Article

Learning from Each Other

A History of Russian-native Contacts in Late Eighteenth-Early Nineteenth Century Exploration and Mapping of Alaska and the Aleutian Islands

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Abstract

The paper discusses contacts between educated European hydrographers and the native population of Alaska and the Aleutian Islands during their exploration and occupation by the Russians (late XVIII c. – 1867). The author, on the basis of his studies in Russia, the USA and the United Kingdom has found that the contacts were very active and helpful for the hydrographic surveys and the compilation of charts for the waters and coast of Russian America. The paper shows that the native tribes of these lands (Aleuts, Eskimos and others) had created their own original very skilled methods of navigation.

Résumé

Cet article traite des contacts qui furent établis entre les hydrographes européens érudits et la population originaire d'Alaska et des îles Aléoutiennes, pendant la période d'exploration et d'occupation russe (de la fin du XVIIIe siècle jusqu'en 1867). L'auteur, sur la base de ses études en Russie, aux USA et au Royaume-Uni, a jugé que l'établissement de contacts était un processus très dynamique et utile pour l'exécution des levés hydrographiques et la compilation des cartes se rapportant aux eaux et à la côte de l'Amérique russe. Cet article montre que les tribus natives de ces territoires (Aléoutes, Esquimaux et autres) avaient créé leurs propres méthodes de navigation, à la fois originales et très élaborées.

Resumen

El artículo trata sobre los contactos entre hidrógrafos de formación europea y la población nativa de Alaska y de las Islas Aleutianas, durante su exploración y ocupación por los Rusos (a finales del Siglo XVIII c. – 1867). El autor, basándose en sus estudios cursados en Rusia, Estados Unidos de América y en el Reino Unido, ha encontrado que los contactos eran muy activos y útiles para los levantamientos hidrográficos y la compilación de cartas para las aguas y la costa de la América Rusa. El artículo muestra que las tribus nativas de estas tierras (los aleutianos, esquimales y otros) habían creado sus propios originales y muy hábiles métodos de navegación.

Russian explorers opening up new lands, passing through Siberia and then crossing the Pacific, were the first to bring about a meeting of Old and the New Worlds from the west. There were, however, essential differences between Russian contact and co-existence with native Americans, and that between western Europeans and Caribbean Indians.

The fifteenth century Columbian expeditions landing on the coasts of Hispaniola, Cuba, and other Caribbean islands found themselves in a totally alien ethno-cultural environment. Christian teaching at the time had no place for humanity outside the known world, and at first the Caribs were taken to be non-human in nature, but rather some kind of animal, which seemed to be a sufficient justification for their entire destruction. The Russians, while conquering Siberia and advancing to the east, had also spilt much native blood, but the character of this advance and their relations with natives were very different from those in the Caribbean in Columbus' time. Siberia, Kamchatka, the Aleutian Islands, and the coasts of Alaska had been colonised by Russia during a relatively lengthy period of time. Due to the slowness of this advance during the sixteenth to eighteenth centuries, the Russians in some way became included in the natural environment, and native customs, tools, and crafts became in some measure their own.

The natives' knowledge of their land was most important for the exploration and settlement of new territories by the Russians. From the first steps of their advance into Siberia, Russians learned to use the geographical information possessed by Siberian tribes, crucially, data on native place names for orientation in that unfamiliar environment. Thus, native toponymy had been sought, accepted as their own, and preserved, even if in defective form, by the Russians in their cartographical drawings and maps of the seventeenth and eighteenth centuries. Due to this tendency, old native geographical names may be found on modern Siberian, as well as on Alaskan maps.

Voyages of Russian *promyshlenniki* (Russian hunters and traders of fur-bearing land and marine mammals) in the eighteenth century differed considerably from those hunting and exploring trips of Siberians along rivers and along the Arctic coast which led them to the Pacific in the seventeenth century, but their experience, especially in the way of obtaining and applying native geographical information, was used effectively in these new conditions of ocean navigation. Thus they collected, used, and saved on their charts many native Aleutian toponyms, and utilised native skin vessels (kayaks) as well as indigenous methods of orientation and navigation.

The secret government expedition under Krenitsyn and Levashov (1768-1769) on board the *St. Paul* and the *St. Katherine* provided the abundant geographical data obtained by Russian hunters' expeditions with correct geographical coordinates, and verified them with the maps of Bering's voyages.

The instructions for the expedition emphasised the importance of using native information. Possibly for the first time in the exploration of the North Pacific, this manual proposed a method of field investigation based on native data. In carrying out these instructions, explorers were required to *ask the people of those lands about distances and directions from those new islands to the forested land, such as densely populated Alakshan, where the Russian trader Bechevin's boat had spent a winter, as well as to Kadiak and Tygachtana or Shugachtana. The Admiralty instruction was explicit on methods of using native information for compiling the expedition's new charts and maps, ruling that when such people or their neighbours on other islands point out to you directions in which other unseen islands were to be found, you should take compass bearings of those directions and enter them into your logbook. As regards distances, if they cannot be measured, you should enquire how long it would take to reach those islands.* [1]

The joint examination by Krenitsyn and Levashov in 1768 and 1769 of the north coast of the Alaska Peninsula is the first known voyage by educated Europeans in that part of the Bering Sea. Sixteen of the most experienced *promyshlenniki* took part in the expedition as official members. To survey the coasts of the Alaskan Peninsular, Unimak, and the Unalaska Islands, kayaks were used as well as native guides and information.

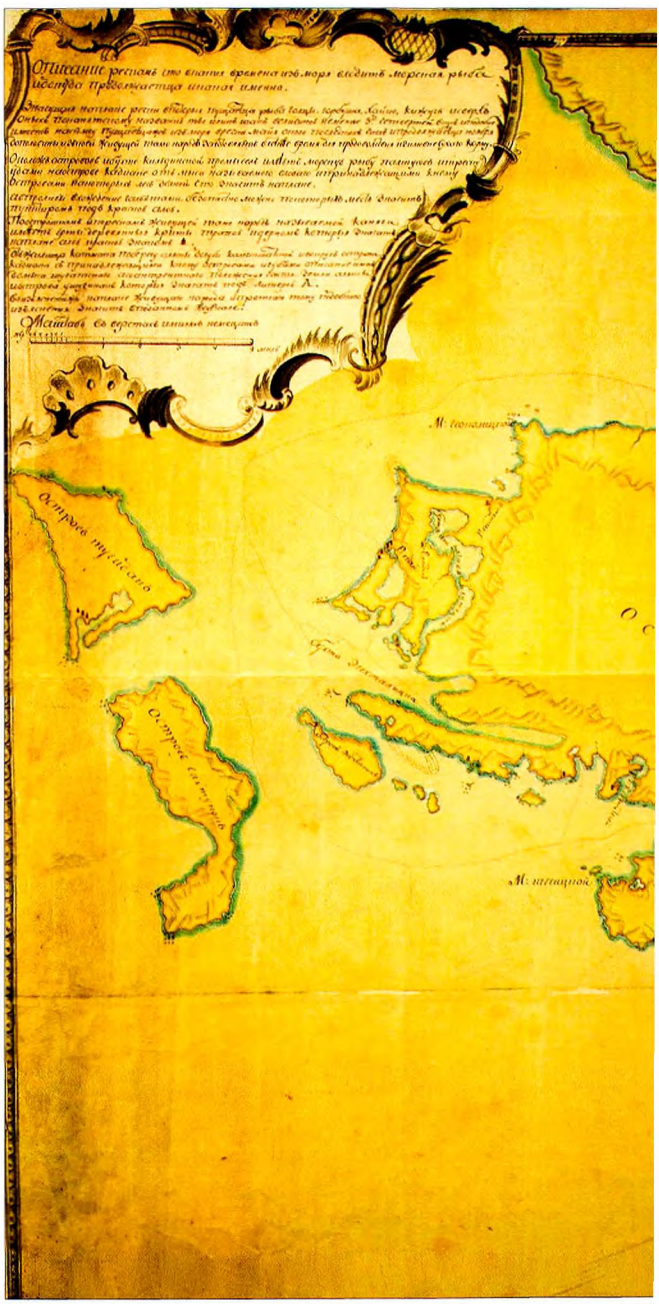
The first Russian map to acknowledge native information as its source was the map by the Cossack officer Ivan Kobelev (1779). Kobelev was sent to

the Chukotka peninsular to investigate rumours about foreign vessels (in fact Captain Cook's expedition) near its coast. While on the Diomed islands Kobelev obtained much real data on geography and the native villages of the northern part of Alaska. Kobelev incorporated all this information into his draft map, which he had based on a narrative by a native chief of Igellik Island. At the end of 1779 Second-Major Mikhail Tatarinov used the draft and Kobelev's report to compile a map of Chukotka and Alaska. [2]

The next example of instructions to use native information and experience when exploring the lands and waters of the Russian American colonies was a manual which Grigory I. Shelikhov handed to K.A. Samoylov on 4 May, 1786. This manual was in fact a detailed programme for exploration, acquisition, and mapping of these territories, as the Russian new domain. [3] Shelikhov ordered the widest use of native information for finding out the habitat of fur animals and locations of usable deposits of minerals and ores, namely, places where mica, crystal, the pigment for different paints, copper ore, corundum, limestone and good clay could be found. There should also be some study of the native population: *recording the number of their males and females by clans*, as well as collecting examples of the material culture and arts of the various tribes, such as - *masks, hats, wreaths, timbrels, knackers, and so on, also that good young Kinay and Chugach boys and girls should be identified for future transportation [to Russia], and training in Russian in order to serve as interpreters...* [4]

The expedition's navigators (such as D.I. Bocharov) had been ordered to continue a *precise survey* of new Russian lands with special attention to the native habitats in different seasons, for which they *should write down their proper names which would be obtained from the aborigines of those places, and they should not supplant those place-names by their own, so that these places would retain their native names in the future* [5] (underlined by author). In this instance we can see that Grigoriy I. Shelikhov confirmed in his official instruction the traditional practice of geographical place-naming which had been used by the *promyshlenniki* for a long time.

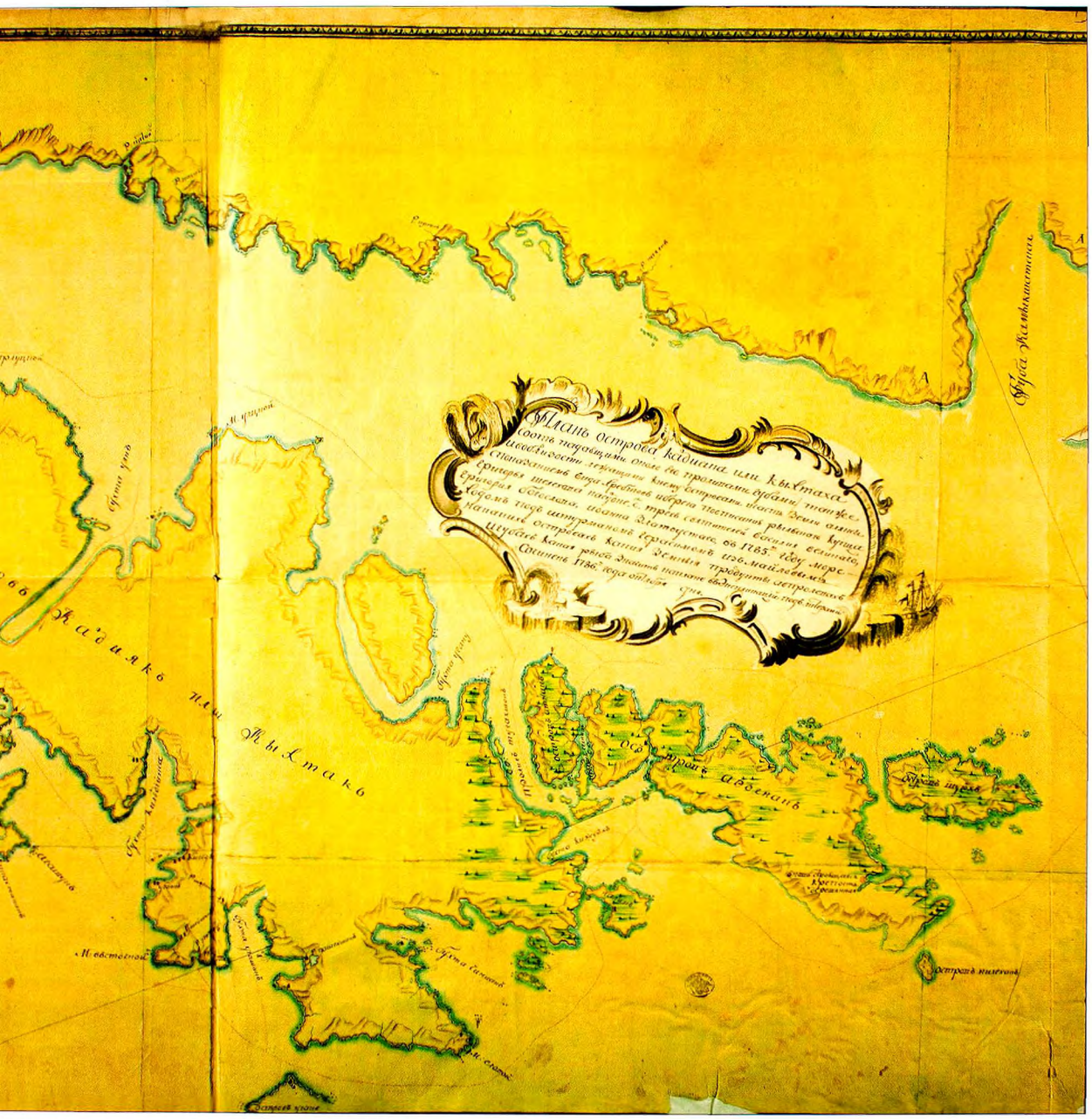
In the same period, the government of Catherine II outfitted a new expedition led by an English officer, Joseph Billings, who had sailed with Captain Cook, and the Russian officer Gavriil Sarychev. This enterprise lasted from 1785 to 1795. Though considered a failure because the expenditure outweighed the results, it nevertheless had a substantial record of achievement. Accurate maps were made of the Chukchi Peninsula of Eastern Siberia, the west coast of Alaska, and the Aleutian Islands. Members of the expedition landed on



A map of Kodiak Island surveyed in 1784 by navigators Bocharov a

Kodiak Island and made an examination of the islands and the mainland of Prince William Sound.

The Russian Admiralty's instruction for the expedition had stressed the necessity to study and describe the American and Siberian native customs, behaviour patterns and languages. In particular, the Admiralty insisted that questions were asked about *power, number, typical qualities, preoccupations and customs of the aborigines of the place, also to find out* [the general outline] *of those new regions; you should also compile dictionaries of those peoples' languages in the forms you are supplied with,* [6] *trying as much as possible to write down their pronunciation as with Latin, so with Russian letters; besides you are to get or, at least to draw and describe utensils, arms, dresses and examples of craft which are being used by those peoples...you*



nailov. Courtesy of the Russian State Military History Archives, Fond VUA, # 23441.

should find out about their worship, and those things which they are fond of, and members of your crew must be ordered to keep away from such things and to respect their privacy... [7]

The principal aim of the expedition was *the compilation of the most precise map of these islands by means of frequent determinations of their positions, a search for the best harbours being of the highest priority.* For the first time in a naval scientific instruction we find a recommendation for active use of native geographical information, together with more detailed methods of the employment of such data for map making. Thus the expedition members were ordered to discover where and how the natives travelled: *what are the names of places they are in the habit of visiting, and at what bearings and distances these lands or islands lie in respect to* [the place of informants' native places]? *And when they use their hands to indicate* [directions], *you should measure them in a secretive and precise way by means of a compass and write down their bearings in the log; as regards distances, if you would not get them from measurement, you should ask [the natives] how many days it takes to sail these stretches, so that If necessary you would be able to lay a course to reach these places.* [8]

Although their instructions specified the collection and use of native geographical data, the Russian Admiralty was less interested than the *promyshlenniki* in collecting and recording the native toponyms, a fact reflected in Shelikhov's instruction. Unlike Shelikhov, the Russian Navy's senior personnel had given Billing's expedition the *power to bestow their own choice of name on all newly acquired lands and islands, in the event that these lands previously lacked a name.* [9]

Most of the surveys conducted during the expedition were carried out by Gavriil Sarychev and his chief surveyor Geodesy Sergeant Osip Khudyakov who moreover succeeded in uniting the most scientific methods of surveying and charting with a comprehensive use of native information. They first obtained good proof of the reliability and completeness of such information. The secretary to the expedition, Martin Sauer, found that the natives had even created their own system of navigational marks and reference points, mainly in the form of stone cairns on the seashore, for use as beacons, *each native being obliged to put one more stone* [each time he happens to be at the spot]. [10]

Sarychev and his crew had actively used the natives' knowledge of their environment as well as their travel practices during their surveys of Unalaska, Umnak, Akutan and Unimak islands in 1791-1792. Khudyakov was helped by *Unimak's three toyons* (tribal chiefs on the Aleutians and in Alaska) *Galok Ek"yasnisanov, Chunnyuk, Tukkuiok, who readily agreed to accompany them to their place* [of survey], *together with one baptised tolmach* (interpreter), *Ivan Galkin* [11]

Sarychev compiled for Khudyakov detailed instructions on the survey and description of the islands and coastline of Alaska. This document included a contemporary manual on geodetic observations for finding the geographical meridian and magnetic inclination for a given location, and set out recommendations on coastal surveys undertaken from the land and from the sea. Due to the fact that the surveys would be made without any geodetic control on the coasts, and had to depend on only a few astronomical observations for latitude and longitude determinations, Sarychev, in his instruction, paid considerable attention to multiple measurements of angles between local reference points and cross bearings for creating a 'geometrical rigidity' for his maps. Consequently Khudyakov was to survey the coastline of islands and the mainland from kayaks: *After careful preparation you are to proceed from your initial point at the Illyulyuk village, where you must get some bearings, and you should sail near the coasts, taking bearings to some prominent features ahead, and frequently writing down distances to the coast*; [this coast you have to describe] *pointing out its height, and relief, whether it is rocky, or mountainous, or consisting of rows of hills, or just lowland. After taking the bearings, you should measure directions to all prominent places, especially to promontories points, river mouths, sea rocks, notable high mountains, and you have to obtain at least two or three cross bearings for every such spot, and particularly if they [are surveying subjects] are far away, you should select your bearings on long distances among them, so as to avoid very acute angles.* [12]

Sarychev's instruction called for detailed data on the nature of the hinterland and its population,

information which Khudyakov had to obtain from the natives of those territories. He was obliged to find out the *size of the male population, with their distribution and livelihood in different villages...* He had to ask about *"burning mountains"* [volcanoes], *big rivers and lakes, obtaining their approximate bearings and distances, and their locations.* In addition, Khudyakov was to find out the spatial distribution of various animals, and the locations of forests where timber for shipbuilding could be cut and firewood gathered. He was required to obtain all this data while *trying not to bring any offence to the islanders, and he should ask for their help with signs of friendship and appreciation.* [13]

The author has studied at the Russian State Navy Archives Khudyakov's original travel logs, which show that he carried out Sarychev's instruction to provide detailed data on the nature of the hinterland and ts population accurately, and a creative effectiveness. [14] He worked tirelessly: if the *toyons said that the sea was stormy, and the wind was strong,* Khudyakov made a land survey using data obtained from the native population; the use of all such native information was recorded in his travel logs, and mentioned in his detailed comments on relative accuracy of his surveys across the region.

On one occasion Khudyakov was compelled to stop for a relatively long time in Chingangalyuk village on Unimak Island, because toyon Gallon Ek"yagiksanok together with other Aleuts had told the Russians, that *in November it would be dangerous to sail on board a baydara* [unimak] *by the northern sides of the islands due to severe storms and the absence of convenient places of refuge for a baydara, while in December there would be a regular quiet period...* [15] Khudyakov used the enforced interval for a detailed exploration of Unimak Island with the help of an Aleut guide.

The natives had been very helpful in providing the expedition's crew with other seasonal marine and meteorological data in the regions where they were active. Thus, as the expedition sailed through Isanok Strait, its main informant *toyon* Pankov told Russians that *in the season the Northern winds were pushing ice into the Strait, which fact was confirmed by Aleuts from a <seals>' village who stressed that at the time ice in Isanok was being driven by tidal currents in different directions which made it impossible to use a unimak for transportation.* This information forced the expedition leader Khudyakov to send his crew to Unalaska so as not to endanger his peoples' lives, while he himself left the village of Pogromnoe on board a kayak *to reach the place which had been ordered him as his goal in the expedition's instruction.* [16]

The Unimak's toyons acted mainly as Khudyakov's comrades, guides and "providers" during his travel down by the southern coast of Unimak, which he had begun on 4 February, being unable to proceed near the northern coasts, because the Aleuts told him about impassable ice near those beaches. On 1 March, he was told that, *although the wind would be not so strong, the waves would not let* [the party] *to proceed for a long time, so it would be better to cross by the northern side* [of the island], *where it would be possible more quickly, to find good weather for crossing the* [Isanotsky] *Strait,* [which advice he accepted] *and decided to carry the kayaks to the north side of the Island tomorrow, while he would survey the land.* [17] Khudyakov completed his task successfully, and with his survey of the Unimak coast of the Isanotsky Strait finished In March, he joined the Aleuts who were waiting for him on the northern coast of Unimak; on 6 April he crossed the Strait with them to reach the Alaskan peninsula on the American mainland. Khudyakov's surveys greatly improved the map of Unimak Island and of Isanotsky Strait, places explored for the first time by the Krenitsyn-Levashov expedition in 1768-1769. The data on hydrography and meteorology of the coastal waters of Unimak, which Khudyakov had obtained from the natives, was of great importance.

In total, Khudyakiv had achieved a great deal in mapping and describing the new Russian acquisitions in America. He undertook a hydrographic survey of Capitan's Harbour in Unalaska Island, and explored Amaknak, Unimak and Oleniy islands, as well as part of the Alaskan peninsula.(18) On the basis of these surveys at least two maps were compiled: *Flat map, oriented with the help of a corrected compass, which shows a region from Isanok Strait up to a part of Unimak Island and Flat map of the Aleutian Island of Naunalaska* [Unalaska] *and a strait between that island and Spirkin, Unauga, Yakutak, and other islands, 1792.* [19]

Missionaries of the Russian Orthodox Church studied the Russian American natives' geographical

perceptions very thoroughly. Ieromonk Gedeon, who in 1804 had been sent to examine the clergymen's activities in Kamchatka and Russian America, succeeded in collecting detailed data on the cosmographic notions, the history and the former migrations of Kodiak's inhabitants based on their oral tradition. On the origin of the Kodiaks, in particular, he learnt that *People of Kodiak, as the older folk stories tell, came to Kodiak from Alaska. Their ancestors were previously living on the northern side of Alaska near the big River Kwignat. A person named Atlyuvatu was their anayugak (master). He had only one daughter, who disappeared without trace. To find her he collected his party together with another anayugak called Yakunak; they travelled a long time through different places, reaching the southern side of Alaska, where they beheld a land and named it Kigikhtak which means in their language an island. Kodiak had been known by this name prior to the period when the Russians arrived. Then Atlyuvatu and Yakunak became curious about the island, and finding that it was profitable, they persuaded others with all their families to move to Kigikhtak. A similarity between the Alaskan and Kadiakan languages confirms the truthfulness of the story.* [20] This description shows the wide geographical outlook of Kodiak's natives. The author would even like to put forward a suggestion that the description may be included as part of the earliest evidence concerning the great American river Yukon, which was mentioned as the big River *Kwignat*. This name was very close to those (*Kwikpak* and *Kwikhpak*) which would be used for the Yukon in the subsequent Russian sources.

Gideon also wrote of the Kodiak beliefs concerning creation, and that they held the notion that *There had lived a Kishshyakhilyuk (wise man or cunning person), and at that time there was no day, or night. He began to blow into a straw, which action resulted in a step by step growth of the dry land from the water, which land was being imperceptibly enlarged, and while he continued to blow, the sky opened, the sun began to shine, and after the night had come, the stars appeared and the Moon came up; and finally they beheld animals and men.* It seems to the author that such a colourful description of the world's creation was closely connected with the living style of Kodiak's Eskimos who were sailors and hunters of sea animals, for whom an image of a land rising from the sea and widening on the horizon was practically an everyday sight. Father Gideon showed that their experience of sea voyages had led the Kodiakans to conclude that the Earth is round. He related: *About the roundness of the Earth they concluded from the following event - their forefathers had sent two kayaks with youngsters, who returned as old men, but could not find an end of the Earth, so they stressed that the Earth had no end, and so due to this fact concluded that it should be round.* [21] Besides these general concepts of their environment, Gideon pointed out that Kodiak's Eskimos had transmitted from generation to generation a unique knowledge on local conditions of navigation throughout the coastal waters of Alaska, the art of weather forecasting being one of the important elements of this knowledge. On the latter subject the Russian monk recorded that a *diligent hunter often would go out in the night to look at the clouds and to predict the weather, and depending on his observations he would plan his hunting* [time and course]... [22]

The great Russian religious authority, enlightener of Alaska, Father Ioann Veniaminov (Ivan Evseevich Popov), later to be the Moscow Metropolitan and Saint Innokentiy (1797-1879), had paid considerable attention to the geographical notions and skills of the natives of Russian America. So, discussing a possibility of discovering new islands, Veniaminov cited the Aleut tales about an island *Aklyun*, which was rumoured to be situated somewhere to the south of Samalga Island. Although later explorations would prove that no such island was to be found there, Veniaminov's information on Aleut methods of orienting to reach this or other islands unveils some of the techniques of native coastal navigation and sailing in an open sea without visible coasts. He explained, Their first course was *guided by positions of the islands Samalga and Chetyrekhsopochnyys, keeping the first* [island] *astern, and the second* [island] *behind their right shoulder...In this direction they sailed until the Chetyrekhsopochnyys islands disappeared; then the Aleuts would leave behind them some marks or beacons, using for such purpose an ordinary inflated seal's bladder with stones as anchors. From the first mark, taking into consideration the direction of the sea waves, they would sail until this mark faded, at which point they would leave the second mark; and after reaching the third mark Aklyun Island would be seen.* [23] This pas-

sage shows that the Aleuts used their knowledge of relative positions of islands to each other as a basis for orientation during their sea voyages, likewise the state of the waves near the coast of these islands, such as the direction of waves fronts, and perhaps the refraction and interference caused by their meeting with beaches. Variations on such methods were known to be used by many other coastal people who supported themselves by hunting sea animals and fishing. An example would be the well-known Marshall Islanders' sea charts, where a framework of canes is arranged to indicate prevailing winds and currents. [24] Regrettably, no native maps from the period of the Aleutian first contacts with Russians have yet been discovered. Nonetheless, we can be sure that the Aleuts had a good knowledge of the geographical details of their homelands, and could formulate mental maps of these regions. Veniaminov emphasised many times in his works, that the Aleuts had been thoroughly aware of natural features of their waters, with which all their lives were inseparably connected. For instance, he wrote that *on the sea they would always note the height and speed of a wave, and they would always distinguish simple waves with breakers in the open sea from waves on a shoal or on a rock.* [25] Veniaminov was impressed both by the remarkable strength and endurance of Aleuts in their sea travels, when they could row for 14-20 hours a day without rest, and with the unusual sharpness of their eyesight, which the Aleuts themselves explained as a result of their practice of eating no salt. [26]

Like all his predecessors, Veniaminov pointed out the considerable ability of the Aleuts to absorb scientific methods of navigation, and he noted that *those of them* [Aleuts] *who had had an opportunity to study navigation, were looked upon as knowing their craft. For instance an Ustyugov, who was a born Aleut, had such a good knowledge, and his chart of the Nushagak River (which was the first of its kind) is seen to be very correct.* [27]

Besides relying on the outline of the coast and the directions of the waves for their orientation, the Aleuts had some elementary notions about the possibility of finding their positions with respect to cardinal directions on the globe from observations of the movements of Sun and Moon movements. Veniaminov learnt that *As regards the Sun they had understood that during its solstices, it remains in its place two and a half days, while before and after this it moves slowly. About the Moon they said that it could be seen on the third day after its birth, and their astronomers could show a point on the horizon or on the sky for each new Moon where it should set during a whole year.* [28] The Aleuts also knew of the connections between the Moon's phases and tides in the ocean. This knowledge informed their ideas about the course of the year. This was divided into four seasons and further divided into *months, beginning from March, the New Moons and the Full Moons in March and other months being found by them through observations of tides and changes in the velocity of sea currents.* Their calendar was conditioned by natural phenomena: *Each month had obtained its name from the hunting of different kinds of animals and their availability in a region, or from some other* [local] *circumstances, and so, the names of the months were not everywhere the same.* Veniaminov emphasised the Aleuts' knowledge of local hydrological and meteorological conditions and their weather forecasting proficiency. On this he relates: *It should be said here, that there were people among the Aleuts in the past, and some even today, who can forecast the weather and especially the winds. The most helpful signs which they used to forecast weather for the next day were primarily the sunset and the following morning's sunrise, such signs being enough for an expert to say, without doubt, what the coming day would be like. They were so intently watching the changes in colours of the first light, that they called this process <<speaking>> with the Sun and the dawn.* [29]

The Russian naval officers N.A. Khvostov and G.I. Davydov, who had been in Russian America in 1802-1803, were very interested in the cosmographic notions, and the astronomical and geographical knowledge of the native people of the Russian colonies. Davydov was especially impressed by their seagoing skills. He described the Kodiakans in the following way: *Using their senses, they sharpen them to such a perfection which would not be understood by the Europeans. They sail on the sea with the same confidence as if strolling on dry land: there were many times when I sailed with them crossing relatively wide straits in stormy, misty or snowy seasons, and we sailed directly to our destination, finding the villages without having made any mistakes. Many of the Kodiaks can accurately predict fair or stormy*

Two watercolours of Russian American coasts (Island Kodiak and nearby) taken by some Russian painter (may be L.A. Voronin, who participated in the Sarychev-Billings expedition) or some members of the 'Neva' of the First Russian Round the World Expedition in 1803-1806). Courtesy of the Russian State Navy Archives, Fond 1331, opis' 3, # 61.

weather. Those who plan to hunt far out to sea, rising before dawn, would look out at the sunrise from their houses, or from a hill, and decide whether it would be worthwhile to sail or not. This custom became so much their habit, one could say even their way of life, that it is a rare good morning when natives would not give their full attention to the rising sun, so as to sharpen their art in weather forecasting. It might be thought that some religious belief has been the reason for such behaviour, but I am absolutely sure to the contrary. [30]

Davydov especially underlined the unique practical proficiency of the natives in orientation and safe sailing in the difficult meteorological and navigational conditions of Alaskan coastal waters, saying that *if you found yourself in a dangerous place at night, or in a mist, you should not worry, if you had an American at the prow of your boat; because he will see rocks far ahead, and it is amazing how they could spot them even in stormy weather, when the sea is just as full of waves and as white as in places with underwater rocks.* As a professional navigator Davydov was also astonished how quickly the natives could fix in their memory the sailing conditions in regions which were new to them, so that *in an inlet where Konyaga had sailed* [once] *he would know all the rocks, and you could depend on him as on the most sophisticated pilot.* [31]

The participants of the first Russian circumnavigation (1803-1806) under I.F. Kruzenshtern and Yu.F. Lisyansky also made copious use of the geographical knowledge and navigating skills of the Russian American native population. The expedition spent a winter on Kodiak Island and *Neva*'s crew used this time for scientific and ethnological observations, the result of which would be reflected in the expedition reports and in the book written by Lieutenant-Captain Lisyansky. *Neva*'s captain used native information extensively for his description of the Russian American colonies.

Despite his relatively brief visit to the colonies, Lisyansky was able to find much evidence of the natives' deep knowledge of natural features of their environment, and of their competence in weather forecasting. In April 1805, during his kayak trip to Ugak Island, Lisyanky had ignored a local toyon's advice to spend a night on the island. The toyon tried to persuade him that *after a short time the North-Eastern wind would begin.* Lisyansky did not believe this information, and, as a result, he was thoroughly soaked on his return trip to St. Paul Harbor, because, as the toyon had forecast, *the strong wind from the East had commenced, and it produced waves so high that they continually washed over the kayaks* [32] Speaking about the native's seafaring expertise Lisyansky noted, for instance, that Kodiak's natives *could sail without any danger more than one hundred versts* in their leather kayaks. [33]

L.A. Zagoskin's expedition in 1842-1844 had shown the extreme importance for the Russian explorers of the aborigines' knowledge of their land. Native information holds a very prominent, and sometimes even leading place in the contents of Zagoskin's field diary, because the traveller found it to be reasonably trustworthy and accurate. Even on the early stages of the expedition, discussing Mikhaylovsky fortress, he noted that *In the period when the redoubt was being founded, one native woman from a nearby settlement advised the Russians not to settle on that location, telling them that she remembered two occasions when the spot had been flooded. Her words had been considered as a fantasy, but her story was later confirmed by finding huge half decayed trees that had floated to the relatively high spots of the island situated at a distance more then one mile from the beach.* [34]

Zagoskin's experience had proved that the native geographical information being, as a rule, pretty dependable, its scientific usage required a thorough analysis and a good understanding of these peoples' notions about a terrain; it was also necessary to comprehend their style of narrating their travels. He underlines, that *A Native recounting his travel, would not miss anything (places where he smoked his pipe, drank water, saw some animal, and so on), and for each of these episodes he would crook his finger, counting in this way the number of his rests or stops; even those who understood this way of narration should be very careful with its use, but how could I take as authoritative that by counting these fingers, I would get, say, ten days travel for ten crooked fingers? But conclusions of such kinds could be found in many travel descriptions* [published] *not only in Russian.* [35]

L.A. Zagoskin had found that Kolmakov's fortress was not defended with any walls or towers, which situation he explained by the fact that L.A. Lukin

and all his relatives were totally 'included' in the surrounding natural and ethnic environment. The following extract from the expedition's travel log explained this setting: *Had Lukin himself, being married to a native woman from Ugavik settlement, or all his party being themselves or through their wives connected with natives of the five settlements pointed out by me, to be afraid to be killed by their relatives?* [36] Besides, Lukin and Kolmakov had, by that time, baptised the majority of the local natives as Russian Orthodox Christians.

Up to the time when Zagoskin's expedition reached Kolmakov's fortress, the Division's hunting and trading activities had established a regular character, although each systematic trip into the mainland regions would bring new information on the geography and the population of continental Alaska. Notwithstanding the fact that this new data was not necessarily recorded in a description or a map, all fresh facts were being included step by step into some general stock of knowledge which could be defined in modern terms as a *Traditional Geographical Information System*. This system was being used by the natives as well as by the employees of the Russian American Company. The volume of information being added each year can be judged from the fact that to undertake the regular winter and summer trips from Kolmakov's fortress, from 40 up to 60 native guides had to be recruited each year. [37]

On his way to Kvikhpak, in the Kkhal'kas-myut settlement L.A. Zagoskin made an interesting observation, which proved that the native population had developed a sophisticated system of ecological traditions and restrictions. The expedition's team had witnessed the beginning of the upstream migration of the fish, and they found that *due to the natives' custom to fish during their migration they should not be troubled by any noise from people working on the river banks, so that they* [natives] *carried out all their activities far from the settlements and the river banks. Inhabitants of Kkhkhal"kag-myut had followed this tradition very strictly*, but they made an exception from this rigid rule to give the travellers an opportunity to get provisions. [38]

The famous *Atlas of the Northwest Coast of America from Bering Strait to Cape Corrientes and the Aleutian Islands...with Hydrographic Notes...* compiled by Captain of the First Rank M.D. Teben'kov (1852) yields many examples of native information contributing to its maps and descriptions. So Teben'kov mentions on many occasions that he has used Inuit and Aleut map sketches and oral information when compiling his maps, which, besides many other features, has saved for the future generations many aboriginal place-names. In his *Hydrographic Notes* Teben'kov not only frequently pointed out the validity of the native map drawings and descriptions informing his maps and charts, but he also underlined the correctness of the natives' observations of natural processes in their home environment.

As an example the author would like to quote the following description of the abrasion and transportation of deposits caused by tides in the Kenay inlet: *The tide does not leave the ice in peace, it crushes it and sometimes it lifts huge stones, which will be carried in spring in this ice prison all over the inlet. The natives told* [us] *that such stones even had built the reefs near Chernoburyy Island in times not long past..* [39]

In conclusion the author would like to underline that the facts discussed in this paper bear witness to the outstanding importance, both of contacts between Russian colonists and explorers of Alaska and the Aleutian Islands, and the inhabitants of these lands, in the process of obtaining correct information on territory and in using this data to compile geographical maps and descriptions. Such contacts helped to develop the scientific basis for European hydrography, geodesy, and cartography, by adopting specific methods of surveys and descriptions, which took note of aboriginal traditional knowledge about their environment, their skills in orientation and the use of their own natural resources. The experience of exploration and settling. Russian American territory showed that natives and creoles who had been trained in European methods would become exceptionally useful and affective assistants for the Russians in the exploration of nature and the population of this sole overseas Russian colony.

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[4] AVPRI, Fond 339 (RAK), opish 888, # 46, Fols 1 verso, 6

[5] AVPRI, Fond 339 (RAK), opish 888, # 46, Fol 8

[6] Forms see in: RGAVMF, Fond 214, opis' 1, # 1, Fols 86-92, 94-97

[7] Cited in *Russkie ekspeditsii po izucheniyu severnoy chasti Tikhogo okeana vo vtoroy polovine XVIII v.* [Russian expeditions for North Pacific Exploration in the second half of the XVIIIth c.] (Moscow: Nauka, 1989): 211, 214

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[15] RGAVMF, Fond 913, opis' 1, # 279, September 7, 1791 - April 22, 1792. Fols, 2 verso; 3 verso, 38 verso, 39 verso

[16] RGAVMF, Fond 913, opis' 1, # 279, September 7, 1791 - April 22, 1792. Fols 65 verso, 70

[17] RGAVMF, Fond 913, opis' 1, # 279, September 7, 1791 - April 22, 1792. Fols 72, 81-82 verso. I have cited the clerk's copy of Khudyakov's travel log. The original is stored under call number: RGAVMF, Fond 913, opis' 1, # 280

[18] RGAVMF, Fond 913, opis' 1, # 199,Fols 278-280

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