Marine Hunters of Chukotka

Introduction

More than four thousand years ago, two maritime cultures of the Arctic, the Scandinavian coastal hunters (Pomors, in Russian) of the northern Atlantic and the Eskimo of the northern Pacific, were formed and began to successfully develop at the places where those two great oceans joined the Arctic Ocean. They emerged almost simultaneously but developed independently of one another.

Both cultures eventually spread along the Arctic shores. The Scandinavian hunters spread to the west, all the way to Iceland, and later, as far as Greenland. Their Russian branch (the Pomors) spread to the east, along the Arctic shore of Eurasia, where it mixed with the coastal cultures of the indigenous peoples of the Russian Arctic and northwest Siberia. The Eskimo culture from the Bering Strait region primarily spread to the east and gradually occupied all of the Arctic regions of North America (including the Canadian Arctic Archipelago) and Greenland, replacing and partly merging with the sea culture of the Scandinavians. The Asian branch of the sea mammal hunting culture of the Bering Strait is a fairly distinctive part of the general whale-, walrus-, and seal hunting culture, the most northern aboriginal culture of the world.

Over many centuries both cultures created their own unique subsistence systems. It is important to note that each of these sea cultures was formed by people of different origin (ethnogenesis), speaking languages that belong to different language families.

Both Arctic cultures exist in present-day Russia. The western sector of the Arctic hosts the complex sea culture of the Barents and White Sea Pomors. The eastern sector is the region hosting the sea mammal hunting culture of the Asiatic Eskimo (Yupik) and coastal Chukchi of Chukotka. We shall discuss this particular culture further.

Description of the Region of the Bering Strait and Eastern Chukotka

General Information

Today the place where the Pacific and the Arctic Oceans meet at the Bering Strait that divides the continents of Asia and North America looks as shown in the picture. However, it was not always this way. Over the last one million years northeast Asia and North America were repeatedly joined at this point by a land bridge. This peculiar territory, now partially covered by sea, was given the

scientific name, *Beringia*. Eighteen thousand years ago the land bridge was more than a thousand kilometers wide and divided the Pacific and Arctic Oceans, whose water level then was ninety meters lower than at present.

Climate warming and the rise of the ocean level began around fourteen thousand years ago, and the sea gradually submerged the central part of the land bridge. Only a few islands were left in the northern part of the Bering Sea. That is how the Bering Strait and its surrounding maritime areas were formed. The Asian region of Beringia, or the coastal territories and maritime regions of the western part of the Bering Sea, is commonly named "Russian Beringia."

The width of the Bering Strait at its narrowest point, between Cape Dezhnev in Chukotka and Cape Prince of Wales in Alaska, is only eighty five kilometers. There are two islands in the middle of the Strait: the Big Diomede Island (or Ratmanov Island) belongs to Russia, while the Little Diomede Island belongs to Alaska, the northernmost state of the United States. The Bering Strait was first passed by the expedition of Semyon Dezhnev and Fedot Popov in 1648, and then later during the voyage of Vitus Bering in 1728. The American shore of the Strait was discovered by the Russian expedition under Ivan Fyodorov and Mikhail Gvozdev in 1732.

The unique geographical position of the Bering Strait at the juncture of two continents and two oceans makes it a unique migration corridor for land and water species from different regions of our planet. Generally speaking the natural complexes of the Bering Strait create a unique biosphere reserve that influences many processes and phenomena on the Earth.

Natural Complexes

The results of biological research over the last fifty years show that the Chukotka Peninsula and its surrounding waters are unique due to the unusually high level of biodiversity and productivity in the sea and adjacent ecosystems. That particular feature was the basis for the origin and development of the Eskimo and Chukchi marine hunting culture in this region.

At present the sea mammal hunting culture exists in the Asian part of Russia on the shores of eastern Chukotka. The coastal indigenous peoples of the Koryak and Kamchatka regions further south have only partly retained its characteristic features, mostly in the form of subsistence-based hunting and the legends supported by historical and archaeological data.

Terrestrial Landscapes

Eastern Chukotka is a coastal territory with medium altitude mountains and diverse landscapes, noticeably isolated from mainland Chukotka. Its geological formations are represented by different age structures from the ancient Archaic rocks to Quaternary deposits.

The intensive geological life of eastern Chukotka continues to this day as evidenced by frequent earthquakes, the large number of radon springs, and the fairly rapid erosion of the shoreline into the sea.

Ice Scapes

Every year in the fall, the coastal icescape, a unique natural ecological system, begins to form along the shores of the Arctic seas. The life of numerous biological species – invertebrates, fish, birds, and ice-associated animals such as the polar bears, seals, walrus, and whales – is dependent upon it.

A unique cultural icescape is formed in places where over many centuries people (in this case the Eskimo and the Chukchi) use the ice for hunting and traveling . Special place names, traditional knowledge, persistent landmarks, and even visible traces of human activity are tied to the icescape.

Such cultural icescape are unique because they disappear with the melting of the ice during the spring and summer seasons and then return again next winter. This cycle has repeated for many centuries. From generation to generation, the cultural icescape created under the influence of the powerful natural processes is sustained by fragile forces of people's memory, distinctive types of activities, and the continuity of cultural knowledge. With the loss of these, the landscape once more would become an endless ice desert. Without human presence the frozen sea covered with ice ridges is just a "wild ice".

The cultural icescape is a unique natural and cultural phenomenon. It is also a world asset created and preserved by the knowledge, experience, and perseverance of the indigenous peoples living along the shores of the "icy" sea. For the residents of the seasonally frozen polar seas the shoreline ice has never been an impassable barrier. On the contrary, like an ocean for seafarers, it connected local communities, creating a convenient surface for hunting, transportation, fast communication, and cultural exchange between the neighboring and distant settlements.

The cultural icescape has its own history that is many centuries old. Its antiquity is reflected in the indigenous terms for various types of sea ice that the Eskimo (Inuit) people used at least two thousand years ago. The traditional Eskimo sled trails ("ice roads") connecting arctic settlements over the seasonally frozen sea have existed for many generations.

Like land, the utilized ice space is covered with a dense network of place names, landmarks, crossroads, traditional meeting and resting places, and areas for certain types of activities. For traditional communities that use the ice in winter months, it becomes a space tied to the rich oral tradition. It includes personal stories, memories, songs, legends, descriptions of traditional routes, and also beliefs in the supernatural and mythological creatures living on or under the ice.

At the same time the cultural icescape is a phenomenon that continues to shrink, both physically and culturally, with each passing year. Presently it is under a threat for two reasons: the rapidly changing climate of the Arctic and the loss of the language and cultural heritage of its indigenous peoples. The sea ice of the Arctic can only be saved by a new cooler climate phase or by conscious efforts on part of all of the inhabitants on the planet. The disappearing knowledge of the minority peoples of the North can only be maintained by the indigenous peoples themselves and by the experts in their cultural heritage.

Local Cultures of Eastern Chukotka

The Yupik Eskimo and coastal Chukchi lived along the narrow stretch of the shoreline, up to one or one and a half kilometer wide, but the main place of activity of the marine hunters was in the sea. They spent the summer on the water, and in winter, which before the present-day warming lasted for eight to nine months, they would always be on the ice. In many regions the territory used by the coastal communities substantially increased during the winter time due to the addition of the space occupied by the sea ice.

The characteristic features of the icescapes, such as inlets, ice cracks, shore-fast ice (immovable ice connected to the shore) and drift ice, determined the existence of at least ten local versions of sea mammal hunting culture along the shores of eastern Chukotka. In each settlement, local hunting economy depended on the conditions of the ice, and also on the direction and strength of the predominant winds and sea currents, shoreline features, and the distribution of the animal resources.

Local differences in natural resource use also affected other forms of subsistence, such as fishing, land hunting, and plant gathering. They are evident in variations among the hunting gear, clothing, construction of dwellings, and the system for locating seasonal hunting and fishing camps.

Up to the 1940s there were many more coastal aboriginal settlements and local cultural variations in eastern Chukotka than there are now. The level of cultural diversity was higher, and this diversity had guaranteed the stable existence of Chukotka marine hunting culture for many centuries, even thousands of years.

Indigenous Peoples and Marine Hunting Culture

Places with abundant natural resources, with seasonal concentration of whales, pinnipeds, birds, and fish species, that were convenient for hunting and fishing, had attracted ancient hunting people from very early on. There were multiple recorded human migrations from one continent to another along the Bering Land Bridge and across the Bering Strait.

It is commonly believed that this is the way the ancestors of American Indians once moved from Asia to North America twelve to fifteen thousand years ago. Due to their unique geographical position eastern Chukotka and western Alaska have played a prominent role in the history of Asian-American human connections for over ten thousand years. Both ancient and modern aboriginal peoples have left numerous archeological monuments in the Beringia region.

Several thousand years ago the shores and islands of the Bering Strait witnessed the birth of the ancient Eskimo marine hunting culture, which was then absorbed by the Chukchi people who later populated the Asian part of Beringia. Eastern Chukotka is a unique region not only in Russia, but in Eurasia. Nowhere else did the marine hunting culture have such ancient and strong roots.

At present this culture is mainly concentrated along the shore of Eastern Chukotka from the community of Uelkal located near the entrance to the Kresta Bay (in the Anadyr Bay, northwestern part of the Bering Sea), and up to the community of Vankarem, on the shore of the Chukchi Sea. Presently there are around fifteen thousand people living in this area in fifteen predominately aboriginal communities that continue traditional marine hunting.

Yupik/Asiatic Eskimo

"Eskimo" (Inuit and Yupik) is a general term for around 150,000 indigenous residents of the Arctic zone from the Bering Strait to Greenland. These people have a common origin and speak closely related languages and dialects. The Russian side of the Bering Strait is home to the Yupik, or Asiatic Eskimo (*Yupik* is their self-identification). At present there are about 1,800 people belonging to this ethnic group living in Russia. Despite their small numbers, the Yupik people used three different languages (called Chaplinski, Naukanski, and Sirenikski, based on the names of three respective settlements) up to the end of the twentieth century. The small community of the Inuit Eskimo that formerly lived on the Big Diomede Island spoke their own language which belonged to a different language group.

At the beginning of the twentieth century there were five large and several smaller Yupik communities in Chukotka, with their own settlements and traditional territories. During the Soviet period each of these communities experienced relocations, closures, and forced "mergers." As a result only three Yupik/Eskimo settlements are left out of the nineteen that existed in the beginning of the twentieth century. Those are the communities of Uelkal, Sireniki, and Novoye Chaplino. However, some cultural and linguistic differences persist to this day especially among the people who belong to the old Chaplino, Naukan, and Sireniki groups.

Coastal (Maritime) Chukchi

The traditional social system of the coastal (maritime) Chukchi has not been adequately studied since the research conducted by V. G. Bogoraz from 1895 to 1901. Most likely, at the end of the nineteenth and the beginning of the twentieth century, the coastal Chukchi also lived in stable communities of 150-400 people. Unlike Eskimo, Chukchi coastal communities were characterized by their openness to marriage, trade, and hunting alliances with the tundra Chukchi reindeer herders. In difficult years some of the inhabitants of the coastal settlements would move to the tundra to live together with their relatives there. Likewise, impoverished reindeer herders from tundra camps would come out to the shore and join the sea hunters.

Hunters and reindeer herders

Yupik and Chukchi sea hunting communities adhered to the same rules of land use and maintained close family and trade ties with the neighboring settlements and along the coastline. Many families had relatives and partners not only in nearby but

also in distant settlements, which guaranteed safe traveling and the exchange of information and cultural innovations along the entire coastline.

The traditional relationships between marine hunters and reindeer herders in Russian Beringia requires a special note. The Chukchi sea hunters and the Chukchi reindeer herders shared familial ties and common language. In addition, reindeer herding Chukchi and coastal communities, both Chukchi and Eskimo, shared traditionally strong bonds of mutual aid that persist to this day.

The Chukotka Peninsula is a zone of high-risk reindeer herding. The proximity of the sea and open water often brought ice-crust condition to the winter pastures in the coastal areas. The areas adjacent to the marine shore suffered the most. In hard years sea hunters always came to the rescue of the reindeer herders. In turn, in the past, reindeer herders would literally save sea hunting communities from starvation during tough winters when, for certain reason, hunting sea mammals was difficult or impossible.

Aside from providing each other with help in extreme situations, the sea hunters and reindeer herders have a tradition of regular annual exchanges of their respective products. In the past these exchanges were mostly conducted during the summer (August) and early fall (September) for butchering reindeer. To conduct the exchange, coastal inhabitants prepared *atympat* – ringed seal and bearded seal hides, blubber, and dried sea mammal meat, beluga whale sinews for thread, bearded seal skins for the soles of shoes, bearded seal lines for harpoons (*chaat*), and high boots sewn out of seal skins. In return they took reindeer meat and fat, reindeer sinews, reindeer skins, ready-made fur stockings, coats, pants, and high boots made of reindeer leggings from the herders. The Eskimo from Chaplino even have specific words for these types of exchange trips: *aki* – "the one going or riding south"; *aki gakuk* - "going south to exchange with the Chukchi reindeer herders."

The People Who Live Facing the Sea

> *"Sea hunters never hid from the sea. They didn't settle in the far corners of the bays and coves where it's safe, but near the open sea, on the cape, where the winds are, and the currents disperse the ice, where the whales and walrus come close to the shore. The hunter is always waiting for the prey. Even when he is walking along the shore he is still constantly looking at the sea and taking notice of every detail. He is always trying to face the sea."*
>
> Lyudmila Ainana, the town of Provideniya, 1989.

The location of the coastal settlements points to the ancient hunters' ability to distribute their hunting pressure on the animal populations evenly (or speaking scientifically, ecologically correctly), and also to lower the human impact on the fragile and sensitive natural complexes of the Arctic, primarily its vegetation and soil cover. In order to reach this goal the marine hunters of Chukotka adhered to three rules when setting up their permanent settlements.

(1) The settlements were located at conjunctions of various ecosystems where the biodiversity and natural productivity were always exceptionally high, and to save the energy spent by hunters to get to the resources. If the productivity of one type of biological resources decreased, people could put more pressure on other resources. Thus, during the periods when the sea mammals populations were low or not available, people would focus more on fishing, bird hunting, and gathering, including gathering of eggs from bird colonies.

(2) Open water in winter was the essential natural basis for marine hunting culture in the Bering Strait region. Traditionally the settlements of hunters who pursued whales and pinniped species (seals and walrus) were always located near the winter "open" water, by permanent ice cracks, polynyas, and areas with unstable and mobile ice cover. A thorough knowledge of the characteristic features of the ice regime allowed indigenous residents of Chukotka to conduct year-long sea mammal hunting. In winter the widest open water area, called Sireniki ice hole, near the shore of eastern Chukotka, is the traditional hunting area for the residents of four aboriginal settlements (Uelkal, Enmelen, Nunligran, and Sireniki). In the old days there used to be more than thirty large and small settlements along this portion of the shore. They were spaced out fairly equally and supplemented by seasonal hunting and fishing camps.

(3) Evenly-spaced small settlements and seasonal hunting camps ensured an equal distribution of hunting pressure on the population of sea mammals and reduced the human impact on the surrounding environment. Even in places with rich natural resources, a single large settlement was avoided in favor of several well-spaced, independent villages with a small number of residents, usually 40-60 people, and only rarely more than 100-120. Only three traditional coastal communities in Chukotka had population of more than 200 people.

Settlements on the capes should be noted separately since they are strategically important locations for all sea hunters of the Arctic. From the capes the hunters can see wide expanses of the sea. The whales, walruses, and seals take a path around

the capes during their seasonal migrations. These capes play an important part in the forming of biodiversity and productivity of the sea and coastal ecosystems. Asian, American, and Greenlandic Eskimos worship every cape and call them "the place where everything becomes clear".

'Companion' villages were often created on these capes, one on either side. If weather and ice conditions were unfavorable for hunting on the one side of the cape, the hunters would go to the other side. In general the entire eastern Chukotka Peninsula can be characterized as a giant cape dividing the Pacific and the Arctic Oceans. The ruins of the dwellings, villages and ritual structures of sea hunters can usually be clearly seen along the shoreline because of the white "poles" made of the lower jawbones of bowhead whales dug vertically in the ground. Unfortunately at present the ruins of these ancient settlements are falling apart under the influence of natural erosion processes and the tectonic activity of the shoreline, which is literally slipping into the sea.

The erosion of cultural heritage of the ancient sea hunters is actively hastened by people as well. The ruins of the settlements and cultural layers that retain many unique objects of art are being destroyed during the construction of almost every new settlement. They are robbed by would-be archeologists, trampled on by poachers, tourists, off-roaders, etc. However, even to this day the Chukotka Peninsula still remains an enormously productive area for identifying ancient settlements, ritual constructions and graveyards, many of which have world significance.

Wildlife and Traditional Use of Resources

Sea mammals

The coastal seas of eastern Chukotka are a great feeding ground for various fish, birds, and sea mammal species, the latter represented by six species of pinnepeds (walrus, sea lions, and four seal species) and thirteen cetacean species, including baleen and toothed whales and dolphins. Seven types of whales are under international protection: bowhead whales (Greenland and Japanese); other baleen whales (blue whale, fin- and humpback whale); Californian grey whale, and narwhal. The Japanese whale, sperm whale, and narwhal live here at the borders of their natural range, while dolphins, Dall's porpoise, and the ribbon seal are endemic species of the North Pacific.

All five species of pinnepeds, bowhead and grey whales, as well as the beluga whale are hunted by the sea mammal hunters of Chukotka. These animals provide the indigenous peoples with their main source of protein food and high quality fat.

In the old days the residents of eastern Chukotka especially valued and worshiped the bowhead (Greenland) whale. One whale could feed and keep warm a small settlement for a long polar winter.

> *"I think that God, or whoever it is that's up there, created the bowhead whale specifically for us. In the past there was no way to survive without it. It provided shelter, food, dog food, and warmth for people. It's also very interesting to watch the whales, but the main thing is that watching them is essential to becoming a functional human being and a hunter. The whales give us peace and beauty of life."*
>
> Nikolai Galgaugye, Sireniki, 1981

At present the main object of whale hunting for the indigenous people of eastern Chukotka is the grey whale. It is significantly smaller in length and body mass than the bowhead whale (maximum size – 15.5 meters and 35 ton), but it is more abundant and more accessible.

The meat of the bowhead whale can be fermented for winter in semi-underground meat cellars, which cannot be done with grey whale meat. The grey whale meat rots and has to be kept in a freezer dug out of the permafrost. The indigenous residents love the skin of these whales with some fat on it (in Yupik this skin is called *mantak*), and eat it both, raw and boiled.

For a long time, the bones of Greenland and grey whales served as the main building material. They were used to make boat rafters, raised storage platforms for various household needs, cult and burial structures, and, most importantly, for communal and family dwellings.

White whale is another type of whale hunted in eastern Chukotka.

The walrus was always the main object of hunting for the people of Chukotka and remains so to this day. In the old days the Eskimo were even called "the walrus people", because it was impossible to find any sphere of their life in which walrus products were not used. Young males are used for food, because the meat of older animals is too tough and the skin on the front side of their bodies is covered with hard bumps. Old walruses are valued for their long tusks that can grow up to a meter in length. The tusks are an exceptionally tough material used for making

various household items, especially useful in the conditions of the treeless tundra, where wood is rarely found. The skins of female walrus were used to make covers for hunters' skin-boats.

Of the four types of seals, the most important for hunting are the bearded seal and the ringed seal. The meat of these animals is very tasty, and the fat of the ringed seal is used for various dishes, for cooking and heating the houses in wintertime, and even for drinking as a health tonic. Bearded seal hides are used for making boot soles and thongs for connecting various frame pieces for boats and sleds. In addition bearded seal hides and thongs are still the most important object of trade in the exchange between marine hunters and reindeer herders. The reindeer herders use them to weave *chaty* (lassos) for catching reindeer.

The pelts and skins of the ringed seal are still used for making clothes, mostly the top part of the boots and waterproof men's trousers for working on the ice. They are also used to make jackets, bags, and many other items. Inflated ringed seal skins bags shaped into a bubble are still considered to be the best floats in marine hunting.

Two other kinds of seals, the spotted seal (larga) and the ribbon seal, are not as numerous and play less important role in the traditional economy of the marine hunters.

The Polar Bear

The polar bear "connects" the animals of the sea and the land. This animal is a great swimmer that easily moves across the land and the ice. The polar bear is very much dependent on areas of ice. This animal, along with the ringed seal, is suffering the most from the rapid decrease of ice cover in the Arctic basin, and its population is on decline. Ritual figurines of polar bear are often found in ancient Eskimo burials, their images are carved by modern artists on walrus tusks, which evidences the important role of the bear in the cultural traditions of the sea hunters of Chukotka.

Land Animals

Hunters believe that all animals can be good or greedy, brave or cowardly, just like humans. In the beliefs of Chukotka aboriginal people, the animals do not wear an image-mask like in Russian folktales. In the Russian culture the fox is always cunning, the wolf is always stupid, etc. In Yupik legends the wolves can sometimes be wise and just, and in other cases - stupid and greedy. Here's what the

Eskimo hunter, Malya, told the land surveyor V. Shatalov in the 1930s: *"Our people never shoot at animals if they are minding their own business and not attacking. The animals understand a lot too. If you hurt an animal, it will hurt you back. Offended wolves will later go to the herd and scare away the reindeer. They can kill a lot of reindeer just out of spite. Not for food. They'll just kill and leave them. The elders taught us to stay on friendly terms with the wolves and not to offend them needlessly."*

Sacred Animals

The hunters, especially the Eskimo, treat the killer whale with the utmost respect. They believe that the killer whale is a male hunter. Up to the end of the twentieth century in Sireniki the steersmen on hunting boats, upon seeing a killer whale, would pour tea or drop a piece of tobacco into the sea, or crumble a cigarette if there was no tobacco. The sea mammal hunters believed that killer whales were their helpers. The killer whales scared the walruses, making them jump out onto the ice and thus become an easy prey for the hunters. Killer whales were never hunted, and older hunters still try not to disturb the wolves. Both animals are considered sacred in the traditional culture of eastern Chukotka.

Fish and the Invertebrates

Fish are the second most important source of protein and fat for the residents of eastern Chukotka. Arctic char and pink salmon are the predominant catch during the summer salmon migration period. Calico salmon are less common, and *chinook* salmon are a rare catch. The southeastern coast is home to a population of red sockeye salmon (the fish and its meat are bright red). The indigenous residents love red salmon, especially smoked.

Fish suitable for harvest are few in the inland waters of the Chukotka Peninsula. The indigenous residents have always caught most of their fish in the sea (Arctic cod, navaga, codfish, flounder, and gobies).

Aside from fish the indigenous residents of the Provideniya and Novoye Chaplino settlements also catch an invertebrate called ascidian, or upa (the sea squirt). Sea squirts (upa) and other invertebrates, crab, shrimp, sea urchins and star fish, small octopus, shellfish (mussels and whelks), and also seaweed are all important components of the daily diet of the Eskimo and coastal Chukchi people to these days.

Birds

Birds are the third most important source of protein for the residents of eastern Chukotka. Geese and ducks, as well as large sandpipers play an important role in Eskimo and Chukchi diet. There are four types of loons nesting in eastern Chukotka. Although these are considered sacred by many peoples of the world, the Eskimo and the Chukchi use them for food. The sacred bird of the Eskimo is the marbled murrelet, a small, plain but very rare bird. Colonies of sea birds also play a significant role in the diet of the local residents. Indigenous people eat bird chicks and collect bird eggs. They mostly collect the eggs of the thick-billed and thin-billed murres. Both Eskimo and Chukchi know that these birds can lay up to two sets of eggs, and they time the egg gathering so that the birds can still lay eggs a second time and have chicks.

Plants

The Eskimo and coastal Chukchi use around sixty types of land and sea plants in their diet. Half of those plants are used in food on a regular basis. The languages of the Yupik Eskimo do not have a general word for the whole plant, but instead have individual words for its edible parts, for instance, the stem with its leaves or the root. Anything that is not used in food is called “grass”, or “flower”.

Gathering and preparing plants for winter is an important responsibility of the women and is even called “women’s hunt”.

Seaweed is an essential part of the diet; hunters also gather it on their way home after hunting sea mammals.

The Bering Strait region lacks tanning plants to be used for tanning of the leather cover of the boat, called *baidara*. Therefore during long trips sea mammal hunters should periodically dry up the covers of their skin boats, they cannot resume sailing until they are dry and would sound as a tambourine.

Hunting Gear

Traditional Weapons and Personal Gear

The indigenous people of eastern Chukotka, the Yupik Eskimo and coastal Chukchi, have retained to this day the main components of hunting equipment used by the ancient whale, walrus and seal hunters. This gear included a skin-covered boat with a wooden framework tied together with thongs, a toggling harpoon with

a seal-skin float, dog sled harness, and wonderful sleds the wooden parts of which were also connected with thongs. These inventions made it possible for aboriginal communities to exist in extreme natural environment, where the ice covered the sea for eight or nine months of the year, and provided them with the main resources for subsistence.

Clothing

In winter and spring, the hunters use clothes and footwear made of the fur of young reindeer, reindeer suede, and seal pelts. The undershirt and underpants are made from the skins of young reindeer and worn with the fur on the inside. The outer shirt is sewn out of reindeer skins with the fur on the outside. The most important part of the marine hunter clothes is the upper coat. It is a lightweight piece of outwear with a hood, worn over the undershirt so that only the collar and the fur fringe of the undershirt sleeves and hem are revealed.

There is a specific way of making fur boots. The bootleg is made out of ringed seal skins, or reindeer skins, and the soles are made out of bearded seal skins. Inside the soles are covered with dry grass. For more warmth, hunters wear fur socks made out of reindeer skins. For working in the sea hunters prefer bearded seal boots because they are waterproof and do not get damaged by salt splashes as much as reindeer skin boots. The hunters of the northern coast make boot soles out of polar bear pelts. The hunters do not wear modern clothing in winter because it does not retain warmth as well as the traditional one.

Means of Transportation

Boats and Dog Sleds

There are several traditional means of transportation used by the marine hunters of eastern Chukotka. At sea they use the large framed boats covered with walrus and bearded seal skins, and on land they use dog sleds. In the nineteenth century wooden whale boats were added to skin-covered boats (of *umiak* type), but at present the hunters use aluminum and rubber boats. In addition to dog sleds they use various types of snowmobiles and off-roader vehicles. However, the old types of transportation have not lost their importance even today.

Skin-boat

Eskimo and Chukchi skin-boats (*baidara* in Russian) are open, framed boats that come in different sizes and are used for different purposes. Large boats were used

as means of transportation for long journeys. They could reach up to twenty meters in length and carry up to four tons of cargo, or twenty five to thirty people. They are no longer used in Chukotka, and only in a few places one can still find half-destroyed frames of these boats.

The art of building medium-size or hunting boats called *anyapik* in Yupik was almost gone in the 1970–1990s, at that time it was preserved only in the communities of Sireniki and Nutepelmen.

Small skin-covered boats are used in almost all the settlements of eastern Chukotka to set up fish nets, for fishing, and for hunting small seals. They are even used at sea to cover small distances in calm weather.

Whaleboats and Aluminum Boats

The type of wooden whaleboats used by Europeans and Americans exclusively for whale hunting came to the indigenous residents of eastern Chukotka only in the second half of the nineteenth century with the arrival of commercial whaleres. This boat was originally adopted for use at the settlements located in lagoons, coves, and bays, where it could be docked with an anchor.

Sled Dogs

The sled dogs have always been the most important part in the system of traditional hunting in Chukotka. They played a great role in the winter hunting for seals on the shore-fast and drift ice, and also served as means of transportation between communities.

Walrus Hunting

Spearing at the rookery and in the water. Walruses are speared with special spears (pikes) at the onshore rookeries and in the water. An experienced hunter can spear a walrus in seconds by aiming the thrust of the spear directly into the heart. The animal dies immediately without moving an inch from its spot.

Hunting on the ice. This type of hunting was prominent even fifteen to twenty years ago, but in the recent several years its use has significantly decreased. This is due to the lack of drift ice strong enough to bear these heavy animals.

Hunting in the water. Hunting for swimming walruses, in open water clear of ice, is conducted by all teams of hunters from their skin boats, whaleboats, and aluminum boats. The hunters drive the walruses into a thick group with gunshots.

They also use a special clapper made of whale baleen or a strip of shock absorbing rubber. The noise made by the clapper hitting the water imitates the sound of a killer whale, the greatest enemy of the walruses, slapping its tail against the water. These claps scare and disorient the walruses, who then become an easy game for the hunters. A dead walrus starts sinking almost immediately, so the hunters first harpoon several animals, and shoot only after attaching floats to their bodies.

Whaling

The photographs show a joint hunt for the grey whale by people from two settlements, Yanrakynnot and Novoye Chaplino.

Spiritual and Cultural Traditions

The people living in the Bering Strait region are the accomplished hunters of whales, walruses, and seals. The feeling of an unbreakable bond with nature and sea hunting permeates their economy, culture, and languages. The winds, currents, ice, fog, and tides are the part of the life of these ocean hunters, and sea mammals, birds, and fish are at its core. Hunting brings joy to the Eskimo and the Chukchi, just as it did to other ancient indigenous peoples. It brings them comfort and is the focus of their life. These people do not live to ‘conquer’ the nature. Instead they strive to stay in agreement with nature, and to preserve their traditions, customs, and distinctive worldview.

The core of the traditional knowledge of Bering Strait hunters is an understanding of the interconnectivity of all living things, and of the interactions of all natural objects, including human beings, their constant interflow and rebirth.

The system of calendar festivals and rituals meant to ensure luck in hunting is an important element of the marine hunting culture. This system is similar in Eskimo and Chukchi traditions.

The most important festivals were the Festival of the First Boat Launch, the Festival of the Young Hunter, the Festival of Walrus Heads, the Festival of Thanking the Spirits, and the Festival of the Winter Solstice. During these festivals the boys began to get acquainted with their future life as marine hunters.

Sacred Bones and Rocks

The inhabitants of the Bering Strait believe that an animal is not killed. Instead it comes to visit the hunter who sees it first and permits the hunter to shoot it. The animal stays a while, gives its meat and skin, and then returns to the sea. The

departing animal must retain all of its bones so that it could regrow the meat on them later. For this reason sea mammals were traditionally cut at the natural joints. The skulls, which were considered the place for animal souls, even in the twentieth century, were arranged into sacred lines, rings, and piles.

Every ancient or old traditional settlement in Chukotka once had a system of cult structures built of whale bones, walrus and polar bear skulls, and stones.

The skulls and lower jaws of bowhead whales were especially worshipped. According to Leonid Kutylin the skulls and jaws of whales were set up "so that the ancestors could see how well we remember them, and how well we observe the traditions". The elders loved to sit near them because, according to traditional beliefs, the bowhead whale, more than any other animal, helps to ponder about the past while at the same time giving spiritual strength to look into the future.

The most well-known monument of the sea mammal hunting culture is the "Whale Alley", built out of the lower jaws and skulls of bowhead whales and discovered in 1976 by ethnographer M. A. Chlenov on the island of Ittygran.

Vertically-erected sacred stones are an essential attribute of the ancient settlements. Their height ranges from thirty centimeters to a meter and higher. The areas of erected sacred stones could not be visited casually. The people would go there only to conduct rituals that are no longer practiced today.

Another kind of objects of worship was a natural stone sculpture that had an unusual form. For instance, rocks that had a human or naturally-formed vertical or cone-shaped form at the Chukotsky Cape (they are called *Yuwagyt* in Yupik, which means *little people*), or the strangely shaped rocks on the top of the Kriguigun Cape that divides two bays, the Lavrentiya Bay and the Mechigmen Bay.

The most mysterious construction of the Chukotka Peninsula is a wide field of man-made piles of small rocks surrounded by a low (around 30–40 cm) single-row stone wall. It is located near the abandoned village of Singak.

Traditions in the Modern Life

What is the culture of sea mammal hunters like today? What have they retained from the traditional rituals of their ancestors?

One of the old rituals still retained today is the ceremony of feeding the spirits when arriving to a new and unfamiliar place. People usually start a small fire and

throw in the "food for the spirits" from the unopened packs of sugar, tea, and crackers. Only afterwards can people picnic, hunt or settle in a new place.

Families with elderly family members still retain their family festivals and rituals, but usually conduct them inside their own small family circle.

Several villages have reinstated certain community festivals. For instance, the Festival of the First Whale was brought back in the 1980s in some Chukotka communities, to which the state-run catcher-boat *Zvesdnyi* used to deliver captured gray whales. At first the residents did not consider this a real festival, because they did not hunt grey whales. However, all hunters had great respect for Leonard M. Votrogov, the captain of *Zvesdnyi* and that feeling of respect helped promote the festival in Chukotka.

All women of the older generation, regardless of their profession, are skilled seamstresses and craftsmen. All of them can sew shirts, boots, fur slippers, and much more.

The unique ivory-carving art of the Eskimo and the Chukchi that is, now famous all over the world, evolved from the tradition of engraving and carving ivory and bone, evident for thousands of years in the ritually ornamented ivory and bone objects and small sculptured wood of hunting gear details.

It is important to note that the Yupik (Asiatic Eskimo) and coastal Chukchi are very different in their origin, and their languages belong to different and unrelated language families. However, throughout the centuries these two peoples created a unified culture of marine hunting based on the ancient Eskimo culture of the Bering Strait. For many centuries the Eskimo and coastal Chukchi have mutually enriched their cultures with knowledge of nature, cultural traditions, and spiritual practice. Neither of the two peoples strives for dominance or tries to suppress the culture and language of its neighbors.

In the past there was a special connection between the people at sea (the hunters) and those staying on the shore (the families of the hunters and other village residents). Lyudmila Ainana says about this tradition:

> *Those who left for the sea are connected to those who stayed on the shore. For this reason the people on the shore need to behave correctly and most importantly need to wait. We didn't begin eating our supper until the hunters came back from the sea. Our elders sat at special places and watched the sea in order to give us a sign of the hunters' return. The whole settlement would*

rush to the shore to help docking and pulling out the whaleboats and to greet the game. In the old days the wife of a hunter, who killed the whale, greeted the killed animal as a guest. There was a special ritual for that. Afterwards the game was divided up. Old single people, orphans, and poor people were never forgotten. A good hunter not only fed his own family, but many other, even unrelated people.

Chukotka Residents Talk about Climate Change

The indigenous people of the North get the most important information not from the books but by watching and listening to other people. That is how they learn to watch the sea and the tundra, to dress correctly, to safely move on the ice, to survive in bad weather, and to provide for themselves and for their families. That explains a lot about the character of the Eskimo and the Chukchi. They know how to watch and to listen, are attentive to nature and its changes, and always ready to share their knowledge to those who need it.

Marine hunters of the Bering Strait region have acquired a great deal of experience in predicting the weather. The folk knowledge of the weather, the forecast of ice and weather change can be local (for instance, for a certain settlement and the nearby areas), or include a larger area. They can be short-term (a day, or a day and a night), medium-term (from a week to a month), and long-term (from a year to two or three years). This knowledge and skill in predicting the weather and the state of the ice has been passed on from father to son and from the older generation to the younger.

Certain conclusions about the nature of present-day climate changes and about their influence on the natural systems of the Bering Strait region can be made on the basis of thirty years of observations made by one of the authors of this work, and on the basis of many years of monitoring done by the residents of several settlements of eastern Chukotka.

1. From the end of the 1980s to the beginning of the 1990s, the duration of seasons started changing: the fall and spring seasons have expanded at the expense of winter. Spring season in Chukotka now begins earlier by about twenty to thirty days. In the middle of May the tundra along the inlets is already in bloom, and the storms come in. Many birds arrive a month earlier, at the end of April or in the beginning of May, instead of in June as in previous years. Fall continues until the middle of November (the rivers do not freeze, and there is little ice in

the sea), although in the decades prior the freezing would come in the middle of September. The solid winter ice now forms a month later. In the beginning of the 1980s there would be strong shore-fast ice by the second half of October. In general, fall now lasts a month or month and a half longer than before. In winter many regions are hit with multiple warm days with rains, storms, and strong winds. Rivers are more full-flowing, and some of them almost do not freeze year-round. The difference in temperatures between settlements that are 60 to 120 km apart can reach up to 6–8°C. At the same time it should be noted that in the last two or three years, there have been periods of bitter frosts in January and February as well as periods of warmer weather.

2. The ice in the seas is diminishing. The amount of multi-year ice cover in the basin of the Arctic Ocean, especially in Chukotka Sea has dramatically decreased.

3. Due to the late formation of seasonal ice and the lack of pack ice (multi-year ice that is no less than three meters thick) that would keep away fall storms, the coastline of eastern Chukotka is rapidly changing. In certain areas, such as around the town of Lorino, the fall and winter storms have completely washed away some of the sandy beaches and destroyed many wave-built sand lines and dunes. There are areas where erosion has driven the coastline by fifteen to fifty meters back.

4. According to one of the most experienced sea mammal hunters, Pyotr Typykhkak from Sireniki (1999), it has become much more difficult to predict the weather. There have been a lot of changes, and now "the sea and the clouds don't match each other, and the weather is changing too fast".

5. The permafrost is melting everywhere. Settlements built on lenses of underground ice, such as in Lorino are in bad shape. The earth is sinking and causes houses to fall in.

6. The Chukotka Peninsula, especially its eastern part, is a tectonically active zone. The shores here are sinking into the sea which drastically increases the influence of the fall and winter storms on the coastline. In the past thirty to forty years in some places the shoreline has retreated from three to ten meters. Those areas included the island of Yttygran (the area of the "Whale Alley"), the island of Arakamchechen (Cape Kygynin), and several other sections of the coast.

7. Climate warming has led to the appearance of more southern types of plants and animals. For instance, people have seen moose (elk) and lynx at the peninsula.

8. Climate changes have led to a noticeable worsening of living conditions for cold-loving sea animals, primarily for pinnepeds and the polar bear. Due to the decrease of ice in the Bering Sea, there has been a massive migration of walruses to the Arctic Ocean basin. There is not enough thick ice even in the Chukchi Sea, so that walruses, which always prefer to stay on the ice, are forced to come out onto the shore even in winter. The fate of the polar bears is taking a tragic turn for the worse. The decrease in the area of sea ice has led to a drastic reduction of the ringed seal population, which is the main food source for polar bears. The bears now have to swim great distances on the brink of exhaustion in order to find food and places to rest. They are also forced to come out onto the mainland shore and feed more often at the garbage dumps at the edges of local settlements.
9. Changes in climate directly influence traditional Eskimo and Chukchi approaches to the use of natural resources. The changed conditions of ice in the coastal zone makes it more difficult to take the whaleboats and boats out to sea in winter and complicates hunter's movement across the coast and drifting ice.

What did the indigenous residents do during climate warming in the past? For instance, during the 1930s when for several years the climate was warmer than it is now? This problem was addressed differently in each settlement, although neighboring settlements often chose similar tactics and even joined together.

The hunters of the eastern and southeastern part of the Chukotka Peninsula followed the sea mammals further north into the Arctic basin. Thus, in 1970-1972 Eskimo marine hunters from Sireniki made an agreement with the Chukchi community of Yanrakynnot so that they could hunt walrus in their waters. In addition, they also went hunting as far north as Uelen on the Arctic coast. The residents left behind at home took care of other subsistence resources. Fishing, bird hunting, egg gathering at the bird colonies and other types of foraging became the main activities and the basis for preparing provisions for the winter season.

In especially hard years the coastal communities of eastern Chukotka would change their place of residence. At the end of the nineteenth and the beginning of the twentieth centuries, during the periods of starvation, many Eskimo moved to St. Lawrence Island and now their descendants are American citizens, who share culture and language with the Asiatic Eskimo, especially with Chaplino Eskimo.

Finally, some Chukchi families of sea mammal hunters would move to the tundra and join their reindeer herding relatives. The reindeer herders would generously

help out the starving residents of the coast. Lyudmila Ainana, a Yupik elder, remembers that once for a long while there was no hunting and the members of her family couldn't even walk. They just lay still and sucked on bearded seal belts and pieces of walrus hide from the cover of their tent. Then they heard someone speaking Chukchi language. The reindeer herders had driven their reindeer to her village and killed the animals there to feed them. At first they would feed the starving with thick broth, and then with meat. That's how they saved their neighbors.

In conclusion we would like to emphasize that indigenous people of the Bering Strait region have created effective ways of sustaining the high quality of their environment. Because of their knowledge and cultural traditions, they have been able not only to successfully provide for themselves for thousands of years, but also to pass on to us the richest and most diverse ecosystems in the Arctic.

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