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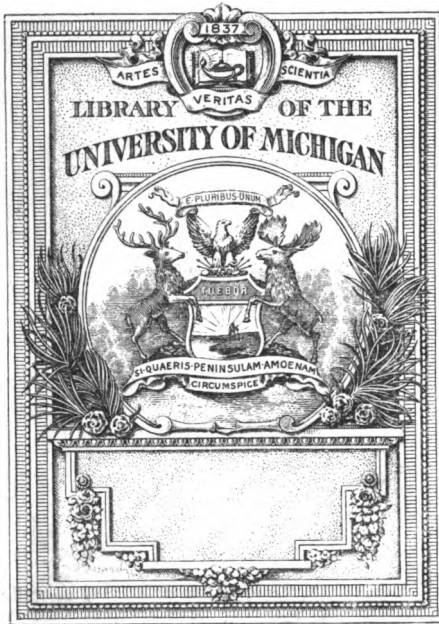
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Report - Search &c.

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REPORT
OF
LIEUT. GILES B. HARBER, U. S. N.,
OF HIS
SEARCH FOR THE MISSING PEOPLE
OF THE
JEANNETTE EXPEDITION, ETC.

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LETTER

FROM

THE SECRETARY OF THE NAVY,

TRANSMITTING

Report of Lieut. G. B. Harber, U. S. N., concerning the search for the missing persons of the Jeannette Expedition, and the transportation of the remains of Lieutenant-Commander De Long and companions to the United States.

MAY 28, 1884.—Referred to the Committee on Naval Affairs and ordered to be printed.

NAVY DEPARTMENT,
Washington, May 26, 1884.

SIR: I have the honor to transmit herewith the report of Lieut. Giles B. Harber, U. S. N., concerning the search for the missing persons of the Jeannette Expedition, and of the transportation of the remains of Lieutenant-Commander De Long and companions to the United States.

Accompanying the report are translations of addresses made by Russian officials at different points of the journey across the Russian Empire; also a chart of the country passed over by Lieutenant Harber and party.

Very respectfully,

WM. E. CHANDLER,
Secretary of the Navy.

Hon. JOHN G. CARLISLE,
Speaker of the House of Representatives.

REPORT OF LIEUT. G. B. HARBER, U. S. N.

WASHINGTON, D. C., May 1, 1884.

SIR: I have the honor to submit the following report of the search made by Lieutenant Schuetze and myself for the missing people of the Jeannette, and the bringing home of the remains of Lieutenant-Commander De Long, the officers and men under his command, who perished in the Lena Delta. For a detailed account I respectfully refer to the journal this day transmitted to the Department.

To this report are added notes relating chiefly to the Yakutsk district and people, written by Lieut. W. H. Schuetze.

Copies of the orders under which Lieutenant Schuetze and I left the United States, a copy of the telegram directing me to bring home the bodies, a table of distances traveled, and a chart of the Lena delta, showing the track of our search parties, are appended.

So far as they could be obtained, the addresses delivered on occasions of ceremony, in honor of the dead, photographs of the catafalque in which the bodies lay in Irkutsk, and a photograph of the car in which the remains were borne from Orenburg to Wirballen, are also appended.

In accordance with these orders I sailed from New York on the morning of the 4th of February, 1882, and after a somewhat stormy passage, arrived in London on the morning of February 14. Mr. Schuetze, who had been ordered to accompany me, was not able to reach New York in time to take the steamer Germanic, but sailed in the Oder and joined me on the morning of February 15, in London. Upon applying to Mr. B. F. Stevens on the morning of the 14th of February, I received the following dispatch:

When Schuetze joins you, go to Paris and confer with James Gordon Bennett on your way to St. Petersburg.

HUNT,
Secretary.

My answer was:

Arrived this morning. Will proceed to Paris when Schuetze reports.

During the day I visited the rooms of the Geographical Society in search of information concerning the north coast of Siberia, and the Herald office, to learn the latest news pertaining to the Jeannette people. Also made a few purchases of clothing and navigation instruments, which I thought would be necessary.

The Herald agent in London sent the following dispatch to the agency in Paris:

Lieutenant Harber en route to Irkutsk has arrived, and is ordered by the Navy Department to confer with Mr. Bennett. He will leave Wednesday night.

Mr. Schuetze having joined me, as stated, on the morning of the 15th of February, I sent the following dispatch to Secretary Hunt:

Schuetze arrived this morning. We go to Paris to-night.

Leaving London at 8 p. m., we arrived in Paris at 6 a. m., February 16. Soon after I called upon Mr. Ryan, the Herald agent, and learned that at last accounts Mr. Bennett was in Pau. I therefore sent the following dispatch to Mr. Bennett:

Have arrived with instructions from Navy Department to confer with you. When will you be here? Answer immediately; great haste.

HARBER, *Lieutenant.*

To the Secretary of the Navy I sent the following:

Bennett in Pau; telegraphed him from London and from Paris. Shall I wait a day or two for his return if he can come?

In the evening I received the following:

Use your discretion about length of time in Paris.

HUNT, *Secretary.*

Receiving no answer from Mr. Bennett, I determined to remain no longer than the morrow unless an interview with him was assured. At 3 p. m. on the 17th, Mr. Ryan, the Herald agent, received the following dispatch:

Give my compliments to Lieutenant Harber, and tell him that it will be impossible for me to be in Paris within next two or three days, and that as he seems to be in great hurry he had better not wait, unless he has something of importance to communicate which cannot be telegraphed. Tell him that Mr. Sibiriakoff, owner of the steamer Lena, has kindly tendered her to me, but that the Herald correspondent will, of course, turn her over to Lieutenant Harber, as commander of the search, to which I suppose Mr. Sibiriakoff will have no objection. Will Lieutenant Harber kindly let me know what his intentions are, as I may be able to suggest something? Danen-

hower's last dispatch says Melville has started from Yakutsk January 13, with three parties, headed by Nindemann, Bartlett, and himself, and that they would be on the ground by March, and not leave a stone unturned, searching every inch of territory. All that Lieutenant Harber can do, therefore, will be to conduct a supplementary search for Chipp after the river opens in May or June, by which time, no doubt, Melville will have found De Long. Telegraph me; answer as soon as possible.

BENNETT.

I answered:

Have read dispatch with interest. Information concerning steamer *Lena* and parties already started very useful. Will communicate with Mr. Sibiriakoff. Will gladly receive any suggestions from you. No special communication to make you. Only desired to confer; my instructions leave everything to my judgment. I deem it necessary to leave this evening. Communicate with me through Hoffman any fresh information which may arrive regarding Danenhower's movements.

HARBER,
Lieutenant.

Also cabled Secretary of Navy as follows:

Bennett cannot come for two or three days. We proceed to-night.

HARBER.

At 8 p. m. left Paris for Berlin and St. Petersburg, arriving at the latter place at 8 p. m. February 20. This journey was made without special incident, except that during a conversation with a gentleman who had been to Irkutsk, he strongly recommended that our furs and fire-arms be purchased in St. Petersburg.

Soon after arrival Mr. Schuetze and I called upon Mr. Hoffman, United States chargé d'affaires, who at once gave us all the information he had concerning the missing people of the *Jeannette*, and movements of Lieutenant Danenhower and Chief Engineer Melville. There was, however, but little of importance that I had not learned before leaving the United States, or from Mr. Bennett's dispatch. From Danenhower's last dispatch to the minister I learned that he was still in Irkutsk, and that although his left eye was ruined, his right eye would be well in a few days. He said, "I can be very useful in summer search for Chipp. I know the ground."

I telegraphed Lieutenant Danenhower, giving him the substance of my orders, and requesting to be kept informed of his movements. The following day, in company with Mr. Hoffman, we called upon Count Ignatieff, the prime minister, General Anuchin, governor-general of Eastern Siberia, and the minister of marine. Each of these was very kind and promised to do all in his power to assist us.

In the afternoon I received the following dispatch from Danenhower from Irkutsk:

Will proceed west slowly with nine men, if eyes permit, next Monday. Have gathered all data and will meet you at Tomsk. *Lena's* owner wants 30,000 roubles for entire spring and summer. My plan was to man her with our own men and search for Chipp. Bennett telegraphs that Jackson will have her. Jackson will arrive in three days. What are your relations with him? If you take *Lena*, I strongly advise keeping our men. Bring small navigation outfit. Send mail care governor at Tomsk.

DANENHOWER.

Vice-Consul Hutton kindly acting as interpreter, I spent the remainder of the 21st and the whole of the 22d of February in purchasing fire-arms, ammunition, nautical instruments, clothing, &c.

I also called upon Baron Ostensacken, president of the Geographical Society, who supplied me with maps of Siberia and gave me much information concerning that country. I accompanied him to the hydrographic office, where the admiral furnished me with several charts and nautical almanacs. The baron presented me to Mr. Smith, the academician, who had journeyed in Siberia, and Mr. Muller, who had but

ately returned from the region of the Lena delta, and who kindly gave us useful information.

By the advice of all with whom I conferred, I selected a courier interpreter to accompany us.

In the evening I received a special road passport from the prime minister. The following day, February 23, I completed necessary purchases, drew on Seligman Bros., London, for the balance placed to my credit, cabled the Secretary of the Navy my immediate departure, and at 7.15 p. m. set out for Moscow, arriving at 10.30 a. m., February 24. Proceeding at once to the Orenburg depot, I found that tickets for Orenburg would not be sold because the road was blocked with snow, and as the thermometer was then standing 40° Fahr. below zero, it was impossible to say when the road would be open. I determined, therefore, to go via Nizhne Novgorod, and accordingly notified the United States minister and Lieutenant Danenhower of the change in my plans.

Since the train for Nizhne Novgorod would not leave before evening, I called upon the United States consul, Mr. Weber, also the French consul, M. de Lagrené, and with the latter called upon his excellency the governor-general. Mr. Sibiriakoff was not in the city.

At 8 p. m. left Moscow, and arrived at Nizhne Novgorod at 10.30 the following morning, February 25. I here made purchases of sleds and articles necessary for use on the road. Our personal outfit was found to answer every purpose for the post road, though a very different one became necessary later. For each it consisted of a "dacha" or heavy fur coat, felt stockings, and felt boots reaching to the hips, and a fur cap coming down over the ears; we wore also a pilot cloth suit and heavy Scotch woollen underclothing. The dacha was made of reindeer skin, with the hair outside, and lined with Arctic fox skin. This was a very warm garment and perfectly protected the wearer for three or four hours in a temperature of -50° Fahr. The sleds were half filled with hay, over which was placed a heavy piece of felt and a sheepskin robe. Another robe of sheepskin covered feet and legs. When the weather was very cold, faces were protected by an arshénik, a sort of long boa made of squirrel tails and wrapped about the neck and face.

From four to six good pillows are almost a necessity to support the body in the different positions which it must assume in long journeys. The sleds are usually six or seven feet long, and permit the traveler to recline at full length when he desires so to do. The more comfortable form of sled, called a kabitka, is fitted with a top and apron resembling those of a carriage. Personal effects are usually carried in soft leather trunks which form the seat or bed of the traveler. The entire outfit may be purchased in Nizhne Novgorod or Orenburg.

On the journey home we found the use of a mattress over the baggage was a great help to comfort, and also that one end of the covering robe should be made into a bag for the feet and legs.

Fire-arms and ammunition for the journey were purchased in St. Petersburg, and it proved to be best. Fire-arms of many kinds are kept for sale in Irkutsk, but there are very few from the establishments of good makers.

At 10 a. m. the following day I called upon his excellency the governor, and left word that we would start for Irkutsk at 12 o'clock, noon. As we were about to get into our sleds we received invitations to dine with his excellency, but feeling obliged to make all haste we declined with sincere thanks, and at 1 p. m. commenced our sled journey.

In consequence of the considerable amount of baggage, clothing, fire-arms, ammunition, &c., and of having an interpreter to accompany us,

it was necessary to travel in two sleds, to each of which the condition of the roads and the necessity of traveling fast made it desirable to attach three horses. The road proved fair, and during the first day we found our average speed was a little over eight miles per hour. The road soon became bad, our progress slower, and we were exceedingly uncomfortable.

We passed through Kazan February 28. The road between Kazan and Perm was extremely bad. In consequence of the vast amount of transportation in sleds, the roadway was cut by a series of ditches from two to four feet deep, extending from side to side. Frequently meeting transport trains caused us to leave the roadway, and often we were plunged into deep snow-drifts, from which we were extricated only with great difficulty. Every advantage was taken of smooth places, and yet for many miles our average was but three miles per hour. However, as we neared Perm better roads enabled us to make eight miles per hour.

Reaching Perm at 3 p. m. March 3, we crossed the mountain to Ekaterinberg by railroad, reaching this place at 5 o'clock next day. We were met at the depot by the acting governor, who afterwards delivered to me the following dispatches:

I am waiting for a telegram from Bennett for the case Lena and Sibiriakoff. General Ignatieff, whom I saw yesterday night, ordered immediately to wire the advice of your arrival in Ekaterinberg.

WOESTYNE.

Bennett was wrongly informed by his proxy concerning the Lena, which no longer belongs to Sibiriakoff; however, he will try to buy and place her at your disposition on your arrival at Irkutsk.

WOESTYNE.

Will wait your arrival here (Irkutsk). Bring mail from Tomsk.

DANENHOWER.

After calling upon the acting governor and receiving his visit, set out at 10 p. m. by sled.

The journey to Omsk was made with good speed notwithstanding bad roads. It was unattended with any special incident further than that frequent inquiries were made by the officials to learn if all was passing satisfactorily. The country was slightly rolling, and but few trees or bushes were to be seen. The poverty of the people seemed to be great. Seldom more than black bread, milk, and tea could be obtained at the post stations.

The weather, however, was generally cold, and at times the wind blew strong, causing the snow to drift, so that in the morning we sometimes found ourselves buried under a few inches of snow, from which our clothing perfectly protected us.

We reached Omsk at 4.30 p. m. March 9. At once called upon his excellency the governor-general, with whom we conversed in German, but no further information could be obtained. In the evening I received from his excellency a paderozhnaya (order for post horses), and at midnight set out again. After a time the roads proved good, and 200 versts were made in eighteen hours. On the 11th of March, considerable snow having fallen, the roads became heavy; the drivers seemed careless and paid little attention to our desire to travel rapidly. At the stations they were slow in changing horses, and on the road refused to urge them. At Kainak I stated these facts to the chief of police, who at once started a messenger ahead to order that horses be in readiness. He also sent with us a soldier to see that his orders were carried out; and from this time to Tomsk we met with no further difficulty, although the roads be-

came even heavier. The snow was deep, and in different places roofs of houses barely showed above the roadway. In such cases an inclined plane of snow formed the path to the doors of the houses; a sort of shaft in front of the windows permitted light to enter. In other places, however, the roads were so swept by the wind that the earth was nearly bare. Along this part of the route it was necessary to have six horses attached to each sled.

Tomsk was reached at 7.30 p. m., March 13. About 700 miles were thus made in less than four days. Having passed the governor of Tomsk on the road, we called upon the vice-governor. After driving to the residence of the governor to inquire for mails and telegrams, we returned to our room and found the vice-governor awaiting us. He informed us that Lieutenant Danenhower had already left Irkutsk, and since we had received no notification of this, he telegraphed to stations that when Lieutenant Danenhower should arrive at any of them, he should be requested to communicate with us, addressing care of Governor of Krasnoyarsk. Special messengers were also dispatched along the road to order horses to be in readiness for us. At midnight ate dinner, after fasting since 8 a. m. In consequence of the sleds requiring repairs we were obliged to wait until morning.

Sleds were repaired and stowed, and we were again on the road at 11 a. m., March 14. During the afternoon the roads proved the very worst we had seen. The ditch-like holes extending across the road became deeper and more frequent. Often when, with horses on the full run, we plunged into these places we would come to a dead stop. The shocks were very severe. We traveled but slowly, and only by free use of voice and lash were we able to proceed at all.

The next day we entered a country somewhat hilly, and trees became abundant. After leaving Marinsk we were joined by a lieutenant of police, who accompanied us for several stations. The special object of his doing so was to give us protection. He said highway robberies were not infrequent on this portion of the road, the country being infested with convicts who had escaped from prison.

As we neared Krasnoyarsk we found but little snow upon the ground. The winds had swept away much of the winter's snow, and warm days were causing what little was left to disappear. At 7 a. m., March 17, we entered Krasnoyarsk. At the telegraph station I received the following dispatches:

(1.) Bennett gave up his intention of buying the Lena. He wired me as follows: "No matter about the Lena. Don't want her at present, as can get other steamers that will do as well." * * *

WOESTYNE.

(644.) Bennett wires me to Shmotin, the new proprietor of Lena, that he took her until September. I do so. Pleasant journey. Answer will oblige.

WOESTYNE.

(2.) Shmotin, present owner of steamer Lena, has put her at my disposal until first September. I turn her over to you, and have notified Secretary of Navy.

BENNETT.

(3.) Danenhower left Monday. Expects to meet you Nizhne Udinsk.

AHLEFELDT.

I therefore went to the hotel, called upon the governor, sent dispatches along the line to learn Lieutenant Danenhower's whereabouts. I received answer that he had not reached Nizhne Udinsk, though hourly expected to do so.

I sent to him at that place the following dispatch:

We leave this evening. Will meet you in Nizhne Udinsk.

From Irkutsk I received the following, which had been sent from St. Petersburg:

The Secretary telegraphs you to take charge of Steamer Lena. Repair her if necessary.

HOFFMAN.

The settlement of this question, whether or not I should have the use of the steamer Lena, was very satisfactory.

From information, thus far received, I believed that that steamer would be necessary to conduct the search along the coast, and to the east of the Lena River.

The interpreter, which I brought from St. Petersburg, having long since proven that he was incompetent and untrustworthy, I made arrangements with Mr. A. A. Thornam to accompany me as interpreter and assissant. This gentleman was formerly a midshipman in the Danish navy, and spoke, besides his native tongue, German, French, Russian, and English. To permit Mr. Thornam to arrange for the care of his family while absent, I found it necessary to remain until the following day.

On the morning of the 18th of March I received a dispatch from Herbert Leach, one of the Jeannette's crew, in charge of Danenhower's advance party, requesting me to await his arrival in Krasnoyarsk, which would delay me but a few hours. In the afternoon the entire party, consisting of Leach (seaman), Wilson (seaman), Mansen (seaman), Lauterback (fireman), and Anequin (hunter), arrived.

From them we first heard the complete story of the loss of the ship and the tramp across the ice, the storm, separation of the boats, the landing, and journey to Irkutsk.

A letter from Lieutenant Danenhower, delivered by Leach, told me that fuller information would be given when we met, probably at Nizhne Udinsk.

These men were exceptionally fine, healthy looking fellows, and were very anxious to return with me to continue the search for their missing comrades. So far as I could learn their services on the steamer Lena would be indispensable, for the old crew of this vessel had left her, and the natives would not go to sea. Traveling with this party was a Swede, named Larsen, who came out in the Lena, and had afterwards become her chief engineer. From him I got much information concerning the vessel, and learned that necessary repairs would be small. He thought four firemen, but no more, could be secured in Irkutsk and Yakutsk combined. I engaged him to return with me, but concluded to make no definite plan for conducting the search until I had seen Lieutenant Danenhower. Directing Leach to remain in Krasnoyarsk until further instructions, I set out at 8 p. m.

The weather now became quite warm during the day, and the snow rapidly disappeared. On the 20th of March I was obliged to give up the sleds and proceed in wagons. The roads, though hilly, were good, and fair progress was made. At 1.20 a. m. we arrived at Nizhne Udinsk, and here met Lieutenant Danenhower and remainder of his party.

After conferring a few hours with Lieutenant Danenhower, I was convinced that the five men whom I met in Krasnoyarsk would be of the greatest assistance in searching with boats, even though a crew for the Lena could be found. I therefore asked permission from the Department to take these men with me, and on the following day received the desired permission.

The 21st and 22d of March were devoted to conferring with Lieutenant Danenhower, during which I gained what knowledge he possessed concerning the separation of the boats and subsequent events; also much information concerning the delta, its people, modes of life, &c. The summary of this information was given in writing, and a copy is appended, marked B.

I also took from his journal a statement of the weather for many days succeeding the gale in which the boats were separated.

By telegraphing directly to Irkutsk I learned that no arrangements had been concluded by which the use of the steamer *Lena* would be given to me.

The chronometer, the sextant, artificial horizon, surgical case, and binocular glasses of the *Jeannette* were deemed necessary. I therefore directed Lieutenant Danenhower to deliver them to me, and gave him a receipt therefor.

Upon receiving the above information concerning the *Lena*, Lieutenant Danenhower telegraphed to Mr. Bennett, stating that Mr. Shmotin himself declared that no arrangement had been concluded concerning the steamer, and asking what action, if any, I might take. I awaited an answer from Mr. Bennett until 10.20 p. m. March 22. None having arrived, I set out for Irkutsk, arriving, without incident, on the evening of the 25th of March.

The following morning I went to see Mr. Shmotin but learned that he was out of town and would not return until the following evening. During an interview with Count Ahlefeldt I was informed that Mr. Shmotin had himself told the count that no contract had been made with Mr. Bennett, or his agent, for the steamer *Lena*, and that he did not understand Mr. Bennett's offer.

I communicated these facts, by telegram, to the Secretary of the Navy, and to the Herald agent at St. Petersburg. Shmotin said that the Herald agent in St. Petersburg had telegraphed to him that Mr. Bennett would take the *Lena* upon the arrangement made with Mr. Sibiriakoff. Mr. Shmotin denied knowing anything about Mr. Sibiriakoff's actions, and asked 30,000 rubles for the use of the *Lena* during the summer. On the 27th of March I called upon his excellency the acting governor-general, Pedoshenko, who informed me that Mr. Shmotin had already concluded a contract with the Russian Government to transport grain during the summer; hence it was probable that we would be unable to make use of the steamer *Lena*.

In the afternoon of February 28, I had an interview with Mr. Shmotin. He seemed desirous to evade stating plainly upon what terms he would charter the steamer *Lena*. After a long conversation, however, the chief points to be covered by contract were drawn up, but in subsequent interviews were much changed.

On March 29 Mr. Shmotin's agent submitted the following note :

On June 15 (27) Mr. Shmotin will surrender to Lieutenant Harber the steamer *Lena*, *in the condition she now is*; that Lieutenant Harber shall surrender the steamer *Lena* to Mr. Shmotin's agent on September 1 (13) or pay a penalty of £6,000 sterling; that, for the use of the steamer *Lena* from June 15 (27) to September 1 (13) Lieutenant Harber shall pay 30,000 paper roubles; that people shall be on board to represent Mr. Shmotin; that, if the agent so desire, Lieutenant Harber shall surrender the steamer *Lena* to said agent, *at a point farther north than Yakutsk*, and with his party proceed as passengers.

Later in the day Mr. Shmotin himself called, and after a long interview he agreed to the terms submitted by me, comprised in the following note, item for item :

I will inspect the steamer *Lena* and point out what repairs, if any, are necessary if the *Lena* be placed at my disposal at once, I will be responsible for repairs if not

great; if, however, the *Lena* be not surrendered to me before July 15 (27), she must at that time be in perfect condition for work at sea.

I agree to accept charge of the *Lena* on or before June 15 (27), as Mr. Shmotin may desire, subject to the above conditions. If the *Lena* be not turned over to me by June 15 (27), 1882, I demand a penalty of 1,000 roubles for each day thereafter detained. I demand that every person on board shall serve the Government of the United States under my command, afloat or ashore. I agree to return the steamer *Lena* to the agent of Mr. Shmotin at Shigansk on or before September 5 (17). For the use of the steamer *Lena* from June 15 (27) to September 5 (17) I agree to pay to Mr. Shmotin 30,000 roubles; this money to be paid when the steamer is turned over to me at Yakutsk, under the above conditions. In case of the loss of the *Lena* while under my command I guarantee to pay 42,000 roubles (paper).

When this had been concluded Mr. Shmotin asked until 5 p. m. to make his comments. At 5 o'clock Mr. Shmotin's agent presented a paper in which scarcely a point of the above arrangement was noticed. It contained a demand that the charter money be paid upon the signing of the contract, and the agent said that Mr. Shmotin declined to furnish any guarantee that the steamer would be turned over to me, or, in case of failing to turn over the steamer, the money should be refunded.

Careful inquiries concerning the character and pecuniary liabilities of Mr. Shmotin convinced me that he did not intend to act fairly. I positively declined to pay him any money until the steamer was turned over, and demanded a penalty if the *Lena* should not be surrendered to me by June 15 (27). Thus our negotiations ended.

In the mean time I had been making inquiries concerning other steamers. Though there were several plying upon the river *Lena*, I found but one vessel which might be suitable for our purpose. This belonged to Sibiriakoff, Bazanoff & Co. General Cevers, at that time manager of Mr. Bazanoff's affairs, evinced every desire to assist us, but the business of the company would not permit him to give charter for any steamer other than the General Sinilnikoff, whose condition, however, was unknown to him, and for particulars of this point I was referred to Mr. C. Lee, late director of the steamship company from which the *Sinilnikoff* was purchased.

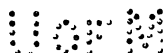
Mr. Lee being absent from the city, I was compelled to await his return. I then sent the following telegram:

HUNT,
Secretary, Washington:

Shmotin demands charter money at signing of contract but will give no guarantee to turn her over June 27; Shmotin unreliable; cannot recommend acceptance; am negotiating for another steamer. If I do not take steamer will start expedition to search coast from mouth of Jana to *Lena* delta, and from *Oleneck* to delta. When delta is clear of ice will search thoroughly with boats, having provision depot near *Stalbovoi* Rock. No news of *Melville*. Will take provisions for his parties, and all continue search. Steamer important for summer work.

HARBER.

I obtained an interview with Mr. Lee on April 1. He claimed to know little about the *Sinilnikoff*. She had been lengthened some 30 feet a few years ago, and Mr. Lee thought she was weak where she had been cut for that purpose. He was quite sure that in her present condition she would break if exposed to a heavy swell. He said she could be strengthened readily, but the *Lena* would be a better and safer boat; that the *Sinilnikoff* was a paddle boat 190 feet long, 20 feet beam, drawing 2 feet of water; that wood was the only fuel to be obtained on the river, and the consumption would probably be about 15 cords a day; and the steamer would carry only about enough for four or five days, and therefore it would probably be necessary to tow a barge containing fuel.



On the 2d of April, I obtained another interview with General Cevers. After learning positively that another steamer could not be obtained, I offered 10,000 roubles for the use of this steamer during the summer. The general terms of a contract were soon agreed to, subject to the approval of the Navy Department and the steamship company.

General Cevers was also good enough to place the facilities of his workshops and workmen in Visca at our disposition for the purpose of making any repairs which might be found necessary, and for the building of boats such as we required for work in the delta.

During the afternoon of this day, Herbert Leach, F. E. Manson, John Lauterbach, Henry Wilson, and Aneguin, the Jeannette's men sent back from Krasnoyarsk, reported to me according to orders from Lieutenant Danenhower.

In consequence of the rapidly increasing warmth of the weather, making travel more and more difficult, I determined to send Lieutenant Schuetze with four men north to Viteem, near which place the steamer which I proposed to charter was lying. He accordingly started on April 5, and reached Viteem April 15.

On the 10th of April the contract for the steamer was completed satisfactorily to myself and the steamship company. A copy is appended, marked C. I therefore telegraphed the Navy Department :

Terms accepted. Send 20,000 roubles, paper, per Seligman, London. Discount bank Petersburg and Siberian bank, Irkutsk, for charter and expenses. Telegraph to governor-general, Irkutsk, your approval of guarantee for steamer, if lost, 40,000 roubles, paper. Traveler from Verchoyansk saw Melville February 12. All well. No news from missing comrades. Schuetze and men started north Wednesday.

HARBER.

The next day I received from the Department the following :

Action approved. Draw on Seligman Bros., London, for 20,000 paper roubles, for charter and expenses. Bankers cabled to honor draft. Governor-general telegraphed that Department approves guarantee.

HUGO (HUNT),

Secretary.

I at once drew for the amount named, but in consequence of legal holidays was unable to obtain the money until the morning of the 13th of April. The same morning the contract was signed, and with the interpreter and Manson, seaman, I started north. Through the kindness of the governor-general, I carried with me a letter calling upon all officials, civil and military, to render us every possible aid to insure a quick journey.

The journey to Viteem was one of many hardships and much difficulty. Warm weather had set in, the snow had almost entirely disappeared from the ground, and the river ice was unsafe.

The Russian post wagons were used until reaching Shegalova, distance 375 versts. Leaving Shegalova April 16 in sleds, five horses to each sled, we dragged along slowly, through mud and water, over stones and along bridle paths over the mountains, until 7 p. m., when we stopped for the night, as travel in darkness over such roads was too dangerous to be attempted. Subsequent days were warm, the snow rapidly disappeared, and the mountain streams increased in size. By the greatest exertions we succeeded in continuing our journey in sleds, though at every station we were at first told that it would be impossible to travel, and then that the journey could only be made on horseback. However, through firmness and the assistance given by the governor's letter, horses were furnished for the sleds, and we were enabled

to make twice as many miles per day as otherwise would have been possible.

In this manner we journeyed for eight days, and made 770 versts. It now became necessary to cross a large stream, and the only ferry being small boats, we were obliged to give up the sleds, swim the horses, and proceed from this point on horseback.

The Lena River was now rising rapidly, so that the paths along the banks were often overflowed, hence our road lay over the mountains, and was generally a mere bridle path through the forest.

On the 26th of April, about 4 p. m., we came to the banks of a large stream, rapid and deep, in which a little ice was moving. An ice jam near its mouth banked up the waters perhaps 2 feet. From a hut on the opposite side we called two men, who brought a small boat, in which ourselves and baggage were ferried across; the horses were made to cross by swimming. After six horses had thus crossed, three yet remaining, a peculiar roar from farther up the river attracted the attention of the Yemshiks. Instantly they seized the baggage and carried it up the bank. The boat was then dragged up, the water and ourselves following close after it.

In three minutes the water rose 6 feet, the ice jam below broke, and the stream was transformed into an immense torrent, filled with huge pieces of ice, grinding and crashing into each other. Had we attempted to cross a few minutes later we must have been lost, for no boat could have lived in such water, and the warning was so short that a boat in midstream could not have reached the shore. The three horses were, of course, left on the other side of the stream, and we continued our way, a portion of the men walking.

Two days afterwards, April 28, we reached Viteem, and found Lieutenant Shuetze and men who had accompanied him in good health. Mr. Shuetze reported that in obedience to instructions he had gone to Voronzoffsky harbor, and had seen the steamer Sinilnikoff. He had not examined her thoroughly, but was very doubtful if she could be of any use to us. She was being placed in running order by the company.

In the afternoon I called upon the director of the steamship company at Visca, 5 miles from Viteem, who assured me that it was impossible, at this season, to reach Voronzoffsky; the ice on the river was too rotten to permit travel upon it, and there were absolutely no roads through the forest and over the mountains; there were, furthermore, large streams to cross, and no ferries. It therefore became necessary for us to wait in Viteem until the rivers were clear of ice.

On the 29th of April I delivered to the acting director, Mr. Stepanoff, the letter authorizing the building of boats. I also inspected the large boat spoken of by Lieutenant Danenhower in our interview, and concluded it would be a serviceable boat in which to conduct the search in case the steamer did not prove satisfactory. The director promised to commence work at once upon the boats, and to fit out the larger boat according to my wishes. In a few days plans for the boats had been prepared, and on May 2 work upon them commenced; at the same time the conversion of the larger boat into a schooner was begun.

Quarters and board were furnished by the director for our entire party, and we were thus enabled to be near the work in hand. The company had a great amount of work under way, and good workmen were not to be had; yet everything possible was done for us, and the work proceeded, on the whole, satisfactorily. Two small boats (dory pattern) were completed on the 20th of May, and the schooner afterwards named the "Search," on the 11th of June.

At 7 p. m., May 6, the ice commenced moving in both the Lena and Viteem Rivers, and the water rose rapidly. A general alarm brought the entire population of the village to the river bank, and as the water rose the steamers and barges were hauled into a cut in the bank, where they were protected from the masses of moving ice. The movement continued for only about an hour.

On Monday the 8th the ice again commenced moving, and continued until the Lena was free. But several days elapsed before the Viteem River was clear.

On the 10th of May I received a letter from Irkutsk, containing copies of Jackson's dispatches, from which I learned the destruction of the Rodgers; and on the 17th of May I received copies of dispatches which contained the information that De Long and party had been found dead, and that Melville would continue searching for Chipp.

On the 21st of May, Mr. Serrebrinnikoff, one of the directors of the Steamship Company, arrived in Visca in a small boat from Voronzoffsky Harbor. He told me that the steamer Sinilnikoff had been placed in good order and would be down soon. In conversation he stated that the Sinilnikoff was not strong enough to go outside the river. On the 23d of May, the Viteem River, being clear of ice, the steamer Constantine sailed for Voronzoffsky, distant 115 versts, and in her Mr. Scheutze and I took passage, for the purpose of inspecting the steamer Sinilnikoff and the barges which it would be necessary to purchase in case I accepted the steamer. Without incident we arrived on the morning of the 24th. In company with the director we inspected three barges which could be placed at our disposal. They were all old, and in poor condition, and when loaded would draw about 4½ feet of water and carry enough fuel to last four days. The steamer Sinilnikoff had gone farther up the river to the mines, but arrived at midnight and proceeded to Visca; Mr. Scheutze and I took passage. During the run we examined all parts of her carefully, and measured the amount of fuel burned. We found the steamer nine years old, 175 feet long, 18 feet beam, 2 feet draught, flat bottom, free board 5 feet; that the amount of fuel burned was 18 cords per day; that her speed with empty barge in tow was less than 7 knots per hour. The bottom of the vessel was $\frac{3}{16}$ -inch iron, lower sides $\frac{1}{8}$ -inch; upper sides, $\frac{3}{32}$ -inch. There were four sister keelsons (T-shape) of $\frac{3}{16}$ -inch iron; frames, 2½ feet apart, also, $\frac{3}{16}$ -inch, L-shape; deck beams (wood), 5 by 3 inches. The engines, pumps, and boilers were apparently in good condition and working well. After careful consideration, I concluded not to accept the steamer, and gave to the director my reasons for declining acceptance, which were as follows:

First. Considering the length of the Sinilnikoff, and the large surface of hull exposed to the action of the waves, we do not think the Sinilnikoff has either longitudinal or vertical strength to encounter with safety such weather as would undoubtedly be experienced even within the delta of the Lena.

Second. The amount of fuel burned per day (about 16 or 18 sachen) is so great that very little steaming could be done without returning to Bulun frequently, thus losing much time; to supply fuel on the return trip would require so much time that we would be obliged to start on the return early.

We think, therefore, that on account of fuel alone we would be obliged to commence our return at an earlier date than would enable us to complete the work we anticipate.

It only remained to complete the schooner as soon as possible and

conduct the search with her and the small boats. I therefore sent the following telegram :

HUNT, *Secretary, Washington :*

Steamer not accepted. Will leave in 50-foot schooner and two dories in ten days. Expect reach Delta July 1.

HARBER.

Work upon the schooner was pushed as rapidly as possible. She was completed and launched at midnight June 11. The masts were stepped, all stores were placed on board, and at 9 a. m. we dropped the schooner down the river to the steamer, which by arrangement was to tow us to Yakutsk.

At this point I wish to state that during our stay of six weeks at Visca, we received every attention from the director and employés of the steamship company. For the board and lodging of the entire party, as well as for the towing of the schooner to Yakutsk, there was absolutely no charge. For the work performed, and the stores purchased from the company, actual cost only was asked.

At 11.30 a. m., June 12, we left Visca for Yakutsk, in tow of the steamer Tichon.

Nothing of importance occurred until our arrival at Olekma. While calling upon the Ispravnik of this city, a gentleman told me he had seen a letter from Yakutsk in which it was stated that the American expedition had returned from the north. The Ispravnik had heard nothing to that effect, and did not think it possible. However, I wrote a note to Chief Engineer Melville, in which I told him I was on my way north, and since it was of the utmost importance that I should see him, he would please return at once to Yakutsk, if he should have left that place before my arrival, and give me full particulars concerning his work. Thinking it possible that the communication referred to Mr. Gilder, of the Rodgers, who had gone to see Melville, I addressed this gentleman a note, asking him to write me all he might know regarding Melville's work, and dispatch it at once to Yakutsk.

I gave these letters to the Ispravnik, who promised to see them delivered if any American should come from the north.

At 2 a. m., after leaving Olekma, we passed the steamer Pioneer, bound south. At 1 p. m. we arrived at Yakutsk and secured the schooner to the river bank. With Mr. Schuetze and our interpreter, I at once called upon his excellency, the governor, and, to our overwhelming disappointment, learned that Chief Engineer Melville and party, Jackson, the Herald agent, and Gilder, from the Rodgers, had arrived from the delta and had taken passage in the steamer Pioneer, the same which we had passed during the night. Lieutenant Berry and Ensign Hunt, of the Rodgers, had arrived from Kolyma, and had taken passage in that steamer also.

In a few minutes the governor told us what he knew of Melville's work, but, feeling that I must see Melville himself and learn from him the full particulars of his search and his knowledge of the delta, at the same time being doubtful as to whether he would receive my letter in Olekma, I procured a courier paderozhnaya, and at 7.30 p. m. set out to the southward to overtake the steamer Pioneer or to meet Mr. Melville should he be returning to Yakutsk. I left Mr. Schuetze in charge of the schooner, with instructions to follow in tow of the steamer Tichon, which would sail in a few days.

I journeyed to the southward until the morning of June 19, when I met Ensign H. J. Hunt and Fireman James Bartlett, coming north

under orders, respectively, from Lieutenant Berry and Chief Engineer Melville, to report to me for duty. A letter from Chief Engineer Melville stated that Bartlett had been with him during the search, knew all that had been done, and would be able to give me all the information which Melville himself could give.

Mr. Melville also sent me a track chart of the ruins which he had made, and a list of stores unexpended lying in Bulun, Zemovialach, and Verchoyansk. Mr. Hunt and Bartlett accompanied me on the return to Yakutsk, and gave me the details of all work which had been done at the mouth of the Lena and along the coast.

On the return I was overtaken by the steamer *Lena*, which gave me passage to Yakutsk and towed the schooner after meeting her.

During this run I inspected the steamer *Lena*, and could only regret that I was unable to obtain her for searching the coast. Upon meeting the schooner, then in tow of the steamer *Tichon*, I discharged Johann Larsen, at his own request, and gave Henry Wilson (seaman) orders to report to Mr. Melville or Count Ahlefeldt at Irkutsk. Wilson was sent back in consequence of sickness, which rendered it inadvisable for him to continue with the search parties.

We arrived at Yakutsk at 1 a. m., June 21. At once I purchased necessary stores, in which I was greatly assisted by the chief of police, Mr. Wall, and also by Mr. Bobokoff, a gentleman who had been with Mr. Melville.

The purchases for outfit and general supplies were completed on the 23d of June, and at midnight we cast off our shore-lines and set sail for the delta, leaving civilization entirely behind us. The entire party consisted of Lieut. G. B. Harber, Master W. H. Scheutze, Ensign H. J. Hunt, H. Leach (seaman), F. E. Manson (seaman), James Bartlett (fireman), J. Lauterbach (C. H.), Aneguin (hunter), A. Thornam (interpreter), and Kalinkin, a cossack interpreter for the Yakut language.

The first days were spent in working our way between numberless islands and shoals, which nearly fill the river for about 400 miles. We had no pilot, but by exercising great care and following the channels marked by steep banks we touched the ground but few times, and never were delayed more than an hour in any one place. For several days the winds were light and variable, yet the current of the river swept us along from 1 to 3 knots an hour.

At midnight, June 27, the sun showed one-half a diameter over a low island, and thereafter remained above our horizon until August 3.

Natives were rarely seen until after leaving Shegansk, 350 miles from Yakutsk. This was probably due to the fact that to that point our route was between the islands, often more than 4 miles from either bank. After leaving Shegansk, however, we passed fishing villages at intervals, and by means of our two interpreters learned something of our progress, bartered for fish, &c. From Shegansk to Bulun we had winds usually from the northward, and at times fresh. The schooner, however, did very well, especially when the towing of boats is taken into consideration.

On July 1, the rudder-head was carried away while wearing in a very strong breeze and considerable sea, and soon after the towing-lines of both boats parted. A sweep for steering the schooner was soon rigged, and the boats, which had been driven on shore, were picked up. A portion of the provisions stowed in them was damaged, but, as the future proved, we were well enough supplied to spare them.

About 40 versts from Bulun I conversed with some natives on shore, near whom we were passing, and found that the commandant of Bulun,

in whose charge were the stores left by Chief Engineer Melville, was in the party. After taking him on board we proceeded to Bulun, arriving at 4 a. m., July 3. Our voyage from Yakutsk to Bulun, a distance of 1,300 versts, was thus made in nine days.

Very few people were in Bulun at this time. The usual inhabitants had scattered along the river for many miles, and were engaged in catching fish, their chief article of food both summer and winter, as well as their medium of exchange, by which they obtain the luxuries of life, tea, tobacco, calico for shirting, and occasionally a little vodka.

It was, therefore, difficult to get information about the delta or its people. The commandant himself was a new man, and was not well informed. We were told, however, that we could find natives at Mat Vay and Chas Charta (summer huts in the southern part of the delta), and that at these places we could obtain guides for all parts of the delta. I therefore determined to take all stores to one of these points, and, employing a number of guides and native boats, start at least four parties, giving to each a particular portion of the delta to search thoroughly. After this should have been completed it was my intention to run along the coast from the Olenek River to Jana delta. I accordingly took all stores on board, rebent sails, set up-rigging, and at 4.15 p. m., twelve hours after arrival, got under way.

The following dispatch, for the Secretary of the Navy, was left with the commandant to be sent south should any opportunity occur during the summer.

Arrived nine days from Yakutsk. Strong head winds. Schooner behaves well. Begin work in delta July 5, with four parties. * * *

Before leaving Bulun I was told that a forge would be found some 40 versts down the river, and I could, therefore, have necessary repairs made to our rudder-head; also that Kusmah Eremioff, the exile in whose charge Mr. Melville had left the whale-boat, was living at the same place.

At 10.30 p. m. we arrived off the place designated as Kusmah's house, and soon had made arrangements for working with the forge. Kusmah brought all the gear belonging to the whale-boat, and told us the boat itself was still at Buikoff, a settlement at the southeast mouth of the river. At midnight crossed the river and spent the rest of the night and until noon of July 4 repairing the rudder.

At 2 p. m., July 4, we anchored off Kumachsurt, a settlement of a dozen houses, 100 versts from Bulun, hoping to obtain guides for certain portions of the delta. At this point I found the Staroster, or head man of the Qlenek district, the Staroster of the west delta, Vasili Bobrowsky, Tomat, Korani, and Ivan Androsoff, whose names are already familiar from their services in rescuing the whale-boat party, and Nindemann and Noros.

From the Starosters I learned that natives cannot be found at this time to act as guides in the western delta, as all had left the winter villages, and each man with his family had gone to his fishing hut. They were thus scattered all over the delta, but just where any one man or family was to be found the Staroster did not know. Though I somewhat doubted these assertions at first, I afterwards learned they were quite true. I was therefore compelled to proceed to the eastern delta and Yana River first. Vasili Bobrowsky became our pilot for Zemovialach, the chief settlement near the southeast mouth of the river, and the next morning we were under way again. Before night the wind became very fresh, and in the evening a moderate gale was blowing. We worked

our way to near the rock called Stolbovoi, when, in consequence of the heavy sea running, we anchored near the west bank until the following morning.

On July 6, while running down the southeast branch of the river, we got caught in a nest of shoals, and for many hours all hands, officers and men, were in the water, finding channels by wading, and keeping the schooner clear as the current swept her on. We worked almost constantly all day and night of the 7th, and on the morning of the 8th got clear, and without further trouble anchored the same evening off Buikoff. Spent the 9th repairing the whale-boat, finishing at 11.30 p. m. A gale of wind kept us at anchor until 8 p. m. July 10, when we weighed anchor and stood over to Zemovialach, distant only about 7 miles; yet the difficulties in working to the island were so numerous that we did not anchor until 5 a. m. of the 11th.

We found the island of Zemovialach about 500 yards long and 150 yards wide. Upon it were four yourtas and several storehouses. The dwelling-houses were deserted, and it became necessary to find the people belonging to them in order to have guides, without which it would be impossible to do anything in the delta. The number of branches into which the river divides are filled with shoals, and often what seems a broad river is a mere sheet of water only a few inches in depth. At 2 p. m. I took a party in the whale-boat and set out with Bobrowsky to find the natives, particularly the head man, and succeeded at noon the following day. The head man, Nicolai, known as Chagres, promised to find guides, and sent out his men for them, while he returned with us to Zemovialach.

The weather was now very bad for several days, and the natives said bad weather would continue. Instead of taking all of our people along the coast, I determined to leave the schooner at the island, while I with a party in the whale-boat would follow the coast to the Yana delta, a distance of 315 miles. At the same time, Mr. Shuetze should proceed in one of the dories north to Barkin, keeping near the coast, but following inside channels, his return trip to be along the outside, if this should prove practicable. He was also to search, as far as in his judgment was deemed best, along the northern coast. Heavy rains and strong winds prevailed until July 18. During these days our stores were taken to the village, where they could better be aired and protected, and the men made extra suits of flannel underclothing for themselves.

The weather moderating sufficiently to permit a start, the whale-boat was provisioned for six weeks, and at 10 a. m., July 18, left Zemovialach. The party consisted of Ensign H. J. Hunt, Seaman F. E. Manson, Fireman James Bartlett, Hunter Aneguin, and myself. At Buikoff I stopped to get a guide to carry us clear of the Omaloi River, as I then thought that there would be difficulty at that place. None of the natives had ever been there, so we started trusting to ourselves entirely.

The weather was squally and rainy, and the water along the coast shoaled so that progress was slow. At night we camped about 25 miles from Zemovialach.

July 19 gave us more rain, a fresh breeze, and at times a rough sea, which occasionally came over the rail of our boat. The whole day was spent in rounding the Buikoff peninsula and reaching the main land to the south and west of it. The coast where we first approached it was perpendicular rock about 20 feet high. After pulling to the southward about one mile, however, we came to a short beach, where we camped

at 10 p. m. July 20 proved pleasant, and our progress was accordingly good. The first 5 miles of the coast was perpendicular rock from 15 to 100 feet in height, and then came small beaches at intervals. The boat ran near the shore at all times, and a good lookout was kept on the beach and all points of the higher land. Whenever the coast permitted at least one man walked and examined carefully the drift wood for boat wreckage.

Those who walked along the coast saw egg shells, fresh bones, &c., showing that natives had recently visited it. At 4 p. m. we came upon a camp of wandering Tunguse. The camp contained eight tent-like yurtas, conical in shape, about 10 feet in diameter at the base. The people numbered about 40, and in the vicinity a large herd of reindeer belonging to them was grazing. We learned that these Tunguse came from near Verchoyansk, and though they knew something about the Jeanette and Melville's search, they could give us no information. At 11 p. m., having searched about 30 miles of coast, we landed and camped.

July 21 was generally pleasant, though an hour's rain in the afternoon gave us little comfort. Soon after starting the water became very shallow for a long distance off shore, but after a time we found a channel, which we followed, and learned that a river of considerable size in early spring empties into the bay of Borchaiia, just to the northward of what is marked "Stan Martemyana" on the chart. On an island at its mouth were two huts which, upon examination, showed that probably they had not been occupied for many years. Leaving the river, we rounded a high rocky cape, and came to a long, low beach back of which were high hills. Scattered over these hills were many reindeer, one of which we succeeded in killing. With the exception of the hour lost in doing this, the search continued steadily as on the previous day until 10 p. m., when we landed and camped. An hour later a native came to the camp, claimed and received pay for the meat we were enjoying, for after hearing his story I had no doubt we had shot one of his deer. This native was unusually intelligent, had learned to speak Russian from the traveling merchants, and had visited Verchoyansk several times. He was possessed of considerable wealth in reindeer, and was the same with whom I afterwards contracted to carry the bodies of Captain De Long and companions to Verchoyansk.

On July 22, one man walked the beach about half the time, for the coast line was lower. Large quantities of drift wood lay on the shore near the water's edge. This wood and the beaches themselves showed plainly where masses of ice driven by gales had been forced high up on the land. At 1 p. m. we came to another camp of Tunguse, but they knew nothing of those whom we were seeking. During the day we rounded the bight of water to the westward of Kamen Stalb, and at 9.15 p. m. camped near this cape.

On July 23 the coast was searched from Kamen Stalb to the bottom of Borchaiia Bay. There were many small bays with good water close to shore. The land generally was about 100 to 150 feet high—until reaching the lower part of the bay, where it was about 10 feet only, and tundra extended for several miles to the southward.

Occasionally old decayed fox-traps were passed, and these were the only evidences that man had ever visited this portion of the country. Geese and ducks abounded, and we secured several.

The following day, July 24, we had some difficulty in getting in deep water. We had landed at nearly high water, and while we slept the tide had fallen about 2 feet. Our boat when loaded drew 16 inches, yet we dragged her $1\frac{1}{2}$ miles off shore before she was fairly afloat. The

water proved very shallow near the shore for many miles, so that we were usually one-half mile off shore. We landed several times to examine huts (all of which were deserted) but the condition of the beach did not permit walking. At 9 a. m. we passed a river having a channel of about 5 feet depth. The other rivers marked upon the chart were dry, though it is probable they have flowing water in the spring when the snows are melting. At 8 p. m. we came to a fishing village and found many natives. With them was a Russian exile, who told us that though all knew that some of the Jeannette people were still missing, nothing had been seen which could have belonged to them. At 9.30 we camped at the mouth of Ovonur River, mooring the boat off shore. Here we met more natives, but gained no information.

On the 25th of July we started to beat up the coast, breeze fresh from E.N.E. The wind gradually increased and the sail was close reefed. The sea, however, soon rose so that we shipped a great deal of water, and we were obliged to land. Our point of landing proved to be an island off the southern mouth of the Omaloi River. The whole country was very flat, and immense quantities of wood lay upon the shore, often extending one-fourth mile from the water's edge. I noticed some pieces which were parts of barges; hence I concluded that much, if not all, came from the Lena River. We were detained upon this island by high wind and sea for two days, and then continued our way up the coast, always keeping one man ashore to walk whenever the beach permitted. On the 28th we passed many pieces of floating ice. Several huts were examined. Natives were seen in a village at which we stopped and traded for fish and reindeer meat. On the 29th we rounded Cape Borchaia. The land adjacent to the coast had been from 10 to 40 feet high since leaving the Omaloi River, but near the cape it rose to about 300 feet. A log house stands upon low land to the eastward of the point. As we passed to the eastward of the cape large quantities of ice were seen, both floating and piled up on what afterwards proved to be shoals. With considerable difficulty we passed to the southward, and after examining two huts on Pyramid Point at 8.40 p. m. landed at the bottom of the bay. Here we had occasion to use the kerosene, which we had carried so many miles on a venture. The only driftwood to be found was nearly water-soaked, lying in the water of the tundra, and, furthermore, rain was falling freely as we landed; yet, by pouring kerosene upon the wood, we soon had a good fire. Our camp was made upon the wet tundra, and we slept in water, literally. In the endeavor to drive tent stakes we found that at a depth of 1 foot from the surface the earth was frozen solid. On the morning of July 30 we started with fresh breeze from the northwest, boat's sail close reefed. The water along the coast was rather shallow, although the land rose rapidly to about 100 feet in height. The heavy combing seas kept us well off shore, but a good lookout was kept with the glasses upon all parts of the beach. At 2 p. m. we landed to examine a hut standing upon the bank of a small stream. The only occupant of the hut was a dog. A native canoe lay upon the shore, but the owner was either off hunting or, more probably, had run away when he saw our boat approaching.

During the afternoon the wind fell, and the boat was kept as near the shore as possible, but usually we had but 20 inches of water one-fourth of a mile from the coast line. The shores were usually bluff from 15 to 50 feet high, higher land farther back. Three more huts were examined. In one were a number of geese, which would probably be left until winter; in another were a few decayed fish. After passing the

Durgana River, the water was so shallow that it was difficult to obtain a landing, but about 11 p. m. we came to the mouth of a small creek, which we entered and found excellent water, plenty of wood, and comparatively dry ground.

July 31 brought us to the Yana delta. During the day we landed but once, to communicate with two natives, with whom, however, we could not make ourselves understood, hence, gained nothing from them. As we approached the delta the water became even more shallow, and we were obliged to keep from 1 to 1½ miles from shore; only at intervals could the land of the delta be seen. At 5 p. m. we struck a deep channel, and by following it carefully we entered the river and proceeded about 1½ miles to a hut, which, however, was deserted. We then returned to near the mouth, crossed to the east bank and camped. August 1 was too stormy to permit travel by boat. Ensign Hunt and Fireman Bartlett were sent out on foot to search along the sea-coast as far as possible. After a few hours they returned, saying that they had been able to walk only about 4 miles, in consequence of meeting a river branch, which was too deep to ford. During the day the wind drove the water off the coast, and though the fall was only about 2 feet in perpendicular height, shoals and mud banks were uncovered as far as the eye could reach to seaward.

The morning of August 2 gave promise of fair weather. Camp was broken, and at 10 a. m. we were under way with moderate breeze from northwest. We worked all day to northward and eastward. The water was shallow, and usually we were kept so far off shore that land could be seen only by standing on the boat's thwarts. Soundings were taken constantly in hope of finding a channel leading into a branch of the river, but without success. At 5 p. m. the last shoal visible bore southeast, and I judged our position to be about 5 miles N.N.W., from what is marked on the chart as mouth of Keceleva branch of Yana River.

I was convinced that further search to the eastward was useless, as our position was about 90 miles to eastward of second cutter's last known position. The sky indicated the approach of bad weather, and, seeing no way of landing, I turned back. Continuing under way all night with fresh breeze, and part of the time in dense fog, the old camp of July 30 was reached at 8 a. m. This day was, of course, spent in much needed sleep, but at 10 p. m. we were again under way, heading for Cape Borchaia. We kept under oars the rest of the night, but the morning of the 4th of August gave us a breeze from southward and eastward, which carried us past Pyramid Point at 1 p. m. Standing over to the channel by which we had come to southward through the shoals off the cape, we found the water low and the channel closed. Two people were landed, who walked in opposite directions to seek a channel, but none was found. I therefore stood to eastward to run around the group, but as we advanced the ground became higher and masses of drift-wood were strewn along the beach. It became evident that we were passing an island. At 2 a. m., August 5, we had been at work for sixty hours out of the past seventy-two, and therefore landed and made camp.

After breaking fast at 2 p. m., Ensign Hunt and James Bartlett were sent to determine, if possible, the extent of the land and find a channel to the northward. From their reports in the evening I found we were on a crescent-shaped island, 6 to 8 miles long and only 100 to 200 yards wide. It seemed to consist of gravel and drift-wood, much of the matter partly buried. Some of the wood being pieces of barges, it was evident they had come from the Lena River. From the western

end of the island shoals, which are nearly if not quite covered at high water, extended to Cape Borchaiia. From the eastern end, also, shoals extended for a mile, bending to southward toward Yana River. Deep water was found to the northward of the chain, while to the southward the water was very shallow for one-half mile off shore. After supper the boat was stowed, and at 11 p. m. we started to southward and eastward. At midnight we passed successfully through breakers extending southeast from the island, and stood to westward along north shore until 2.30 a. m. After rounding the northern point of the island, the wind having hauled ahead, we found a rough sea, against which it was impossible to beat. We therefore ran inshore and waited until 4 p. m., when, the wind having fallen, we pulled to Cape Borchaiia, camping at 8 p. m.

Bad weather kept us in camp for nearly four days. During this time strong breezes prevailed, and the sea became very rough. Heavy squalls of snow and rain beat against our light canvas tent and made it a poor place for comfort. Large pieces of ice were driven upon the beach, and from an elevation we could see the ice pack apparently 2 or 3 miles away. It drifted off to the eastward during the day.

At midday, August 10, the weather seemed favorable. The boat was launched through considerable surf, and we headed for the mouth of the Lena, about 70 miles distant, across Borchaiia Bay. During the night we encountered unfavorable winds and were driven to the southward. The sea was a little rough, but without special incident we reached the north end of Mostach Island at 7.30 p. m., August 11. The wind was now too strong to continue to Zemovialach, and camp was made on the island.

August 12, at 6.30 a. m., left Mostach Island. At noon, while passing Buikoff, I landed in answer to signal from shore, and met Lieutenant Schuetze, Leach, and Lauterbach, who had searched the east delta to Barkin and back.

At the village of Buikoff I met a party of Cossacks, sent from Yakutsk to intercept a number of exiles who had left Verchoyansk in the endeavor to escape. The officer in command told me he was to go to the Omaloi River. In order that he might understand fully the nature of the difficulties he would encounter, I took him to Zemovialach, where our interpreter had been left, gave him a chart, and explained the character of the coast.

Though not relating to our search, I may here mention that we supplied this party with needed articles—meat, butter, tea, tobacco, &c. A few days after leaving Buikoff their boat was wrecked. The party had a weary march for a month, but eventually arrived safely back in Buikoff. The exiles, nine in number, were captured at the mouth of the Yana.

While I was conducting a search along the coast in the whale-boat, Mr. Schuetze had charge of another in the eastern portion of the delta, his boat being one of the dories we had caused to be built in Visca. The following is his report:

ZEMOVELACH, DISTRICT OF BUIKOFF,
Lena Delta, August 12, 1882.

SIR: In obedience to your verbal instructions, I hereby submit the following as the report of the search made by me in the Lena delta for the officers and men of the second cutter of the Arctic exploring steamer *Jeannette*, from July 20 until August 7, from Zemovelach to Barkin and return. I would respectfully call your attention to the fact that natives were met frequently on the route to Barkin, who seemed perfectly acquainted with the object of the expedition, and willingly assisted us whenever we were in want of their services.

The route followed I have traced approximately on the chart.

July 20, 1882.—At 4 p. m. left Zemovelach and the schooner Search in a dory with H. Leach (seaman) and J. Lauterbach (fireman), to make a search to Barkin. Wind moderate from the west. Left mast and sail behind, owing to want of stowage room in boat. Provisions for about three weeks. Nicolai Diakonoff, alias Nicolai Chagre Starshina, of Buikoff, as guide. Two other natives accompanied us to Arrii. Passing showers of rain and wind very fresh in squalls from southward and westward between 7 and 8 o'clock. At 8 landed at Arrii, and put up for the night in Spiridon's baligan.

July 21.—Weather generally pleasant. Rainbow early in morning and at intervals throughout the day. Passing showers of drizzling rain, with wind fresh in squalls from west. Left Arrii at 8 o'clock and stopped at Bourla at 12.45 p. m. for an hour for lunch. Nicolai's family and other natives here living in three summer huts (urassa). They are employed in fishing, but will soon leave for the northward to hunt reindeer and geese; making winding way through delta, general W.N.W. course. Leach and Lauterbach pointed out some broken-down huts which they occupied one night on their way from Borchia, where they were found, to Zemovelach. Landed three times during the afternoon, and at 7 p. m. stopped in an urassa at Otuck for the night. Ground very wet in our house.

July 22.—Overcast, cloudy, and pleasant. Gentle west and northwest wind. Turned out at 5.30 and started at 7 o'clock to the N.E. in a large river. For half an hour tried the sail which we had rigged on an oar with Nicolai's remnants of one of the Jeannette's tents, but wind falling light pulled remainder of day. Landed at Soulian, and at noon stopped for lunch. Soon after grounded in passing through channel to northward of an island; waded and dragged boat into deep water. The main river here running N.E. to sea, we pulled N.W. to Coumiana. Met Vasily Bobrowsky and his family, who were on the point of leaving for Borchia. Accompanied them and reached Borchia at 7 p. m., having pulled from Coumiana through a very narrow and winding protock running north.

Borchia is the locality where the crew of the whale-boat of the Jeannette found natives. It is said to be about 10 miles from the sea, the mouth of the river being very broad and interspersed with numerous islands and shoals. A very strong northeast current sets along shore from Borchia to sea. When Vasily Bobrowsky, as guide, conducted the whale-boat to Arrii and Zemovelach there was not sufficient water to float the boat in the small protock through which we passed to-day, and hence he went to the eastward by way of the sea from the mouth of this river to that from which we turned shortly before reaching Coumiana. We stopped for the night at Vasily's baligan at Borchia.

July 23.—Clear, bright, and pleasant. Calm and light variable airs in the forenoon till 11.30, when breeze sprang up from S.E. gentle at first, and stiff in the afternoon. Strong current against us all day. At 9 o'clock left Borchia, Vasily giving us some fish on leaving. Pulled about three miles W.S.W. close in shore, in order to keep out of strength of current until breeze freshened, when we made sail and stood W.N.W. till 4.30 p. m., and then stopped for lunch near Kress, having landed on several islands on the way. Nicolai also frequently landed to look about and rest. Water very shoal in places and sea rough, owing to wind blowing against current. After lunch pulled through a nest of shoals where we frequently grounded, and broke an oar, and then stood N.W. by W. under sail, running in rough water, till 7.30 p. m. Nicolai tired and unwilling to proceed farther. Stopped at a place called Burro shortly before reaching camp at Catistach. Saw two reindeer in the afternoon.

July 24.—Weather foggy in the early morning. Cloudy and cool the rest of the day. Wind fresh to very fresh from S.E. River about one mile and a half wide at this place. Islands and branches of river visible in nearly every direction. Nicolai came into the hut with Capican, a young native, during the night, and in the morning asked permission for Capican to accompany us to Barkin. Nicolai complained of his eyes, and as I had already discovered that they were very weak, I readily granted his request. (Capican proved highly useful, although he had never been to Barkin himself, both as guide and hunter.) Started at 8 a. m., and stood to northward for short distance, and then N. by W. to Bagahastack, where we stopped at 2.30 p. m. for the day and night, the water being too rough for the vietkas or native boats. Landed three times on islands during the day. Carried away brace for mast. Capican set fish net near shoal, but found it empty in the morning.

July 25. Cloudy and cool. Rough sea, wind blowing against current. Blowing very fresh. Natives would not start until noon, when wind was moderate for a short time. Sailed along edge of shore N. $\frac{1}{2}$ E. for 2 miles, and, Nicolai losing his bearings, we ran into the wrong river. Landed and sent Capican to explore. Leach and myself, while waiting, drove two reindeer into the river, and Capican returning, he and Nicolai dispatched them in the water with their spears. Cached some of the meat, and then pulled out against strong wind to the eastward for a mile. Grounded on a spit

on which surf was rolling and got a thorough ducking. Hauled off and pulled to westward along shoal for 3 miles, and pitched camp at 6 p. m., the vietkas having to be hauled out on shoal frequently in order to have water bailed out.

July 26.—Cloudy and cool. Very fresh breeze from E. and N.E. Laid up and walked about island. Struck camp and started at 2 p. m., against the wish of natives, and ran for about 2 miles to westward through rough, dangerous sea. Landed, hauled boat out, and camped. Heavy fog in the evening and during night.

July 27.—Capican caught 13 fish in his net set near a shoal yesterday evening—sterlets and three large fish resembling salmon. At 10 o'clock, the fog lifting a little, started across the river to the N.W., pulling between numerous shoals. Ran into a high sea in the middle of the river, vietkas making heavy weather. Natives very much frightened and owing to fog unable to see their way. Made straight across for high land, and the natives followed. Landed and bailed out. Fog cleared away. Tracked boat for short distance into small protock, pulled through it, and at 1 p. m. reached Yandall, situated at the junction of the protock with the Doropena River. Two baligans and a storehouse here. Signs of natives having recently occupied the place. At 2 p. m. pulled to northward across Doropena River, and entered a large branch at 3 o'clock, running N.N.E. Current with us. Wind stiff from N.E. At 5 o'clock, there being a heavy fog and the weather cold, ran into a protock and camped. Shot one ptarmigan and several eider ducks.

July 28.—Heavy fog and drizzling rain during the night. At 9 a. m. fog lifted, and shortly afterwards cleared away. Overcast and cloudy. Wind light to moderate from NE. during day. Weather cold towards evening. Started at 9 o'clock. Current with us all day. Landed frequently on north shore. Made good run in general N.N.E. direction. At noon entered a small protock and stopped at a small island called Cumalur for lunch. Numerous protocks here. Followed protock (general N.N.E. course), narrow and winding, till 4 p. m., then entered large river, and pulled N.E. to Kurga, where we camped at 6.30 p. m. Numerous large islands in this part of the delta. Natives here living in two summer huts. Shot two geese.

July 29.—Heavy fog during night and forenoon. At noon it cleared away. Overcast, dull, and cold. Raining all day. Blowing a gale from N.E. Laid up. Tent very wet and cold; shifted our bedding into one of the huts.

July 30.—Overcast, cloudy, and cold. Wind moderate to stiff from west and southwest. Started at 9 a. m.. Pulled through a narrow protock about 3 miles; stopped at Cherochchan, and thence sailed to Barkin, arriving there at 3.15 p. m. Walked about large island. Lauterbach shot a reindeer. The baligan at this place being unfit for occupation, we slept in the adjoining storehouse. Many reindeer in sight.

July 31.—Overcast and cool. Stiff breeze from west; light towards evening. At 1.40 p. m. left Barkin to return to Zemovelach. Pulled and tracked boat at times against wind and current. Landed frequently, and at 5 o'clock stopped and drank tea. At 7 p. m. stopped at Cherochchan, where we met some of the natives from Kurga on their way to Barkin and neighboring summer huts. Arrived at Kurga at 9.30 p. m., and occupied one of the huts. One family of natives still here.

August 1.—Overcast, gloomy, and cold. Blowing very fresh and a gale at times from S.W., with frequent heavy rain squalls. Laid up.

August 2.—Overcast, rainy, and cold. At 2 p. m. left Kurga, wind having shifted to west and northwest. Pulled till 7 p. m. Frequent rain squalls. Camped at Sevatalack, at the entrance to narrow protock.

August 3.—Cold. Raining during the night. Started at 9 o'clock. Very cold. North wind with frequent snow squalls. Under sail and oars by turns during day. At 2 reached Cumalur and had tea. Left at 3 o'clock. Wind light north and northwest, but sail no use in turns of river. Water has fallen considerably since we passed here a few days ago. Pulled against strong current, and tracked the boat where opportunity offered. Landed frequently on east shore of river, and at 8.30 p. m. reached our camping ground of July 27. Pitched tent.

August 4.—Weather thick and foggy in the morning. Several snow squalls. Wind light, from southward and westward. Pleasant weather in the forenoon; heavy rain squalls in the afternoon. Pulled to Yandall and stopped for lunch. Found natives there, but the men were all away hunting reindeer. Landed several times in the afternoon, and once during heavy rain sought shelter to leeward of a high bank. Crossed river to camping ground occupied by us on the 25th day of July, and in so doing touched several times on shoals. Sent Capican after deer meat which we had cached on July 25, and camped at Bagahastack.

August 5.—Weather clear and pleasant. Started at 9 o'clock and pulled to Burro, where we found natives from the village of Arriila. Wind moderate from west. Sailed away from vietkas, and at Kress took them in tow until we stopped at 2 p. m. for lunch. Thence sailed to Borchia, having to round a large shoal which was under water when we passed on July 23. Touched several times. Reached Borchia at 4 p. m., and waited till 4.30 for natives. After some searching and a great deal of sound-

ing and poling, we found sufficient water to get into protock leading to Coumiana, where we spent the night in Gabrielle Pachin's baligan.

August 6.—Weather cloudy and cool. Started at 9 o'clock, and had a long pull against wind and current. Lunched at Soulian, and reached Bourla at 8 p. m., where we camped. Natives whom we met here on July 21 have gone to the northward for reindeer and geese. Noticed immense numbers of geese to-day flying. The moulting season is over in this part of the delta, though farther north there are still large numbers of geese unable to fly.

August 7.—Weather rainy, overcast, and cool. Started at 10 a. m., and sailed nearly all the way to Zemovelach. Wind moderate to fresh from the westward. Reached the schooner at 2 p. m. Mr. Thornam and Kalinkin have gone to Meuse Buikoff to interview the Cossacks lately arrived from Yakutsk.

Respectfully submitted.

W. H. SCHUETZE,
Master, United States Navy.

Lieut. G. B. HARBER,
United States Navy,
Commanding *Jeannette Search Expedition.*

On Monday, August 14, I sent a native from Buikoff in search of Nicolai, the starchina, with orders that the latter should bring us to a guide for the river to Matvay, a hut south of central portion of delta, at which I proposed to leave the schooner and stores while search parties should set forth for the Olenek River and north coast. In the mean time the provisions were stowed and necessary repairs made to sails and spars.

The guide arrived at 11 a. m., August 15, but bad weather prevented our getting out until the afternoon of the following day.

The journey to Matvay occupied four and a half days, during which time we had every variety of weather and a strong current always against us. Most of the distance was made under sail, yet many miles were accomplished by men and officers walking along the shore, towing the schooner against the current. Arriving at Matvay on the morning of August 21, we visited the tomb of Lieutenant-Commander De Long and companions, distant about 5 miles, for the purpose of placing bolts in the large cross, as requested by Chief Engineer Melville. We found the tomb as it had been left in the spring, the wooden structure covered with stones only. The covering of earth for which Mr. Melville had contracted had not been made, and it was very evident that decomposition was then going on.

After placing the bolts and making some slight repairs to the stonework of the tomb, we returned to the schooner and fitted out the whaleboat and a dory, ready for the parties to set out the next morning.

In the evening we signaled three natives who were passing in the distance, and one of them consented to pilot the whaleboat to Arrui, where a guide to the Olenek River could be obtained. He also stated that at this season natives were living at Chas Charta, and that a guide for the north could be found there. Koranni, who had conducted us from Zemovelach, said he would pilot the dory.

At 10.30 a. m., August 22, Mr. Schuetze, in charge of the whaleboat and party, set out to search branches to the westward, and the coast as far as the Olenek River. His party consisted of Master W. H. Schuetze, Ensign H. J. Hunt, H. Leach (sea), F. E. Manson (sea), and J. Lauterbach (C. H.).

At 10.35 I set out in the dory for Sagastyr, my crew consisting of Jas. Bartlett (fireman), and the Cossack Kalinkin. During the day we passed several huts, but this ground having been well searched by Mr. Melville, I did not stop until reaching Chas Charta at 8 p. m. Ten people occupied the four huts at this place. Neither of the three men could guide us to Sagastyr, but early in the morning one of them brought the

candidate Golova Constantine Mohoploff, a native of high rank, and under his guidance we were soon running north.

At 2 p. m., August 24, we reached Tumat or Kitach, a permanent winter settlement near the north mouth of the river, consisting of some ten houses and several store houses. The people belonging to the settlement number about eighty, but as yet only about thirty had returned from their summer fishing excursions. On the west side of the river lies a small settlement called Bulun, which contains four dwellings, a few store houses, and a small church, which latter is probably farther north than any other chapel in which the Christian service is celebrated.

Learning that Lieutenant Jurgens, in charge of the party sent to establish an international meteorological station in the Lena delta, had arrived a few days before, and was then erecting his buildings upon Sagastyr, we proceeded to that island.

Lieutenant Jurgens, who speaks English very well, was of much assistance to me in the interviews I now had with the natives. The guide who brought us here refused to go outside of the delta, saying that the storms were too great and the water too rough. I argued long and earnestly, offered good pay, and, as a last resort, intimated that failure to assist us might bring severe punishment; yet he flatly said he could not and would not go along the sea-shore. I sent for the starosta or head-man, and told him to find some one to guide us to Barkin, but late in the evening he returned, saying no one would go. It seems beyond a doubt that these natives will not go where they, or at least some member of their party, have not been before. Constantine consented to go only as far as the signal erected near the mouth of the river, when it was thought the steamer Lena would enter at this place. I concluded to go outside, and hoped to see Constantine follow me.

At 9 a. m., August 25, we started for the sea, and at 11.40 reached the myak or signal. There I landed, and in doing so waded a quarter of a mile in water not exceeding 6 inches in depth.

Having understood that there were no protoks, or branches of the river, which would impede our progress, Bartlett and I started to walk to the eastward, intending to reach the river, at the mouth of which De Long's party landed. After proceeding about 3 miles we came to a protok and could go no further. We ascended a sort of scaffolding which stood near, and with the binocular glasses could see two long points of land stretching to the northward of the myak. The numerous logs, half submerged, extending for a long distance from shore, clearly indicated very shallow water along the coast.

We returned to the boat, and, though the guide refused to follow, I set out to the northward. I ran 3 miles, following a channel which gave no bottom at 11 feet. I made several attempts to approach the land to the eastward, but could not get nearer than about a mile without grounding, the boat drawing 8 inches of water. Night coming on, I turned back and arrived at the meteorological station at 10.30 p. m.

I concluded there are but two ways to search this coast: (1) To proceed in native boats without guide to Barkin, thence in the same manner to Zemovialach; (2) to take sleds when cold weather sets in and before much snow falls, and, having arranged for a supply of provisions at Barkin, run the whole coast by dog sleds.

The native boats being useless in open water with moderate breeze, the first method would consume too much time, more than I now had before winter would set in.

The natives told me that very little snow falls in the early winter, and that the coast may readily be run before November 1, and a talk with

Lieutenant Jurgens's pilot gave me the information that by starting at once the schooner would be able to reach Yakutsk before winter, but that in two weeks it would be too late to make the attempt. I therefore determined to hasten back to Matvay, and, when Mr. Schuetze returned, to push on for Bulun. Should no instructions be found there, I would return with Mr. Schuetze, and later run the coast by sled, while the remainder of the party, in charge of Ensign Hunt, would proceed to Yakutsk in the schooner if the season permitted; otherwise they would wait for winter roads and proceed by sled.

To return as rapidly as possible against the river current, I turned the dory over to the Russian meteorological station, and set out with native boats. Whenever possible, Bartlett and I walked along the shore. On the road we were three times compelled to stop a few hours in consequence of bad weather and high winds; yet we reached the schooner safely at midnight, August 29.

On the 31st of August I visited the spot where De Long and companions were found. My desire was to see if there remained anything of importance, which, by reason of the snow, Chief Engineer Melville had failed to discover and transport. I found only fragments of blankets, shoes, socks, mittens, and the broken lens of an eye-glass, probably Captain De Long's.

At noon, September 7, Mr. Schuetze and the whaleboat party returned from the Olenek River, and at 5 p. m., we got under way for Bulun. Mr. Schuetze reported as follows:

MATVAY, LENA DELTA, *September 8, 1882.*

SIR: The following is respectfully submitted as the record of the search for the missing of the Arctic steamer *Jeannette* made in the whale-boat from Matvay to the mouth of the Olenek River.

The track made through delta and along the coast has been laid down on the chart.

Tuesday, August 22.—Overcast, cool, and cloudy. Light airs and breeze from northward and eastward. At 10.25 a. m., started from schooner at Matvay in whale-boat with Ensign Hunt, Seamen Leach and Manson, and Firearm Lauterbach, to make search through Lena delta to westward and along the coast to the river Olenek. Lieutenant Harber, in one of the dories, left soon after on his way to the north mouth, and Tumat. Constantine Karechin, ex-starostor of Bulun, in whale-boat as guide, two other natives following in canoes. At 2 p. m. stopped for an hour for lunch. At 3 p. m. entered a narrow winding protock, and at 7.15 p. m. stopped for the night at a small pavarina. Pitched tent. From high ground near camp took bearing of the tomb of De Long and his companions, E.S.E. distant 15 miles.

Wednesday, August 23.—Overcast, cloudy, and chilly. Rain in the early morning and in the evening. Fog during day, and heavy fog between 6 and 8 p. m. Left camp at 8.30 a. m., and followed narrow protock to westward till 1 p. m., when we stopped for lunch. Parted company with the two natives who accompanied us yesterday. Soon after lunch passed into wider river, and stopped for half an hour at a summer village called Otjdavit. Constantine, our guide, remained here, and a young native was sent with us. Ran down the wide river to northward and westward, and pitched tent at 8 p. m., near deserted summer hut called Kucha. A native whom Constantine had sent ahead from Otjdavit came up river soon afterwards and informed us that he had seen the man who would guide us to the Olenek River, and that we could reach his hut after a short run to-morrow.

Thursday, August 24.—Cloudy and pleasant. Clearing weather in the forenoon. Light airs and breeze from northward and northward and eastward. Started at 9 a. m., and stopped shortly afterwards at Uennach, where we found natives, and also our guide Michila, the starshina of this region. Michila willingly consented to go with us, and we pulled to windward until 2 p. m., when we stopped at a village. Michila's family the only natives here. Discharged the young man who had come with us from Otjdavit. Left the village at 3 p. m., and camped on a small island at 8 p. m., after having followed a small protock to the windward and again entered a larger branch of the river. Mountains of coast in sight from boat in the evening. Heavy fog and rain after camping and throughout the night. Village of Turrach in sight to northward from camp.

Friday, August 25.—Cloudy and pleasant. Light airs and breeze from southward. Started at 10 a. m., and pulled to southward and westward till 2.30 p. m., when we

reached Utan, a winter village of five huts. No natives here. Sent Michila to a neighboring village distant about one mile. He reported upon his return that he had seen no natives. At 4 p. m. proceeded to the westward, and at 9 p. m. reached Arrii. Pitched tent below village. Water in front of village very shallow. Four huts and many storehouses here. Numerous graves in immediate vicinity. Village situated about 3 miles north of mountains of mainland. A large number (probably 4,000) of wild geese were strung up in the houses for winter use. Native inhabitants of village away to northward hunting reindeer.

Saturday, August 26.—Weather cloudy in the morning. Clear, bright, and pleasant remainder of day. Wind light to very fresh from southward and eastward. Started at 9 a. m. and stood out under sail. Left the river and headed for mountains of main coast. Ran into a nest of shoals and grounded several times. Finally poled the boat with tent poles into channel alongside mountains and bluffs of coast. At 3 p. m. stopped for dinner, having reached mainland. Thence followed close in shore until we reached Chinkir, a summer village. Steep coast, bluffs about 50 feet in height. Bought some fish at Chinkir, and communicated object of our search to natives living here. From Chinkir to mouth of Oleneck the coast is low, with an occasional mound of high land. Followed beach close in till 10 p. m., when we ran in for camp near some inhabited summer huts. On account of shoals in front of this village (Estangkaetta) we were unable to approach nearer than 50 yards when the boat grounded. Got a line ashore and drove in a stake. Pitched tent.

Sunday, August 27.—Weather overcast, foggy, and rainy. Fresh breeze from southward and eastward. Boat high and dry. Rise and fall of tide, but boat not afloat all day. At 1.30 p. m. sent Ensign Hunt and Seaman Manson to search beach to mouth of Oleneck River, the coast to westward being low and full of shoals.

Monday, August 28.—Ensign Hunt and Seaman Manson returned at 2 a. m., very tired after their march of nearly 30 miles. They had followed the beach to mouth of Oleneck River, and had seen many unoccupied huts but no natives.

Weather bright and pleasant. Light airs and breeze from northward and eastward. At noon stowed the boat, and soon afterwards started on return trip. Bought a reindeer. Stopped at Chinkir, and had Manson's and Leach's boats repaired, which having been used in march to Oleneck yesterday were nearly worn out in consequence. Followed close in along bluff shore, and landed frequently. At 9 p. m. pitched tent at Kress. There is only one winter hut here now, but evidently, judging from the ruins, there were many in former times. Leach shot some ptarmigan.

Tuesday, August 29.—Overcast, cold, and cloudy. Very fresh breeze from eastward. Started at 10 a. m., and Mr. Hunt and Leach tracked the boat for about 1 mile, when she was thrown on the beach by a heavy sea. Hauled the boat well up and camped. Blowing all day. Shot several ptarmigan.

Wednesday, August 30.—Cloudy and pleasant. Wind gentle to fresh from eastward; started at 9 a. m. and tracked the boat until we reached the point where we had stopped at 3 p. m. on the 26th instant. An immense quantity of drift-wood caught fire which we were unable to extinguish. Pulled along in channel near mountains. Grounded frequently in trying to pass between the shoals, and worked till midnight. Finally, after a failure to get into the coast for camp, got near enough to a mud flat to make a landing. Waded on shore, but were able to find a few wet logs only which would not burn. Large fire on point in sight to windward. Made boat fast with tent poles, and rigged sail for boat tent. Slept in the boat. Disagreeably cold and generally uncomfortable. Too dark to work boat.

Thursday, August 31.—Weather overcast, cold, and cloudy. Boat high and dry. Waited till noon for flood. Got boat afloat after considerable work. All hands in water, and consequently wet and cold remainder of day. Pulled to eastward. Wind moderate to fresh from eastward. Grounded three times, and then worked with tent poles around tail of large shoal through 2-foot channel to northward; shoals bewildering in number. Pulled till 9 p. m., and after making a landing on a small island poled boat for a mile and a half to another island on which there is a village of four huts (at present unoccupied) called Yanalach. Wind and current against us all day. Put up in a house belonging to Michila, our guide. All hands tired and cold.

Friday, September 1.—Weather overcast, cold, and rainy. Blowing very fresh, and a gale at times from the east. Allowed men to rest, intending to start in the afternoon. Weather, however, continuing wet and cold, and wind being very fresh ahead, concluded to wait.

Saturday, September 2.—Good and pleasant. Sun shining brightly. All hands at six o'clock. Found boat swamped. After cold work in water, succeeded in bailing her out. Clothes and provisions wet through and through. Bread in a mush. Lost our tobacco. Dried out and started at 3 p. m., having gathered up the bread we could find, and other stores scattered along the beach. Used sail for a short distance, but wind soon came out light ahead from eastward. Pulled till 1 a. m. of the 3d, and turned in in an excellent yourta at Utan.

Sunday, September 3.—Overcast and cloudy. Wind light from northward and westward in the forenoon. Started at 1 p. m. Light, variable airs, and calm. Pulled about 2 miles. Rain and hail squalls for two hours. Cold. Wind finally came out steady from west. Gentle to stiff remainder of day. Snow fell on mountain peaks. Stood to northward, and then to eastward under sail till 10.30 p. m.; passed village of Turrach, and put up in Michila's house at Estasina after a good day's run. Lunched in the boat, and passed our camping place of the 24th of August about 6 p. m. Water very low in the river.

Monday, September 4.—Cloudy and cool. Gentle breeze from the southward in the forenoon, and light airs and breeze in the afternoon. Started at 11 a. m. and pulled the greater part of the time till 8 p. m. Used the sail occasionally only for short distances. Camped about 3 miles to eastward of Kucha, our former camping place. Calm. A large flock of ptarmigan near the camp. Rain during night. Michila has concluded to return to Matvay with us and bait his fox traps when he goes home.

Tuesday, September 5.—Weather rainy, cold, and gloomy. Wind fresh in squalls from southward in the forenoon. Pleasant in the evening, with gentle to moderate breeze from the westward. Started at 8 a. m. and sailed for two miles. Sail becoming torn and will not last much longer. Strong squalls at times. Pulled dead to windward against strong current and fresh breeze for 3 miles, and then wind veering to west, sailed remainder of distance to Otjdativ. Raining, and weather cold. At 3 p. m. stood to eastward, and again entered narrow protock. Tracked the boat in the protock till 7 p. m., and then camped on sandy beach. Aurora borealis at 9 p. m.

Wednesday, September 6.—Cloudy and cool. Gentle to moderate breeze from westward. Started at 8 a. m. and pulled and sailed by turns in the winding stream till 2 p. m. Stopped at an old camping place near small pavarnia for lunch. Left at 3 p. m., and at 7 p. m. entered large river, and stood under sail to eastward till 9 p. m., when we camped, having run into a long pocket between the river bank and a shoal. Cold during the night.

Thursday, September 7.—Cold and cloudy. Gentle to moderate breeze from northward and westward. Started at 8 a. m. and reached schooner at Matvay about 2 p. m. Water very low, and the river full of shoals. Grounded frequently. Lieutenant Harber had returned on foot from Tumat, and had sent remaining dory to Lieutenant Jurgens, of the Russian Imperial Navy, at the meteorological station at Sagastyre.

Respectfully,

W. H. SCHUETZE,
Master, U. S. Navy.

Lieut. G. B. HARBER, *United States Navy,*
Commanding Jeannette Search Expedition.

The journey to Bulun was made in nine days, during which we had very little favorable weather. Several snow-squalls warned us that winter was fast approaching, and the flight of geese to the southward but emphasized it. The winds were usually from the southward, hence against us, and often fresh. To beat against wind and a strong current was impossible, so that for several days the schooner was towed, officers and men alternating in duty on the tracking line. A day's work was from 5 a. m. to 9 p. m.

Bulun was safely reached at noon September 15, and the schooner secured to the bank until discharged. Later she was hauled up on the beach and dismantled, and finally, after an ineffectual attempt to sell her, she was given to Baieschoff, the former commandant of Bulun, who had rendered much assistance to the Jeannette survivors.

Upon our arrival at Bulun we received a few letters and papers which had left Yakutsk only a week after our own departure. The only thing of importance was inclosed in a note from Governor Tcherniaeff, who forwarded to me the following dispatch from Lieutenant Danenhower to Count Ahlefeldt: "Tell Jackson to bring home Collins' body without fail."

Recognizing that the season was too far advanced to permit an attempt to reach Yakutsk, and deciding to send on the body of Mr. Collins, I placed Ensign Hunt in charge of the party, with instructions to await the opening of winter roads, and then proceed to Irkutsk and home, taking with him certain articles enumerated, and the body of Mr. Collins. I also contracted with a pilot to take Mr. Schuetze, myself

and the Cossack to Kitach, and at 8 a. m. the next morning set out in a large native boat.

This boat was about 30 feet long, 7 feet beam, sharp at both ends, with very small "dead-rise." She was fitted with a mast and yard, with one square sail, which was used with wind aft or on either quarter.

We had no time to spare in reaching Bulun. From the morning of the 17th of September, the wind blew from the southward and westward for many days and winter fairly set in. On the 19th of September the thermometer stood below freezing, and continued below until warm weather, in the spring. For portions of two days we were obliged to land and wait for better weather, yet we made the journey to Kitach in five days. Arriving on the evening of September 21, and finding the settlement absolutely deserted we took possession of a house, waited until morning, and then continued to the meteorological station. Here we learned that the natives had been very unsuccessful in their summer hunting, and in consequence they were without food. They had gone to Borchaiia and Kergulach, in the endeavor to catch deer. I afterwards learned that these people subsisted for several days upon the bone-heaps left in the huts from former meals. Very few deer were taken, and the people were thus almost without provision, until the river froze over sufficiently to permit setting nets. This was the case on October 1, and the fish having commenced to enter the river freely, many were taken, and there was no further scarcity during our stay, which extended until October 25.

On September 24 the thermometer stood at -9° R. Ice formed rapidly, and on the 28th the river was frozen completely over, notwithstanding the current and considerable wind. On the 1st of October many families returned from Borchaiia, and took up their residence at Kitach. I had an interview with the starosta, and was told no deer had been taken, and it was doubtful if we could be supplied with skin clothing. The officers and men at the meteorological station also needed skin clothing; so it was arranged that Dr. Bunge, of the station, and I should go with natives into the western delta and endeavor to kill deer enough for our own clothes.

On the evening of October 4, we started with dog teams, and at midnight stopped at Borchaiia. Setting out early next morning, we reached a camp of nomad Tunguse at 12.30, and were assigned to the yourta or tent of the starosta. The camp consisted of seven yourtas and about thirty people. The deer belonging to the various families numbered 150. Each yourta consisted of light poles, standing in form of a cone, 8 feet in diameter at base, covered with deer-skins. A hole in the top permitted the egress of smoke. Although the temperature was about zero Fahr., a very light fire in the center of the yourta was sufficient to make it comfortably warm. The smoke, however, was very disagreeable to throat and eyes.

On the 6th and 7th of October, we hunted reindeer with very poor success. Many were seen but they were very wild, and in consequence of the ground being so flat or gently sloping, it was very difficult to get within range. We killed but one deer. However, I succeeded in purchasing a little clothing and some skins so that these, added to what was obtained at Kitach, were sufficient for our outfit.

On the 8th of October we returned to Kitach. While traveling, we passed a herd of reindeer, out of which we succeeded in killing one.

During this hunting excursion, we passed over many miles of the

tundra near the sea coast, and although a careful watch was kept, no trace of Chipp's party was seen.

Several more days were spent with the people of Kitach. We had quarters in the hut of the starosta, and conversed at different times with nearly every man in the settlement.

Several families who had remained late at their summer huts came in, and all told the same sad story of no game, no fish, and consequent suffering for want of food. The weather was generally bad; high winds and snow storms were frequent. The cold steadily increased until October 18th the thermometer showed $-8\frac{1}{2}^{\circ}$ Fahr. On that day I went to the sea coast to learn the condition of the ice and the banks. I found good ice at some distance from shore, but close in shore the tidal overflow made travel impossible. The snow had drifted so that from the ice to the top of the bank there was a long inclined plane. Probably there was as much snow along the coast as there ever is, so that nothing could be seen which might have been hidden when Ninderman and Bartlett made their search.

Upon my return, and after a long talk with the chief men of the settlement, I determined to send Mr. Schuetze to Barkiu, thence to Zemovialach. His route was near the coast, and he was instructed to examine especially the banks of the rivers for any signs of a party having passed. I was to take a diagonal course across the delta to Zemovialach, thence to Bulun, where Mr. Schuetze would join me. Tuesday was set for my departure, while Mr. Schuetze was to leave the day following. Meanwhile our clothing had all been made from reindeer-skins, and sleeping bags from felt, which was given us by Lieutenant Jurgens. Our outfit for sledging, consisted, besides the usual woolen underclothing and cloth suit, of a double "kuklanka," a garment somewhat resembling a large shirt with a hood to cover the head; reindeer stockings, made from the skin of young animals, boots reaching to hips, made from the skin of reindeer legs, and a fur hood or bonnet made of fox skin. Sometimes trousers of reindeer-skin were worn, adding greatly to comfort if there was much wind or the cold was greater than 50 degrees below zero Fahr. When skin trousers were worn, boots reaching only to the knees were found warm enough and more convenient than longer ones. Sleeping bags made of reindeer-skin were almost indispensable. They were made by sewing two or more skins together in the form of a large bag, in which a slit extending from the head half way to the opposite end was cut. This opening could be closed at the pleasure of the sleeper by means of ties.

The natives caught many fish daily, averaging about 70 pounds per net, but this was said to be less than the average catch at this season of the year.

The ice, which during the winter attains a thickness of 8 feet, was 15 inches thick on October 22. The lowest temperature to that date was $-17\frac{1}{2}^{\circ}$ Fahr.

On the 23d, at my request, the starosta gathered together the heads of the families and made careful inquiries as to what had been seen in their wanderings during the summer. His answer to me was that nothing which could have belonged to Chipp's party had been observed.

On the 23d, Nicolai Diakonoff, from Zemovialach, arrived with mails for the meteorological station. He reported that on the 18th, Ensign Hunt and one man had passed through Kumaksurk, on the way to the tomb of De Long and companions.

On the 24th of October I set out for Zemovialach. Constantine, the candidate golova, accompanied me. Each sled was drawn by twelve

dogs, and carried one passenger and the driver with their effects, and about 300 pounds of fish, a light load, but our object was to travel fast. When we had proceeded some 30 versts we met a family consisting of man, wife, and four children, on their way to Kitach. Their story was pitiful. They had been a long time without sufficient food, and several days without any. Their dogs were mere skeletons; two were so nearly dead from starvation they could not walk, and were carried on the sled with the children. I gave the party tea, bread, meat, and fish. They at once retraced their steps to an old hut not far distant, to get a meal before proceeding farther. Twelve versts farther on we came to a hut called sur-da, in which we met a family even worse off than the first. It consisted of man and wife, two old women and three children, one of whom was an infant. They, too, were suffering greatly. Their last two dogs lay in the hut so far gone that they could make no movement. The mother had been so long without food that nature refused to supply nourishment for the infant. Fortunately, I had one can of condensed milk left, and after explaining how to mix the milk with water, left a quantity for them, I gave what provisions we could spare to these people, and arranged for our teams to take them to Kitach on the return trip. Several months after I had the satisfaction of seeing this family in health, and receiving the thanks of the mother for saving her child.

We ran steadily until 9 p. m., when we stopped for the night at Bar-chuck, distant from Kitach 90 versts.

The following morning we crossed the great branch known as Dorapin. At the place of crossing it was about 3 miles wide. During the latter part of the day we crossed immense sand flats, now out of water, though covered with ice, the river having fallen after freezing commenced. In crossing these the natives lost their reckoning, but afterwards came to familiar ground, and at 10 p. m. we found ourselves at Chobogoi; distance made during the day, 80 versts.

The next day, October 26, was very stormy, but we made good progress, and at 4 p. m. arrived at Arrui, the home of Vasili Bobrowsky, and consisting of six balagans or huts. At 5.30 we arrived at Zemovialach. Here I learned that Mr. Hunt had passed through Kumaksurk with the body of Mr. Collins. The same evening the starchina called his people together and made inquiries, as had been done in Kitach. Not a trace of Chipp had been seen. How acutely these people observe was afterwards shown by the finding during the summer of a spoon and knife at different points along the route of Captain De Long's retreat. They were found by natives who arrived at Kitach after my departure therefrom, and were forwarded by Lieutenant Jurgens to the governor of Yakutsk.

October 27 opened with a moderate breeze from the south. In consequence of there being much smooth ice in the bay to the westward of Buikoff, and the inability of the dogs to travel over it when opposed by a wind, I was detained until near noon, when, a change of wind permitting, I was soon away. After crossing the river to Buikoff Cape, the direction was changed to southwest. The river was full of broken, hummocky ice, but the bay proved very smooth, and our speed was excellent. At 1.30 I reached the povarnya at the foot of the mountains on the mainland, 30 versts from Zemovialach. At 3 commenced the ascent of the mountain ridge separating Buikoff Bay from the Lena River. The gap through which we passed is, perhaps, 2,000 feet high. The dogs worked splendidly, and at midnight we had accomplished the ascent and descent, reaching the povarnya on Tass Arrui at 12.30 a. m.

Leaving Tass Arrui October 28, at 10.30, I arrived in Kumaksurk at 3.30 p. m.—an excellent run. The condition of the river ice was remarkable. Below Tass Arrui, and above Kumaksurk, as well as along the banks, the ice was much broken and piled up, but along the central portion of the river was a sheet of ice 20 miles long, and averaging over 2 miles in width, with a surface like glass.

Kumaksurk contains five balagans and thirteen orassas. The former only are occupied now. The people number about sixty. At Kumaksurk travel to the southward by dog sleds ceases, and that by reindeer begins. The station, however, being several versts away, I was compelled to await the arrival of the reindeer until noon of the 29th, at which time I started for Bulun. This journey was a very severe one. The river ice was almost impassable. Masses of it were piled up to a height of 20 feet. After much labor the natives had made a road across the river to the east side; yet in following this road all of our sleds were broken. Repairs were quickly made, however, and we continued along the land in deep snow, occasionally making short distances on the ice near the shore. The weather became very cold, and we gladly stopped at a camp of nomad Tunguse to take tea. At 3 a. m. we recrossed to the west bank, and stopped at a balagan in Ayakid to rest and feed the deer. At 10 a. m. we reached Bulun, having passed twenty-two hours in making only about 60 miles, a journey which is usually made in 8 to 10 hours. Upon arrival I found that I had been traveling when the thermometer showed -37° C. ($-34\frac{1}{2}^{\circ}$ Fahr.).

The commandant of Bulun informed me that Mr. Hunt and party had been supplied with good skin clothing, and had gone to the southward but five days before. A note from Mr. Hunt told me that at starting all were well except Aneguin.

While waiting for Mr. Schuetze, I sold what stores were still left and not needed by us, and after some difficulty found deer-skins enough to make sleeping bags. At midnight, November 5-6, Mr. Schuetze arrived and reported as follows :

BULUN, ON THE LENA RIVER,
East Siberia, November 6, 1882.

SIR: In obedience to your verbal instructions of October 24 to me, I left the Russian meteorological station at Sagastyr, near Kitach, on October 25 at 10 a. m., to make a search for the missing officers and men of the United States Arctic steamer *Jeannette* to eastward to Barkinstan and thence to Zemovelach. I was accompanied by Kalinkin, the Cossack, and made the journey with three dog sleds until reaching Abahastach from which place the empty fish sled was sent back to Kitach.

The first night out we spent in the huts of Belock, where Lieutenant De Long and his party stopped on their march southward, and thence ran a line of search to the hut of Barkin (called Barkinstan) at a distance of 20 to 30 versts from the north coast of the delta, as estimated by the natives.

On the second day we traveled a short distance only (about 20 versts) when we were overtaken by a pouрга, and as nothing could be seen in the blinding snow storm sought shelter in a small hut called Baluecktach, the only hut in this part of the delta, and which is used occasionally only in the winter when the fox traps in the surrounding country are visited by their owners.

The third night we expected to reach Barkinstan, but having lost our way in the darkness pitched the tent near a broken-down summer hut a little to the north of Barkinstan, as we discovered in the morning on continuing our journey.

Thence we ran to the southward and westward and spent the night in a good hut at Abahastach, the mountains of the coast being in sight from here bearing south a little west.

The next morning we left at daybreak with two sleds, the empty fish sled going back from here, and after stopping for a short time in the huts at Borchia we ran on the same day to Arriella and thence to Zeemovelach, reaching the latter place about 9 p. m., the 29th day of October, after having broken through the ice twice with our sleds near Borchia.

The region between Kitach and Barkinstan is crossed by numerous river branches, I having noted at least twenty, some of considerable size. In addition there are many

small lakes, and the tundra is everywhere covered with driftwood, indicating that this part of the delta is overflowed in the spring of the year. From Barkinstan south the journey was for the greater part over shoals and hummocky ice in the Traphim and other large river branches which here flow to the eastward and between small islands on which are many summer huts. The wind had swept the shoals clean of snow in many places and the drag for the dogs was in consequence at times very heavy. All these huts were searched, as well as a few to the northwest of Barkinstan; in fact, all that we saw during the run.

At Zemovelach I was detained till November 2 by violent gales. On the evening of that day I started south and reached Bulun on November 6, in the early morning.

The lowest temperature observed was -30° Reaumur, during a violent southerly gale, while running from the island Tass Arrii to Kumachsurt.

The route followed I have laid down approximately on the chart.

Respectfully submitted.

W. H. SCHUETZE,
Master, United States Navy.

The central portions and the coast line of the delta had been searched by Chief Engineer Melville and his parties. Our own parties had searched carefully the sea-coast outside of the delta from the Olenek to the Yana Rivers, and the eastern and western branches within the delta; also a line had been run a few miles from the coast, from the northeast to the southeast branches. Furthermore, I had communicated with the three hundred natives belonging to the delta, and who had been in every portion of it during the past summer. Not a trace of Chipp's party had been seen. The consideration of these facts, taken in connection with the size of the boat, the number of people she carried, the absence of boat cover which had been of such service in the whale-boat, and the testimony of the survivors as to her position when last seen, and the opinion expressed by them as to her fate, left no doubt that the second cutter and all the people in her were lost in the gale of September 12, 1881. A thorough search for Chipp and party having thus been concluded, and the fate of De Long and party being already known, we determined to return.

Accordingly, November 6, at 3 p. m., we set out with reindeer teams for Yakutsk. The route lay over the mountains to the eastward, until reaching the hut near the bottom of Borchia Bay called Tas Tumuse. Thence over the tundra to the southward, to within the tree limit, distant from Tas Tumuse over 100 versts. A short distance from the tree limit lives, in the winter time, the family Stretchkoff, who are said to possess several thousand deer.

The route now became hilly, even mountainous, and continued so nearly to Verchoyansk, 500 versts south of the tree limit.

As yet but little snow lay upon the ground, which was so lumpy that our sleds were often overturned and nearly as often broken. At the first pavarnya from Tas Tumuse, distant 50 versts, we found a Cos-sack, whose leg had been badly shattered below the knee. He had been overturned, and the sled had fallen on top of him. Another Cos-sack was with him as nurse; a native brought wood a distance of thirty miles for cooking and heating purposes. The nearest medical aid was that of an apothecary in Verchoyansk, 600 versts away. Yet he seemed cheerful, and though he was for weeks without proper care or food, and was transported over a rough road for hundreds of miles, he survived, and the leg was saved. At 10 a. m. we arrived at the house of the starosta. We had come thus far, 410 versts, without changing deer, and had averaged 150 versts per day.

The deer station was but 5 versts distant, but being assured that as yet the station keeper had not brought his deer, I contracted with the starosta for new deer teams, and at 4 p. m. again set out. The roads

were now extremely bad, and our sleds repeatedly broke. The weather became very cold. The mercury of our thermometer was frozen, and still it receded until it recorded -36° R. The air became thick, and it seemed that we were enveloped in a dense fog. From the evening of the 11th to the evening of the 12th we made no stops except to repair sleds, and during the 24 hours we made good 110 versts. We had enjoyed neither fire nor food during this time. For 16 days the mercury continued frozen, except on two occasions, when the thermometer showed -29° R. During the greater part of this time our Cossack, who afterwards proved that he was an excellent judge of the temperature, pronounced that the cold was from 50° to 65° below zero.

After proceeding 270 versts we again changed deer, and with these reached Verchoyansk, 240 versts, on the morning of December 16. As we approached Verchoyansk, the moss, which is the usual food for deer, became very scarce, and for the last sixty versts there was none. The deer were therefore obliged to go this distance and return (120 versts) before feeding.

Aneguin, who had been with Mr. Hunt, was left in Verchoyansk sick. Mansen was left as his nurse and to translate for the attending physician, who spoke German. Soon after my arrival I visited Aneguin, and also interviewed the doctor, who pronounced that the disease was under control and Aneguin would soon be able to travel. Mr. Hunt had made all necessary arrangements with the Ispravnik for the care and transportation of both men to Yakutsk, and these I left in force.

From Verchoyansk to Yakutsk, a distance of 904 versts, both deer and horses are employed, though the latter to a very small extent. When good deer cannot be found in Verchoyansk, horses are frequently used to the first station. From the Aldan River to Yakutsk (200 versts) horses are generally used; yet, as in our case, it sometimes becomes necessary to employ oxen or even cows as draft animals. The stations to the Aldan are from 90 to 100 versts, and from the Aldan to Yakutsk from 20 to 40 versts apart.

At 2 a. m., November 17, we left Verchoyansk. Weather intensely cold. On the 19th it was noticed that the mountains were approaching upon either side; that the valley of the Jana was getting very narrow, and as we progressed it narrowed rapidly.

The singular manner in which huge bowlders and drift-wood are piled up, and their smooth appearance, show plainly how the present stream becomes a wonderful torrent as the snow melts in the spring.

The 21st of November was the coldest day we had experienced, and yet on that day we passed through water several times, and were told that even in January, the coldest month of the year, there was much open water in the valley. We afterwards passed through the valley in January, and found vast fields of ice, as well as a great deal of open water.

On the 22d our road was the bed of the Jana, and was formed of rocks and bowlders, uncovered with snow and piled up in masses often several feet high. Over such a road we were obliged to walk. Just before reaching the summit of the mountain ridge which separates the Jana and Aldan water-sheds, we passed a small lake, which is the Jana's source. The road now became very steep and continued so to the ridge. The ridge itself is only about 20 feet wide on top. The southern slope from this point is extremely steep. Horses can neither ascend nor descend in safety, but are conducted over a longer winding path, which, however, is impassable for nartas. Before commencing the descent of the slope the sleds were lashed together in pairs, the deer unharnessed and tied to the

sides of and behind the sleds, and a rope was passed under the runners. Two men, placing themselves in front, eased the sleds over the ledge. The descent was very rapid, and could only be accomplished with the assistance of the deer, whose sharp feet cut into the hard snow, enabling them to hold back with great power.

From the foot of the mountain to the first pavarnya is 20 versts, and the road was even worse than that over which we had just passed. It lay along the bed of the river, which was then dry, though the formation of the bowlders, &c., indicated that sometimes it is a torrent in force, a river in breadth and volume. As before, this portion of the route caused many breakdowns, which obliged us to walk, and we made but 40 versts in twelve hours. At the pavarnya we met a party of three Russians who had already been detained three days waiting for the yamshiks, or deer drivers, to make new sleds, the old ones having given out entirely.

This pavarnya was somewhat different from those we had heretofore seen. There was a fireplace in the center, but no chimney—simply a large hole to give egress to the smoke, much of which, however, remained to trouble our eyes and throats. The natives, however, did not seem to notice it.

We exchanged drivers with the detained travelers, and at 1 a. m. again proceeded. A brilliant aurora made the night more interesting than usual. At the next station we were detained thirty-six hours waiting for deer, and then pushed on and reached Yakutsk November 29 at 11 a. m.

Mr. Hunt with party was still waiting for the arrival of Aneguin and Mansen.

The governor, General Tchernaieff, was extremely pleased to be assured of the safety of our party. When winter set in, and we had not returned by the river, he ordered provisions sent to Villouisk, thence down the river. He also sent instructions to Verchoyansk to have search parties start out for us, and to forward stores. His fears for our safety were perhaps increased by the reception of a note found in a bottle stranded on Cape Borchia, giving the names of the party and date of departure from Cape Borchia. This note had been thrown overboard by one of the men not long after we had left the cape, on our way to Buikoff by sea, and when found had been forwarded by special messenger. No further news had come from us until Mr. Hunt's arrival.

With my mail I received the following telegram:

Department directs proceed to build sledges and bring bodies to Orenberg, where metallic caskets await, shipped to St. Petersburg.

HUNT.

At the hour appointed by his excellency I called upon Governor Tchernaieff, and was informed that the Russian law forbids the removal or transportation of the dead, without the express permission of the minister of the interior; that the telegram instructing me to bring home the bodies of De Long and his companions had been forwarded to him; and that upon its reception he had written and asked the required permission, but as yet no response had been received. He surely expected to receive a favorable reply by every mail.

I therefore gave instructions to Mr. Hunt that he should leave the body of Mr. Collins in my charge, and continue his journey (under the orders given him in Bulun) as soon as Mansou and Aneguin should arrive.

Mr. Schuetze and I remained to bring home the bodies.

Before the departure of Mr. Hunt's party for home, I obtained from

James Bartlett, who had assisted Mr. Melville in the removal and burial of the bodies of De Long's party, a full description of the clothing, position of the limbs, and the relative position in the tomb, of each body, so that there could be no difficulty in identification.

On the 10th of December Manson and Aneguin arrived. The latter was examined by a physician and pronounced perfectly able to travel. Mr. Hunt and party therefore left for home on the 13th, after which time they were not under my command.

Mail after mail arrived in Yakutsk, yet no permission for the transportation of the bodies was received.

On the 14th of December the governor informed me that he had received a letter from the governor-general in Irkutsk, which stated that the Russian minister of the interior had communicated to Washington that it was contrary to Russian law to transfer dead bodies across Siberia and Russia, and furthermore, that it would be very difficult to do so. No decision had been arrived at, and negotiations were still pending.

The following dispatch was received by Estafette January 4:

The minister of foreign affairs says the governor of Irkutsk thinks present removal of bodies impracticable, endangering dogs and reindeer to be used, which cannot be replaced to inhabitants if lost. Consult governor and telegraph result.

HUNT, *Minister.*

The vice-governor, Mr. Priklonsky, who speaks German, accompanied us to the governor, and kindly acted as interpreter. His excellency, after hearing the dispatch read, said the idea of danger to dogs and deer originated in Yakutsk. At this we were greatly surprised, for such a matter had never been mentioned in the many interviews which had been given us. From our own late experience, we assured his excellency that there could be no loss from death of animals which could not easily be made good by payment; that in truth there would be but little danger, and that in our opinion we could get along with comparatively slight difficulty if only the permission were given. The governor finally said he could do nothing officially to aid us, but he would have no objection to our going as merchants and doing what we could for ourselves.

So much time had already been consumed, and so much more must pass before I could receive an answer from St. Petersburg to a dispatch, that it became evident warm weather would be near by the time we should have returned to Yakutsk, and that further transportation would require air-tight caskets. I therefore sent the following to our envoy in St. Petersburg:

Governor says he cannot order natives to transport bodies, but does not object to removal. From my experience on road, I believe I can get bodies here without official aid by April. In that case caskets must be here that date. Immediate action necessary, or bodies cannot be removed until next winter. * * *

HARBER.

Nothing of special importance occurred until the morning of January 25, when I received a letter from Ensign Hunt, stating that Aneguin had died at Kerinsk from small-pox. This disease had been epidemic for many days in Yakutsk and at many stations on the post-road. We, however, had heard but little of it until within about a week.

The same morning I called upon the governor by appointment, and was informed that by authority of the governor-general we might bring the bodies to Yakutsk, but must do so without any sort of aid from the government. We must proceed as merchants, making the best arrangements we could for the transportation of ourselves and the bodies.

After the bodies had reached Yakutsk they might be transported to Ochotsk, or through Russia, as I should desire.

Our sleds and clothing needed for the journey had long been ready. The preparation of provisions required but 26 hours, and on the evening of the following day, January 26, we turned our faces again to the northward. The thermometer at this time registered $62\frac{1}{2}^{\circ}$ below zero.

The roads were in excellent condition, and we traveled at good speed. At every station we told the people when we would probably return, and the number of animals we would require. All freely promised that the needed horses or deer would be ready.

February 1 brought us to the mountain ridge which separates the Aldan from the Jana watershed. When we commenced the ascent and left the trees behind us, the wind, which had been fresh from the northward, became a gale. Man could not face it, and the deer would not. After a long struggle we were obliged to give up. The provision sleds were cached, and we returned 20 versts to the pavarnya.

The following day the wind shifted, and though it again blew a gale as we crossed the mountain; it blew from the southward, and assisted rather than retarded us. The thermometer during this night stood at -25° Fahr., but the strong wind made it intensely cold. In descending the mountain, my narta was broken, and while repairs were being made I stood exposed to the cold and all my fingers were frost-bitten. This was our most severe experience. In very cold weather it was usually found that walking for a mile or so, enough to get warm without perspiring, would be followed by several hours of comfort.

The longest period of very cold weather we saw during this journey was February 5, 6, and 7. The average for the 5th and 6th was -60° Fahr., and for the 7th $-63\frac{1}{2}^{\circ}$ Fahr., the greatest cold observed this day being -68° Fahr. Although we traveled during these days, we were obliged to walk much more than usual.

At 4.30 p. m., February 7, we reached Verchoyansk. The usual visits were made and returned. The large deer-owner, Ivan Stretchkoff, happened to be in the settlement, and, when asked, readily agreed to transport us over certain portions of the route, amounting to 700 versts, at the regular rates.

After a consultation with the ispravnik and Ivan, it was deemed best to go to the Omalley River, and, after getting good deer from natives living about 50 miles from the coast, cross the Bay of Borchaiia directly to Buikoff. This would be a large gain in time for us. The natives do not like to cross the bay, in consequence of the distance to be traveled without food for the deer, and the danger of being caught in one of the frequent storms. I therefore took a letter from the ispravnik to the headman, which, though it contained no order, might be of service.

On the 9th of February we set out again for the northward. The roads were good, and the weather was generally pleasant. The thermometer ranged from -25° to -50° Fahr. Our progress would have been excellent had the deer been in good condition. Wolves in great numbers infested this region, and had caused heavy losses to the natives, especially during the winter of 1882-'83. A large proportion—sometimes 30 per cent.—of the deer had been killed, and the almost nightly attacks prevented the deer from obtaining sufficient food. They were, therefore, very poor and weak, and could not travel fast, and not unfrequently became exhausted. Two deer dropped dead in harness. Notwithstanding these facts, and considerable delays at stations, we reached the settlement on the Omalley River on the evening of February 16. Maxim, the headman, said that for no consideration would he attempt to cross

the bay to Buikoff or Zemovelach at this time, nor would he follow the shore line around to these places. He claimed that the incessant gales of winter had swept the snow from the ice, and the deer could not travel upon it. The distance by the shore route was so great that it would require many stops, and there were no pavarnyas, and since we had come without a tent, there was absolutely no shelter in case of bad weather. There remained, therefore, but one thing to be done, namely, to go to Bulun, distant 350 versts, thence to Zemovelach, total distance about 550 versts. The distance across the bay would have been only about 180 versts.

At 10 30 a. m. the following morning new deer were ready, and we were running west for Bulun, and without special incident entered that place at 6 a. m. February 20.

I held a consultation with the commandant, chief native officials, and some Russian merchants in regard to transporting the bodies from this place to Ivan's Station, 400 versts away. I ascertained that the deer belonging to natives here are in such a condition that they could not travel the required distance except by easy stages, thus requiring many days. The reindeer belonging to the merchants were somewhat better, and their owners agreed that if we should keep six teams of the deer which came from the Omalloy, they would supply as many as we would need in addition. I accordingly selected fourteen of the deer we had brought, made arrangements for keeping them, ordered the additional sleds required, and at 8 p. m. started for Zemovelach, which we reached at 5 p. m. February 22. We had scarcely reached our destination before the gale which had been threatening for several days set in, and we were weather-bound for four days.

At Zemovelach we found many natives from the north and west delta. But few fish had been taken in those places in the fall, and the inhabitants had been obliged to move temporarily to Zemovelach and Arrui (10 versts north of Zemovelach) to save themselves from starvation. The catch at these last two places had been good.

We had much difficulty in arranging for the necessary number of dog-teams. Several teams were away transporting fish to Kumachsurt, or on duty at the meteorological station, and we required nine teams of twelve dogs each. Notwithstanding the severe weather, messengers were dispatched to Arrui and Buikoff. All dog-owners were consulted, and every available dog was engaged. These were made up into teams, and on the 26th of February the teams were complete. Seven sleds, loaded with provisions and our effects, were to proceed to Mat Vay for the bodies; two were to carry provisions to Kumachsurt, to which place we intended going direct from Mat Vay. We anticipated that our own stores would be exhausted by the time we could reach Kumachsurt.

The morning of February 27 gave us very fine weather, and at 10.30 a. m. we left Zemovelach. The scenes of that morning will long remain in my memory. The efforts of the drivers and many others to single out and catch the dogs belonging to the different teams were wonderful and finally successful. While this was going on, every dog tried to outbark every other, and the noise can be better imagined than described. When the start was made, the picture of the 84 dogs with their sleds bunched nearly together, and going over the level snow at full speed, was one rarely seen, even in the Arctics.

At 3 p. m. we met a Cossack with the mail from the meteorological station on his way south. At 7 p. m. we arrived at Cholbogoi and halted for the night, having made 70 versts. An hour after arrival the dogs were fed, each receiving a frozen fish weighing from 5 to 7 pounds.

(Dogs are fed once per day.) Our hut was in the shape of a frustum of a four-sided pyramid, 12 feet by 10 feet at base. The central portion was occupied by the fire, around which our party of ten arranged themselves for sleep as best they could.

The hut called Mat Vay was reached at 1.30 p. m. March 1. We found it full of snow, and by the time it became inhabitable night was upon us.

The following morning at 10 (March 2) we started for the tomb, and reached it at 11. We at once commenced work; opened the tomb, and removed the snow, which completely filled the inside. When the bodies were exposed to view, it was seen that decay had made such strides during the preceding summer that the features were destroyed. Yet from the known order in which the bodies lay, and the description I had obtained concerning their clothing, and the position of their legs and arms, they were easily identified beyond the possibility of a doubt.

The bodies were frozen to the rocks beneath, but were removed without accident of any kind. As each body was taken from the tomb, it was marked by attaching a strip of leather bearing the name, then wrapped in felt, and marked on the outside in the same manner. After all had been taken from the tomb, the stones which originally covered it were piled up about the cross in the form of a pyramid to the height of 8 feet, and the bodies were taken to Matvay. The limbs were so bent that it became difficult to arrange the bodies on the sleds for transportation. Before night, however, it was accomplished, and all preparations were made for starting south at daylight.

On the morning of March 3, 1883, we commenced the homeward journey with the bodies. The thermometer stood at -24° Fahr., and the wind was fresh from the northwest. The snow was drifting so that objects could be distinguished only when very near. Everything indicated a severe poorga, which fortunately would be behind us. At peep of day we started, and continued our way until night overtook us off the north end of the island of Tas Arrui. A summer hut was found about 150 yards up a ravine, which gave shelter to most of the party during the night. Some, however, slept outside under the lee of dog sleds. The road was very bad. It lay over the river ice, which was piled up very much. Our drivers, however, were good men, and we got along with very few accidents to the sleds.

For the next day I quote from my journal.

Sunday, March 4. Fine morning. Thermometer -22° R. ($-17\frac{1}{2}^{\circ}$ Fahr.). In afternoon strong poorga, with blinding snowdrift from south-east. Several of the yemshiks (drivers) had their faces frost-bitten.

Though the roads were very bad, the yemshiks were skillful and the sleds were seldom upset. Off the middle of Tas Arrui, the ice became very smooth, and the poorga coming on, the dogs could not keep their feet. We were therefore obliged to hug the shore and often to help the dogs. After a hard day's work, arrived at Kumachsurt at 7 p. m. The dogs are in much better condition than it was thought they would be. The ones whose feet are sorest will be left here, and with the remainder we will proceed to Bulun in the morning.

Bulun was reached at 1.30 a. m., March 6. After daylight I weighed the bodies as they then were, wrapped in felt and lashed with rope, some with several suits of clothing and others nearly nude. The results were as follows: De Long, 142 pounds; Ambler, 131 pounds; Lee, 126 pounds; Dressler, 117 pounds; Iverson, 139 pounds; Gortz, 135 pounds; Boyd, 135 pounds; Kack, 108 pounds; Ah Sam, 135 pounds. (Collins had been taken to Yakutsk in November, and was never weighed.)

In consequence of the limbs being much bent, only one body could

be carried upon a sled. We therefore required many deer. The merchants held to their promise, and at 11 p. m. we set out with a train of sixteen nartas (deer-sleds) and 37 deer, 5 of which were spare animals.

The return trip was not attended by many accidents. The weather gradually became warmer, until as we neared Yakutsk we feared somewhat that we would be unable to reach the city with the bodies. A cold wave, however, set our fears at rest.

On the 9th of March we passed two deer-sleds, still loaded, yet abandoned for the time. A portion of a carcass showed plainly that the wolves had successfully attacked the deer of some traveler, and he was unable to proceed with all of his effects.

Our deer began to show signs of exhaustion long before we reached the first station, and we had no little trouble in getting through. We walked a great deal, thus lightening their burden, and finally I pushed ahead to the station and sent fresh deer back to assist. The deer thus exhausted were chiefly those which had come from the Omalloi River. This fact clearly showed that a rest of two weeks is not sufficient for reindeer to recuperate after hard travel for three or four days. Similar trouble arose from exhaustion of the deer until we reached Verchoyansk, which place we entered on March 17. At this time the Yemshiks were all obliged to walk and some of the sleds were drawn by but one deer.

In consequence of requiring so many animals for our train we were obliged to wait in Verchoyansk until the evening of the 18th, when a portion only of the train went forward, the remainder following the next morning.

The governor of Yakutsk had forwarded our mails to Verchoyansk, and there I received the following telegram, addressed by Minister Hunt in Petersburg, to Count Ahlefeldt in Irkutsk: "Notify Harber that the Department directs the bodies to be transported to Orenburg frozen, and considers the transport of the caskets neither necessary nor practicable," which to us meant that we must pass nearly a year more in that region.

From the Ispravnick and others we learned that since our passage north there had been many cases of small-pox at several of the stations to the southward, and we might experience difficulty in getting deer, for the natives often flee from the stations where any of their number are attacked with serious maladies. A native officer of low grade was sent forward to order reindeer in readiness for us. This and the arrangements we ourselves had made while journeying to the northward were sufficient to have enough deer supplied readily at all stations except one. At this point we got seven teams, and selected ten teams from the old deer.

We crossed the ridge of the Verchoyansk mountains on the 24th of March, and arrived at the Aldan on the evening of March 26. From this point to Yakutsk (220 versts) draught animals were scarce, yet by taking bulls and horses we got along fairly well. Usually one-third were bulls or cows.

Yakutsk was reached March 29, and the bodies were taken at once to the hospital and placed in the ice-house.

On the 1st of April the following telegram was forwarded to me by Count Ahlefeldt:

Tell Harber to put bodies in an ice-house. Caskets remain in Orenburg and further search during summer is left to his discretion.

HUNT, *Minister.*

On the 2d I found two ice-houses, the use of which was placed at my disposal, but neither of them was suitable.

The same day I was informed by his excellency the governor that air-tight caskets in which to transport the bodies would be necessary, winter or summer, and further that *lead* only could be used as a lining. I asked for the law which made lead the only metal allowable. Though this could not be found, his excellency was so positive as to the existence of the law that I determined to proceed at once to Irkutsk and if need be to Russia for such material as was found necessary.

On the 4th of April Mr. Schuetze and I held a consultation with Dr. Kapello, the chief Government surgeon, and Dr. Gribonoffsky, as to the best manner of keeping the bodies in their frozen condition during the summer, and also as to how and when the limbs should be straightened.

It was finally decided that in consequence of the rapidly approaching warm weather, and the difficulty of freezing the bodies solid after straightening the limbs, it would be best not to straighten them until the cold weather of next winter set in, and that the bodies should be buried as they were, some 10 or 12 feet in the ground, having first prepared a box for their reception and protection. In so doing, they would be kept free from the ravages of mice and would keep solid as at present far better than if placed in any ice-house to be found in the city.

I gave Mr. Schuetze instructions to see the bodies cared for as agreed upon, and on the 5th of April set out for Irkutsk. To avoid being caught by the breaking up of the river ice, I made all possible speed, and accomplished the 2,816 versts (1,888 miles) in eleven days eighteen hours, an average of 160 miles per day.

Very few incidents marked this journey. The weather was generally warm and pleasant during the day, but the nights were often quite cold. The roads were still fair, but every day's sun made them worse. The crust of snow on the river became soft, and in one instance the sled broke through too deep to be extricated without help from the village. I was saved by getting astride of a horse and wading ashore. At another time the driver and I were compelled to work in the snow and water for many minutes, during which time we became thoroughly wet and chilled; yet we traveled 10 miles before getting to a house.

At 1.30 p. m., April 17, I called upon his excellency, the governor-general, in Irkutsk, and learned that *lead* was not necessary for lining the caskets. Any metal which would insure the caskets being air-tight would answer. I afterwards received written permission to use tin. The prices asked by workmen in Irkutsk for the making of the caskets were so high that I purchased all necessary material and shipped it to Yakutsk, where the work was afterwards done for one-fourth the amount first asked.

On April 26 I telegraphed to the honorable Secretary of the Navy, stating that further search was not deemed advisable, and asked for instructions for the summer. The reply, received May 2, read: "No special instruction. One officer may return, if desired." The probable difficulties to be met in traveling home with the bodies rendered it important that both Mr. Schuetze and I should remain.

I remained in Irkutsk until July 23, when, after drawing 10,000 roubles to defray the expenses of transporting the bodies, I started for Yakutsk. The travel was by post wagon to Shegalova, thence by small boat with two men at the oars to Ust Kutsch, where I took steamer to Visca. Here I joined a merchant bound for the great fair at Yakutsk, and we traveled with a larger boat, which proved very comfortable, and reached Yakutsk August 9.

On the way north I stopped at Kerinsk and visited the grave of Aneguin, who had died from small-pox on his way home. I found that cattle and horses had free access to the burial-ground, and Aneguin's grave, not being protected by a special inclosure, was much marred. I made arrangements to have the grave inclosed according to a plan which I afterwards sent from Yakutsk.

During the time which passed before cold weather set in there was little to be done. The sleds for transporting the bodies were built and the caskets were made under our daily supervision; also the mattresses and pillows for packing the bodies so that they might travel across Siberia without injury.

In September I saw the silver medals sent by the Russian Government to Baieschoff, the former commandant in Bulun, Kalinkin, who served with Mr. Melville, and the different natives who found and assisted the survivors of the *Jeannette*.

The first hoar-frost of the fall was seen on September 18, and after that the weather grew cold rapidly. Within a few days snow-storms were frequent, and after October 4 the ground remained covered with snow, though the temperature was above the freezing point a few times at mid-day. On the 7th of October, wheeled vehicles nearly disappeared from the streets. On the 8th the thermometer showed -10° Fahr., and on the 14th it fell to -22° Fahr., and remained low for many days. A few days late in October and early in November were mild, but from November 6 until our departure the weather was cold. On November 20 the thermometer, at 8 a. m., stood at -35° Fahr., and the cold gradually increased until our departure at 1 p. m. November 28, when it registered -67° Fahr.

On November 6, workmen commenced opening the large grave in which the bodies lay during the summer. The earth in the lower part was frozen hard, and was with difficulty removed. The following day the grave was opened, and the bodies taken to the hospital. Captain De Long and Mr. Collins were placed in a warm room, and in the morning were in a suitable condition for straightening the limbs. Four assistants, under the direction of the medical inspector, Dr. Kapello, removed the felt wrapping, and all clothing except the suit nearest to the body. The legs and arms were then made straight, and the bodies were completely wrapped in white linen. As each was completed, a strip of linen bearing the name was sewed upon the breast for identification, and the body was then taken to a cold room and frozen. The appearance of the bodies was mummy-like. The skin was black and adhered close to the bones of the head, hands, and feet. So far as we could observe, no change had taken place since they had been taken from the tomb. The work of straightening was completed on November 11. All the bodies were wrapped in felt and sewed therein. They were then packed in the caskets, mattresses being placed beneath and over each body, and pillows about the head. All spaces were filled with felt and wood fiber. The tin covers of the lining were then soldered in place, the casket closed and banded with iron. Two months later when the caskets were opened in Orenburg, after a journey in sleds over rough roads of 5,000 miles, it was found that not a body had turned or otherwise changed its position—not an accident of any kind had happened to them.

On the 15th of November all was ready for our departure for home. The Lena River had been frozen over for some time, and the ice was sufficiently strong to permit travel, but reports from farther south said the roads were very poor, that very little snow had fallen, and the horses not being shod could not travel upon the ice.

Governor Tchernaiëff desired to notify the various governors through whose district we were to pass, both in Siberia and Russia, of the date of our departure. I therefore fixed upon November 28 for the date, and for the route, via Irkutsk, Krasnoyarsk, Tomsk, Omsk, Orenburg, Moscow, Samara, Smolensk, Minsk, Wilna, Wirballen, Berlin, Hamburg—thence by steamer direct to New York.

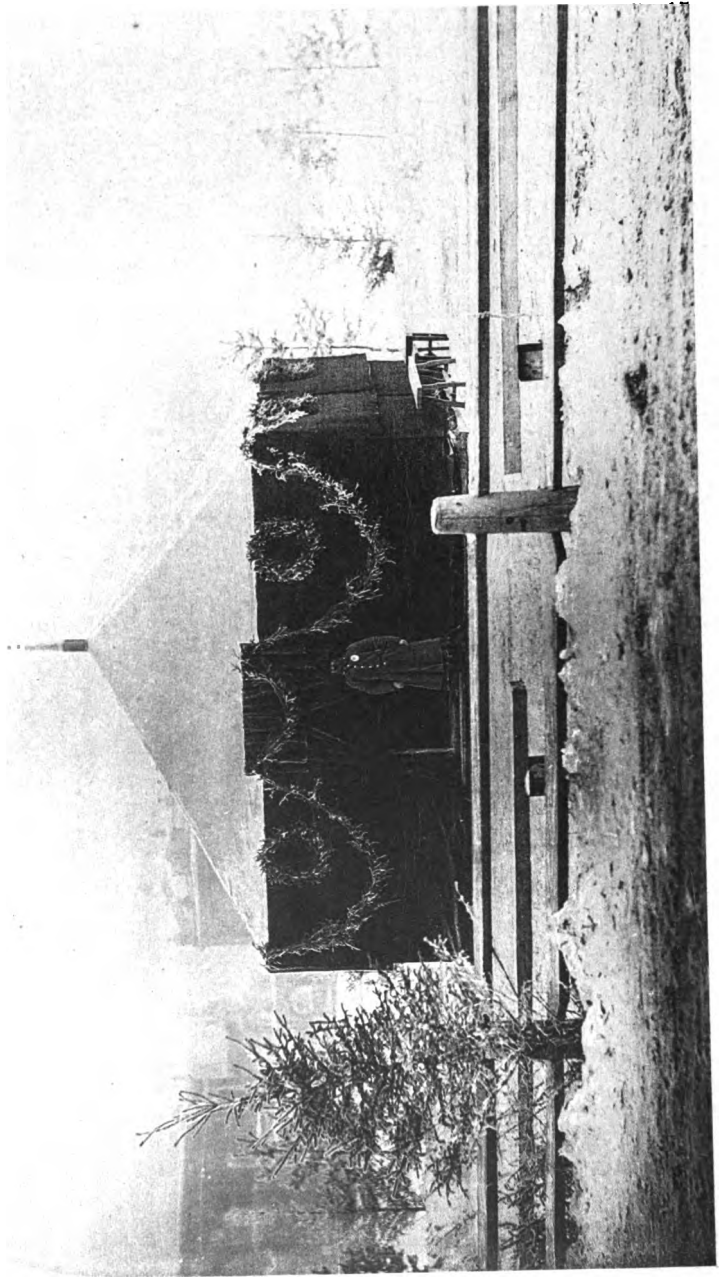
On November 27 the thermometer stood from 58° to 63° Fahr. below zero, yet the work of lashing the bodies upon the sleds was done in the open air, and the whole day was consumed in doing it. Two caskets were lashed upon each sled. Five sleds were therefore used, and each carried about 600 pounds.

On November 28 we paid a farewell visit to Governor Tchernaiëff, who had always been not only a kind and courteous officer, but also had become a warm friend, during the months we had passed near him. Immediately after his return visit, Mr. Schuetze and I went to the hospital, where the bodies still were. At 1 p. m. the cortege, followed by a large number of sleds, left the hospital, and the homeward journey, commenced at Matvay in the preceding March, was renewed. The temperature at this time was 67° Fahr. below zero, yet at the outer limits of the city was a throng, comprising his excellency the governor, the officials, both civil and military, merchants, and other citizens. A company of soldiers was in line, and presented arms as the bodies passed. The line was then formed across the road, and three volleys were fired in honor of the dead.

Our train was composed of seven sleds, each requiring three horses when the roads were fair, and more when very bad. The number of horses which were kept at the stations for carrying mails and travelers was twelve. During the winter months, however, when there is little work to be done, the peasants willingly hire their horses, and usually demand only the Government rates; but that there should be no difficulty, and that horses should be quickly supplied, the governor sent a satsodatel, or under-ispravnick, to accompany us.

From the first station we traveled in two parties, Mr. Schuetze, with two sleds carrying bodies, going ahead with the satsodatel, while I followed soon after with the remaining threesleds. Horses were promptly supplied, but much time was lost at every station in changing so many. The road lay over the land for 120 versts, and then ought to have been upon the river ice, but this was smooth and the winds had swept away the snow, and the unshod horses could not travel upon it. We therefore toiled over the rocks along the river bank. Later, when we came to ice which was not smooth, it was piled up in such irregular masses that it could not be traveled upon until the peasants had made a roadway. Olekma was reached December 2. We called upon the ispravnik, Mr. Shakurdin, from whom we received polite attentions. Another satsodatel took the place of the one that had accompanied us from Yakutsk, and in the evening we continued our journey. Between Olekma and Viteem we encountered extremely bad roads for much of the distance. Travelling upon the river was prevented by open water flowing over the ice near the shore, yet we reached Viteem on the evening of December 7, having made 1,400 versts in little over nine days, an average of 100 miles a day.

The weather after leaving Yakutsk became less severe, yet remained cold, and at times the wind made us uncomfortable, but life was pleasanter in every way than during our reindeer sledding to the northward. We left Viteem on the morning of the 8th of December, Mr. Schuetze again in advance. As we journeyed to the southward, the weather be-



came milder, and heavy snow-storms set in. These storms gave us great pleasure, for we had been told by travelers from the south that from Irkutsk to Shegalova the ground was still uncovered with snow. The roads were good, for we at last were traveling on the river, and our horses were shod. We reached Kerinsk on the evening of December 10. At 8 p. m. Mr. Schuetze set out. I remained to see the completion of the railing ordered for the grave of Aneguin. This was done the following day. The grave is now surrounded by a good railing of four bars, the upper rail or bar being $3\frac{1}{2}$ feet from the ground. A cross $9\frac{1}{2}$ feet high stands at the head of the grave. Upon its arms in deeply-cut letters is: "In memory of Aneguin, of the U. S. S. Jeannette, who died in Kerinsk in December, 1882." The date is Old Style, because that only is used in Russian territory.

I reached Vercholensk, the terminus of the telegraph line, at 7 a. m. December 15, and found Mr. Schuetze, who had arrived the evening before. A dispatch from Count Ahlefeldt informed us that the city authorities of Irkutsk intended to give the bodies a public reception. I requested him to inform the authorities that I would arrive at 11 a. m. December 17. From Vercholensk, the Ispravnik accompanied us for several stations. On the evening of the 16th we reached the last station, and stopped for the night, in order to enter the city at the hour mentioned. Soon afterwards a police official arrived from Irkutsk and made arrangements for supplying all sleds with horses in the morning. We found that no time was lost by waiting in Yakutsk. In this portion of the country the snow had been upon the ground but three days, and as yet the roads were poor. Notwithstanding the many little delays and the bad roads we encountered, the journey of nearly 1,900 miles was made in nineteen days.

At 8.45 a. m. December 17, we left the station, and proceeded slowly, arriving at the city limits at 11 o'clock. Here we were met by the *golova* (mayor of the city), Mr. Demidoff, the police-master, Colonel Makoffsky, the officers and several members of the Geographical Society of East Siberia, an *aid-de-camp* from the governor-general, many officers and citizens. The bodies were escorted to the public square, where they were placed in a catafalque, and lay in state during our stay in the city. Beautiful wreaths of flowers and evergreens were placed upon the caskets by the city of Irkutsk, the *golova*, the Geographical Society, the military officers on duty in the city, the physicians of the city, and private citizens. Photographs of the catafalque and caskets were taken, and copies are appended.

On the 18th we made official visits upon the governor-general, Aulichin. The governor, Nassovich, Major-General Maximovich, and later we called upon the president and other officials of the Geographical Society, and the chief city officials. All these visits were duly returned.

On the 19th we attended a meeting of the Geographical Society, at which was read a paper describing the cruise of the *Jeannette*, the retreat, the death of De Long and companions, the searches, &c. Upon the conclusion of the paper the officers and members of the society greeted us warmly. Mr. Schuetze, in behalf of the American people and of ourselves, expressed in fitting terms our thanks for all that had been said and done in honor of the dead, and assured the society that the remembrance of its kindness would be held dear throughout our journey.

Noon, December 21, was set for our departure, and at 11.30 all was in readiness. When we arrived at the public square, about 200 troops

were in line, and an immense throng of citizens filled the square and adjacent streets. Mr. Schuetze and I were conducted into the chamber of the city council, where we met the chief officers of the city, army, and Geographical Society. A poem in memory of, and a tribute of respect to, the dead was read by Lieutenant Maximovich, who was also the author. (This poem is appended.) Governor Nassovich made a short address in Russian, and then added, in German, that our early arrival had prevented a portion of the intended ceremonies. The people and authorities wished to do more, but under the circumstances we should receive what had been done as indicating their desire to honor our dead. Our sincere thanks were appropriately expressed, and farewells were said. Upon our reaching the street the march was taken up, the band playing a dirge. The troops presented arms as the bodies passed them, and then wheeling into column escorted the cortege to the river side. The governor-general attended in the square. The governor, mayor, and other officers walked with Mr. Schuetze and myself after the last sled. Twelve officers and physicians acted as pall-bearers, walking upon either side of the leading sled. Several thousand citizens followed to the ferry. When the bodies were on board the ferry-boat, the troops were formed in line, parallel with the river, and as the boat left the shore three volleys were fired in honor of the dead.

From Irkutsk westward there are in winter many travelers, and the transport trains are numerous and large. The post passes each way four times per week, and since travelers usually are supplied with horses at the post stations, we found no little difficulty at most stations in getting enough horses for our train. The roads, too, were but partly covered with snow, and time was consumed in passing the transport trains. We therefore divided into two parties again, and got along fairly well. The weather was mild as compared with what we had experienced a little farther north, and the cold did not trouble us. Nizhne Udinsk was reached at 2 p. m. December 24. From this point we had no difficulty in getting horses. An officer of police, or a village chief, preceded us nearly the whole distance from Irkutsk to Omsk, and horses were usually awaiting our arrival. Our delays were, therefore, only for repairs, and such as were necessary in changing horses, and amounted to from three-fourths of an hour to an hour and a half at each station. We entered Krasnoyarsk late at night December 27, and remained until the afternoon of the 28th. During this time we had the iron shoes of the sled-runners renewed. These were $\frac{3}{16}$ -inch best Russia iron when we left Yakutsk, but we had traveled so much over rocks and sand that many were worn through before we reached Krasnoyarsk, and, as stated, all had to be renewed at this place. Before our departure for Tomsk flowers were placed upon the caskets by Mr. Kousnetzoff. From Krasnoyarsk to Tomsk the roads proved better, and we made excellent progress. The distance, 554 versts, was accomplished in two days and fifteen hours.

Arriving at Tomsk at 7 a. m. December 31, we were informed that the governor had just left the city, but would return in the evening. We therefore rested for the first day since leaving Yakutsk. On the morning of January 1, 1884, I called upon his excellency the governor, the golova or mayor, the ispravnik, and police-master. After the governor had returned our visit, the golova and four of the city council called upon us and officially stated that the city desired to pay honor to the dead at the time of our departure. In the afternoon we were the guests of the city at dinner.

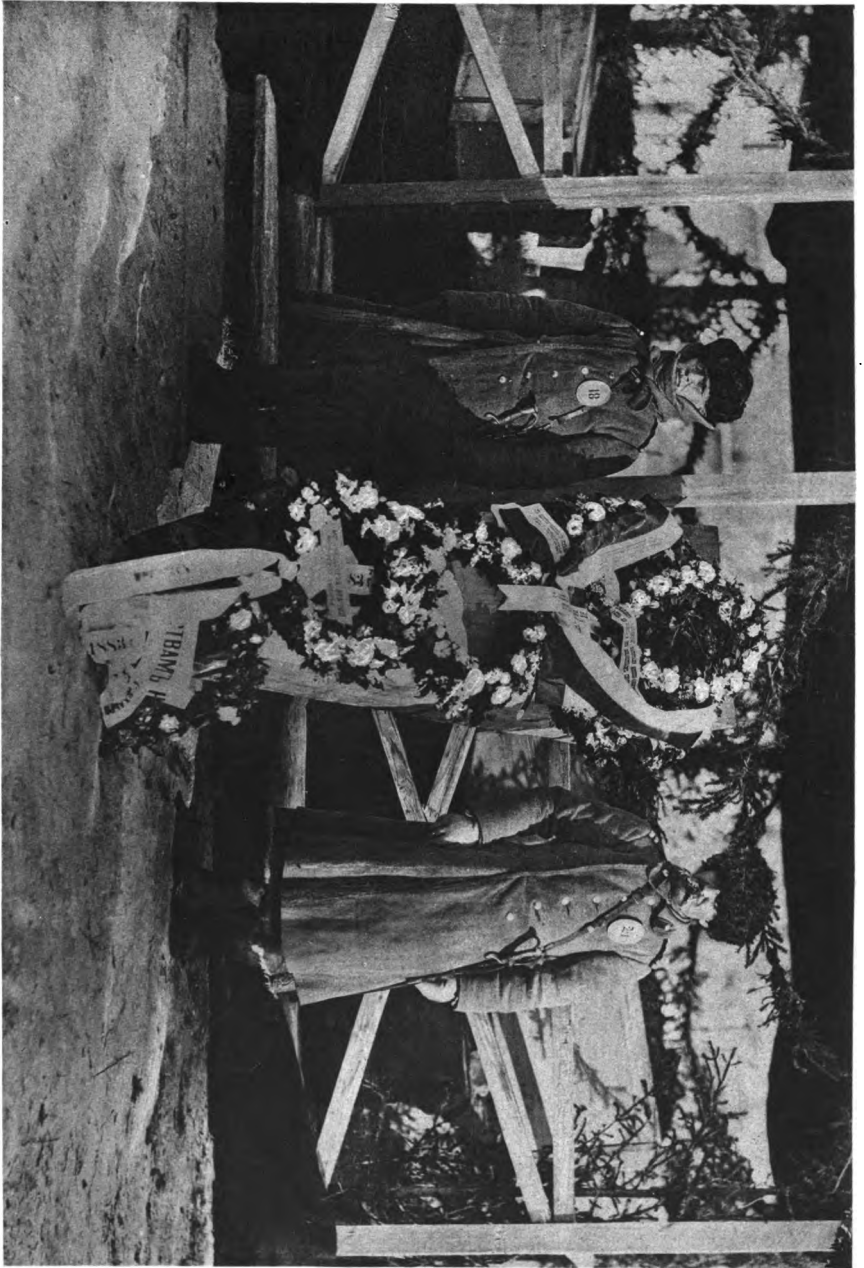
Early in the morning of January 2, the bodies were ranged in front

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of the City Hall, where each sled was placed in a bower of evergreens, and wreaths and flowers were deposited upon the caskets. At 10.30 a. m. Mr. Schuetze and I were escorted to the City Hall. An address was read to the people assembled by the golova, who gave a short account of the Jeannette expedition, and told why honor was paid to the remains which we were escorting home. Upon leaving the hall we found a vast number of people filling streets and cross streets. The mayor bore aloft a beautiful metallic wreath, which was placed upon the leading sled. We were soon leaving Tomsk, and as we neared the city limits we passed two hundred and fifty soldiers in line without arms.

Scarcely had we left the city before a fresh breeze sprang up, causing the snow to drift badly. At the same time it snowed freely, and we experienced our first storm upon the steppes. We did not deem it sufficiently severe to stop our journey, though we afterwards learned that travelers, and even the post, lost their way in the storm and were many hours before again finding the road. The storm ceased on the morning of the 4th, and thereafter we traveled very fast. Omsk was reached on the 6th of January, the Russian Christmas. The day was too far advanced to pay visits, so these were made the following day upon the governor general, the governor, ispravnik, and police-master. These visits were returned, and we made preparations for departure. At 5.10 p. m. a body of troops paraded in front of the hotel, and we started at once. Arms were presented as the bodies passed, and the whole of the troops escorted us to the city limits. We now entered the Kirghese Steppes, and the change in the people was marked. The Russian peasant was replaced by the soldier. Tartars and Kirghese became more numerous. In consequence of the great scarcity of timber, the houses were smaller and generally less comfortable. The villages were small and contained but few shops, and even churches were rarely seen. Wood for fuel, as well as for building purposes, was brought from 20 to 60 miles. Horses, cattle, and sheep were numerous, and for their protection from the sharp winds which sweep across the steppes numerous sheds were erected. The condition of the horses was wretched in the extreme, a drought in the past summer having ruined the hay crop, as also the wheat crop. The people were poorly clad. The usual heat-containing garment was a coat of sheepskin with the wool inside, yet many could not afford even this cheap article of dress. As we traveled to the westward we saw transport trains drawn by camels and dromedaries, which at the same time carried large burdens upon their backs.

On the night of January 8, a violent storm sprang up, the snow drifted so thick that my driver lost the road and plunged into a snow-bank, from which the sled could not be moved until he had gone a distance of 9 versts for assistance. I passed the entire night on the steppes between two stations, and was ten hours in making 20 miles. The advance party under Mr. Schuetze had been more fortunate and gained several hours upon us.

In Petropavlosk we were received by a body of soldiers, who also attended our departure. Sixteen mounted Cossacks were sent to escort the cortege to the next village, but the weather was very cold, and I dismissed the escort beyond the city limits. The Nachalnik, the police-master, and commander of the troops paid their respects to us at the post station, and their visits were duly returned. An officer of small rank preceded us for many stations to order horses for our train. Upon our arrival in the villages we found a number of Cossacks drawn up with sabers at "present." The population, as before, were Cossacks,

but apparently they were more prosperous than farther east. The houses were better, and better furnished. The drought, however, had caused a total loss of the crops here also, yet there was no scarcity of bread. In consequence of there being no market, one good season will produce grain enough to provide the population with bread for five years. The horses suffered most, as hay is grown only in sufficient quantities to last from year to year. At this time "bread" (rye) was worth 25 cents per pood, or 40 pounds; hay sold at $2\frac{1}{2}$ cents per pound, and a horse would bring from \$5 to \$10.

On the 11th of January we passed into the government of Orenburg, and on the 12th reached Troitsk, a city of some 15,000 inhabitants, one-half of whom are Tartars. On January 13 we left the steppes proper and entered a rolling country. We had fair weather in crossing the Ural Mountains and traveled fairly well, though delayed a great deal in changing horses at the stations. Without special incident we reached Orenburg, the end of our sledge journey, at 10 p. m. January 16. The distance from Irkutsk to Orenburg is 3,980 versts (about 3,000 miles), and the time taken in accomplishing it was twenty and one-quarter days. Six days more spent in the cities of Krasnoyarsk, Tomsk, Omsk, and Petropavlosk made in all twenty-six and one-quarter days from departure to arrival.

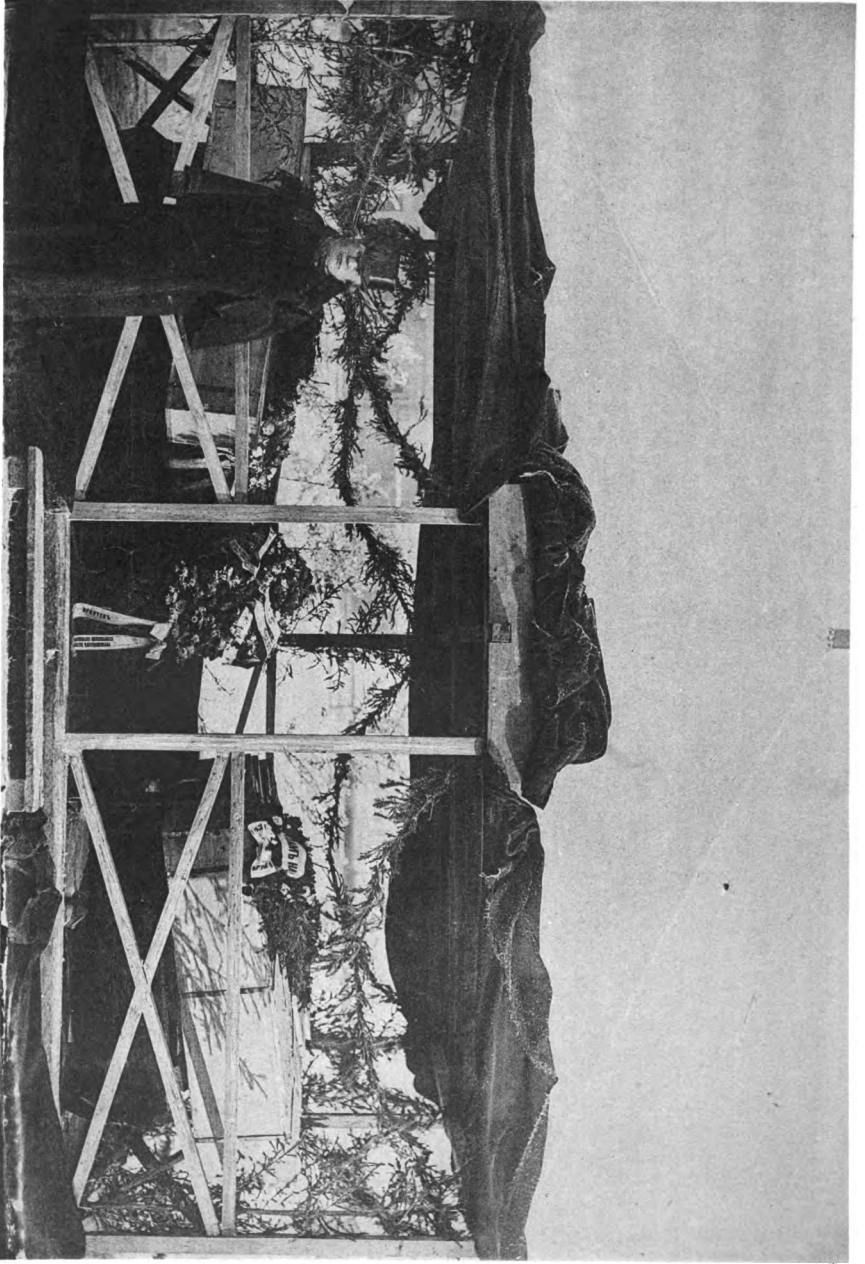
January 17 I called upon his excellency the governor, and arranged to have the work of transferring the bodies from the temporary caskets to the metallic cases sent from the United States done at the city hospital.

The preparations were completed before night, and the following morning the work was commenced. It was soon evident that the workmen were entirely incompetent, and they were dismissed. The rest of the day was spent in seeking others. Several changes were made in the workmen, as we found it necessary. Both Mr. Schuetze and I were present when any work was being done, and every care was taken in wrapping and packing the bodies, and in sealing the caskets. The very cold weather made it impossible to work more than five to six hours per day; hence the transfers were not completed until the 23d of January. In the mean time I had made arrangements with the railway officials for transportation to Moscow. A special car was provided for the purpose. The Geographical Society and the physicians and citizens of the city wishing to pay a tribute of respect to the dead before our departure, 1 p. m. January 24 was set for taking the remains from the hospital to the railroad depot, and at this time the ceremony should take place. The ten caskets were placed on five sleds, two on each, and covered with a large pall having a silver cross in the center. Upon the leading sled a cross was erected by the members of the press, and upon it was hung a wreath of flowers and gilded laurel leaves. At 1 p. m. the president of the Geographical Society delivered an address to the people assembled and one to ourselves. He was followed by Dr. Lontkevich on the part of the physicians of the city. These addresses are appended. After these ceremonies were concluded the remains were taken to the depot, preceded by a military band and followed by many hundred people. The vice-governor and police-master, who on this occasion represented the governor, walked in rear of the train with Mr. Schuetze and myself. Arrived at the depot the caskets were placed in the car, and the wreaths from the Geographical Society, the physicians of Orenburg and the members of the press, as well as those brought from Siberia, were deposited upon them. Evergreens were placed upon all sides of the car by the railway officials. This car with all the tributes then within it,

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and all that were added from time to time, was permitted to go to the German frontier at Eydt Kunen.

At 10.30 p. m. we left for Moscow. Arriving at Samara the following day, we were met at the depot by the governor, mayor, physicians, and others. The governor spoke excellent English, and, after presenting us to the chief people present, asked permission to lay wreaths upon the caskets. The same evening at Sizrau many flowers and wreaths were presented by ladies and the railway officials. At Penza we were met by a band of music, and a large number of citizens who had been waiting many hours to deposit their offerings over the remains. At Morshansk a band of music and all the officers of the garrison met us and bade us *bon voyage*. At Ryaschsk, too, were many people to welcome us and bid us Godspeed.

On Sunday morning, January 27, Moscow was reached. We were met at the depot by the United States consul, Mr. Van Riper, who deposited a handsome laurel wreath. Mr. Smith, an American who accompanied the consul, kindly transacted all necessary business concerning the transfer of the car across the city and placing it upon the tracks of the other company.

Since this could not be completed before Monday evening, we repaired to the hotel. During the day, in company with our consul, I called upon the governor-general, Prince Dolgorouky, the governor, the police-master, and the German and French consuls. During our stay visits were also exchanged with the officers of the Society of Friends of the Natural Sciences, of the Meteorological Society, and others.

We were requested to be at the depot at 5 p. m. Wednesday, January 30, and at that hour we opened the car. A large concourse of people filled the depot and platforms. Prayers for the dead were repeated, after which wreaths were placed upon the cases from the railway officials and employés, the English colony, the Society of Friends of the Natural Sciences, students of the university, and Mr. Smith and sons. Shortly before the departure of the train Mr. Delagrene, consul of France, arrived with a large delegation from the French colony in Moscow. In the name of his people he presented a beautiful wreath of solid silver resting upon a black satin cushion and appropriately engraved. During our stay Mr. Becker, a French artist, painted a handsome picture of the car (open) showing a portion of the caskets as they lay covered with tokens of respect which had been bestowed throughout the journey.

At 6 p. m. we left Moscow, and at noon the following day reached Smolensk. Here we were received by the vice-governor, the mayor, and many hundred citizens. The mayor made an address (a translation of which is appended), and afterwards little girls deposited five wreaths from different societies upon the caskets, which by this time were hidden by the great mass of wreaths and flowers.

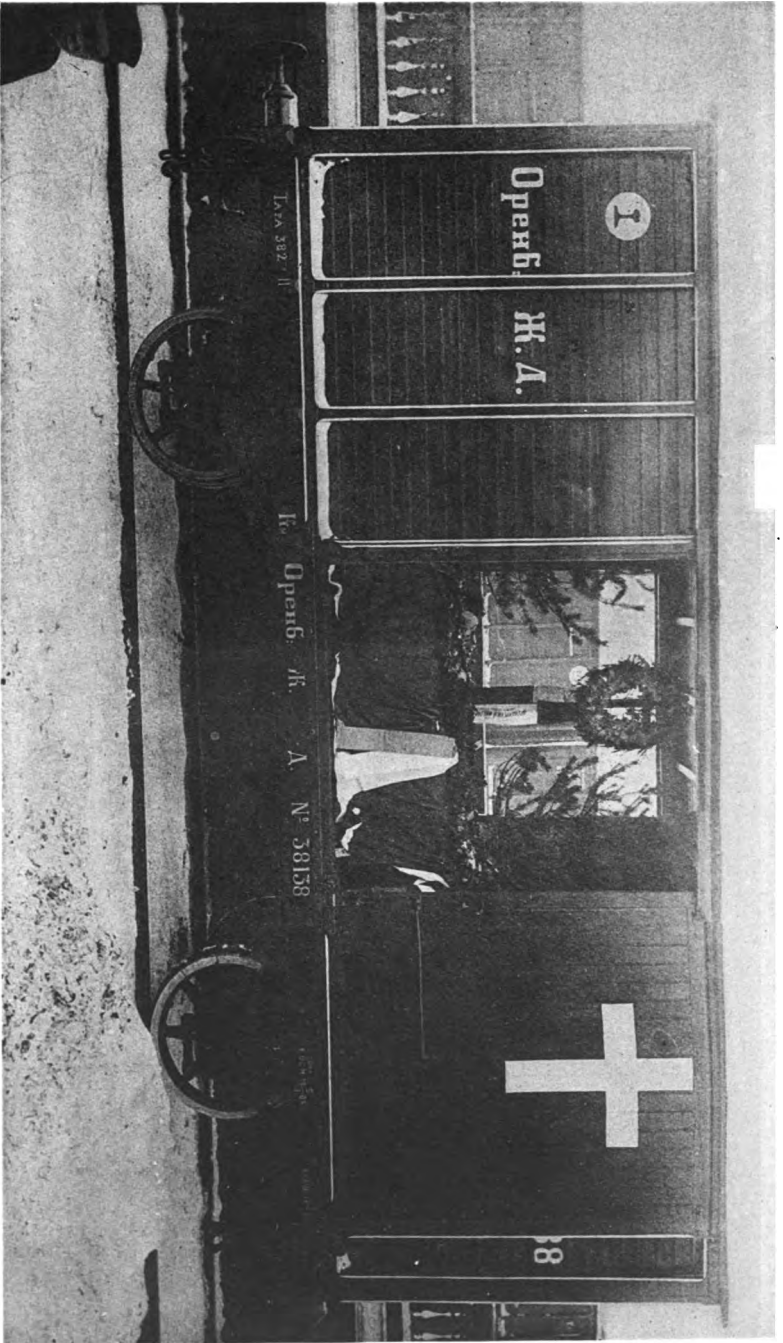
Without further demonstrations we reached Eydt Kunen at 1.30 p. m. February 1. In consequence of our approach not having been telegraphed, no car into which to transfer the bodies was ready upon our arrival, and we were compelled to wait until 9 p. m. before proceeding to Berlin. Through the kindness of the late Minister Hunt I had obtained a permit to pass through German territory with the bodies; so no further difficulties appeared. Berlin was reached at 9 p. m. February 2. Mr. Sargent, United States minister to Germany, the secretary of the United States legation, the secretary of the Geographical Society of Berlin, Professor Neumayer, chief of the National Observatory, and

New York Herald, were present to welcome us. Professor Neumayer and the secretary of the Geographical Society placed floral tributes in the car. Minister Sargent kindly offered to be of service, if possible, but I had arranged to go on to Hamburg, and accordingly departed at 11 p. m., accompanied by Professor Neumayer.

We arrived at Hamburg the following morning, and were met at the depot by Mr. J. M. Bailey, our consul, who was good enough to render us important service during our stay of three days. During the forenoon Mr. Remé, a director of the Hamburg American Packet Company, accompanied us to the railway station, and was of great assistance in arranging for the transfer of the bodies from the station to the steamship company's wharf. Before evening the transfer was complete, and the remains lay in a large room especially prepared for the purpose and handsomely decorated. On the 5th of February the burgomasters, many senators, and prominent people of Hamburg assembled to pay to De Long and his companions the last honors which they were to receive in foreign lands. Burgomaster Petersen delivered an address, and in the name of the senate of Hamburg placed a beautiful wreath on the caskets. Professor Neumayer followed, speaking for and in the name of the Imperial Geographical Society and the Geographical Society of Hamburg, and also placed wreaths upon the caskets. The president of the Hamburg American Packet Company also delivered an address, and was followed by representatives of the Geographical Societies of Vienna, Lubeck, Munich, Dresden, and Bremen, each depositing a wreath as he ceased his remarks. I expressed our appreciation of the kindness and honor shown, and in the name of my country thanked the senate, the steamship company, and the various geographical societies. Mr. Bailey, our consul, also made a short address, assuring them of the gratitude which would be felt by the people of America in knowing that these remains were thus honored. After the ceremonies were concluded, the caskets, wreaths, and flowers were taken on board the steamer Frisia and placed in a special water-tight compartment. On the morning of the 6th of February I received through our consul, Mr. Bailey, a very nice letter from the directors of the Hamburg American Packet Company, Messrs. Mayer and Remé, in which, as a mark of their appreciation of our services, a free passage to America was offered to Mr. Schuetze and myself. I accepted it, subject to the approval of the Department, and at noon of the same day sailed in the Frisia for New York.

During the passage home the weather was continuously stormy, and a very heavy sea was encountered for nearly the whole distance; yet, under the circumstances, good speed was made, and we entered New York Harbor at noon, February 20. The officers of the steamer were always attentive. Capt. Edward Kopff, in particular, showed us every courtesy.

After arriving at the dock in Hoboken I reported to Commodore Upshur, commandant of the New York navy-yard, and was told that the remains would be received in New York on Friday, the 22d of February. Through the kindness of the agent of the steamship company, a portion of the fine dock in Hoboken was placed at my disposal for the temporary resting place of the remains. This was under cover, clear of freight, and answered the purpose very well. During Wednesday night the guard consisted of three watchmen sent from the navy-yard. On Thursday morning a guard of honor from Company C of the Ninth New Jersey Regiment was offered and accepted. This guard continued on duty until the remains were removed. This act of courtesy was reported to



Photographie par l'ordre
et sous la direction
de
M. Georges Becker.

Les restes mortels des naufragés de
la Jeannette
dans le wagon qui les a transportés
d'Orenbourg à la frontière
Russo-Allemande,
Moscou, 1884.

Au Lieutenant Giles Harber, U. S. Navy,
Souverain de Moscou, Janvier 1884.
Edmond de Laigrene, Georges Becker.

the commandant of the navy-yard, who informed me that he would send suitable acknowledgment.

On Friday, February 22, I was relieved from the official custody of the bodies by Lieutenant-Commander Barber, but continued on duty in connection with the burial services. (A copy of the orders for the above are appended.)

After the interment of the remains of Lieutenant-Commander De Long and five of his companions on Saturday, February 23, I was detached, by orders from the Department, from the special duty which had continued for more than two years, and returned to my home.

Before closing this report I would respectfully call the attention of the Department to the aid rendered to us by the Russian authorities, and the marked courtesy extended on every hand by the officials, as well as the people in general, during our entire stay in Russia and Siberia.

In Hamburg, also, the attentions and the honors paid to the dead by the city authorities, the representatives of the geographical societies of Germany, and the officials of the Hamburg-American Packet Company, call for my special acknowledgments.

Notwithstanding that I have already made a report to the Department concerning Count Emil Ahlefeldt, I wish to express once more my deep appreciation of the valuable and disinterested services rendered by him to all officers and men of the *Jeannette* and the search expedition.

In particular do I desire to mention the name of the governor of Yakutsk, Maj. Gen. George Tchernaieff, for the pre-eminent services rendered to the search parties, and for his unceasing attentions to and constant care of them during their sojourn in his government.

Very respectfully, your obedient servant,

GILES B. HARBER,
Lieutenant, United States Navy.

Hon. WILLIAM E. CHANDLER,
Secretary of the Navy.

NOTES.

Under the name of East Siberia is known that enormous stretch of territory in Asia extending from the Pacific Ocean to an imaginary line a little west of the Yenisei River, and which is bounded on the south by the empire of China, and on the north by the Arctic Ocean. It comprises the grand divisions or governments of Yakutsk, Yenisei, Irkutsk, Trans-Baikal or La-Baikal, Amur, and the district along the east coast known as the Primorski, the government *next to the sea*.

This great domain is principally useful to the Russian crown as a vast penal colony for its political as well as other criminals, who are found everywhere, from the mines in the south, where they are at work in great numbers, to the Arctic coast, where one meets them scattered in the widely separated native villages. Communication is chiefly maintained on the lines of the long-established imperial post roads with sleds in winter and wagons and small boats during the summer. On the principal rivers, notably the Amur, Lena, and Yenisei, steamers are running. They are mainly owned by the mining and commercial companies, whose establishments are located on or near the banks of these great water-courses.

Irkutsk, a city of about 40,000 inhabitants, on the Angara, near the
H. Ex. 163—4

Baikal Sea, is the capital of East Siberia, and the residence of the governor-general.

Such a vast country embraces necessarily many varieties of climate and topography. In the north, next to the coast, are those enormous moss prairies known as tundras or moss steppes, varying in width north and south from the tree limit to the coast, from 50 to several hundreds of miles. Next comes the vast tract of forests, and in the far south the wonderful region along the Chinese frontier, with its rich, arable soil, as yet practically unused by the sparse population.

In traveling north from Irkutsk, one follows the post road across the Bratsky steppe, the country of the Bouriat, to a small village, Katchuga by name, on the Lena River. In winter the journey is continued thence to Yakutsk, on the frozen river. As everywhere in Siberia, the post stations, where relays of horses are obtained, are placed here from 15 to 35 versts apart, usually on the river bank. The station is always in a small village. Nearly all of civilization or settlement in this part of Siberia north of Viteem is along the Lena River, the inhabitants being chiefly supported by the money realized from contracts with the Government for carrying the mails. They are all farmers in a small way, raising just sufficient rye for their own use. For summer travel, boats are used, which are pulled or floated down stream, and towed by horses when going against the current.

The principal towns in the Irkutsk government on the Lena River are Vercholensk, Kirinsk, and Viteem, and here reside the ispravniks, or chief police officials of the surrounding country. The former place is at present the terminal point of the telegraph line, which it is proposed to eventually extend to Yakutsk.

Near Viteem, a small village 1,400 versts from Irkutsk, there is a settlement called Veeska, where are located the machine and general repair shops of Bahsanoff, Sibiriakoff & Co., who own the rich gold fields about 200 versts up the Viteem River. This company has now running five iron paddle-wheel steamers (one of which was transported in sections from the Amur) and several large wooden and iron barges used in transporting provisions and other stores to the mines. Wood is exclusively used in these steamers for fuel. In the stratified sides of the mountains, on either bank of the Lena, seams of coal are numerous, especially north of Yakutsk. But all the specimens, notably those from a seam opened at the instance of Sibiriakoff near the mouth of the Aldan River and tried on board the steamer Lena, have proved worthless for steaming purposes.

A short distance below Viteem the boundary line of the Irkutsk government is crossed, and one passes into that vast region known as the Yakutsk oblast or government.

YAKUTSK.

The city of Yakutsk, in 62° north latitude, on the left bank of the Lena, 180 versts south of the mouth of the Aldan River and 2,813 versts from Irkutsk, is the most important place in Northeast Siberia, and the capital of the Yakutsk government. The regular travel by horses practically ends here. To the northward there is no regular post road, and from the Aldan north travel is usually performed with reindeer, although horses are often used in summer and winter by the transport trains as pack animals, to within a short distance of Sredne Kolymsk.

According to the latest and most reliable Russian official reports, the immense wilderness in Northeast Siberia known as the government of Yakutsk is 3,486,954 square versts in extent.

To the east lies the government known as the Primorski, or that next to the sea. The dividing line here runs from the head of Yaouskaya Bay on the north, almost directly south, cutting off the country of the Anadyr, Kamchatka, and a narrow strip along the coast of the Ochhotsk Sea and Sea of Japan, all of which are included in the Primorski oblast.

Through the Yakutsk oblast, forming the principal if not only route of communication north and south, flows the great Lena River, rising near the Baikal Sea and emptying into the Arctic Ocean, the north point of its delta being in 73° 20' north latitude. Its principal tributaries are the Viteem and Aldan on the east, and the Villoui on the west. The other large rivers are the Oleneck to the west of the Lena, and the Yana, Indighirka, and Kolyma to the east in the order named, which also discharge their waters into the Arctic.

The greater part of the district is mountainous, and the banks of the Lena, except in a few places where the bottom lands extend back for miles, are generally bluffs or mountains, covered with dense forests of pine, larch, fir, and birch, except, of course, in the extreme north, the tree limit on the Lena being about 90 miles from the coast. Between Yakutsk and the village of Shigansk there is an endless succession of low brush-covered islands interspersed with shoals, the river being in places 10 miles wide. Below Shigansk there are scarcely any islands, and a clear, deep channel runs thence generally along the bluff shore of the right bank to Bulun.

This immense domain is divided for governmental purposes into five parts, known as okrugs, viz: the okrugs of

	Square versts.
Yakutsk	761, 760
Verchoyansk	767, 301
Villouisk	909, 793
Kolymsk	670, 306
Olekminsk	317, 792

The okrugs are subdivided, and each subdivision is called an uluss, the uluss being separated into naslegs, the unit in the territorial organization or division for the purposes of government.

The governor, vice-governor, a council of four assistants called saved-nicks, and the necessary staff of clerks and writers to the number of forty, reside in Yakutsk. Besides these officials there are a judge, a procuror, the law officer of the district, police master, several physicians, and an inspector of distilled spirits. The city government consists of the golovah or mayor, and a select council.

In each okrug, as executive and judicial head, always, of course, subject to decisions of the governor, there is an official known as ispravnick; viz., one each in the towns or villages of Yakutsk, Olekma, Villouisk, Verchoyansk, and Sredne Kolymsk.

In the uluss a resident is selected as golovah or headman, and in each nasleg a minor official, termed staroster, is chosen by the inhabitants, who settles all trifling differences between the people, collects the taxes, &c.

The inhabitants consist mainly of natives, the Yakuti, Tungusi, Iukahiri, Lamuti, and, in the extreme northeast, the Tchuckchee. In addition to these there are the Russian officials, soldiers, Cossacks, traders, and exiles, the population being distributed as follows:

	Okrug.
Yakutsk	147, 265
Verchoyansk	13, 569
Villouisk	66, 423
Kolymsk	6, 348
Olekminsk	13, 512

The principal towns or villages are:

	Inhabitants.
Yakutsk	5,786
Olekma	380
Villouisk	276
Verchoyansk	274
Sredne Kolymsk	443

It will be seen from this general outline that the Czar has extended his dominion over all the natives of Northeast Siberia, and that the Government is completely organized, its power extending to the remotest corner of this wilderness. Every inhabitant, even the wandering Tunguse, who is here one day with his herd of reindeer and far distant the next, pays tax or tribute to the crown, provided if by diligent search his temporary abode can be discovered. The Tchuckchee, however, are an exception to this rule. They live along the coast east of the Kolyma and in the country of the Anadyr, and have invariably and systematically refused to pay tribute to the Czar, though many come in contact with the Russian official, the *ispravnik*, at Sredne Kolymsk, where the yearly fair takes place, and to which they bring for trade the furs and reindeer skins gathered in the previous winter.

The climate is the severest in the known world. Verchoyansk is the pole of greatest cold yet observed, the temperature in December and January sinking generally to -46° Reaumur. Along the north coast the temperature in winter is appreciably milder. On the tundra, which in winter is a trackless desert of snow and ice—a northern Sahara—and in summer a morass of Arctic moss, the stratum of eternal frost is met at a distance of 20 to 30 inches from the surface during the warmest weather. In the city of Yakutsk, where the mercury rises to 35° R. in July, the ground rarely thaws to a greater distance than six feet, and generally less.

When the temperature sinks below -33° R. the peculiar meteorological phenomenon known as the frost cloud, resembling a dense fog, is almost invariably noticed, and the air is full of small glistening ice particles. With very low temperatures the atmosphere is very still, and the danger from frost bites is not nearly so great as when a wind is blowing and the thermometer shows -20° to -35° R.

In 1882, the ice began running in the delta on September 26, and on the first of October natives were crossing the river and setting their nets. At Yakutsk the ice forms in the Lena in October and the river is generally clear by the end of May. In July the water in the delta is warm enough for bathing purposes. The weather in July is oppressively warm during the day. In Yakutsk, linen clothes and coats made of pongee silk are worn, though the nights are cool and sometimes cold, and the swarms of mosquitoes are almost unbearable. Nets made of horse hair are worn over the head for protection, especially when traveling through the forest; and the natives use a heavy horse-hair switch which they work with tireless energy in their efforts to protect themselves from this pest of the Arctic summer.

Though the wilderness north of Yakutsk there are no regular roads, but only routes or tracks, more or less well known, which are used by the Cossacks, traders, officials, and priests making their annual rounds, as well as by the natives during their winter travels. At some points along these routes, especially near Verchoyansk, there are sparse settlements of the Yakuti, who own horses and cattle, and who have established themselves on or near the few patches of grazing lands occasionally met with in the valley of the Yana. Between Yakutsk and Verchoyansk several stations are maintained by Government contract, where

reindeer are kept in winter and horses in summer, for officials, Cossacks, &c., traveling on public business. In summer, however, and especially during the break-up in the spring when the numerous mountain streams are swollen, this route through the mountains north of the Aldan is next to impassable. Two reindeer stations are also supported by Government on the track leading to Ust Yansk and Bulun. The Yakut who keeps the northern of these two stations near the tree limit, has besides large herds of reindeer, also a few head of cattle. To the northward of this point horses and cattle cannot exist during the winter. At Bulun there were in 1882 a couple of cows owned by the priest of the village, which had, however, to be sent south when the cold weather set in, as there was not sufficient grass to supply hay for the winter.

On the route to Verchoyansk, as well as farther north, on the tracks leading to Bulun, Ust Yansk, Ruske Ousia, and Sredne Kolymsk, small wooden huts covered with earth have been built under direction of the Government, usually from 25 to 30 miles apart, for the accommodation of travelers. These huts are called pavarnias or cook-houses.

Of the few villages in the far north may be mentioned, as the most important, Verchoyansk, Bulun, Ust Yansk, Ruske Ousia, and Sredne Kolymsk, in each of which lives a priest of the Greek Catholic Church, who attends not only to the spiritual welfare of the inhabitants of his village, but makes a tour during the winter throughout a large extent of country in his neighborhood, uniting in marriage, and baptizing the children. The natives often travel hundreds of miles to intercept the priest while making this annual journey.

As there are frequent famines among the natives in the inhospitable regions of the Arctic, the Government maintains storehouses at the principal villages, which it tries to keep constantly stocked with black rye flour, and which the natives in case of need may purchase or trade for at the value of the flour in Yakutsk, where a large quantity is kept on hand in the public storehouses. Owing to the unavoidable difficulties in transport scarcity sometimes occurs. The Government, however, sends frequent trains to the north, carrying not only flour but also salt, powder, and lead. It does this at enormous cost, as the price of these necessaries remains the same whether purchased in Yakutsk or Sredne Kolymsk, the purchaser never paying for the cost of transportation. Formerly the natives were supplied also with poisons to protect themselves from the inroads of wolves on their reindeer and cattle.

The principal business in the north is, of course, the fur trade. Besides this, the Cossacks and Yakuti from Yakutsk, carry on a profitable business by trading with the natives at the mouth of the Lena River for fish. These traders leave Yakutsk soon after the ice breaks in May, in large rudely-built boats, called cayucks, and float, pull, or sail the 800 miles to Bulun. Here they salt all the fish they can gather, and after packing them in casks they begin the wearisome journey southward, tracking their boats along the river banks, when there are no favorable winds for them to stem the current with their large unhandy, square sails.

The distance from Yakutsk to Ochhotsk, by the reindeer route, is about 700 miles. Ochhotsk was at one time quite a flourishing village, but at present is of no importance. To the southward of it, however, there is a small settlement, Ayan by name, having a good harbor, and at this place a steamer, owned by Mr. Philippeuss, a Russian, and at one time an official in Yakutsk, touches yearly while making a trading voyage from Petropavlovsky along the coast to Vladivostock.

Formerly, during the existence of the Russian-American Fur Com-

pany, a regular route from Yakutsk to Ayan was maintained by the Government. Huts were built at regular intervals, and at the permanent stations horses were kept in the summer, and reindeer in the winter, for traveling purposes. This route has been abandoned by the Government, and the huts and stations have fallen into ruins.

One Yakutsk merchant, however, transports merchandise yearly from the trading steamer at Ayan to Yakutsk, by reindeer or horses over the mountains to the Aldan, and thence by boat down this river and up the Lena. The chief articles of trade introduced in this way are tea and sugar, besides a small amount of canned fruit and vegetables from San Francisco. Light machinery for various purposes is greatly desired by some, and although the route between Ayan and the Aldan is mountainous, and heavy articles cannot be transported over it, the merchant referred to is desirous of increasing his business relations with the United States by this route. The demand, however, in the neighborhood of Yakutsk is so small that unless the business is extended to Southern Siberia and the large mining establishments can be reached, these business ventures will always be unimportant.

CITY OF YAKUTSK.

The city of Yakutsk is built in the bottom lands of the Lena, the bluffs which usually run along the river banks being here about 6 miles distant. The houses are log-built, with the exception of two, a school and a warehouse, which are constructed of brick. Those of the well-to-do merchants and officials are quite modern in appearance. There are six picturesque, well-built brick churches, besides two old unused chapels. Near the center of the town the ruins of a log fortress built by the conquering Cossacks over 300 years ago still remain.

The inhabitants are for the greater part Yakuti, who, as a rule, prefer the yourta of their ancestors to the more comfortable and healthful Russian loghouse, although the Government has discountenanced this style of architecture, in so far that it has forbidden the yourtas to be built to face the streets. They must be set back in yards, behind high board fences, so that they are hidden from the view of passers-by. Around each house or back of it there is usually a large open space resembling a farm-yard, where horses and cattle are kept, and in which the storehouses for merchandise are located. The prevalence of this arrangement, taken in connection with extreme liberality in the width of the streets, accounts for the impression when one first sees the city—that it is one of at least 25,000 inhabitants.

No stabling is provided for horses or cattle, except for the milch cows, even though in winter the thermometer often registers —45° R. In the *gastina dvor*, a large one-story square structure, inclosing an open court, the greater number of the shops and traders' storehouses are situated.

There are two schools, progymnasia, supported by the National Government, one for boys and the other for girls, besides one maintained by the city, and another for orphans supported by subscriptions. A hospital is provided, with the medical inspector of the district at its head. Attached to it is a small house for the insane. Besides these, in the way of public buildings, there are a house for the Government clerical force, a prison, barracks for soldiers, eight large storehouses for the Government flour, a post-office, and public treasury.

The mail arrives from the south once a week, except when there is an interruption, as during the spring break-up and in the fall of the year

when the Lena freezes. Thence the mail is sent once every three months to Verchoyansk and Kolymsk, and once a year by way of Ochhotsk in the winter to Petropavlovsky in Kamchatka.

The garrison consists of about two hundred soldiers, who are principally occupied in guarding the prison.

The pay of the Russian soldier in Yakutsk is 90 copecks (about 45 cents) a quarter. His ration money, $3\frac{1}{2}$ cents a day, is turned into the company fund for purchasing provisions. For uniform he receives one coat, one pair of trousers, and a pair of boots yearly. In addition to this he is allowed an overcoat every two years. He is permitted to do outside work, his earnings being divided so that he receives one-half, while one quarter goes to the company fund, and the other to the comrade who performed the extra military duties during his absence.

The Cossacks, descendants of the conquerors of the Yakuti, and also about two hundred in number, are variously employed as orderlies to the governor, police-master, and other officials, as guards about the prison, as traveling attendants to the officials, acting as interpreters and servants, as escorts to the political and other exiles on their way north to Verchoyansk, Kolymsk, and other outlying settlements, and finally in carrying the mails where no regular post roads are established.

The Cossacks' term of service is twenty-five years. They are usually industrious and well-to-do, as land is given them, which they have abundant opportunity to cultivate when not on duty.

Their usefulness, especially when engaged in active service, might be considerably enhanced if they, like the soldiers, were armed with the Berdan breech-loader. At present they still carry about a flint-lock smooth-bore when on duty.

The Cossacks in Yakutsk, who are under the control of the interior department, and not, like all other Cossacks in Siberia and Russia, under that of the war minister, are, in fact, a part of the civil service. A Cossack receives, according to the present value of the ruble, 70 cents a month as pay, \$3.29 a year for purchase of uniform, and as monthly ration 54 pounds of rye flour and 18 pounds of wheat grits.

The lands in the vicinity and south of Yakutsk, especially the bottom lands of the large rivers, are very productive, yielding in the short summer sometimes as much as 50 bushels of wheat to the acre, and other cereals in proportion. Besides, the uncultivated lands, consisting largely of the numberless islands in the Lena, in the immediate neighborhood of Yakutsk, yield a rich harvest of hay in the month of August. They are generally assigned to the Cossacks and Yakuti; and, since ordinarily the wealth of the Yakut depends upon the number of horses and cattle which he owns, this is a matter of considerable importance.

The Yakuti are beginning to cultivate the soil, but the principal and most industrious farmers in the district are the scopci or eunuchs, members of a peculiar religious sect, exiled from Russia. Of these there were in 1883 about 2,000 in the Yakutsk government.

About 6 miles from Yakutsk there is a village built by the scopci, and called Marcha. Upon the inhabitants of this village, and upon exiles belonging to a sect known as the "Old Believers," who also live near by, the Russian residents of the city mainly depend for the necessaries of life, with the exception of beef, of which the Yakuti are the chief suppliers.

Both of these classes of exiles are industrious, thrifty, and scrupulously clean people, who have built themselves neat homes, mills driven by horse power, &c. The scopci are very temperate in their diet, which consists chiefly of fish, bread, and tea. They do not eat meat, nor do

they drink spirituous liquors. In Yakutsk they are not permitted to reside, but visit the city almost daily in the summer, bringing their produce for sale. They furnish flour, eggs, cabbages, potatoes, carrots, cucumbers, &c., generally at reasonable prices. Not infrequently they bring even watermelons to market, which fact, considering the severity of the climate, is evidence of rare care and indefatigable industry.

A large proportion of them are carpenters, bricklayers, iron-workers, &c., and as they are, as a class, honest people, employment is given them in preference to all others in Yakutsk. In the summer of 1883 numbers of them were employed rebuilding a large brick church, they being probably the only men north of Irkutsk who were able to do the work.

YAKUTI.

The Yakuti, who form the principal part of the population, not only of the city of Yakutsk but of the whole oblast or government, are called in their own language the tribe of Sacha. Their complexion is dark yellow, and in their almond-shaped eyes, as well as their language, they give incontrovertible evidence of their Mongol descent. Their language belongs to the same family as that of the Turk and Tartar. In fact, the Tartars, of which there are a great many living in Yakutsk as exiles, very quickly learn to speak the Yakut tongue, in consequence of this intimate relation of the languages. A great many of the words and expressions are the same in both languages.

The Yakuti are engaged principally in raising horses and cattle. But in the villages and towns many are tradesmen, and as such they are notoriously grasping, tricky, and unreliable.

They smelt iron ore on a small scale, and manufacture the product into various household utensils, such as axes, knives, &c. They are very fond of silver ornaments. Silver mixed with a large proportion of copper is shaped into earrings, small buttons, and spangles, rudely engraved for ornamenting clothing, saddles, and bridle bits. The figures are, however, usually imitations of the forms of cheap jewelry imported from European markets, and the Yakut shows little, if any, originality in design.

Some of the natives, as well as the Russians, usually exiles, find profitable employment on a small scale in working the mammoth-tusk ivory into combs, pipes, ladies' work-boxes, and knife handles.

In the small market or bazaar, by which name it is there known, the principal trading is carried on by the natives in iron-ware, hay, beef, and horse-flesh. Of the latter the Yakut is particularly fond. In November, 1883, beef was purchased in the open market for a little over one cent a pound for shipment to the mines.

The Yakuti, as a race, are converts to the Greek Catholic Church, and although strict adherents to its religious forms, they still retain implicit faith in the efficacy of the incantations of their long-haired shamans or medicine men.

The shamans, however, now always practice their rites in strict secrecy; that is, in the absence of the Russians or Europeans in general, as their mysterious ceremonies are strictly forbidden by law. The priests are ever watchful, and when a shaman is so unfortunate as to be surprised *flagrante delicto*, his drum is thrown into the fire, he is stripped of his jingling coat, and all his paraphernalia are taken from him.

Evidences of the Yakuti's superstition are frequently met with along the various routes of travel in the north, especially where it becomes

necessary to cross mountains, or where the road leads through some dangerous mountain pass. In these places, in order to appease the wrath or conciliate the favor of the spirit of the mountain, they, to this day, as in the time of Wrangell's expedition (1822), cut off bits of their horses tails or their own clothing, and fasten them to a tree or sometimes to a Greek cross erected for the purpose at the point where the dangerous travel is supposed to begin. At times, too, they take with them a string of skulls of some small animal, usually the squirrel, which is, when the proper time arrives, also left as a peace offering.

The Bible has been partly translated into the Yakut language by the Bishop of Yakutsk and Villouisk, who resides in the city of Yakutsk, and who has labored among this people for forty years, having several times traversed the wilderness along the Arctic coast, propagating his religion among the wandering Tungusi. This, with the exception of a small pamphlet done by a Cossack for Middendorf's work on Siberia, and an imperfect grammar written some years ago by a German traveler, is, I believe, the only publication extant of this language.

Wherever convenient many of the native children attend the Government schools, and thus learn the Russian language. At present several natives are in the public employ as writers in Yakutsk. Every effort is made by the authorities to organize schools wherever practicable, and, besides those in Yakutsk and Olekma, they have now also established them in Verchoyansk and Villouisk.

The skins from the red and white fox and sable form the principal part of the fur trade in Yakutsk.

In April and May the itinerant merchants, chiefly Cossacks, begin to arrive from the wilderness in the north and east, from Kolymsk, Ochhotsk, and Verchoyansk, after their winter trading tours for furs and reindeer skins. Others a little later come from Bulun with their cayucks, which they have laboriously tracked for 800 miles against the current, loaded down with fish, mammoth tusks, and furs.

About July the merchants from Irkutsk make their appearance, having drifted down the Lena in their covered flat-boats, and traded at the various villages and settlements.

These boats, or floating country stores, number often 25 to 30, and when they are arranged alongside of each other along the river bank, in front of the town, Yakutsk assumes a lively aspect. The much-talked-of "Jahrmarkt" has opened. This is the busy season; the town is crowded; everybody lays in a year's supply of stores, and trains of wagons and pack-horses are constantly moving about, transporting merchandise from the river to the various warehouses and shops. Tea, sugar, Circassian tobacco, textile fabrics, and alcohol are the staple articles of trade. Flour for the Government stores is also brought from the south at this time.

When the trading is over, the flat boats are sold, to be cut up for flooring and fencing purposes.

The Irkutsk merchants, taking with them their stock of furs and ivory, usually take advantage of a passage southward in one of the mining company's steamers, which come here in August. These steamers make two or three trips a year to Yakutsk to take away, in large barges built for the purpose, the beef cattle which have been collected during the spring and summer by the agent of the mining company, who lives here. Cattle are very scarce farther south in the vicinity of the mines. For the supply of the smaller mining establishments, cattle are collected in Yakutsk and driven through the forests along the Lena to the mines. In addition, large quantities of beef are transported on sleds as soon as

the winter travel begins. The oxen used as draft animals are slaughtered on their arrival, and form an additional supply.

Soon after the *Jahrmarkt* the fur-traders take their departure, having restocked their stores of tea, tobacco, and spirits, to begin another winter's trading tour among the natives of the north.

There is a stringent law against selling or trading spirits to the natives. How well this law is observed one may judge for himself when he considers that there are thirteen establishments in the wholesale liquor business in Yakutsk, besides innumerable kabacks or saloons where the *vodka* is sold at retail. In August, 1883, there were 56,000 vedros of spirits in Yakutsk, a vedro being about 4 gallons, most of which had been brought by the barges that summer from the extensive distilleries in and about Irkutsk.

The effects of this large supply may be seen in the increasing poverty of the natives, who sell their cattle to obtain vodka, and it cannot but result in depopulating the country. The fur trade has visibly decreased and is rapidly becoming of less importance. It is at present nearly all in the hands of one rich Irkutsk merchant and mine owner. In addition to this stimulant, the Yakut uses the strong, rank Circassian tobacco, which he mixes with bark and smokes in a small brass or iron pipe resembling that used by opium smokers.

DELTA.

The delta of the river Lena, to which so much attention has been lately directed in connection with the Jeannette Expedition, is included in the Shigansk uluss, one of the subdivisions of the Verchoyansk okrug. Formerly the village of Shigansk, about midway between Yakutsk and Bulun, on the Lena, was the most important place in this district, the center of the fur trade and headquarters of the *ispravnick*. Now, however, it is nearly abandoned, owing to the scarcity of fur-bearing animals in that vicinity. A priest, however, is still there with his family, and a small number of natives make it their residence during the winter. The *ispravnick* resides in Verchoyansk, a rambling village near the headwaters of the Yana, consisting mainly of about forty *yourtas*. In addition to these there is quite a large church, a school-house, a small hospital, a house where the public officials transact their business, and the *ispravnick's* residence. All these are log-built in the Russian style, and with their large brick stoves or ovens and double glass windows are the only comfortable, healthful abodes north of Yakutsk in this section of Siberia. The mail arrives once in three months, but there are besides occasional opportunities for sending letters by the Cossacks, who act as guards to the political exiles sent from the south. The route through the mountains to Yakutsk being rough and full of difficulties, especially for transport trains, clothing, provisions, and, in fact, all necessaries of life are scarce and high-priced, with the exception of beef, which here is even cheaper than in Yakutsk. Reindeer are usually plentiful, the price varying from \$2.50 to \$4 a head.

There is a force of about twenty Cossacks stationed here, whose chief duty is in connection with the exiles and in guarding Government property.

The *ispravnick* travels throughout his district once a year to collect taxes and to inquire into the condition of the people. (Each male native is taxed about 4 rubles, or \$2, yearly in money or furs for the support of the Government and church.) Having sent word of his coming, the headmen of the various districts, the *golovah*, and *starosters*

assemble at Bulun, the principal village in the Shigansk ulus, some time during the winter, to meet him and transact the public business.

During the summer the route between Verchoyansk and Bulun is practically impassable, in consequence of the numerous rivers which have to be crossed, and the boggy condition of the tundra along the coast. Upon one occasion, it having become necessary in the summer to dispatch a messenger on urgent business to Bulun, it took the native who was sent on the duty seventy-two days to perform the travel, which in winter can be easily done in seven or eight.

The inhabitants of the delta are Yakuti and Tungusi. The latter are known in their language as Elven, and in addition to their own usually speak the Yakut language as well. These two races have intermarried to such an extent that it is usually difficult to make any distinction between those who live in the delta. They themselves are inclined to give the impression that they are all Tungusi, though many claiming to be such are unable to speak the language.

There are, however, the Tungusi proper, or reindeer men, who live farther south, a wandering tribe whose knowledge of Yakutish is limited to a few words necessary in their occasional intercourse with their more powerful, energetic, and numerous neighbors, the Yakuti.

The latter, in pushing northward, drove the Tungusi before them, and the ancestors of those who now live in the delta were probably forced to seek subsistence there, having lost their reindeer from one cause or another. Here they settled on account of the fishing-grounds, living during the winter in permanent habitations, and compelled in the summer only, when they move about in search of food, to resort to their old custom of wandering.

The Tungusi are as a rule the more peaceable, trustful, and honest of the two peoples, though where they live in close contact they have been quick to learn the vices of the Yakut, as the latter originally was the willing pupil of the Russian trader.

The inhabitants of Bulun are principally Yakuti, whereas at Kuumachsurt, 110 versts farther north, the Tungusi are in the majority.

The delta is a vast plain of tundra formation, cut up into small islands by the ramifications of the river. There are occasional patches of high land which are called Borchia, or mud hills. Besides these, in various parts of the delta, one meets curiously shaped hills, usually resembling the Indian mounds in the Mississippi Valley, and which are termed Bulguniack by the natives.

The larger mass of water flows to the sea through the east and north-east branches, those to the north and west being without exception smaller and very shallow. Moreover, salt water is met close to the mouth of the western arms of the delta, whereas to the east the water far out in Borchia Bay is fit to drink.

The land in the northwest is much higher than the rest of the delta, and is not traversed by any branches of the river. It contains, however, many lakes of considerable size which are well stocked with fish. To this part of the delta the nomad Tungusi often come in the early winter with their reindeer, on account of the superior feeding-grounds and abundance of fish in the lakes.

The southeast arm is probably the only branch navigable for vessels of more than 4 or 5 feet draught. Through this the steamer *Lena*, of Nordenskjold's expedition, entered the river, after unsuccessfully trying to force a passage through one of the northeastern branches.

The numberless islands composing the delta are, of course, under-

going constant changes, old ones being cut away by the swift currents and new shoals and islands being in continuous process of formation.

As will be seen from the chart, the mainland on this part of the coast is mountainous. A peculiarly shaped, large, detached rock at the mouth of the Lena, called Stolbovoi, marks the entrance to the river proper. To the northward and westward of Stolbovoi, distant about 7 miles, there are three hills, on the most northern of which, known as Kugulchia, the tomb of De Long and his companions was placed.

The villages or winter habitations in the delta usually consist of from four to six huts called baligans, and are situated, as shown on the chart, at the west, north, and southeast mouths of the Lena. Here, in October, November, and early part of December, fish of the salmon species are caught in great numbers with horse-hair gill-nets set under the ice. The catch is largest at the Buikoff or southeast mouth of the river.

There are only about 300 inhabitants in the delta, though in winter many natives come from the south and other points along the coast to participate in the fish-catch.

The villages are, as a rule, deserted by the natives in the spring, when they separate into small parties for the purpose of hunting. They then live in the cone-shaped summer huts (urassa), which are scattered over the delta and wander from place to place in search of reindeer. The reindeer is generally killed with a spear while in the act of crossing from one island to another. A few of the natives, however, possess miserable flint-lock rifles of small caliber, the barrels being made in Yakutsk, and which they use in hunting deer. Wild geese and ducks are killed during the molting season, June, July, and August, and their eggs gathered for food.

Fish are scarce in the delta during the summer, but in June and July many are taken in the river proper at Kumachsurt, Bulun, and farther south, the greater part being traded to the Cossacks, who transport them to Yakutsk.

Natives may also be met with during the summer months along the coast near the Olenec, and on the shores of Borchia Bay. Near the mouth of the Olenec there was formerly a settlement of Russian peasants (Chrishiani), but after years of intermarriage with the natives none of pure Russian blood can now be found there. In summer the tundra on this part of the coast is almost impassable, but the wandering Tunguse can then be found herding his reindeer here, in order to avoid the mosquitoes which infest the wooded regions in the south. At the same time a diligent search is kept up for the marketable mammoth tusks. He remains here till late in the fall, when he seeks the protection of the forests.

The tree limit on the Lena is on the island marked Tit Arrii (tree island), about 90 miles distant from the north coast. The inhabitants to the northward of this are confined to the use of drift-wood for fuel and building purposes.

As stated, huts are scattered all over the delta, but in order to avoid confusion only those of interest on account of their connection with the Jeannette expedition and search are marked on the chart.

Fox-traps built of drift-wood are numerous in the delta and the mountains in the vicinity. They are visited three or four times during the winter. Some of the natives own from one hundred and fifty to two hundred traps each.

Next to these the most noticeable objects in the delta are the numer-

ous graves or rather coffins which one meets everywhere in traveling in this wilderness. The old ones consist simply of a hollowed-out log, in which the body was placed, the rude coffin resting on a couple of supports usually 2 or 3 feet in height. Now, however, the dead are placed in coffins made from rough-hewn planks, which rest on the ground. A Greek cross is erected at the head, and in some instances a railing rudely ornamented is built around the burial plot.

The natives do their summer traveling in small, trimly built, dug-out canoes. These they make from logs of drift-wood, using an ax and a gouge in working the sides and bottom down to a thickness of one-quarter of an inch. After being properly hollowed out the boat is placed over a fire, and stretched by sticks, or compressed by lashings into the required wedge-shape. They are extremely sharp forward, the widest part being very near the stern. They are then usually blackened on the outside, and any cracks or other leaks stopped with pitch, which is extracted from drift-wood. In the bow a forked stick is placed in which the iron-headed spear used in killing reindeer habitually rests. The little boats worked with a double-bladed paddle are very swift, and are generally large enough to carry two persons comfortably. The women are transported from place to place in large, rudely constructed, clinker-built boats, which they themselves propel with oars resembling a spade in shape. Into these are packed the children, dogs, fish-nets, and the few households utensils necessary for summer travel in the delta—the men in their canoes forming a sort of escort to the noisy throng in the larger boats.

For winter travel dog-sleds are used, the reindeer one occasionally meets at Buikoff belonging to the inhabitants farther south, who use them for transporting their fish to Kumachsurt and Bulun. The dog-sleds are usually about 14 feet long and 20 inches wide. The runners are birch $\frac{1}{2}$ inch thick and 3 inches in width, the bed of the sled made of thin boards resting on cross-pieces tenoned and lashed to the middle of four uprights on either side. To these uprights or stanchions the runners are also lashed, the runner receiving a small point or tennon of the stanchion, which is thus kept in place. To a wooden bow at the forward end the line to which the dogs are hitched is fastened.

For long journeys the team is generally 13 to 15 dogs hitched in pairs, with a leader. Whips are not used, the changes of direction, &c., being governed by the leading dog, who is controlled by word of mouth, supplemented occasionally by applications of the brake. For checking the sliding of the sled on smooth ice, or for stopping, a brake in the shape of a large club, with a sharp-pointed iron shoe is carried by the driver. The sledge-dogs, owing to the scarcity of food (fish), are often in a pitiable condition during the summer, and the natives not infrequently share in their suffering just previous to the beginning of the fishing season in October, especially when reindeer have been scarce.

The winter hut or baligan is a structure about 16 feet square, and 7 to 8 feet in height, covered with mud and sod. The inclined sides of planks rest against a frame supported at each corner by a stout post set into the ground, the roof or covering of this frame being also logs or heavy, roughly hewn planks. Near the small door and generally a little to the right of it the semi-circular chimney, made of sticks covered with mud, rises from the large square mud fire-place, situated so that the heat is radiated towards the six bunks, which, raised above the wooden or mud floor, are arranged along the sides of the hut, two on each wall, except the front, where the store of firewood is kept. There are usually three windows or square holes in the sides over the bunks,

which in summer are closed with fish-skins stretched over a frame, and in winter with blocks of ice 6 inches in thickness. The entrance is protected by one or two long tunneled-shaped log structures or storm-doors, on either side of which small store-houses for fish are located. Besides these, there are usually one or two square log store-houses, detached from and near the dwelling-house.

In winter these huts are almost snowed under, care being taken, however, to keep the snow clear of the ice windows. The most conspicuous objects in a village are the chimneys, which rise 2 to 3 feet above the snow-covered roofs. It is customary among the natives, in order to avoid the trouble of entering a hut when one wishes to make a short communication to his neighbor, to simply step upon the roof, and use the chimney as a speaking tube.

The summer hut, called *urassa*, is generally cone-shaped, roughly and hurriedly built of drift-wood covered with sod. There is a fire-place in the center, but no chimney, and the smoke finds egress through a hole left at the top of the structure.

The food of these people consists principally of fish, which are either cooked in large copper kettles or eaten raw both in summer and winter. Reindeer meat is considered a luxury, it being generally hard to obtain, owing to the lack of effective fire-arms. The geese which they kill during the molting time, they string up on wooden frames or scaffolding, and eat them usually after they have been exposed undrawn to the sun during the entire summer.

They obtain brick tea, of which all are very fond, tobacco, and horse-hair for making and repairing fish-nets, from the traders who travel among them during the winter. Sometimes they also manage to get a little flour, which, mixed with water, they boil, making a sort of mush of it.

These people conform generally to the marriage laws of the Russian church, but, as a rule, must purchase their wives from the prospective father-in-law, the price varying according to the worldly possessions of the parents of the bride—from about fifteen to several hundred roubles. The wishes or preferences of the woman are seldom, if ever, taken into consideration in this bargain or contract. In lieu of money, however, deer-skins, furs, fish, or dogs are commonly accepted. The payments are usually made in installments before marriage, and if, at any time the man may weary of his betrothed and regret his bargain, he is at liberty to retract his promises, but, at the same time, he must relinquish all claims to the payments or gifts already made.

When all has been paid nothing remains but to wait for the priest, who usually visits the village once a year, and officiates in a small log house erected for the purpose, and ornamented with a few cheap prints of saints to give it the appearance of a chapel.

The natives along the coast are, as a rule, very timid and nervous. They have an indistinct knowledge of the existence of the Tchuckchee in the far east, whom they fear. When the steamer *Lena* made a trip to Bulun in the summer of 1883, for the purpose of trading for fish, a great many natives took to the woods in dread of her. It is said that when vague rumors of the Russo-Turkish war were repeated to them by the trading Cossacks and Yakuti from the south, they were prepared to decamp, lest the Turks, coming by way of the sea, should destroy them all.

The natives in the delta depend, as stated, almost entirely upon fish for food. The men, as a rule, attend to the fishing only, whereas to the women falls all the labor of dragging drift-wood from the river and

hauling it to the house, feeding the dogs, and keeping the mud chimney in repair, besides her legitimate work of cooking and sewing. Their clothing is made of reindeer skins, but one occasionally sees among the well-to-do calico shirts and cloth coats obtained from the Yakutsk traders. Large numbers of the natives suffer from sore eyes, and among the old it is not uncommon to find one totally blind. This results from the smoke to which they are at all times exposed in their huts; more especially, however, is it attributable to the suffocating condition of the summer huts, where there are no chimneys, and to the use of damp wood in the small pavarnias which serve as resting places for travelers. There is no physician in this district nearer than Verchoyansk. In the spring and summer of 1883 the villages of Bulun and Kumachsurt were almost depopulated by small-pox, which had been carried by travelers from Yakutsk northward along the route leading through Verchoyansk. Their journeys in the winter are usually very short, and only when they have fish to trade do they visit Kumachsurt on the Lena, and upon rare occasions do they go to Bulun. Many of them have never been out of the delta, and when those who live in the north or west wish to visit Bulun they commonly go by way of Buikoff, following thence the road across the mountains to Tass Arrii on the main river.

The New Siberian islands are never visited by them now, and after diligent and persistent inquiry it was ascertained that at present there are only two men in this region who have ever made the trip. Years ago expeditions for gathering mammoth tusks on these islands were frequent, but at present no native can be induced to make the journey to these to him comparatively unknown regions.

They have very vague ideas of distances, which they reckon by a standard called *koess*, and which is supposed to be about ten versts. For example, a native will say that with good dogs the distance from the island of Tass Arrii to Kumachsurt is four *koess*, whereas, if the animals are in poor condition, the length of the journey will be more nearly five *koess*.

The term *koess* is Yakutish, and means primarily an earthenware pot which the Yakuti in the south use for cooking purposes. The application of the name to distance is said to have originated from the belief that if the traveler had not stopped to cook his meal, or had not used his *koess*, he would have made ten versts (one *koess*) farther on his journey.

The polar bear is seldom seen in these regions, though a few are said to have been killed near Sagastyr on the north coast in years gone by. During the summer an occasional seal was observed by the Jeannette search parties along the coast to the eastward and westward of the delta.

In the summer the wild reindeer are plentiful in all parts of the delta, and are killed by the natives, usually in the fall of the year, when they are making their way south towards the mountains and forests. There are also ptarmigan in large numbers all the year round. During the warm months wild flowers, principally forget-me-nots and buttercups, spring up in wild abundance on the tundra everywhere, and in the protected clefts of the rocks and gullies near Kumachsurt an occasional wild rose may be found.

The only chart ever made of these regions was prepared by the assistants of the Arctic explorer Lieutenant Anjou, in 1822. It is very imperfect, three principal points in the delta having been established astronomically, and the general directions of a few arms of the river sketched in, probably, as the travelers ran from Zemovelach in the south-

east to Sagastyr in the north, and thence westward to the village of Turrach.

The villages at the north mouth are known collectively as Tumat.

At Sagastyr the ruins only of four huts or baligans remain to mark the spot where the village once stood.

Sagastyr only is marked on Lieutenant Anjou's chart, although the villages Kitach and Bulun (marked North Bulun to distinguish it from the village of the same name farther south), on the same river and immediately opposite, were also then in existence, and, according to an old native's description, Kitach was then, as now, the largest of the settlements.

Barkin, as the northeast point of the delta, is marked on some of the charts, and spoken of by Anjou in his notes, as Barkinstan, meaning Barkin station, camp, or stopping place and as such a but about 10 to 15 miles from the coast has always been known.

Signal thurn on the charts near Sagastyr was a beacon erected by Anjou's exploring parties for their guidance near the entrance to the north river branch.

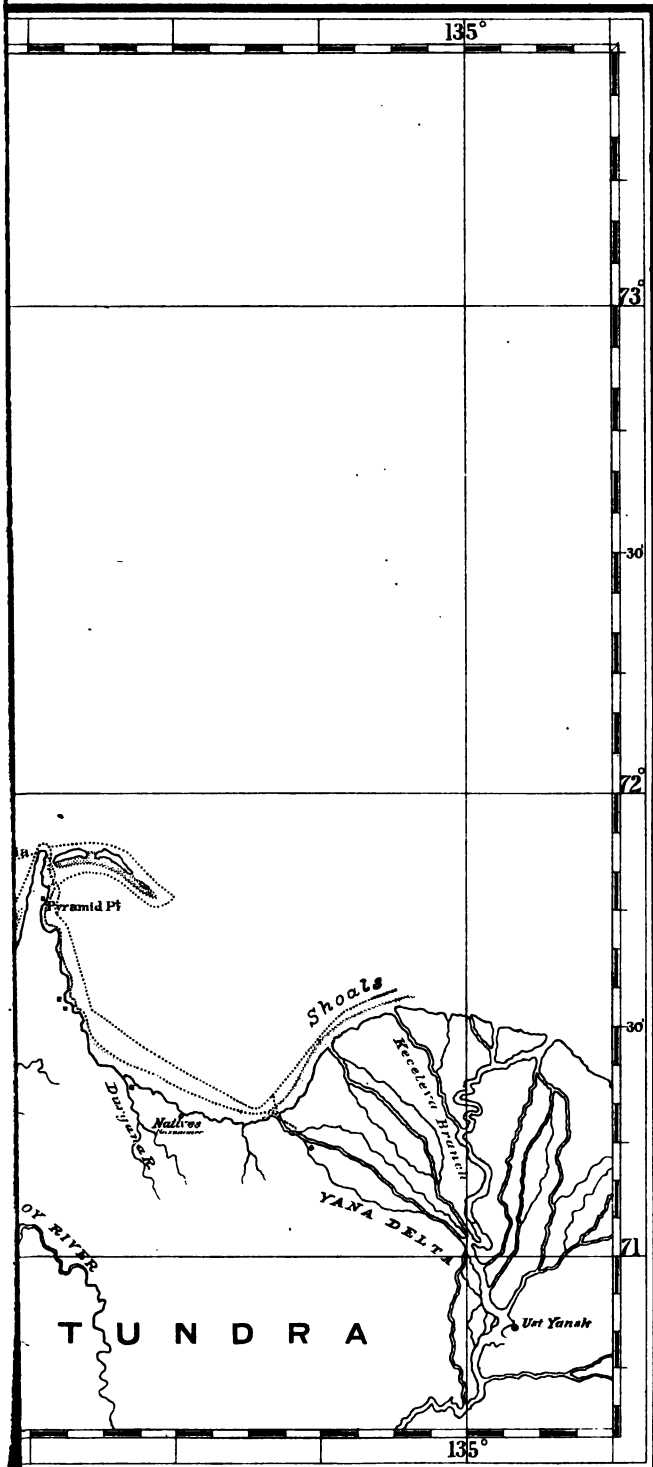
A chart of the delta, with the tracks of the search parties in the summer and winter of 1882, and those of the Jeannette Expedition marked upon it, is submitted with this report. The latitude and longitude of Sagastyr is that deduced from the observations of Lieutenant Juergens, in charge of the meteorological station.

On the island of Sagastyr, about 1 mile from the village of Kitach, the Russian meteorological station is located. It was established in August, 1882, as one of the series of circumpolar stations suggested by Lieutenant Weyprecht.

The expedition for this purpose left Yakutsk in the beginning of July, in four covered rafts or flat-boats, which had been built up river for the purpose of transporting stores to the Jahrmarkt. Besides the instruments, which had all been brought by sled from St. Petersburg the previous winter, stores and provisions for one year, the greater part of which had been purchased in Irkutsk and Yakutsk, and a log dwelling house in sections, were floated down the river in these barges. Five natives for each craft were engaged to work the large oars and sails and to do the steering. In addition, one was taken as pilot, who claimed to be able to point out the channels to be followed. He, however, proved to be of very little use.

The expedition came to grief during a blow, when all the barges were thrown on the rocky beach of Tass Arrii (Stone Island) and filled with water. After hard work they were, however, freed, and proceeded without further incident down the river through what is called the Great Tumanski branch to Sagastyr, arriving on the 22d of August. The house was set up on a dry, sandy spot, and a small observatory for the transit instrument, besides three huts for the magnetic observations, was constructed from logs taken from the barges.

The instruments—more particularly the mirrors of those for magnetic work—had been somewhat damaged by the water at Tass Arrii, and owing to the delay occasioned by this mishap (a great many repairs having to be made), regular work was not begun until early in November. The cow and calf, which had been taken along with the expectation of having fresh beef in midwinter, they were obliged to kill soon after their arrival, as the hay for their subsistence had all been lost or spoiled by water. Arrangements were made with the natives at Kitach to supply wood for fuel, and sleds and dogs for the occasional excursions it was intended to make along the coast in the neighbor-



hood, more particularly west of the Olenek, in order to verify, if possible, the astronomical positions of certain points in that region, upon which so much doubt had been thrown by Nordenskjöld's expedition.

Sagastyr was selected as being the most available place in the neighborhood, being both healthful and free from danger from the spring floods, but as the station is located about 10 miles from the sea-coast, and the river mouth is very shallow, no satisfactory tidal observations could be made, and this part of the work was consequently entirely abandoned.

The *personnel* of the expedition comprises Lieutenant Juergens, of the Russian Imperial navy, in charge; Dr. Bunge; Mr. Eigner, mathematician; two seamen of the Russian navy, two soldiers from Irkutsk, and two Cossacks from Yakutsk.

Through the courtesy of Governor Tchernaiëff, of Yakutsk, their mail is sent them by Cossack messenger once a month during the winter, and whenever opportunity offers during the summer, by traders going down the river to Bulun.

In October they had set their nets, and were taking fish in sufficient number to last them probably throughout the winter. Observations made by Lieutenant Juergens showed that the position determined by Lieutenant Anjou's assistants put Sagastyr about 30 miles too far to the westward.

From a letter written by Dr. Bunge it was learned in Yakutsk, in the spring of 1883, that two of the enlisted men had been suffering from the scurvy. The ispravnik, of Verchoyansk, who visited the station in April, however, reported afterwards that the scurvy had disappeared, and that all were in good health, and the work was progressing favorably.

Lieutenant Juergens having expressed his willingness to remain at the station another year, provisions, planks, and brick for repairing stoves, were started down the river in July, 1883, in a cayuck, or large fish-boat, from Yakutsk. The vice-governor, Mr. Priklonsky, took passage in the boat, embracing this opportunity of paying the scientists in the delta a long promised visit, while at the same time making himself personally acquainted with the condition of the people in this part of his Government.

W. W. SCHUETZE,
Lieutenant, United States Navy.

A.

ORDERS OF THE NAVY DEPARTMENT.

NAVY DEPARTMENT,
Washington, February 2, 1882.

SIR: You are hereby detached from the torpedo ram Alarm, and will proceed to New York, and take passage in the mail steamer Germanic, which leaves that port on the 4th instant for Queenstown and Liverpool. From thence proceed to London and report by cable your arrival, and also the day of your intended departure. You will then, in absence of orders to the contrary (which if issued will be sent to the care of B. F. Stevens, Esq., United States dispatch agent, No. 4 Trafalgar Square, London), proceed immediately to St. Petersburg, Russia, advising me by cable of your arrival there.

On reaching St. Petersburg, communicate with the United States minister or chargé d'affaires, and request him to furnish you with all information that may be in his possession concerning the missing officers and men of the Jeannette. Having ob-

tained which you will proceed if necessary to Irkutsk, Siberia. Cable me the day of your departure from St. Petersburg, and the day of your arrival at Irkutsk.

If at either of these places you learn that the officers and men have been found and that your services are unnecessary, you will return to the United States. If they have not been found, or having been found, they need assistance, you will promptly advise me, and take such steps as in your judgment may seem requisite and proper. Much must necessarily be left to your discretion, but it is the desire of the Department that everything possible shall be done to rescue the survivors of the *Jeannette* and return them to their homes.

A letter of credit in your favor for £1,500 accompanies this.

You will while abroad keep an accurate account of your expenses for travel and for all purposes connected with this special duty. You will also keep for the information of the Department a journal, which will embrace all matters of importance from the time of your departure to your return to this country.

Master William H. Schuetze has been ordered to accompany you, and you will show these orders to him for his guidance in case of accident to yourself.

Very respectfully,

WILLIAM H. HUNT,
Secretary of the Navy.

Lieut. GILES B. HARBER, U. S. N.,
Navy Yard, Washington.

NAVY DEPARTMENT, *February 2, 1882.*

SIR: Having been ordered on special duty to Siberia, you are authorized to draw upon Messrs. Seligman Brothers, London, to an amount not exceeding fifteen hundred pounds sterling (£1,500), unless upon your application hereafter the amount should be increased.

You will keep a correct account of your expenditures for objects incidental to the discharge of the special duty on which you have been ordered, and render the same to the Fourth Auditor on return, filing with it vouchers when practicable.

You will also provide transportation and other actual and incidental expenses for Master William H. Schuetze U. S. N., who will accompany you on special duty.

Very respectfully,

WILLIAM H. HUNT,
Secretary of the Navy,

Lieut. GILES B. HARBER, U. S. N.,
Washington, D. C.

NAVY DEPARTMENT, *February 2, 1882.*

SIR: Referring to your orders of this date, you are informed that in case Master Schuetze should not reach the steamer *Germanic* in time, he will take passage on the steamer *Oder*, which leaves on the same day but at a later hour for Southampton. He has been ordered to proceed thence immediately to London, and join you at the office of B. F. Stevens, Esq., United States dispatch agent, No. 4 Trafalgar Square, and accompany you to St. Petersburg.

Very respectfully,

WILLIAM H. HUNT,
Secretary of the Navy.

Lieut. G. B. HARBER,
Navy Yard, Washington.

NAVY DEPARTMENT, *Washington, February 2, 1882.*

SIR: Proceed to New York and take passage in the steamer *Germanic*, which leaves that port on the 4th instant for Queenstown, and Liverpool; or, in case of your failure to reach the *Germanic* in time, take passage in the steamer *Oder*, which leaves on the same day but at a later hour for Southampton. From thence proceed immediately to London; put yourself in communication with Lieut. G. B. Harber (who goes out in the *Germanic*, and will be found at the office of B. F. Stevens, Esq., United States dispatch agent, No. 4 Trafalgar Square), and proceed with him to St.

Petersburg, Russia, and if necessary to Irkutsk, Siberia, on special duty in connection with the search for the survivors of the *Jeannette*. Lieutenant Harber has been directed to show you his instructions for your guidance in case of accident to himself.

Very respectfully,

WILLIAM H. HUNT,
Secretary of the Navy.

Master Wm. H. SCHEUTZE,
United States Navy, Saint Louis, Mo.

B.

NISCHNEUDINSK, SIBERIA, *March 19, 1882.*

SIR: In order not to detain you I will put the most important facts in writing, and will arrange them in order of importance, as follows, viz:

First. The case of Captain De Long and party. The two seamen, Noros and Nindemann, left the captain on October 8 or 9. The statements made about dates conflict. The last record that has been found was dated October 1, 1881 and was left by the captain in a hut on the east bank of the river, and probably less than 80 versts from the ocean. The men say that the party crossed the river to the west bank and continued the march southward.

That Seaman Hans Erickson died October 7, and was buried in the river. That the last morsel of dog meat had been eaten about October 6, and that they had been three days without food when the captain determined to send them ahead for assistance. They say that the only orders given by the captain were for them to get relief back to his party as soon as possible, and that should they get any large game to return with it immediately. A little alcohol was left with captain's party, and one rifle with probably 50 rounds, Remington. When the men started the others of the party were seated on the north bank of a west branch of the Lena. They say that the captain held divine service and then had them cheered on departure. The party was very feeble, especially the captain and George W. Boyd, coal-heaver. The two men were found in starving condition at summer hunting station Bulkur by Evan Androssoff, a native. He with two others took them to Bulun, where they could not make themselves understood. They wrote a long statement in English and addressed to our minister at St. Petersburg. This was brought to me at Geemavialocke on November 1, 1881.

When our courier was on his way back from Bulun, about October 23, he met the two men at Kumak Surka, who gave him a brief statement to the effect that captain's party was starving. He brought it to us, and Melville immediately started for Bulun, where he saw the two men and obtained the whereabouts of the captain. Melville then made a twenty-three days' trip, and obtained the log-books &c., but lost track of the captain's party at a hut called Sisteranek on the west bank of Lena, about 120 versts north of Bulkur. He argues thus: we know that the party passed Sisteranek, and we know they have not been south of Bulkur, therefore, they must be between those places. That region is devoid of game and habitations, and is plowed over by immense masses of ice during spring freshets. It consists only of a narrow belt of land, with the river on the east and the mountains on the west. Noros states that when they left the party a sugar-loaf rock bore about E. by S. He judged by the trend of that part of the river, which the captain told them was S. W. He says: That rock is marked Ostolvoiy on some charts, and "I. Stalbowy" on others. The men say they received only verbal orders, and were given a small copy of chart penciled by Collins. I believe their statements, but it is very unfortunate that the captain did not give them something in writing for their own protection if nothing more. Their statements agree pretty well.

Nindemann is now at the head of one of Melville's search parties, and Noros is returning to Yakutsk with Mr. Jackson, the special correspondent of New York Herald.

Fireman Bartlett is also with Melville. The latter did not consider the other survivors essential to the search, so he ordered me to bring them with me. The chances are that the captain and his party all perished in the month of October. It is probable that the party dispersed soon after the two men left, in order to avoid what usually occurs when men are starving. During the heavy storms that occurred in October it is likely that they sought shelter under the lee of mud banks or in holes in snow banks, and many of them doubtless perished in such places. The general opinion of natives and everybody is that there is not the slightest hope of finding any of the party alive, and but little chance of finding any remains of them.

The latest news from Melville states that he left Yakutsk with the third searching party on January 27, 1882, and expected to be on the ground by March 1. He intends building a hut in the wilderness and making a search with a large force divided into

three parties. One headed by Nindemann and Russian Bobokoff, second by Bartlett and Cossack sergeant, and third by Melville and Captain Greenbeck, of steamer *Lena*, a young Norwegian. Jackson proposes to move a whole village to the wilderness, but the plan is hardly feasible in that region. Melville was fitted out until July 1, and was to notify General Tchernæff, governor of Yakutsk, if provisions, &c., would be needed after that date. The latter was to notify governor-general at Irkutsk, and the stores would be sent down in river barges. Nothing on that subject was received before I left Irkutsk. Melville told me that he intended prosecuting a summer search for the missing boat of Lieutenant Chipp.

If the captain's party is not found prior to June 1 next, there will be no hope of finding any traces of it, for the region will be overflowed by that date.

The river breaks up at Irkoutak about April 10, but not until June is the delta clear of ice, I am told by the best authorities.

There is no correct chart of the *Lena* delta. The latest, that of Nordenskiöld's, is particularly bad. The soundings, for example, in the most important places near the delta are not given. There are a great many villages marked on his chart that do not exist to-day. It is made up from old charts of Anjou and others, which were only approximate at the time, from 60 to 140 years ago, and the delta is constantly changing. It consists of more than 120 small and large streams that cut up the region into numerous islands, some of which are nothing more than mud banks and others from 10 to 60 feet above the river level.

The missing people belonging to the first cutter are the following, viz: Lieutenant-Commander George W. De Long, commanding; Passed Assistant Surgeon J. M. Ambler; meteorologist, Jerome J. Collins; Seaman A. Gortz; Seaman H. Kaack; Seaman A. Dreesler; machinist, Walter Lee; coal-heaver N. Iverson; coal-heaver George W. Boyd; ship's cook, Ah Sam; hunter, Alexie. Seaman Hans Ericksen died October 7, and there is said to be a board with an inscription that was left in the hut where he died.

Second: The case of Lieutenant C. W. Chipp.

Lieutenant Chipp was embarked in the second cutter with the following persons, viz:

Name.	Rank or rate.	Where born.	Age.	Height.	Eyes.	Hair.	Remarks.
William Dunbar..	Ice pilot, seaman, S. S.	New London, Conn.	50	5.9	Blue ..	Gray .	Wore beard; upper lip shaved; regular and handsome teeth.
Alfred Sweetman.	Carpenter	England	44	5.9	Dark .	Dark .	Very sharp visage, with eyes close together; teeth irregular; wore beard; excrescence on cheek.
H. W. Warren....	Seaman	America	32	5.7	..do ...	..do ...	Full beard; tattooing on arm; ship on breast.
Peter Johnson....	..do	Norway	26	5.8	Blue ..	Black .	American flag and cannon on arms, also religious device.
George Kuhne....	..do	Germany ...	24	5.10	..do ...	..do ...	No marks known.
Edward Star .....	..do .....	.....	30	6.00	..do ...	Dark .	Supposed to be Russian; not tattooed; biggest man in party.
Walter Sharvell..	C. H.	England	20	5.7	..do ...	..do ...	Name tattooed on arms.

The second cutter was a clinker-built 16-foot boat, copper fastened, and fitted with dipping lug sail and four oars. She had waist boards amidships, and weather cloths before and abaft them. She was regarded as a very crank and bad boat. On September 4 she was nearly swamped, and the general opinion was that she did not outlive the gale of September 12. When last seen she was about 1,000 yards off our port quarter and lowering sail as if rounding to. We could not render her any assistance. We lay twenty hours under drag, and at daylight no boat was in sight. She contained the following articles, viz: one boat-box, containing about two hundred rounds, Remington and Winchester, and articles for slight repairs; weight about 80 pounds; one box carpenter's tools, weight about 100 pounds; one tent with five poles (weight when dry), 50 pounds; sleeping bags for eight men (weight when dry), 100 pounds; water-breaker and boat bucket; four oars and one boat-hook; one Winchester rifle, 11 pounds; one Remington rifle, 9 pounds; one binocular (marked Hong Kong); one prismatic compass; one hatchet fitted with claw; two tins pemmican, each 45 pounds (specific gravity, about that of water). (Tins that are tight sometimes float in seawater.) The boat's oars had been cut down and trimmed by the carpenter. I think there were a couple of boarding-pikes in boat and perhaps one or two small paddles

with ice-chisels on ends; one box mess-gear, containing one tin cup and one tin pan for each member of party; two rubber water-bottles, and eight plated spoons, marked "1847, Rogers Brothers, A 1"; one fire-pot, containing one copper kettle and stew-pan, also alcohol lamp.

In the gale it is probable that the tent, sleeping gear, and perhaps cooking gear were thrown overboard. There was not enough weight in boat, without that of the men, to sink her in case of filling. Had she sunk with men in her she would doubtless have risen to surface after a few days, when the corpses had floated out. The winds were from northeast or east for several days after gale, and had she been drifted ashore by the wind we should look for her between Barkin and the river Olenek; but I observed a strong easterly set, and there are immense masses of drift-wood in the vicinity of New Siberian Islands that doubtless come from Lena. The two northwest branches of Lena, marked Bjelkoi and Anardamisja on Nordenskjold's chart, and shown as large streams, are said by natives to be very small and tortuous streams that are not navigable for their small boats. For operating in the region of the Lena delta and New Siberian Islands I would recommend dories. We struck in 2 feet of water off Barkin, and could not see the land. The water for miles off-shore to the northeast and east of delta is quite fresh. This is said not to be the case to the northwest. Our whale-boat is at Cape Bykowsky, in the care of Russian exile Koosmak Eraymayoff, a very trustworthy man, who agreed to keep it for us. He has one tent, and the other was given to Nicoli Diakanoff, known among natives as Chagra Nicoli. He is head native at "Semoyje-loch I." The whale-boat is clinker-built and copper fastened; patched in several places, but is an excellent boat. Two good monkey-wrenches should be taken down to remove heavy oak keel pieces that should not be used in shoal water. She has mast and sail, and four good oars; one rudder, upper gudgeon carried away. Yoke good. Boat cover fitted as turtle back, and weather cloths in hands of Koosmak; also small luff tackle. Boat breaker and bucket in hands of Nicoli Diakanoff.

My first proposition was to charter steamer *Lena* and search the entire coast between rivers Olenek and Kolymah in hopes of learning the fate of Chipp's party; also to extend the search to the New Siberian Islands. It is a very forlorn hope, but no effort should be spared.

Since learning that the search steamer *Rodgers* is wintering near Behring Straits I have suggested that she make the search next summer. At Verchoiansk and Yakutsk I talked with merchants and others who said that every year American trading schooners come as far as the Kolymah and trade with the Schoutchki.

The *Rodgers* could doubtless search the coast and islands in July and August and get back to Behring Straits by September 1. In connection with the search the whale-boat and a couple of dories should be used about the Olenek and Lena.

The steamer *Lena* was sold by Siberikoff to Shamotin last November for 25,000 rubles.

Shamotin has asked 30,000 rubles for charter for entire summer. That is too much. He is in bad financial condition, and will doubtless make more reasonable terms. The *Lena* is of about 300 tons displacement, and is built of $\frac{1}{2}$ -inch Bessemer steel; fifteen horse-power (nominal); one cylindrical boiler; single vertical high-pressure engine; four-bladed screw, two of which are broken. There is spare screw on board. Wood is generally used for fuel. She draws 7 feet aft when loaded. She has two boom-sails and jib. They say she makes 9 knots on 50 pounds steam.

Two plates on port side are bulged in, but is considered only a slight injury. She plies between Yakutsk and Viteem, but as a river steamer is not a success, as she draws too much water. She would do for summer search in July and August, but is not suitable for ice navigation. The works of the river steamship company are at Viteem, about midway between Irkutsk and Yakutsk. Trapeznikoff & Co. have recently sold their steamers to Bazanoff and Siberikoff, but the latter will not charter them.

One hundred horse-power tug *Courier*; passenger boat *Constantine*, 24 horse-power; steam launch, 35 feet, 5 horse-power. There is a small craft at Viteem that might be rigged as sloop or schooner and made useful in summer search. The above-named steamers are light-draught and built of wood, by Mr. Charles Lee, an English engineer. I know this gentleman very well, and can recommend him very highly to you. He was to have arrived at Irkutsk March 9, to see me, but I could not wait for him after the 13th. He has been manager for Trapeznikoff & Co. for fifteen years. He will render you all the assistance he can.

Resources of the Lena.—Irkutsk is the entrepôt of this region, and every summer several hundred barges are sent down to Yakutsk, where an annual fair is held. During the remainder of year little more than the necessities of life are obtainable. The barges cannot ascend the river, so they are sold and broken up.

Grain is not grown above Verchoiansk. Bulun is the nearest town to the delta.

It has a Cossack commandant and a pope. It contains about 100 inhabitants, among whom are a few Russians. A good trade in fish is carried on with Yakutsk. The region of the delta is inhabited by Yakutes and Tunguses. In the fall and win-

ter they live on fish and deer, the former being very plentiful. In the spring and summer they live on geese and what deer and fish they can get. The time of greatest scarcity is in spring. Many natives and dogs starve at such times. There are lots of drift-wood for fuel, and good cannel coal is said to be found. Road from Irkutsk to Yakutsk, post road, good; distance 2,790 versts. Mail time 14 days. Each horse costs 125 rubles. It is best to carry provisions for journey from Irkutsk. Verkolensk, Korinsk, Viteem, and Olekma are small towns on the road, where little or nothing can be obtained and at great prices. Yakutsk to Verkoiansk, on River Jana; distance, 960 versts; travel by horses, about 300 versts, to Aldin, thence by deer to Verchoiansk. Time, about 10 days. Verkoiansk to Bulun 900 versts by deer. Last 400 versts have to be made by one set of deer. Whole journey can be made in 10 days. The people in the vicinity of Bulun whom I can most recommend are mentioned in my letter to Governor Pedoshenko, and from which you can make extracts.

I am, sir, very respectfully,

JNO. W. DANENHOWER,
Lieutenant, United States Navy.

Lieut. G. B. HARBER,
United States Navy, en route Irkutsk.

[Copy of telegram directing me to bring home the bodies.]

HARBER, *Lieutenant, Yakutsk:*

Department directs proceed to build sledges and bring bodies to Orenburg, where metallic caskets await; shipped to St. Petersburg.

HUNT.

Distances traveled by search parties in summer and winter, 1882.

	Sea miles.
Bulun to Buikoff.....	167½
Buikoff to Zemovelach	10
Zemovelach to Borchia (cape)	197½
Borohaia to Lena River.....	77½
Return to Borchia.....	108½
Borchia to Zemovelach (return).....	90
Zemovelach to Matvay	66½
Matvay to sea near Sagastyr	76½
Return to Matvay.....	76½
Zemovelach to Barkin.....	101½
Return to Zemovelach.....	101½
Matvay to Olenek river.....	120
Return to Matvay.....	120
Matvay to Bulun.....	112½
Bulun to Sagastyr.....	183½
Kitach to West Delta and return	127½
Kitach to Zemovelach (direct).....	91½
Kitach to Zemovelach, via Bartain	118½
Zemovelach to Bulun.....	107½
Total	2,054½
2,054½ sea miles = 2,365 statute miles.	

Distance table.

	Statute miles.
New York to London.....	3,706
London to Paris.....	289
Paris to Berlin.....	734
Berlin to St. Petersburg.....	978
St. Petersburg to Moscow.....	373
Moscow to Nizhne Novgorod.....	236
Nizhne Novgorod to Irkutsk	3,155
Irkutsk to Yakutsk.....	1,879
Yakutsk to Bulun (Lena River).....	802
Bulun to Delta, including search, and back to Bulun.....	2,365
Bulun to Yakutsk, via Verchoyansk.....	1,216

	Statute miles.
Yakutsk to Bulun, via Omallai river.....	1, 343
Bulun to Zemovelach and return to Bulun.....	343
Bulun to Yakutsk.....	1, 216
Yakutsk to Irkutsk.....	1, 879
Irkutsk to Yakutsk.....	1, 879
Yakutsk to Irkutsk.....	1, 879
Irkutsk to Orenburg.....	2, 651
Orenburg to Moscow.....	833
Moscow to Berlin.....	1, 112
Berlin to Hamburg.....	87
Hamburg to New York.....	4, 140
	33, 185

BULUN, *September 16, 1882.*

Ensign H. J. HUNT, *United States Navy:*

SIR: You will take charge of the following men, namely, H. Leach (seaman), F. Manson (seaman), J. Bartlett (fireman), J. Lauterbach (fireman), Aneguin (hunter), and upon the opening of the winter roads proceed to Yakutsk, thence to Irkutsk, from which place upon your arrival you will report by telegraph to the Secretary of the Navy. In the absence of instructions from the Department you will proceed to the navy-yard in New York and report your arrival to the commandant and by telegraph to the Secretary of the Navy. You will also take charge of the articles, the list of which accompanies this, and deliver them to the commandant in New York, unless otherwise instructed. You will keep an accurate account of the necessary expenses incurred in the performance of this duty.

Very respectfully, your obedient servant,

G. B. HARBER,
Lieutenant, United States Navy.

BULUN, *September 16, 1882.*

Ensign H. J. HUNT, *United States Navy:*

SIR: I leave to-day for the north mouth of the Lena River, intending to search the coast from Sagastyr to Zimowjelach. Master William H. Schuetze and the Cossack Hokenkin will accompany me; you will be obliged to remain here with the men of the late Arctic steamer Jeannette until the opening of the winter roads, about the middle of October. In the intervening time you will have constructed the sleds necessary for the journey to Yakutsk and have made the necessary clothing for yourself and party. As soon as you can do so you will proceed to the tomb of Lieutenant-Commander De Long and party and bring with you the remains of Mr. J. J. Collins, taking it with you to New York. You will keep a separate account of the expenses.

Very respectfully,

G. B. HARBER,
Lieutenant, U. S. N.

To Ensign H. J. HUNT, *United States Navy:*

SIR: The following is the list of articles referred to, received from Lieutenant Danenhower: One chronometer, with case and box, 1 sextant, 1 artificial horizon, 1 box surgical instruments, 2 tourniquets, 1 nautical almanac, 1 Bowditch table, and 1 pair of binoculars; one sextant, 1 artificial horizon, 1 pocket compass, 1 roll of charts, — pairs of smoked glasses, 2 pairs of binoculars, 1 Winchester rifle, 2 breech-loading shotguns, and 1 revolver.

Respectfully,

G. B. HARBER,
Lieutenant, U. S. N.

COMMANDANT'S OFFICE, NAVY-YARD, NEW YORK,
February 22, 1884.

SIR: Lieutenant-Commander F. M. Barber, U. S. N., will this day relieve you of the official custody of the remains of the late Lieutenant-Commander G. W. De Long and nine of his companions.

Although relieved of personal responsibility in connection with the honorable charge which you and your associate, Lieut. William H. Schuetze, have so faithfully kept, I desire you still to maintain a connection with this important trust.

A position is therefore assigned to yourself and Lieutenant Schuetze during the official reception, which is intended to mark the universal appreciation of the work that you have so well performed.

Very respectfully,

JOHN H. UPSHUR,
Commodore, U. S. N., Commandant.

Lieut. G. B. HARBER, U. S. N.,
Hamburg-American Steamer Frisia, Hoboken.

[Contract.]

IRKUTSK, March 31, 1882.

I, the undersigned, representative of the American Government, Lieut. G. B. Harber, have concluded this contract with the authorized agent of the Lena-Vitim S. S. Company of Messrs. Basanoff, Nemtchikoff, and Sibiriakoff, the merchant Nicolas-Egoror Tchernikh, in the following:

1. Harber, by order of his Government, undertaking a voyage to the mouths of the river Lena, takes out in lease the S. S. General Sinilnikow, belonging to the company, and which has an iron hull, and a steam-engine of 40 nominal horse-power, being now at the Worontzow pier on the river Vitim, with the condition that everything generally employed on the steamer during her trips on the rivers Lena and Vitim, such as anchors, chains, ropes, furniture, lanterns, &c. will be delivered with the steamer in perfect condition.

2. A detailed inventory must be made on the spot, showing the exact condition in which the S. S. will be taken by Mr. Harber, with the duplicate signature of the receiver and deliverer, and such an inventory has to be made of all the equipment of the steamer, as described above in the first paragraph.

3. Mr. Harber having received the S. S. at his disposal has the full right to use her for navigating as far as the mouths of the river Lena, should he so elect, during the whole of the navigation season of the year 1882, and during that time to keep at his own expense such crew of the S. S. as he deems necessary; he has also to make at his own expense all the repairs which may be required during the voyage, and all others that he may think necessary, in both cases without asking any remuneration from the company. If, however, at the time when the S. S. be delivered to him Mr. Harber shall think necessary to make any repairs or improvements, the company is obliged to supply him with mechanics and workmen and materials, and Mr. Harber agrees to pay for all this at the rates then existing in Vitim.

4. At the end of the voyage, Mr. Harber agrees to bring the steamship to the Worontzow pier on or about the middle of September of the present year, 1882; but he may do it earlier; but if the autumnal drifting of ice begins in September, he will bring the steamship to Viska pier on the Lena, and at either pier he must deliver the steamship under full steam and in the same state as he accepted her except the painting, which he is not obliged to renew.

If any slight damage or loss of articles should be found upon comparing with the inventory, he, Harber, is obliged to pay for all such damage or loss at the price existing in Vitim for materials and labor.

5. If the steamship is lost through any accident—from which may God preserve her—Harber shall pay her full value as stated below; if she is damaged by fire, bursting of the boilers, grounding in shallow water, or ice, &c., so that the repairs will necessitate a very great sum of money, a special commission must be formed at the pier for their estimation, composed of me, Harber, of experts from both sides, and of the director of the company, and I, Harber, shall pay to the company, in full, without protest the sum fixed by the commission for the damages at the price existing in Vitim for materials and labor, after which the company shall have no claims against me.

6. For the right of using the steamer during the navigation season of the year 1882, I, Harber, agree to pay when she is delivered to me ten thousand rubles in notes of the Siberian Merchant Bank with my signatures in blank, and in case the steamer shall not return at the time appointed above in section 4, I promise to pay 40,000 rubles in letters of credit, the exact payment of which, as well as the punctual fulfillment on my side of all the clauses of the present act, is guaranteed by the Government of the United States of North America, in a telegram to the General Governor of East Siberia, dated March 28 (April 9), No. 11,666.

7. If I, Harber, shall find necessary to take with the steamship a small wooden boat, the company shall sell me such a one from the now existing barks, and which the administration may be able to furnish at a special price, fixed by mutual agreement.

8. The present act is made in duplicate, and must be fulfilled by both sides wholly and irrevocably, with the proviso that if, after examination of the above-mentioned

steamer, I, Harber, shall find her unfit and not convenient for the proposed service, I have the right to refuse to take her and the present contract loses all its force.

GILES B. HARBER,
Lieutenant, United States Navy.

Translated.

AUGUST N. TORNAM,
The authorized agent of the Steamship Company.
NICHOLAS TCHERNIKH,
Merchant.

ADDRESSES DELIVERED AT DIFFERENT POINTS IN RUSSIA BY OFFICIALS IN HONOR OF DE LONG AND COMPANIONS.

[Address delivered by mayor of Tomsk, upon the departure of the remains of Lieutenant-Commander De Long and companions, January 2, 1884.]

(Translation.)

TOMSK, December 21 1883.

The editor of the New York Herald, James Gordon Bennett, after the ill-fated expedition of Parry in 1873, at an expense of \$200,000 equipped a new expedition under the command of Lieutenant De Long.

On the 8th of July, 1879, 33 Americans sailed from San Francisco on the steamer Jeannette (which had been previously employed in the expedition of 1865 which found the remains of Franklin), furnished with provisions for three years, to discover the North Pole and find Nordenskjöld.

Having passed Behring Straits and turning towards the north the Jeannette met with the icebergs, and surrounded by them, during 18 months, advanced through them in the direction of the northwest, until they crushed her totally. Then the crew having taken 3 boats dragged them on the ice in the direction of the islands of New Siberia, in the south of which the sea was comparatively free from ice.

Having taken the boats (14 men with De Long, 11 with Melville, and 8 in the last), the brave sailors started in the open sea in the direction of the mouth of the Lena; but a storm divided the companions; the boat with Melville reached the shore in safety, and entering one of the mouths of the Lena, met some Tungouses and was saved; no traces of the boat with the 8 men have been found up to the present time; and finally the boat with De Long, in September, 1881, entered a part of the Lena which flows through a barren region where the Tungouses and Tanoutes fish during a short northern summer.

The coming cold obliged the brave explorers to move on foot without food or clothes to the south.

The journal of De Long shows how severe were their sufferings and how terrible was his death and that of his companions.

At first they subsisted on the dogs' flesh, afterwards they were obliged to gnaw the deer's skin, and finally, sustained life on a daily allowance of a spoonful of glycerine and an infusion of some leaves.

Death began its work with Erichsen, who died on the 24th of September, 1881, and finished it on the 20th day of October; on the 19th were alive De Long, Dr. Ambler, and the Chinese sailor Ah Sam. Being saved from death by hunger, Engineer Melville found the bodies of ten of his comrades and buried them. In November of the present year (1883) their grave was opened by Lieutenants Harber and Schuetze, who had been sent by the American Government. Their bodies were exhumed and packed in metallic boxes and were afterwards, in Orenburg, put in metallic coffins.

This exhumation of the bodies, witnesses describe as follows: They were thawed, then undressed and wapped in felt, with the inscription of the family name, and put in the coffin. It was only possible to tear off the clothing by cutting it to pieces, but in these pieces one could read the whole history of the last voyage of this unfortunate party.

The men who died first were dressed lightly. Their clothes went to protect those still alive. The cold was terrible and their empty stomachs could not warm them.

The unfortunates had to put on all they possessed. The thickness of their clothing attained a few inches of depth. Under the cover of two or three overcoats was the shirt, and then the uniform, and then again several shirts and woolen undershirts. Their feet were covered with some ten rags; the hands and feet of some of them were attacked by gangrene.

Lieutenants Harber and Schuetze are now carrying the bodies of these heroes of science to their native land in America.

In five boxes are the bodies of Lieutenant De Long, Dr. Ambler, the meteorologist Collins, the machinist Lee, and six sailors, Iverson, Kaack, Dressler, Gortz, and Ah

Sam. The other bodies could not be found either by Melville nor by Lieutenants Harber and Schuetze.

The deed of De Long with his comrades, who reached 79° 33' of north latitude, does not need our praises. We only have to honor the memory of these heroes, who gave their lives in the cause of science, and to escort their remains with a feeling of deep respect and admiration, inspired in us by their unexampled bravery and suffering.

U. MIKLIALOS,
Town Mayor.

[Address delivered by the president of the Geographical Society in Orenburg, upon the departure of the remains of Lieutenant-Commander De Long and companions, January 24, 1884.—Translation.]

REVERED GENTLEMEN: To-day our native country celebrates the 129th anniversary of the foundation of the first Russian university in our old abiding place, Moscow. This anniversary day accidentally coincides, here on the limit of European Russia, with the solemn and mournful transit of these mortal remains, so dear to us northern inhabitants. But only the lifeless nature of our land is cold; the lively Russian feeling is still warm, although an ice-cold mantle covers our plains. And so we can celebrate this important day in accompanying you, revered representatives of the great American nation, with our best wishes. I can speak to you not only as a representative of the Orenburg divisions of the Imperial Geographical Society, but of the whole mass of promoters of Russian science.

It is fit to celebrate such a day by a thankful remembrance of men who have sacrificed on the altar of science their own lives. Eternal glory to them and peace to their souls! A self-sacrificing and glorious lot was theirs. "Greater love hath no man than this—that he lay down his life for his fellowman."

[Address delivered by the director of the Gymnasium at Tomsk.—Translation.]

GENTLEMEN: The activity of man shows itself in different ways and in the accomplishment of different objects. The man who labors for the public welfare merits the esteem and recognition of his fellow-citizens; his name is accorded a place of honor in the history of his people; but the activity and deeds of men who have devoted themselves to the cause of science acquire a universal importance; their names belong to the history of all nations; to this number belong the names of De Long and his comrades, victims of their love for scientific research. I shall not tell you of the history of this Polar expedition; you all know it; but under the actual circumstances I cannot refrain, gentlemen, from calling your attention to the importance of the expedition of Lieutenant De Long. It had for its object the discovery of the secrets which nature so jealously guards on the confines of the unexplored regions of the frozen north; the discovery of which has already cost so many human lives. Surely there will come a day when the desired object will be attained; but may the expedition of Lieutenant De Long be the last attempt with so fatal an ending. May those who follow his example be more fortunate than he. May they be spared the privations and sufferings with which these heroes were overwhelmed.

In conducting their bodies to their native land we cannot express the profound sentiments of esteem and admiration that their deeds have inspired in us. The great nation of which they are children has given such an importance to their deeds that it has sent out another expedition to bring back to their country all that is mortal of these unfortunate victims. Let us wish, then, that they may with honor and success perform this honorable service.

THE DIRECTOR OF THE GYMNASIUM OF TOMSK.

TOMSK, 20th December, 1883. (1st January, 1884.)

[Address of Dr. Lontkevitch in Orenburg over the remains. January 12-24, 1884.—Translation.]

COMRADES: To-day, the 12th of January, we expected to be assembled to celebrate the anniversary of the opening of the University of Moscow.

And here we are gathered together, but for a much more mournful solemnity. We are here to pay our last respects to our brother in science, to the American Doctor Ambler, who perished by a terrible, but a martyr's death, in the polar lands of stern Siberia.

Gentlemen, the successes of science by means of researches and discoveries enrich countries and nations, adding to their welfare, wealth, and luxury. But the path o

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science is hard and covered with thorns, and the pioneers, advancing fearlessly by this path, often perish without having gathered the fruits of their labor.

Amongst such unfortunate and fearless pioneers was Doctor Ambler, and the other members of the ill-fated expedition.

Having parted from his sunken ship he landed on the desert shores of the delta of the River Lena, and while wandering through this labyrinth of islands, mountains and rivers, in expectation of a "hungered death," he did not forget his duty but amputated the frozen foot of a sailor, one of his companions.

In 71° of north latitude these unfortunates were forced to appease their hunger by eating the skin of their furs, and the shoes of their dead comrades, and at last died from hunger and cold.

Gentlemen, let us pay honors to these martyrs, let us bare our heads, let us salute their remains and say, "Eternal, eternal glory to the memory of the fallen sons of free America."

DR. ADOLPHE LONTKEVITCH.

ORENBURG, 12th (24th) January, 1884.

[Address of the residents of the town and railway station of Viazma.—Translation.]

Sympathizing with glorious Americans who gave their life as a sacrifice to science, we consider it a duty to express for their memory our profound respect, and our condolence, desiring by this declaration, weak though it be, to honor the memory of these great men.

Assistants to the Ispravnik of Viazma:

The police agent of Viazma:
Chief of the railroad station:

NIKITINE,
ORLOFF.
SIMIRNOFF.
* * * * * (Illegible.)
G. KRASSER.
ISSANOFF.
IVANOFF.
DICK.
* * * * * (Illegible.)

Lieutenant-Colonel:

[Speech, delivered by the mayor, town of Smolensk, Alexander Engelhardt, on meeting the remains of the members of the American expedition, on board the steamboat "The Tanet."—Translation.]

It is with the sincerest grief and the deepest respect that the ancient Russian city of Smolensk greets the honored remains of the members of the American expedition on board the steamboat, "The Tanet," of those heroes who met a tragical end in wrestling with the blind and rough elements of our northern boundary's cold and uncongenial climate—who fell victims to their love of science, light, and humanity. It is to those noble champions of a noble idea, those indefatigable workers, who for science's sake laid down their very lives, that we offer here our last duty, our last homage. Deeply grieved by the martyr death of the fearless explorers, we feel assured that this lamentable event will only strengthen the ties of friendship that already bind the Russian nation to her American allies. May their heroic deed live in the memory of the remotest posterity as an ever present example of the valor, the self-denial, that always characterize the American nation in her strife for truth, light, and genius—those pillars that are the surest foundation of all human happiness.

"JEANNETTE" (18^{vii}₈79—18^{vi}₁₃81).

To memory of lieutenant G. W. De-Long, naturalist Kollins, physician, Ambler, and their worthy fellows: machiniste Lee and sailors: Ah-Sam, Boyd, Harz, Dressler, Katch, and Merson, perished in mouth of Lena in October 18-30, 1881.

OMSK, December 26, 1883.

The West-Siberian Section of Russian Geographical Society, welcoming the gentle lieutenants Garber and Schütze, escorting the ashes of persons designet above, express his profound sympathy in occasion tragical death of that sublimes martyrs of science and with a deep devotion incline herself before firm energie of observing mind, powerful in love to universal investigation of natur in regions inhospitables of deep Nord.

President BOBKOV.
Secretary KOZLOV.

