'men dialects: *marek* and *marik*, from the latter of which Russian borrowed the word *marik*.

Both of the Itel'men's sister languages, Koryak and Chukchee, have completely different words for the fish spear. It means that the word *marek* isn't a direct descendant of the parent language of Chukotka-Kamachatka language family. It is more plausible that Itel'men borrowed the word *marek* from other languages through ethnic contact rather than the Itel'men originally coined a new word. The most promising candidate is their southern neighboring people, that is the Kuril Ainu, who used to live side by side with the Itel'men on the tip of the Kamchatka peninsula.

But another problem emerges here with our hypothesis that the Ainu's *marek* was borrowed by the Itel'men. It is that the Ainu's *marek* is more advanced and Itel'men's is one of the simplest without a foreshaft or groove. Why didn't the Itel'men borrow a foreshaft and groove with the word? One of the possible answers would be that the Ainu's *marek* used be the same simple type as the Itel'men's and the Sakhalin Ainu's, after the Itel'men had borrowed it from the Ainu, the Ainu independently advanced it into a more complex type.

There are several more still unsolved problems concerning the terms for marek-type fish spear.

1) Sakhalin Ainu has another word *ciorewex* for a complex type of fish spear. This *ciorewex* can be derived from *ci-o-rewe-p* which might possibly mean 'a thing whose end is bent' (See 'rewe' (transitive verb) in TAMURA 1996: 577). But the question as to why two types and two terms are used only in Sakhalin Ainu dialect is not yet solved.

2) Why are there two variants of *marep* and *marek* in the Hokkaido dialect? There is very rare correspondence of /k/ vs. /p/ among Hokkaido dialects and both directions of /k/→/p/、 /p/→/k/ are linguistically implausible. The distribution of the form *marep* is so limited that one possible theory is that the form of *marep* might be the result of metaanalysis of *mareppo* which is an assimilated form of *marek-po* (the diminutive form of *marek*) in the same way that *maratto* is derived from *marapto* 'brown bear's head.'

6. CONCLUSION

My conclusion in this paper is that many of the Ainu cultural elements, especially concerning fishing technology, can be found in the cultures of indigenous peoples of Kamchatka.

Ainu, Itel'men and Chukchee-Koryak people have been living in similar environments in the northeast Asia and developed the similar cultures characterized by sedentary hunter-gathering societies by cultivating the rich maritime resources, especially salmon species and sea mammals including whales. In this sense, similar common features of highly developed northern maritime cultures are also found in other northern areas including Japan, the Amur region and Alaska and Northwest coast of American continent, all of which consist of the Northern Pacific Rim Culture Zone.

Ainu and the indigenous peoples of Kamchatka seem to share more similar environments and more common cultural elements than those of any other area in the Zone. Many fishing methods and techniques treated in this paper strongly suggest it. Among them the marek-type fish spear is distributed only in the coastal area of the Okhotsk Sea, but both the implement and its name are shared by Itel'men and Ainu. It is more than coincidence and it doesn't seem to be the result of genetic heritage from the distant past, either. For the implement is a high tech implement and easy to diffuse and, the related languages of Itel'men have completely different names for the fish spear.

Although it is difficult to solve the directions of borrowing between Ainu and Itel'men, it is highly possible for both people to have had intimate contact and interrelationship even before historical times. It is also a historical fact from place names and archaeology that the Itel'men and the Ainu lived together on the southern tip of the Kamchatka peninsula. We are now at the starting point of more deeply and thoroughly investigating into the ethnological and historical relationships between Hokkaido and Kamchatka as suggested by Dr. Hitoshi WATANABE (1988: 303).

ACKNOWLEDGEMENTS

The research leading to this paper has been supported by Grants-in-Aids for International Scientific Research Program (Field Research) from Japanese Ministry of Education, Science and Culture ('Urgent Linguistic Fieldwork of the North Pacific Rim,' in 1998 [No. 07041013] and 'Indigenous Use and Management of Marine Resources,' in 1999 [No. A (2)11691053]). Parts of the content of this paper was read and discussed at the research project meeting in National Museum of Ethnology 'Cultural Changes of Peoples in North-Eastern Asia Today' chaired by Professor Takashi Irimoto. I would like to thank Professor Irimoto and other project members for a lot of suggestions and advice they gave me.

I would like to express my gratefulness to my colleague, Mark Holt of Otaru University of Commerce, who was so kind to proofread my draft and give many suggestions and advice to make this paper read clearly and easily.

REFERENCES CITED

- BOAS, Franz
1905 The Jesup North Pacific Expedition, *International Congress of Americanists, Proceedings* 13, (New York 1902), 91-100
- CHIRI, Mashihō
1959 Ainu no sakeryo (Salmon fishing of Ainu), *Studies from the Research Institute for the Northern Culture* 14: 1241-1250, Hokkaido University, Sapporo (in Japanese)
- CHARD, C. S.
1953 "The Kamchadal, A Synthetic Sketch, *Kroeber Anthropological Society Papers*, Nos. 8 & 9, 20-44
- ДЫБОВСКИ, Бенедикт
1998 *Словарь Ительменского Языка*, Energeia, Warszawa
- НИТЧКОК, Ромын
1985 (tr. by Y. Kitagamae) , *Ainu jin to sono bunka* (Ainu and their culture), Roko Shuppan, Tokyo (in Japanese)
- JOCHELSON, Waldemar
1928 *Peoples of Asiatic Russia*, American Museum of Natural History (Memoir)
- 1975 [1908]The Koryak, *Jesup North Pacific*

- Expedition* Vo.6, AMS Press, Inc. New York
- KRASHENNIKOV, Stepan P.
1972 (tr. by E. A. P. Crownhart-Vaughan),
Explorations of Kamchatka - 1735-1741,
Oregon Historical Society, Portland
- MURDOCK, G. P.
1968 The Current Status of the World's Hunting
and Gathering Peoples, in R. B. Lee and I.
DeVore (eds.), *Man the Hunter*, Aldine,
Chicago, 13-29
- RUDENKO, S. I.
1961 The Ancient Culture of the Bering Sea and the
Eskimo Problem, *Anthropology of the North*,
Translations from Russian Sources 1, Arctic
Institute of North America; University of
Toronto Press
- TAMURA, Suzuko
1996 *The Ainu-Japanese Dictionary: SARU
DIALECT*, Sofukan
- WATANABE, Hitoshi
1972 *The Ainu Ecosystem: Environment and Group
Structure*, University of Tokyo Press, Tokyo
1988 The Northern Pacific Maritime Culture Zone:
A View Point from Hunter-Gatherers I,
Bulletin of the National Museum of Ethnology
13(2): 297-356, National Museum of
Ethnology, Osaka (in Japanese with English
summary)
1990 *Jomonshiki Kaisouka Shakai* (Jomon
Startified Society), Roko Shuppan, Tokyo (in
Japanese)
1992 Northern Pacific Maritime Hunter-Gatherers:
Their Cultural Similarity and the
Interpretation of Common Elements, O.
Miyaoka (ed.), *Languages of the North Pacific
Rim: Types and History* :67-107, Seibido,
Tokyo (in Japanese)
- WATANABE, H., T. NISHIMOTO, M. OSHIMA, H. KIRIKAE,
T. SHINOZAKI
1983 Urgent Field Research on Ethnography of the
Ainu, No.2: Report on Ainu Culture and
Folklore (Shiraoui *et al.*), Hokkaido Board of
Education, Hokkaido Government Office,
Sapporo (in Japanese)
- WATANABE, H., M. OSHIMA, H. KIRIKAE, T. SATO
1999 Urgent Field Research on Ethnography of the
Ainu, No.18, Hokkaido Board of Education,
Hokkaido Government Office, Sapporo (in
Japanese)
- Халоймова, К., М. Дюрр, Э. Кастен, С. Лонгинов
1996 *Историко-этнографическое учебное
пособие по ительменскому языку*,
Издательство «Камчат»
- YAMAURA, Kiyoshi
1998 "The Origins and Relations of Marek, a
Fishing Spear, along the Okhotsk Sea,"
Kokkenmodding (Kaizuka), No.52, 53: 7-23
(in Japanese with English summary)
- YAMAMOTO, Yuko
1981 *Karafuto Shizenminzoku no Seikatsu* (Life of
Sakhalin Ainu), Sagami Shobo, Tokyo (in
Japanese)
- ЖДАНОВА, Н. Д., Б. П. ПОЛЕВОГО
1997 *Камчатка XVII-XX вв. Историко-
географический атлас*, федеральная
служба геодезии и картографии России,
Москва.

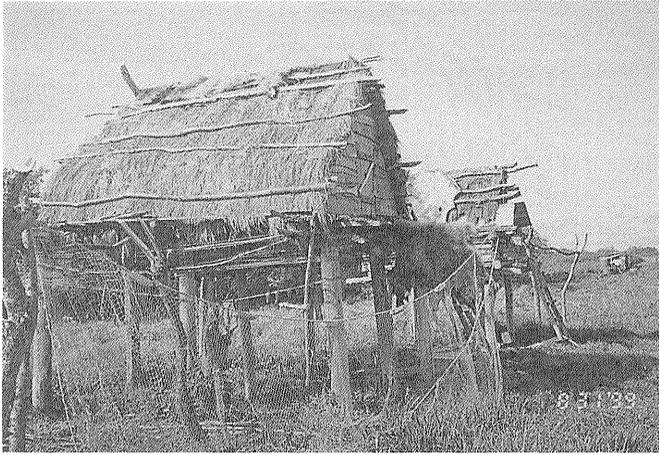


Fig.1 A Koryak raised store house in Kinkil near Palana.



Fig.2 Drying racks for fish (right) and meat (left) at a Koryak fishing camp in Mikina.

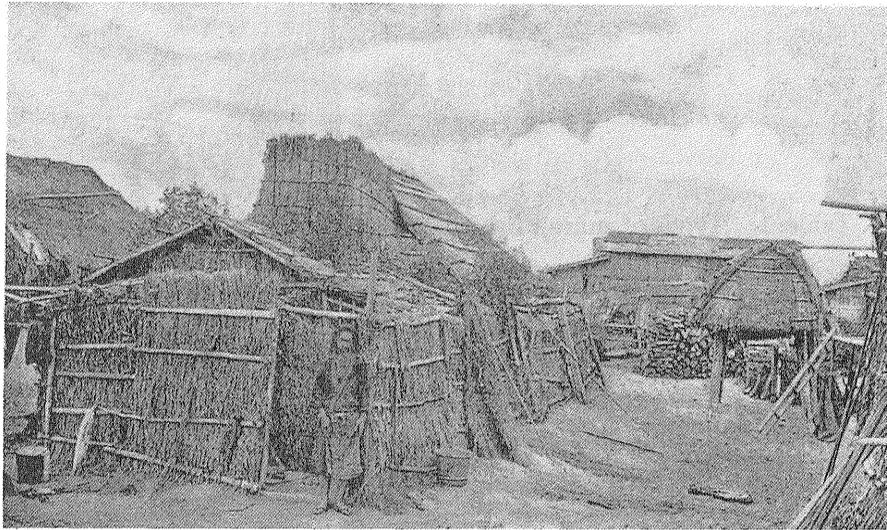
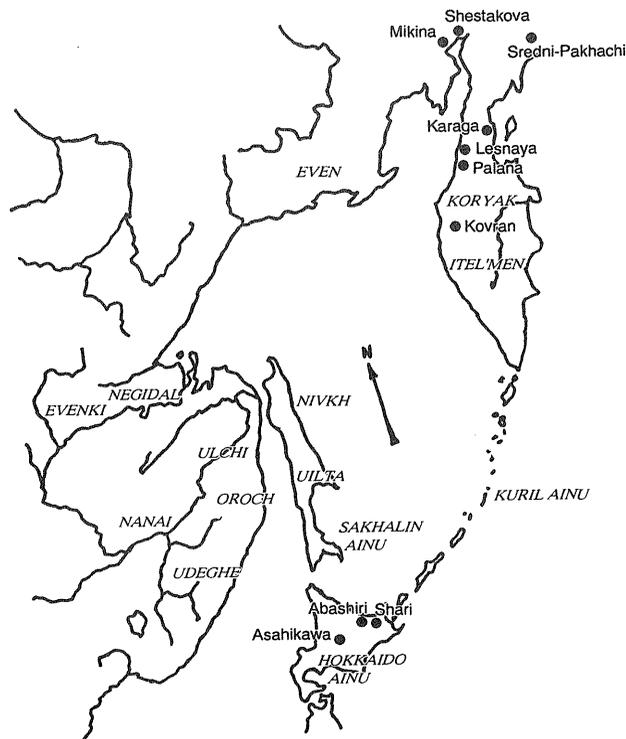


Fig.3 Ainu's dwelling house and store house in Shari on the Okhotsk sea.



Map 1 Distribution of marek-type fish spear along the Okhotsk Sea.



Fig.4 Koyak's storehouse and shed in Lesnaya.

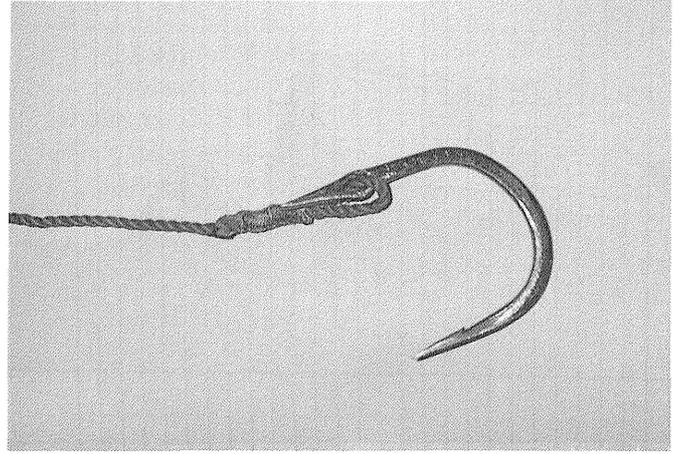


Fig.5 Chukchee's fish spear hook from Sredni-Pakhachi.

Table. 1 Types of marek fish spear in Okhotsk Sea coastal area

structural features		Hook in upward position	Groove	foreshaft w. hole	bound strap	ring
types	peoples					
most complex III	H. Ainu's <i>marek</i>	+	+	+		
	S. Ainu's <i>ciorewex</i>	+	+	+		
Complex II	S. Ainu's <i>marex</i>	+	+		+	
	Nivkh	+	+		+	
simple I	Tungusic	+			+	
	Koryak-Chukchi	+			+	+
	Itel'men's <i>marek/marik</i>	+			+	+

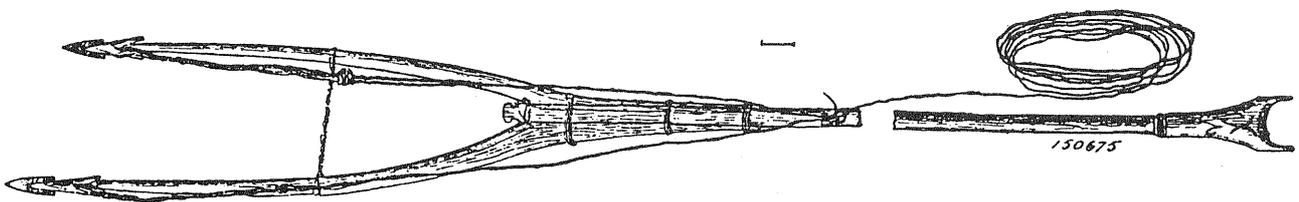


Fig.6 Ainu's double foreshaft toggle harpoon.

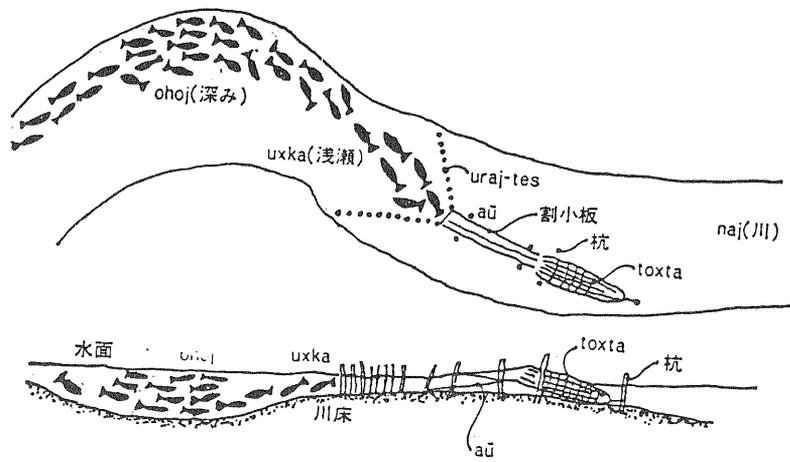


Fig.7 Sakhalin Ainu's fish basket set with fences.

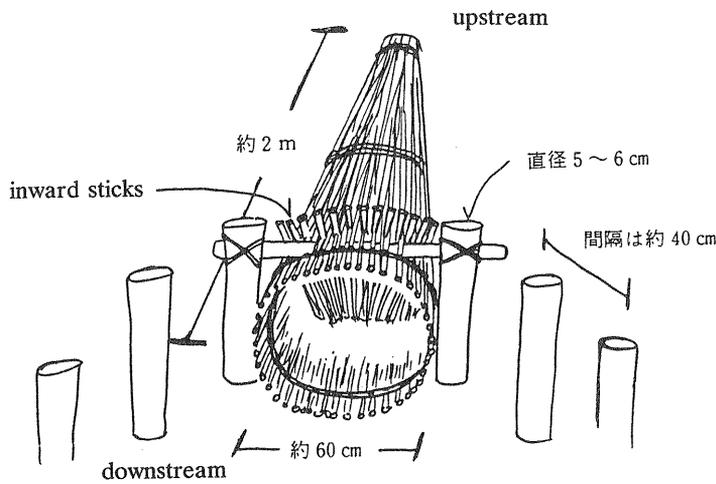


Fig.8(a) Asahikawa Ainu's upstream fish basket.

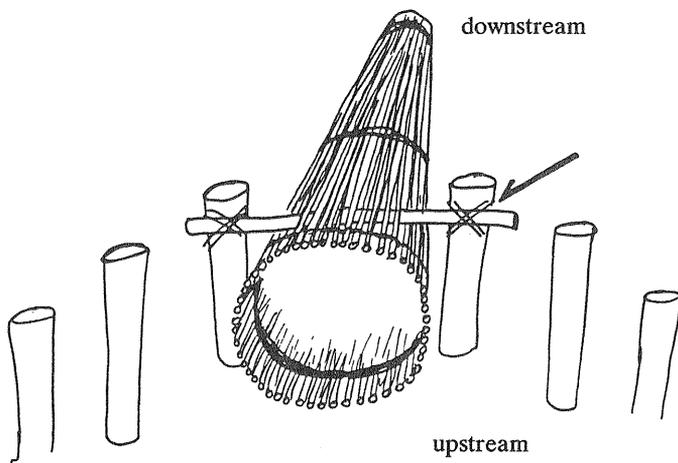


Fig.8(b) Asahikawa Ainu's downstream fish basket.

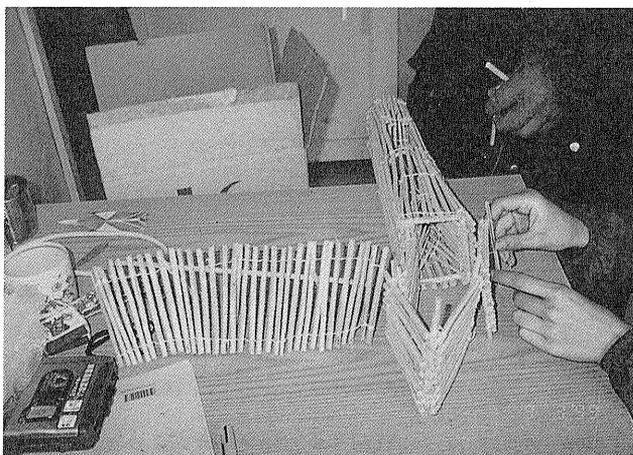


Fig.9 Koryak's small scale fish basket in Lesnaya.

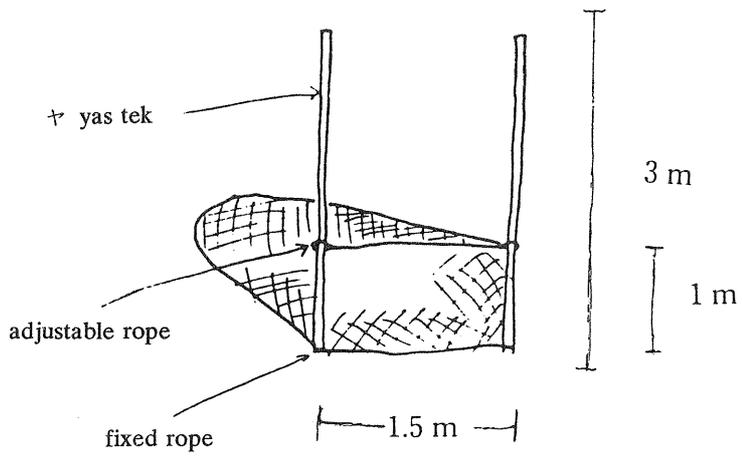


Fig.10(a) Ainu's bagnet.

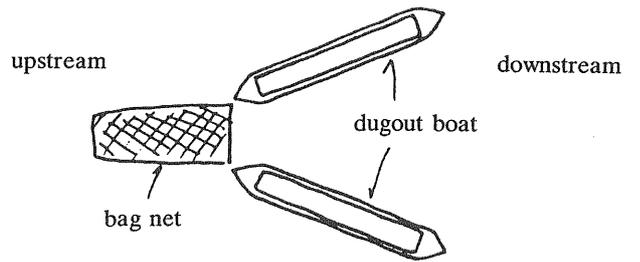


Fig.10(b) Ainu's bag net trawling with two dugout boats.

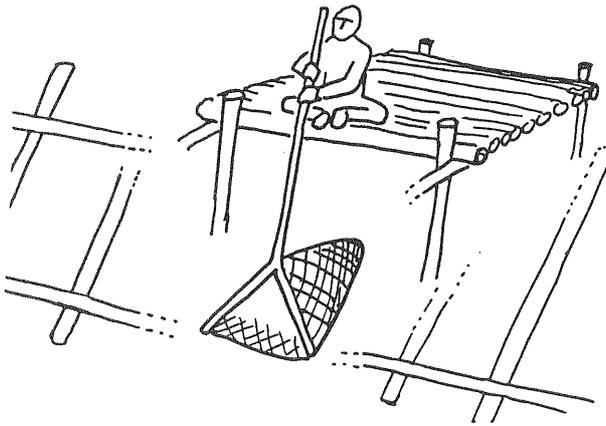


Fig.11 Ainu's fish weir and hand net.



Fig.12 Koryak's casting net on a double dugout boat in Lesnaya.

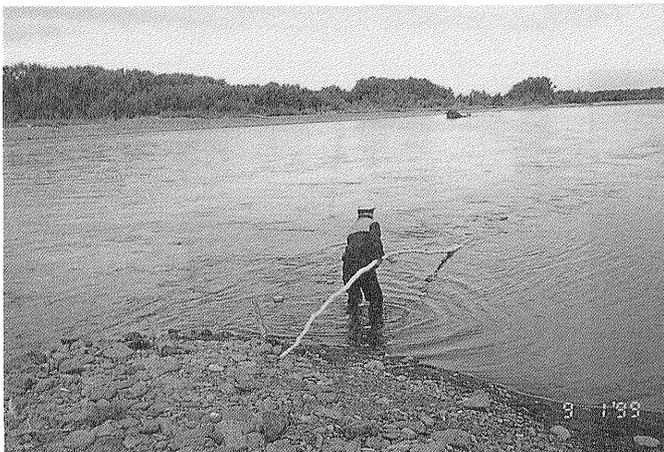


Fig.13 Koryak's net pushing pole in Lesnaya.



Fig.14 Koyak's bag net in Shestakova.