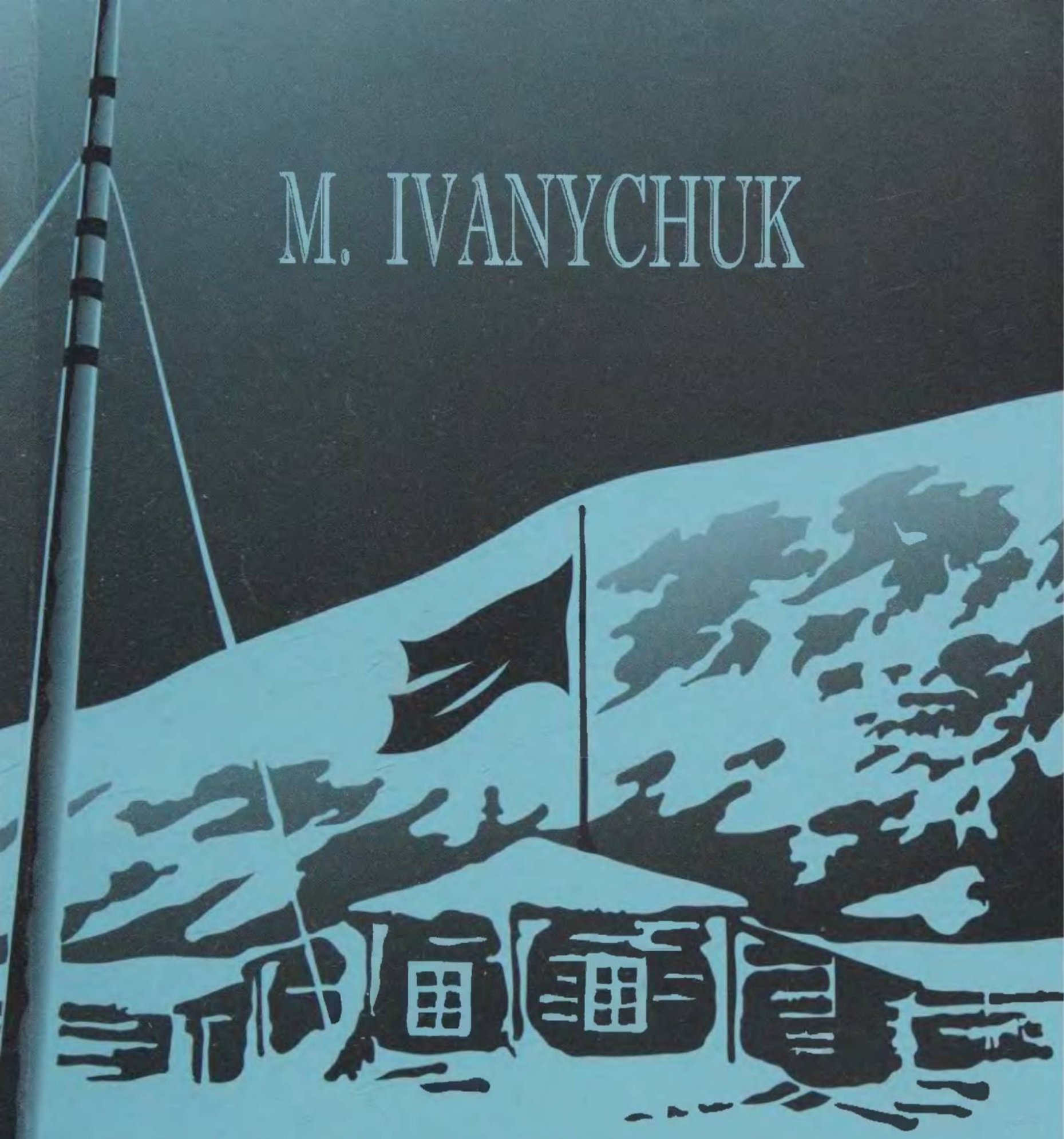
M. IVANYCHUK



14 MONTHS ON FRANZ JOSEPH LAND

Translated by G.K. Atamanenko

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14 Months on Franz Joseph Land

Mykhailo Ivanychuk

Translated by
Gloria K. Atamanenko

Gloria K. Atamanenko

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To my faithful friend, dear wife, Nina Nikolaevna Sokolova-Ivanychuk, the Author dedicates this book.

—Mykhailo Ivanychuk

I would like the English translation of this book to be dedicated to my father, Mykhailo, who was robbed of ever seeing and holding his newborn son, and to my mother, Nina, who gave her life so that I may survive.

—Erwin Bergman / Stanislav Ivanychuk

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To Gloria Atamanenko, who lost her father's entire family under similar circumstances, my deep gratitude.

—Erwin Bergman

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The photographs were taken by Mykhailo Ivanychuk at the time of the expedition.

—Gloria Atamanenko

Foreword

This is a true story of polar exploration early in the twentieth century, when the High Arctic was mysterious and dangerous, difficult to reach and work in, and the subject of exciting news. This is also the story of a Ukrainian family who were separated and traumatized by war and by the savage persecution of the Russian Bolshevik regime. It is the story of the family who persisted in their efforts to find one another.

It all began in the eastern section of the Austro-Hungarian Hapsburg monarchy, the last remnant of the governance of the Roman Empire. At the beginning of the twentieth century, that state included at least twelve nationalities. Only two, the Austrian and the Hungarian, had sovereign powers. The others, like so many nationalities in Europe at that time, struggled for the preservation of their language and cultural identity and for self-determination.

Minorities within the Empire wanted it to become a federation of nationalities, but there was not the will, and perhaps not the knowledge of how, to create such a state.

School children were taught to sing a patriotic hymn which praised "*Unser Kaiser, Unser Land*," but allegiance to an Empire where subjects did not feel treated equally, and where their aspirations and needs were ignored, was limited at best. The assassination of the Austrian

Archduke and heir to the throne by an exiled Austrian precipitated the First World War. It led to the downfall of three empires and cost over thirteen million soldiers and civilians their lives.

As the War came to an end, the central power of the Empire did not hold, and some of the component parts fought one another, while others formed supportive alliances. The similarity of goals, such as cultural preservation and autonomy, did not guarantee empathy between neighbours. When the war between the major combatants ended, the battles over territory and political dominance continued among some of the national groups.

War-weary Allies were anxious for stability in Central and Eastern Europe and fearful of the spread of Bolshevism. They were ignorant of the history and aspirations of the nationalities of the crumbled Austrian, Ottoman and Russian empires, and tried but failed to create satisfactory compromises for everyone.

Ukrainian citizens of the Hapsburg Empire were predominantly peasants, especially in the mountain areas, both impoverished and illiterate. Ukrainian intellectuals petitioned the Austrian government repeatedly to provide them with their own institutions of higher learning. Their requests were received courteously but were never adequately implemented. Competing Polish interests, with their own designs for Ukrainian territories, interfered, with their own counter-

petitions. Ukrainian intellectuals struggled to bring learning to the peasant people. Literacy and education are the major tools of human empowerment; illiterate people are easier to manipulate and dominate.

In the small village of Pylipy, in the Carpathian foothills near Kolomyia, lived an exceptionally dedicated teacher, Miss Julia Schubert. Her home was one room in the two-room school building built by the people of the village. She taught in the other room, treating the children as cherished family, and teaching them all she could.

Miss Schubert was tall, stately and attractive, wearing her snowy white hair piled high on her head. The children said among themselves that she looked like a dandelion who had gone to seed, but they were fond of her, and she earned great respect among the villagers.

Her earnings were meagre but she used as much as she could to provide post-elementary education for several of her most promising pupils. Among them were two brothers from the poorest family in the village, Mykhailo and Ivan Ivanychuk. They were very bright, very talented, and each other's best friend.

Miss Schubert made the equivalent of junior and senior high school possible for the two brothers. That was a great privilege at a time when lower elementary grades were all the education a fortunate peasant child could get. Often just the

lack of shoes or a winter coat meant that a child of a poor family would not go to school and would remain illiterate.

The two brothers were quite different in temperament. Mykhailo was a serious, assertive, inquiring fellow, and a risk-taker in a measured way. As he grew to manhood, he desired major changes for his subjugated people, and he worked for them directly.

Ivan was more cautious, less inclined toward risk and adventure. He wanted changes also, but was more likely to promote them by small increments. Ivan's model was his teacher, Miss Schubert, and he planned - and succeeded - in becoming a dedicated village school teacher. Ivan was never one to challenge constituted authority directly; his son wrote that his father "walked a razor's edge" to live up to his ideals without overt rebellion.

Brilliant Mykhailo won a scholarship to Lviv University, took a part-time job selling magazines and books for the Shevchenko Scientific Society, and, with the intercession of a wise official, bought his meals at half-price in the academic dining room. By strict management of a tight budget, he paid for a year of his brother's teacher training as well. With deep gratitude toward Miss Schubert, they thanked her but no longer needed to depend upon her slim resources.

The brothers came home to the village for Easter, hoping to hike in the mountains. But their

father, tired and worn by heavy work, told them that they must help him build a barn for the village landlord. Times were hard, food was in short supply, and every opportunity to earn had to be taken.

The father was so sad and worried that, in order to cheer him up, Mykhailo told him how well Ivan and he had passed their examinations. Their father was pleased and told them to keep on studying hard, for there was no way for them to make a living in the village from the family's tiny plot of land.

At the end of a hard day's work on the barn, the landlord gave the father a measure of white flour for their Easter paska, or bread. Father thanked the landlord by kissing his hand in the old, self-abnegating way expected of peasants. As they walked away, Mykhailo, outraged, asked his father never to do that again. They had earned the flour; there was no need to be so humble. But Mykhailo's father, like so many poor and illiterate peasant people of his generation, felt too dependent on the landlord's good graces, and too insecure to break with the pathetic tradition.

Talking later with Ivan, Mykhailo spoke about the urgent need for education for village people. Only education would enable them to assert themselves and to fight for their independence effectively. "Who voluntarily accepts being a worm shouldn't complain about being trodden under," he quoted a proverb.

Mykhailo was deeply influenced by the works of Taras Shevchenko and Ivan Franko, Ukraine's great populist poets. They inspired Ukrainian people to struggle for freedom and dignity, to fight for their land, to preserve their language and culture.

Mykhailo was idealistic but realistic. He was impatient with shallow romanticism and did not suffer foolishness gladly. Like Ivan Franko, he believed in the importance of public education as a means of empowering his people. Where direct political action is forbidden, literature becomes a powerful political force.

Long before the assassination of the Austrian Archduke, people sensed the imminent coming of war. On Easter Sunday, as worshippers left church, the blind elder, Atamaniuk, spoke. He was once driven by poverty to become a highwayman robber, but now was a prophet. He warned them with dark foreboding: "Pray, O people, for a terrible judgement is coming."

Visiting Miss Schubert, Mykhailo, Ivan and two school friends talked about what they would do in the likely event of war. Mykhailo quoted Ivan Franko, saying that the great empires would collapse and upon their ruins free nations would arise. But only those would become free who were prepared spiritually, educationally, and militarily. He, Mykhailo, would join the army when conscripted and would fight for Ukrainian independence. He believed in taking a strong

stand on the basis of conscience and knowledge, and acting accordingly.

Ivan, two years younger, would be conscripted later. He preferred to serve his people in a practical, non-military way. After every war, there comes a time for long and difficult rebuilding, he reasoned. He intended to prepare himself for work. Circumstances would show him what, exactly, he must do.

When the war broke out, Mykhailo was called for military duty and joined the Ukrainian Sich Riflemen, the only Ukrainian detachment in the Austrian Army. Their victory against overwhelming Russian forces at Makivka and in other battles earned them the reputation of an elite fighting force.

In his book, "Because War is War," Roman Ivanychuk, Mykhailo's nephew, portrays some of the realities confronting the Ukrainian Sich Riflemen in the Austrian Army. There was the familiar, unequal treatment meted out to groups with less power in the Empire's hierarchy. They wore poorer uniforms, were given old, inefficient ammunition, less training, and soon gained the perception that the Ukrainian Detachment was the first to be sent into the worst situations. "They're trying to get rid of us," the soldiers said.

They had one priceless advantage, the leadership of men they trusted, admired and liked. The captain in Mykhailo's unit, especially, found ways of cheering and encouraging them in

harsh situations. At Makivka, in the Carpathian Mountains, they had to guard the entrance to a narrow pass. At times they could see the faces of the enemy soldiers, many of them much older than they were. They exchanged shots occasionally, but spent a month waiting before the main battle happened. They camped in snowy trenches, with no change of clothes or footwear, no baths, and lice biting them until they bled.

In the predawn of the battle, the Hungarian major arrived with a supply of rum, a drink for each soldier, and orders to fight "With God for the Kaiser!" There was a visible lack of enthusiasm. The major conferred briefly with the captain, who cried out, "For our Ukraine, boys!" and then the soldiers attacked with a zeal that became famous. The Battle of Makivka is commemorated yearly as a Ukrainian national holiday.

Mykhailo ran forward, saw a bayonet coming at his chest, and pushed his own bayonet into the chest of his opponent. As the man, twice Mykhailo's age, fell, he called out in Ukrainian, "My children, why?" Mykhailo lost consciousness and woke up in the military hospital, recovering from a chest wound. He recovered, was appointed an officer, and went back into battle.

Mykhailo Ivanychuk participated in all battles. A commemorative book about the Ukrainian Sich Riflemen comments that he "shared with all his fellow soldiers the cold, hunger, success and defeat."

During an advance into Eastern Ukraine, Mykhailo met a young typist, Sophia Plusak, and they corresponded for ten years. However, when they finally met again in Kharkiv, their initial attraction for each other had faded, and they ended their relationship after one meeting.

The outbreak of World War I interrupted studies for both Ivanychuk brothers and for their peers. When Mykhailo went to war, Ivan volunteered to help Miss Schubert.

The village school acquired another function, to serve as a daytime refuge for all village children who needed it. Ivan picked up donations of food - milk, bread, cheese - from villagers who could afford to donate it, and brought it to school. There, the poorest children in the village were fed and taught. Ivan became Miss Schubert's assistant teacher.

Western Ukraine, squeezed between two warring empires, the Austrian and the Russian, was ravaged by the war. Adding to the destruction of lives and property was the numbing realization that being a member nation of the empire did not mean that there would be support from other national groups within it.

Some Hungarian detachments, whose borders the Russian Army approached, at times treated the Ukrainian villagers as if they were guilty of co-operating with the Russians. Some of them acted as if they were an invading force, pillaging property and raping girls. In a few

instances adult men were hanged, even though there was no evidence of their co-operation with the Russians.

Some villagers, who had suffered injustice, did wonder if they would be better off with the Russians. At first, the Russian officers brought gifts of food and tried to build on the old Tsarist Russian propaganda theme that Slavic people should work together for the common good. At the beginning of the twentieth century two major pan-Slavic congresses or conventions were held. A Czech journalist attending one of them warned, "They call themselves Slavs today so that they may call us Russians tomorrow." A Russian official confirmed his fears by declaring that "All Slavic rivers must run into the Russian sea."

Word came from a village that the Russians had executed a young boy who raised pigeons. They falsely suspected that they were carrier pigeons involved in espionage. People soon rightly concluded that the Russian Tsar cared no more for their welfare than did the Austrian Kaiser.

In the village of Pylipy, Russian officers one day arrived at the home of the village magistrate with a sick, semi-conscious officer. They commandeered the magistrate's bed and ordered him to feed and nurse the officer until his health improved. In the event that he died, they left instructions as to where his uniform and personal possessions were to be sent. They left no remuneration for such service.

The magistrate, unwilling and terrified, summoned Miss Schubert to help. She and Ivan brought milk and herb teas, and over a period of four days and nights, they took turns nursing the man back to health. He was a Belarus poet of distinction, who cared for his own nation within the Russian Empire, much as the Ukrainians cared about theirs within the Austrian Empire. He and Ivan and Miss Schubert had interesting conversations before he left to rejoin his army.

The summer of 1917 was wet and cold. There were floods in the Prut River lowlands, making travel both on foot and by wagon difficult and unpleasant. Army draft horses died from exertion and neglect. The Russian Army, defeated in that area, was withdrawing, leaving its dying soldiers and horses to perish where they fell.

Disease flourished in the unsanitary conditions. There was no more fighting, however, and the village of Pylipy, in its valley setting, seemed forgotten and free of foreign rule.

The magistrate arrived at Miss Schubert's home one evening, frightened and worried. He had heard that the Hungarian detachment was coming. They had been told about the Belarus officer and intended to punish the village, suspecting the community of being pro-Russian.

Next day, the rumour was confirmed when a Hungarian cavalry unit galloped into the village, and using whips, drove all the inhabitants into the village square. The officer in charge spoke broken

German, the soldiers cursed in Hungarian, and the people of the village understood neither.

Miss Schubert spoke to the officer in German, and for a brief moment, people felt rescued with her in charge. Then the magistrate, terrified and smarting from a whip lash, pointed to her, and blamed her for helping the sick Belarus officer. Miss Schubert was punched, arrested, and dragged by two officers to a waiting wagon. Ivan ran to help her, but was knocked unconscious and dragged away also. All youths old enough to be conscripted were taken away.

Suddenly the people in the village square were saved from further assault. Slowly, sensing his way, the stooped figure of the aged and blind Atamaniuk appeared before them. Raising his cane, he called out his familiar plea, "Pray, o people, a terrible judgement is coming."

A shot rang out, and Atamaniuk fell backward, dead, his sightless eyes to the sky. The Hungarian soldiers, having slaked their lust for unwarranted revenge, galloped away. The people shunned the magistrate and gathered around Atamaniuk. Weeping women kissed him, and the community set about laying him to rest.

Miss Schubert was taken to an Austrian prison camp at Talerhof and never returned. Ivan served in the Austrian army as a foot soldier. After the war he completed teacher training and taught the village children as diligently and generously as his mentor, Miss Schubert.

When the Hapsburg Empire dissolved in 1918, its Ukrainian territories consolidated themselves into the Western Ukrainian National Republic and proclaimed independence. The Republic was recognized by the Central Powers, Austria and Germany, in the Treaty of Brest-Litovsk, but was immediately challenged by Poland. War continued between Ukraine and Poland into 1920.

The Polish army, much larger to begin with and heavily augmented by France, won. Western Ukraine was absorbed into the new Polish state which had a policy of cultural assimilation and no intention of allowing Ukrainian autonomy or even equal participation in government.

Mykhailo Ivanychuk was taken prisoner by the Poles but escaped from prison camp and made his way to join a lone remaining unit of the Ukrainian army in the Carpathian Mountains in Czechoslovakian Territory. The Ukrainian soldiers were treated with great consideration by the government in Prague, and when there was no longer any hope of winning against the Poles, stayed on to live and work in Czechoslovakia. Many of them, including Mykhailo Ivanychuk, continued their education there. Until formal training became available for them, Mykhailo organized and presented lectures in geography to his fellow soldiers.

He was described by a fellow student as being totally absorbed in his studies. Writing to

Mykhailo's nephew over fifty years later, the student described him as being of medium height, with neatly combed hair, and thoughtful eyes. He was energetic, cordial but reserved, and had no time for small talk. He had time only for lectures, seminars and scientific addresses. This fellow student attended Mykhailo's presentation of his doctoral dissertation, entitled "Regional-Geographic Understanding of Eastern Europe in View of the Latest Research" and commented on his impressive performance.

A Ukrainian Free University was established in Prague with the help of the Czechoslovakian government and the prestigious Charles University. Mykhailo studied in the Division of Natural Sciences, worked as a lecturer in the Ukrainian Free University, and earned a doctorate in physical geography.

At Mykhailo's defense of his doctoral dissertation, the external examiner was a Czech professor of geography at Charles University, who had participated in Umberto Nobile's tragic expedition to the North Pole.

Roman Ivanychuk writes that Mykhailo was fascinated by polar exploration and probably had opportunity to discuss it with the Czech professor. It seems likely that the professor may have recommended the brilliant young scientist to the Arctic Institute in Leningrad.

Mykhailo appreciated Prague and Czech society, but he also missed his own country and

felt an obligation toward it. As well, Czechoslovakia had high unemployment, partly because of the heavy influx of foreign workers into that civil, tolerant and hospitable country. The prospect of greater professional opportunities in Ukraine may have seemed attractive.

In the 1920s, Ukraine was experiencing an enormous, exhilarating surge of cultural growth. As part of its effort to appease national minorities and consolidate its power, the central Bolshevik administration in Moscow allowed, for a brief few years, the cultural and linguistic freedom never permitted by tsarist governments. Ukrainian intellectuals in Western Ukraine and elsewhere were attracted by the possibility of creating a vibrant, autonomous republic within the Soviet Union. Many were specifically invited by colleagues in Soviet Ukraine to emigrate there, and did so. In a few years, they realized that the promised dream had become an entrapment which they could neither change nor escape.

Mykhailo Ivanychuk's professor and mentor, Dr. Stepan Rudnitsky, founder of Ukrainian geographic and cartographic studies, was invited to chair the Department of Geography at Kharkiv University in Soviet Ukraine. He soon invited Mykhailo to join him there and offered him a teaching position.

Ivan Ivanychuk completed teacher training and became a village teacher at Trach, in the mountains, a few kilometres from where he was

born. He married, had a family, and worked patiently to bring literacy into a community where there had been none. Hearing of Mykhailo's plan to move to Kharkiv he became worried; there were disquieting rumours of persecution and arrests of Ukrainians in the USSR.

In 1928, Ivan and Mykhailo met briefly in the mountains, at Hoverla Summit, the boundary between Czechoslovakia and Western Ukraine. Ivan expressed his concern and fear; Mykhailo expressed his confidence and resolve to go. It was an opportunity to help build a free Ukraine, he believed, and so did many others. The two brothers parted, not realizing that they would never see each other again.

Mykhailo moved to Kharkiv in Soviet Ukraine in 1928, and took a teaching position at the University there. He wrote an article about Umberto Nobile's expedition for a geography text. The article was very successful with readers, and that, and perhaps a recommendation from the Czech professor, led to an invitation from the Arctic Institute to participate in a scientific expedition. It involved spending fourteen months in Franz Joseph Land, the northernmost archipelago in Europe.

The Arctic Institute of the USSR was based in Leningrad, now St. Petersburg, Russia's most westernized city. It was staffed by world-class scientists who had close collegial relationships with polar scientists in other countries.

In the 1920s polar exploration had shifted its focus. Robert Peary was the first man to reach the North Pole and Roald Amundsen was first to reach the South Pole in Antarctica, and to navigate the North West Passage in Canada's High Arctic. The greatest dramatic challenges of polar exploration had been met. There was less interest in discovering new places and being the first to reach them. Instead, interest shifted to improving access to the Arctic by aviation, to scientific research, and to issues of sovereignty.

Canada, Norway, Denmark, Finland, Sweden, Czechoslovakia, Switzerland, France, Italy, U.S.A. and the USSR all had varying degrees of interest in the Arctic. At the very least, they had individual scientists, airmen, seamen and adventurers who became involved.

In 1926 an Italian army colonel and designer of dirigible airships, Umberto Nobile, teamed up with the renowned Norwegian explorer, Roald Amundsen to make the first flight over the North Pole. They used an airship, the Norge, designed by Nobile. Two years later, in May of 1928, having designed an improved dirigible, the Italia, Nobile and a team of fifteen men planned to land at the North Pole and to plant the Italian flag there.

Strong winds made it impossible for the Italia to land, so they dropped the flags of Italy and the Vatican and tried to return to their take-off point in Spitzbergen, Norway. Wind, snowstorms and fog kept them in the air for nearly

twenty-four hours, before the Italia crashed violently onto the sea ice.

The impact separated the cabin from the remainder of the dirigible, which was carried away by the wind. Its six occupants were never seen again. Of the ten men in the cabin, one died in the crash, and two, including Nobile, suffered broken legs. They did have ample provisions and a wireless set with which to signal for help, but their SOS from such a remote area was not picked up for a whole week.

Representatives of at least seven countries searched for Nobile's party. One of the first to rush to help was Roald Amundsen, but he and his four French pilots lost their lives in their unsuccessful rescue attempt.

Nobile's camp was finally reached by a powerful Soviet icebreaker, the Krassin, and the survivors of the expedition were brought to safety nearly a month after the crash.

Scientists from the Arctic Institute of the USSR assisted with the rescue of Umberto Nobile's expedition. At the time they were involved in the planning of a circumpolar conference. Their year-long scientific expeditions on Franz Joseph Land were visited by foreign ships.

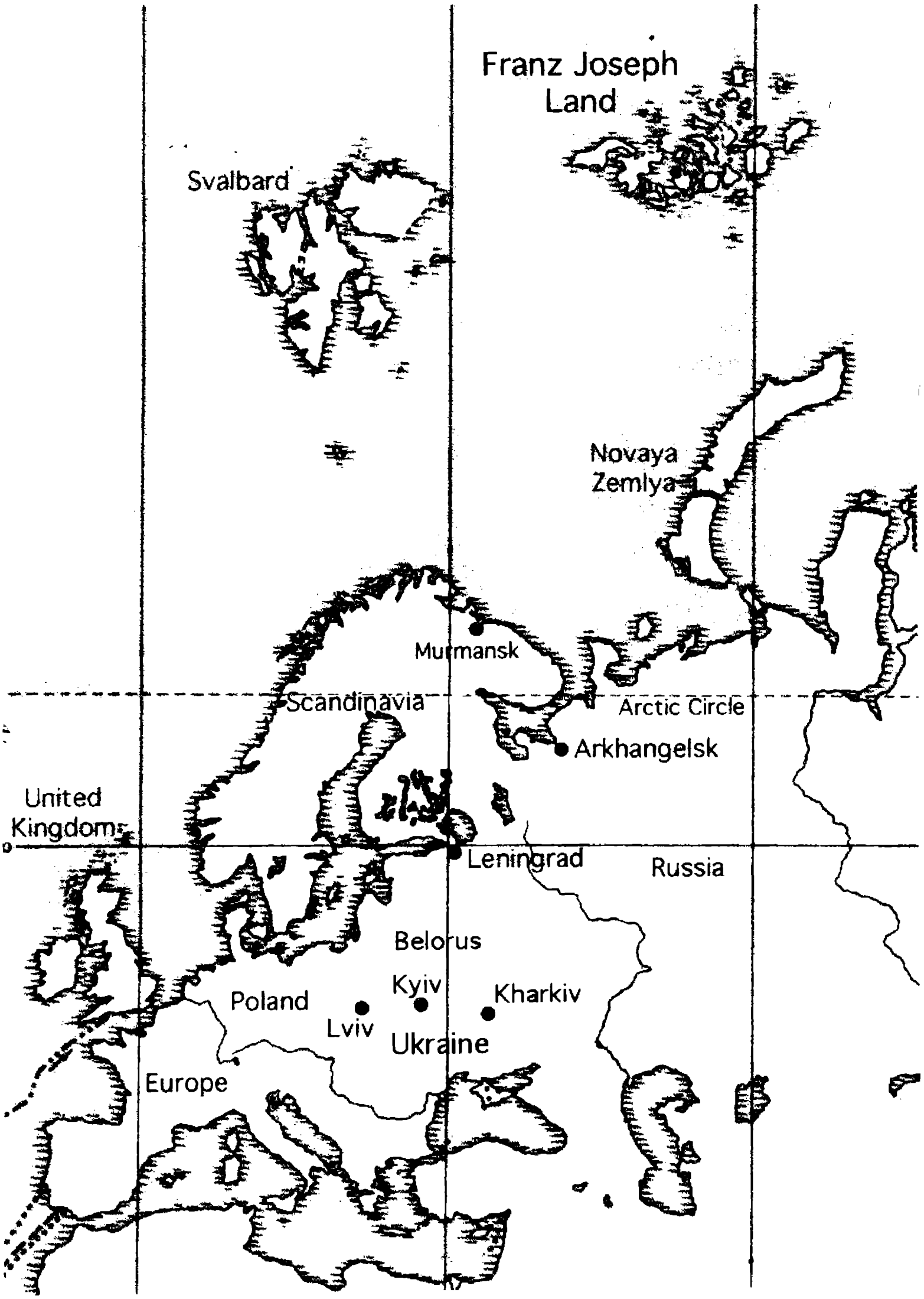
On one rare occasion they made radio contact with a scientific station on Antarctica and "the two Poles spoke to each other!" They were accustomed to sharing ideas and experiences freely with the world outside. It was a

cosmopolitan set of mind that was to cost them their lives in the years to come.

They appointed Mykhailo Ivanychuk as assistant director of the expedition. Actually, it seems that he did most of the preparatory work for the year ahead; the director was appointed after all the preparations had been made.

Mykhailo Ivanychuk became a member of a multi-ethnic team of scientists and technicians, communicating freely with like-minded individuals. Thoroughly engrossed in the scientific tasks of the expedition, he was a responsible, productive citizen of the state in which he had chosen to live.

—Gloria K. Atamanenko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Franz Joseph Land

Map Circa 1932
After Mykhailo Ivanychuk 1934

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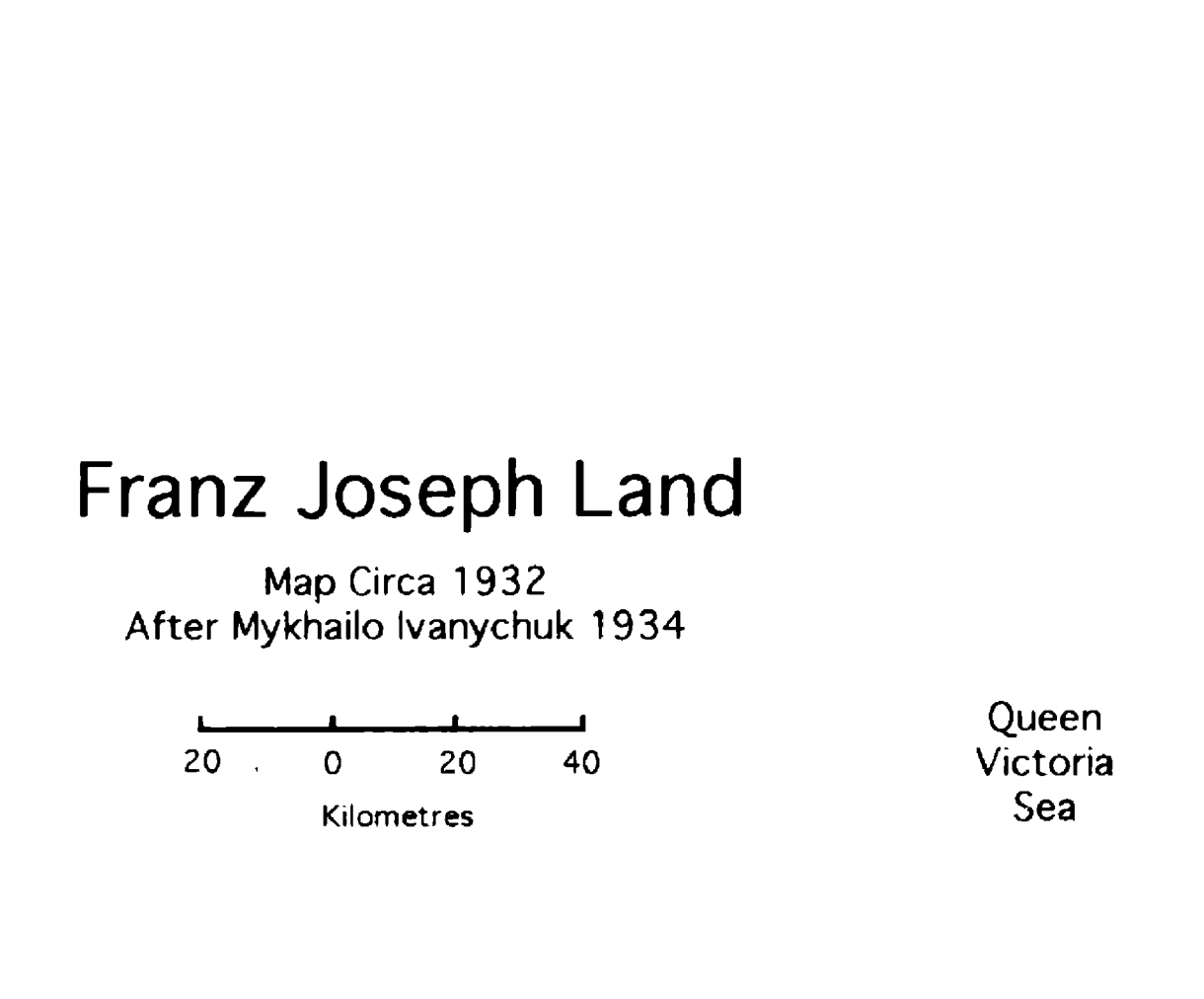

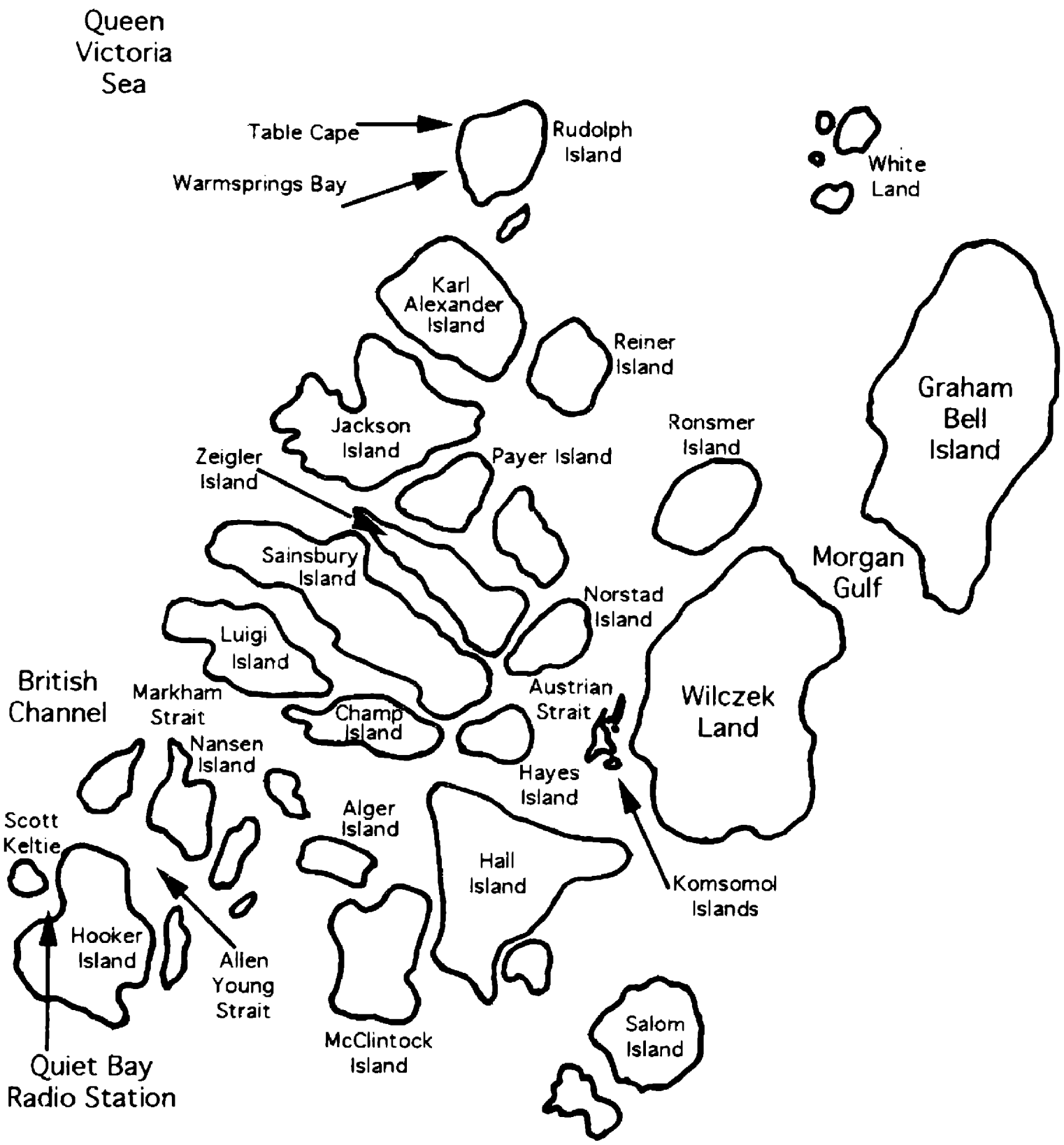
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Islands
Hooker
Island
Allen
Young
Strait
McClintock
Island
Salom
Island
Quiet Bay
Radio Station

14 Months on Franz Joseph Land

by Mykhailo Ivanychuk

Introduction

The Soviet Union occupies a major share of the polar region. Its colossal territories, stretching from Vayda Gulf in Murman to Bering Strait along 160° of the polar circumference, represent a little less than half of the northern polar sector.

The geographic location of our Arctic is very favorable. The Western part of it is protected by the warm Atlantic Gulf Stream, which reaches as far as Kara Sea. Because of this, navigation north of the Siberian coastline is significantly easier than in the Canadian North.

The commercial importance of our polar sector grows greater from year to year. Huge deposits of valuable minerals have been discovered, for example, on Kolsky Peninsula; coal and coal oil on Pechora and on the Siberian Tundra; and valuable ore deposits on the mainland as well as on the islands of the polar sea. Of course, there are also the marine industries for which our northern coast has long been famous.

However, in order to utilize these vast lands and their rich resources, to raise the cultural and economic standards of the workers of our north, and to integrate them into the Soviet System, it is essential to conduct major, systematic, scientific studies of the Arctic.

This work is being carried out by our expeditions in annual northern tours of duty. They study the natural resources of the tundra and investigate the potential for village industry, primarily reindeer herding. They study our seas, their depth, temperature, salinity and tides.

Short-term expeditions cannot obtain sufficient information to study the natural resources of the Arctic. This information can be obtained only by years of station-based work, which allows for thorough investigation of multi-faceted natural processes.

A vital role in the study of the Arctic is played by the polar radio stations. These stations are becoming bases for a whole complex of scientific work.

We realize now that the polar basin appears to be the regulator of weather in the Temperate Zone. Therefore, the primary objective of the polar stations is to study the weather. Most polar stations also conduct studies of the earth's magnetism, along with other work.

In terms of the tempo and intensity of scientific investigations of the Arctic, our Union takes first place among the nations engaged in

such endeavors. For example, one may consider the tremendous effort of the Soviet Union in conducting the proceedings of the Second International Polar Year, 1932-33.

The most northerly station in the world is our polar station at Quiet Bay in Franz Joseph Land. By a decree of the Sovnarcom of the USSR on July 15, 1926, Franz Joseph Land was declared as a territory belonging to the USSR. It was officially secured in 1929 when the radio station was completed and the Red Flag was hoisted above it.

This book describes one of the scientific year-long expeditions, or "zymovlia" on Franz Joseph Land in 1931-32.

Preparation for the Zymovlia

In July 1931, the third zymovlia sailed for Quiet Bay on Franz Joseph Land. The station then was administered by the Arctic Institute based in Leningrad; since 1932 all the polar stations have been administered from Moscow.

In January 1931, the Arctic Institute began selecting staff for the zymovlia. I joined it as a geomorphologist, a geographer who studies the surface forms of land, their evolution, their groupings and distribution.

On April 16 I was in Leningrad where Professor Rudolph L. Samoilovich summoned me by telegraph. He was then substituting for the Director of the Arctic Institute, and in 1932 he

was appointed Institute Director. I was assigned the technical aspects of preparation for the zymovlia, which included many responsibilities.

During the second half of April 1932, there were only six zymovchyks, a "zymovchyk" being a staff member of a zymovlia expedition: a magnetologist, two aerologs who had been taking courses at Slutzky, a geomorphologist, a mechanic and a handyman.

The administration of the Institute was searching for a physician for the zymovlia, who would also act as chief of staff. I had to find a radio technician, a cook and a carpenter. By the first of June staffing was complete with the exception of the physician.

We were quite fortunate in our choice of the cook; he was a resourceful man, punctual and precise. He had worked as a boatswain for twenty years, traveling many times to various parts of the world. Now he wanted to spend some time in a polar region.

In preparation for the zymovlia, a magnetic pavilion had to be constructed at Quiet Bay. It would be built by the engineer, Eugeny E. Ilyashevich. This would be his third journey to Franz Joseph Land, as in 1929 he built the station, and in 1930 a separate building for the radio transmitter. Management of the magnetic pavilion was to be the responsibility of the station magnetologist, A.P. Nikolaevsky.

I was responsible for determining what supplies were needed for the station - food, clothing and so on. In the Institute Office I received a stack of radiograms requesting new apparatus and various other supplies essential for the station. To make sure that I would order all that was necessary and appropriate, I had frequent consultations with the chief of staff at Quiet Bay.

I ordered the apparatus in Leningrad. Boat supplies, firewood and hay were ordered from Archangelsk, and groceries and clothing were purchased in Leningrad. Everything was forwarded to Archangelsk where the Arctic Institute has a base.

Various smaller supplies were stored at the Institute, packed in numbered boxes, every item and box recorded in a notebook. We bought everything: a turner's lathe, glass chimneys for lamps, office supplies and so on. In a word, the station had to have everything any of the zymovchyks might require in the course of a year.

I was helped in my work by handyman Fritz Alexandrovich Nietzsche, and toward the end also by the mechanic, Stepan Ilionovich Semenov. Every evening we gathered, informed one another about the day's work and planned our activities for the following day.

There was so much to be done that in two and a half months I didn't have even one day off. Our efforts were rewarded, however, as by the

beginning of July all the preparation had been completed. I did worry about my order for potatoes from Kharkiv, but was assured by telegram that the potatoes would arrive in Archangelsk during the first days of July.

At the beginning of June, engineer Ilyashevich travelled to Archangelsk to prefabricate a wooden structure for the magnetic pavilion. It would be shipped in sections and later assembled on site.

At the end of June all the zymovchyks were in Leningrad. We passed our medical exams and gathered at the Institute every day for instruction. There was a feverish flurry of last-minute shopping and packing.

The ground at the Institute resounded with the shrill barking of three dogs who would be traveling with us to Franz Joseph Land. They became the first charges of Comrade Nietzsche.

In the first days of July Comrade Luka Vasilievich Kulayev was appointed physician to the zymovlia and chief of staff of the Station.

It was time to leave Leningrad and head for Archangelsk. All of us were bored with the preparations and looked forward with pleasure to traveling to the North.

The Gathering at Archangelsk

It was now midsummer in Archangelsk, warm, bright and sunny. It was the time of the "white nights."

The zymovchyks arrived during the first days of July. The ship Lomonosov was in dry dock for repairs, and Engineer Ilyashevich was completing his work on the magnetic pavilion.

Our last shipments from Leningrad were arriving at Archangelsk Station. Twice a day we crossed the Northern Dvina on the ferryboat Moscow to enquire at the train station about our shipments, and to search for our goods among the colossal freight cars of Union Transit.

Our steers and cows arrived from Vologda. During the first day it became clear that the milk cow had no milk! We had to sell her and buy a proper milk cow, a Kholmogorka, from a dairy farm in Archangelsk. We ordered six and a half tonnes of hay, which should last all year.

Not far from Red Wharf were stored all the Institute's goods. We spent whole days there receiving groceries and various materials for the zymovlia. They were doled out to us by Comrade Alexyn who had worked during the first zymovlia on Franz Joseph Land.

The Lomonosov was a ship bought in 1914 from Norway to search for two Russian expeditions, those of Brusilov and Rusonov, who travelled in the northern polar sea and disappeared without a trace. At the time of purchase the ship was called the Eclipse.

We also had other passengers besides us - an expedition and two scientific research parties. The expedition consisted of scientists who were

pleased that our zymovlia would also be on board. They were to do research on meteorology, hydrology and biology, and were mainly scientists from the Arctic Institute.

The two scientific research parties, one geomorphologic and one ichthyologic (ichthyology is the scientific study of fishes) were to spend two months in Novaya Zemlia at Krestova Bay.

So the Lomonosov had to carry four separate state agency groups and tonnes of hay for the cow, which should last the year.

At Archangelsk each group had concerns about keeping their freight from becoming mixed up with that of the others. They carefully marked all their boxes with their own stamps.

On the 15th of July, the Lomonosov's repairs were completed and on the 16th it started loading coal. On the 17th it was at Red Wharf ready to load our cargo. A stream of directives echoed around the capstan: "Dry goods! Vegetables! Hay!"

The cargo was stored in the hold of the ship and on the tween-decks, so that, as much as possible, it would be easier to unload. The cattle were brought on deck along a wide walkway of boards. They were taken to the right side of the ship. Carpenters quickly constructed a board shelter, so that the cattle would not be drenched during a storm.

We waited for the potatoes. Finally, two days before the Lomonosov was scheduled to sail, we

received a telegram from Leningrad. It informed us that the potatoes had been sent to Astrakhan instead of Archangelsk! After much strenuous effort, we managed to scrounge 300 kilograms of potatoes instead of the necessary 1.5 tonnes.

Also loading at the wharf, beside the Lomonosov, was a much better equipped icebreaker, the Malygin. It was also bound for the Arctic, carrying tourists; among them was Umberto Nobile. On July 18 during the loading of the freight, Umberto Nobile visited us.

As he watched the loading of the ship, he asked us to please search for any signs of the Alexandra group, who had disappeared in 1928 at the time of the catastrophe of Umberto Nobile's dirigible Italia.

At last, on July 18th, the loading of the Lomonosov was completed. In the evening, all the zymovchyks gathered for their last meeting on the mainland. We were joined by professors Vizy and Pynegin, both of whom had participated in many polar expeditions and had great knowledge and experience. We were also joined by Comrade Laktionov, hydrologist and chief of the research expedition on the Lomonosov.

After the meeting we sat around for a long time, conversing and listening to Professor Vizy's account of various episodes from the life of polar expeditions. Then all of us walked down to the wharf. The Lomonosov was scheduled to leave in two hours.

Farewell Mainland!

On the 19th of July at one o'clock in the morning when all of Archangelsk was sleeping soundly, three long drawn-out blasts announced that the Lomonosov was departing on its journey.

"Return the mooring lines!"

"Received the mooring lines!"

Water hissed in the wake of the stern. A tow rope pulled the motor vessel Aeroarctic, property of the All-Union Air Fleet, which the Lomonosov was towing to Novaya Zemlia. We all poured out on the deck. No one wanted to sleep.

On shore, Professors Vizy and Pynegin were seeing us off. We called out our last goodbyes: "Farewell. We'll see you in a year!"

We sailed past Salombala. Our zymovlia carpenter, Ivan Nikolaevich Samoilov, came from here. Salombala resembles the Netherlands in miniature. It is a large island surrounded by a dirty-looking river, the main street of this industrial settlement. The river is full of dories and sailboats. In springtime water rises very high here, therefore all the homes have their living space on the second floor.

To begin with, the Lomonosov sailed along the eastern coast of Beloe More, or White Sea. To the right lay evergreen forests and, along the shore, small fishing villages. But we soon changed course, sailing toward the Tersky coast of Karsky Peninsula, covered with tundra and white patches of snow. We were in the gulf of Beloe More.

At sea, there was a heavy fog. Every five minutes a foghorn blared. These signals are meant to prevent collisions among boats. There are lighthouses along both shores of Beloe More. They are equipped with guns whose shots help ships to orient themselves.

Near Sosnovetsky Lighthouse we crossed the Arctic Circle and moved into Barents Sea.

The zymovchyks, expedition members and crew had quarters in the hold of the ship, below the company cabin, which contained the dining room and living room.

Hastily constructed, these were temporary cabins, with four bunks each, in two tiers. There was a ventilator near the exit. The cabins were small, low, overcrowded and stuffy. We spent most of our time on deck or in the dining room. We went to the cabins only to sleep.

Soon we sailed into the latitude, where, at this time of the year, the sun does not set. The division between daytime and night to which we are accustomed does not happen here then. It is the polar day.

On the right shore there appeared Kanin Nos, or Kanin Cape. We rounded it and sailed toward Novaya Zemlia.

On Novaya Zemlia

Novaya Zemlia consists of two islands separated by Matochkin Strait. The western shore of Novaya Zemlia is populated by the Nentsy

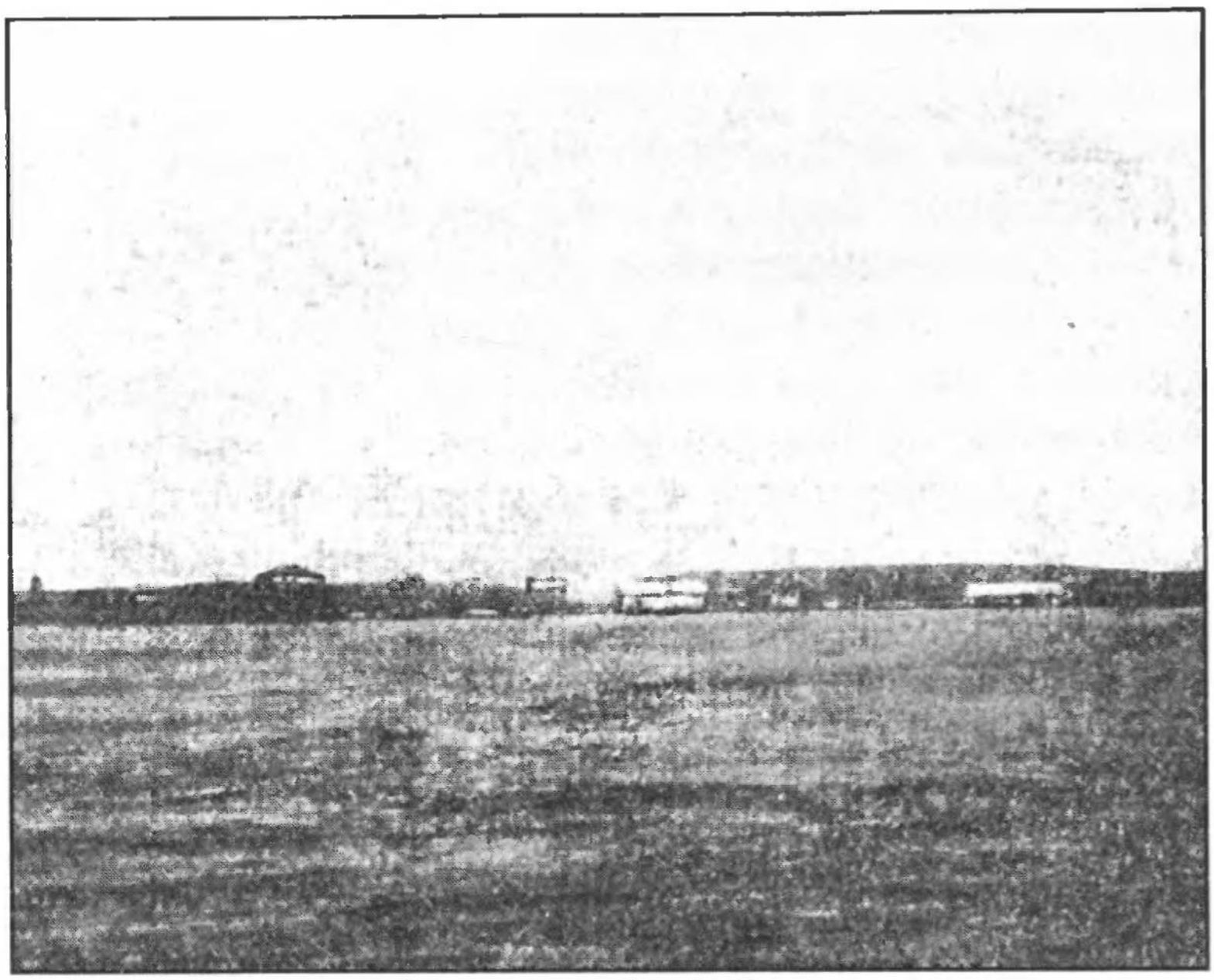
people, once known as Samoyed, and by Russians. Four settlements are here with a population of approximately 250 people. The eastern shore facing Karsky Sea is not settled.

A meteorological station and a radio station were established at Matochkin Strait in 1923. There is also a radio station, built in 1931 on the northwest side of Novaya Zemlia on Desire Bay. These stations attract people, and in the near future new settlements will develop around them.

In winter hunters travel in dogsleds to hunt furbearing animals, such as polar bears and arctic foxes. They live in tents. Often, trapped by violent snow storms, they go hungry. In summer they use motor boats to hunt at sea; they hunt walrus, beluga and seals. They also go fishing for loach. In spring they gather eiderdown. Approximately 400 kilograms per season of eiderdown are gathered on Novaya Zemlia.

At the present time reindeer are imported to Novaya Zemlia to ensure that the population has a fresh meat supply. It would be possible to raise reindeer on the South Island where there are vast areas of reindeer moss.

The October Revolution changed living conditions on Novaya Zemlia. The country's last forgotten "boonies" has now been transformed into a modern industrial area. Workers' business societies have been organized to export furs and eiderdown. A school has been established for the Nentsy people. In the settlements of Belush Bay



Station Belush Bay,
administrative center of Novaya Zemlia

and Little Karakul two inpatient hospitals offer free medical care to the population.

We approached the settlement of Belush Bay, to obtain fresh water. The fog did not allow us to enter the Bay for a long time; at the entrance to the bay there are many underwater cliffs and rock outcrops so it was essential to be cautious.

At that time, Belush Bay was the administrative center of Novaya Zemlia. On the shore stood many barrels of blubber, a product of hunting. Soon a transport ship, the Gostorga, would come to carry them away.

Group of Nentsy at Belush Bay
in front of barrels of blubber

Beside the barrels were gathered Nentsy people, children and adults, all dressed in parkas which, in most instances, are worn over their bare skin. These parka pullovers are made from reindeer hides, fur side in.

We had a guest come on board, a famous, self-taught polar artist, Tika Vilka. At that time he was chairman of the Novaya Zemlia Soviet.

We took two boats and went ashore for water. We organized a long human chain to move from the sea shore to the island lake one kilometre away. At the lake buckets were filled with water

and passed along from one person to another all the way to the ship.

Having replenished our water supply, we travelled to the north island of Novaya Zemlia, to Krestova Bay. There we planned to unload the geomorphologic party headed by Comrade Esipov. As well, we left the motor vessel Aeroarctic, which was intended to be used to find aerodrome locations for future flights to the Arctic.

Both of the scientific research parties were to work here until the Lomonosov returned from Karsky Sea. On its return trip it would take them back to Archangelsk.

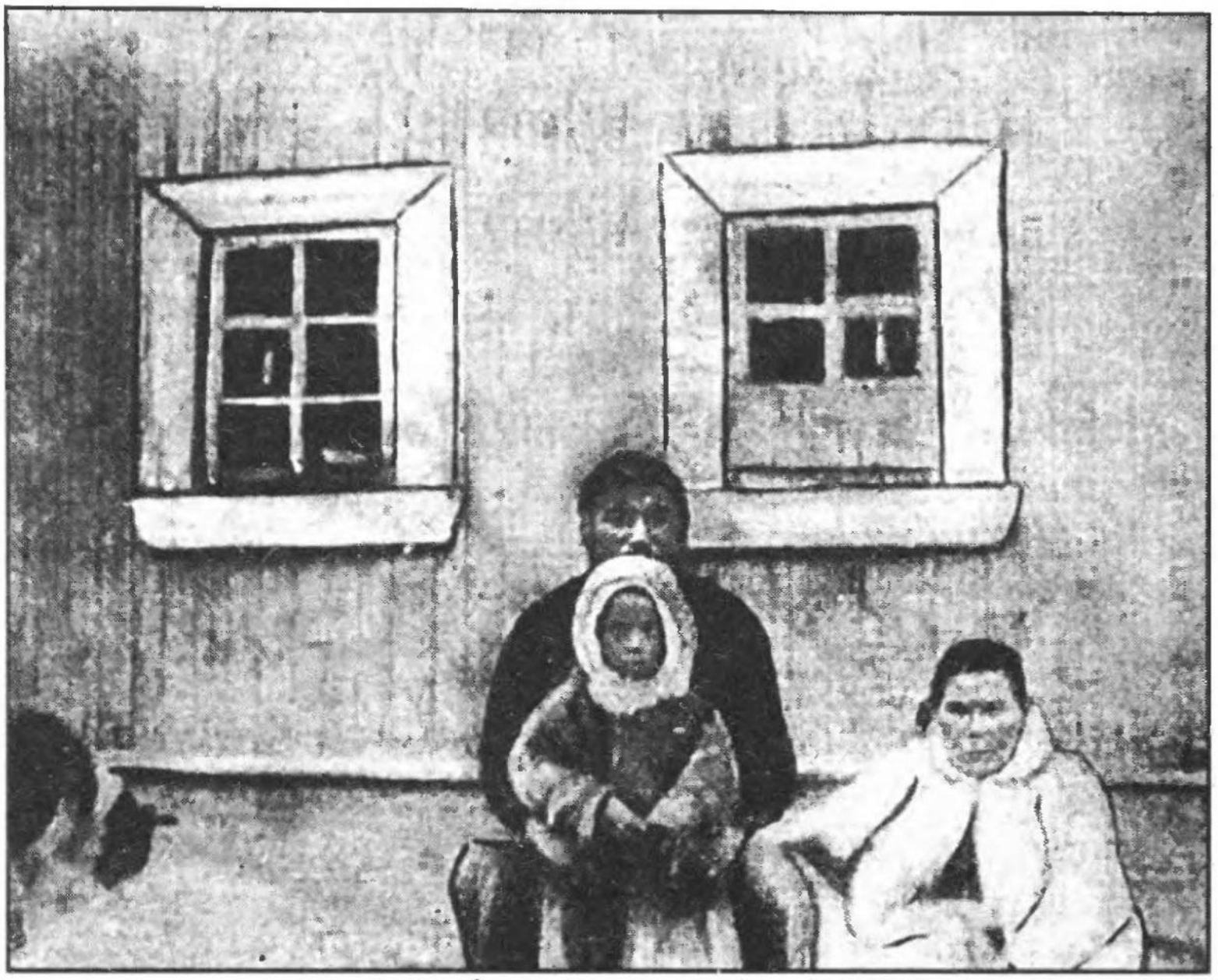
At Krestova Bay we were obliged to spend two days rather than one, as we had planned. The reason was that while the Lomonosov was still at anchor there arose a powerful east wind which prevented us from leaving. There was nothing to be done except to wait.

On the third day the wind died down considerably, and finally the Aeroarctic followed by the. Griemont were able to take the two scientific parties ashore.

At Krestova Bay, our expedition managed to acquire a substantial quantity of the reddish loach fish, which we traded for beef.

Northward Bound

From Krestova Bay the Lomonosov sailed into the open sea and headed straight for Franz Joseph Land. As soon as we left Archangelsk on

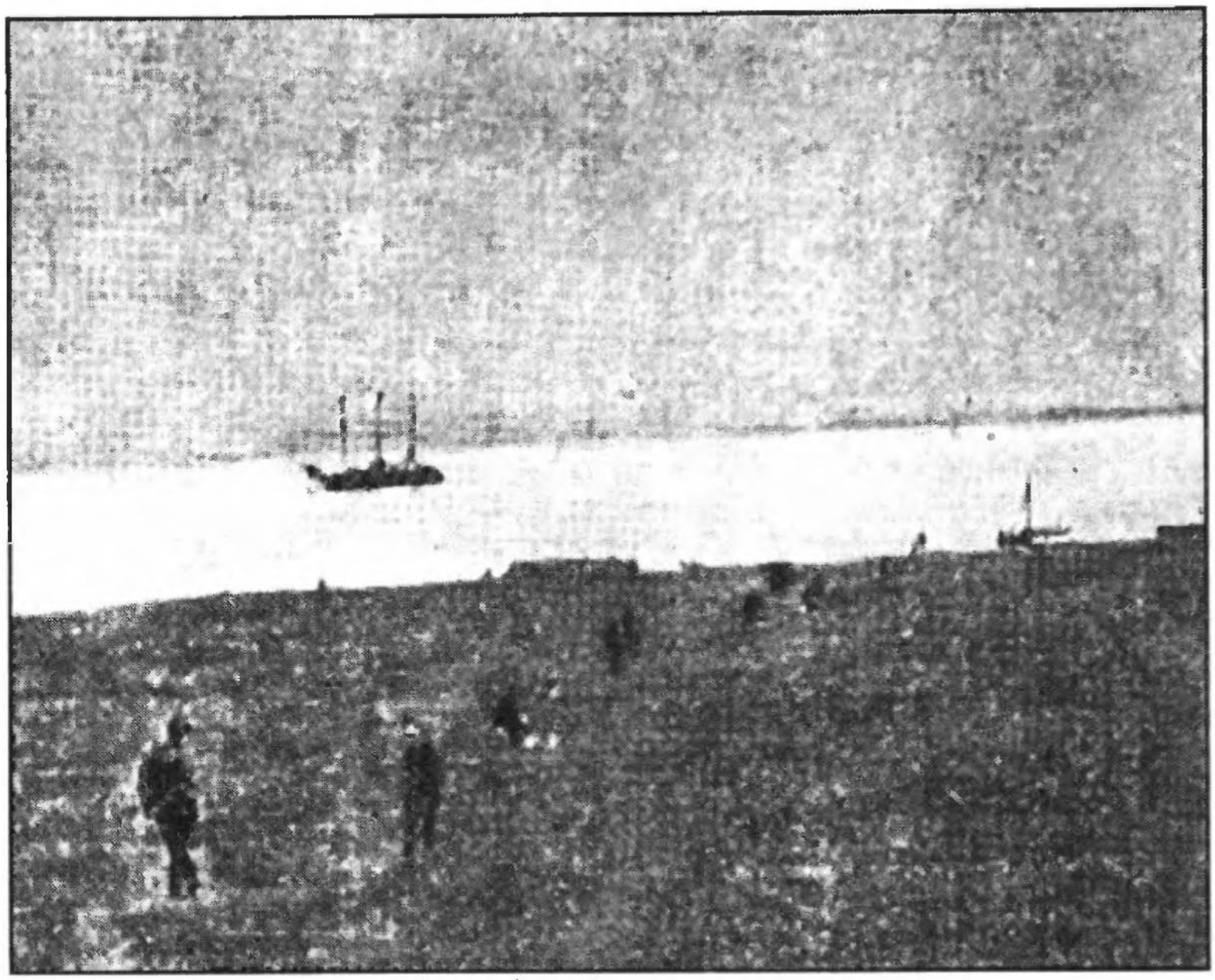


Nentsy family at Belush Bay

the Lomonosov we started our scientific work, meteorological, hydrological and biological.

A special room next to the company/dining cabin was designated for our work. All observations were recorded in a journal, together with a notation of the geographical co-ordinates which we obtained from the captain's cabin.

Ahead of us sailed the icebreaker Malygin. Each day it supplied us with information about ice conditions. We were approaching the edge of the icepacks, and the temperature of the water as well as its salinity were decreasing.



The ship Lomonosov
takes on fresh water at Belush Bay

Suddenly, near the icebreaker appeared the first iceberg, a harbinger of the nearby ice fields. The iceberg was followed by huge ice floes which merged into an ice field topped with great crests of ice blocks, jumbled and fallen one on top of another. Here the sea was quiet and peaceful. It did not roar or rock the ship.

The ice shone with many lovely hues, a delicate pale green, sky blue, dark green, deep blue and violet.

The Lomonosov steadily cut into the ice, scattering chunks of it in all directions. Arches or

bridges of ice appeared and forced our icebreaker to labor very hard. Curt commands came from the captain's bridge: "Hold it so!" And as if along a rope the command was carried from captain to navigator to steering control, from steering control to the engine room:

"Hold it so!"

"It is held so!"

The Lomonosov struck full force at the ice arch, and the front end of the hull crept up onto the ice. Long cracks appeared in the arch. Once again the command rang out:

"Move back!"

"Have moved back!"

"Full strength ahead!"

"Here's full strength ahead!"

The Lomonosov surged again to hit with full force at the place where the ice had cracked. And thus it was necessary to push through one ice bridge after another.

Along the sides of the ship the water seethed, blue blocks of ice emerging noisily. Sea gulls followed the ship closely; they had a source of food! As the vessel broke through the ice it threw up little fishes, the saiga, which the seagulls swiftly captured. The gulls were our constant companions on the journey. No matter if the ship drifted with the ice or stayed stuck for a while, the seagulls did not leave but just rested quietly awaiting further movements.

Sunbathing at the 77th Northern Parallel

Occasionally brown ice patches occurred. The colour came from marine plants living in these waters. When the ship broke into such ice these plants rose to the top, slimy blobs, sometimes as large as a fist.

There was more and more ice and less and less open water.

After several hours we were in the midst of a great ice field, and, as far as the eye could see there was endless ice. It was almost homogeneous in depth, some seventy centimetres thick. This was year-old ice, broken away from Barents Sea last winter.

In the ice fields it was impossible to maintain a steady direction. The ship was steered toward open water, wherever there was least resistance. In the fog it was frequently necessary to throw a rope around an ice crag and to wait until the fog lifted and it became easier to find bearings in the horizonless ice fields. At such times, the ship's doctor, Alexander Sergeevich Chechulin, would climb into a barrel secured to the mast, and inform the captain's bridge from there. He took that post happily and descended only when his friend Ole rang the dinner bell. From the barrel, from a height of 25-30 metres, it was possible to see for twenty kilometres in all directions. Hunters of sea mammals use this method to find a route through the sea ice.

At times the Lomonosov proceeded more easily. But from time to time it was forced off course in order to circumvent an ice floe. It was also necessary to avoid the craggy arches on ice bridges when their ice was extremely thick - six or seven metres. Not always was such avoidance possible. Sometimes it was impossible to avoid a battle with craggy ice. Then the vessel would strike against the ice, the hull would shudder, dishes and equipment would rattle and people poured out on deck.

One day the Lomonosov sailed into a trap. It failed to get through a narrow passage between two ice floes and they came together and held it tight. The ship groaned and some ice came over

the sides onto the deck. The vessel remained in the icy embrace for several hours.

People walked out onto the ice. Some took photographs; others started shooting at seagulls. Still others brought out the fire extinguisher pump and pumped fresh water into the ship's cistern from a tiny lake. We encountered such freshwater lakes frequently on the ice fields. They form on large and very old ice fields where the salt has almost totally disappeared and therefore their water is fresh. Steamships take advantage of such lakes to replenish their fresh water supplies.

Occasionally on the ice we noticed bear footprints and evidence of their recent meals. Everywhere on the ice we saw the dark hulks of seals. They were so close that we could observe them without binoculars. When they noticed the ship they raised their heads and immediately threw themselves into the water, not allowing us to approach them. They were very vigilant. There was no question of hunting them at this time as they had not fattened up yet, and would only sink.

Franz Joseph Land

On August 5th, toward evening the fog lifted and far, far away we saw long-awaited land. On the horizon there were the snowy silhouettes of mountains with occasional black basaltic cliffs.

Franz Joseph Land is an archipelago which consists of one hundred and one islands; the surface area of the islands is approximately

38,000 kilometres. The archipelago lies between 79° 45' and 81° 50' northern latitude and between 42° and 63° eastern longitude from Greenwich. It is the most northerly archipelago in the European polar section. Two wide straits, named British Channel in the west and Austrian Strait in the east divide Franz Joseph Land into three groups of islands. The largest islands are Alexandra Land and Prince George Island to the west of British Channel and Wilczek Land and Graham Bell Island to the east of Austrian Strait.

Franz Joseph Land was discovered in the 1870s, when the distinguished and revolutionary political activist P.A. Kropotkin proposed to the Russian geographical authorities that a major expedition be launched to explore our polar seas.

As Kropotkin studied the ice of Barents Sea he came to the conclusion that to the north of Barents Sea, between Spitzbergen (Svalbard) and Novaya Zemlia there must be as yet undiscovered land stretching north of Spitzbergen and holding back the sea ice behind it. Otherwise one group of the Spitzbergen Islands would be engulfed by colossal masses of ice encompassing a space of several thousands square miles. As well, the easy access to the northern port of Spitzbergen also led Kropotkin to believe that there must be an undiscovered land mass. Kropotkin proposed an exploratory expedition to our polar seas. However, the tsarist government declined support and the proposed expedition did not take place.

Scientists in other countries became interested in Kropotkin's proposal. They were attracted by the idea of solving the riddle of the great white patch north of Novaya Zemlia which appeared on all contemporary maps.

Exactly two years after Kropotkin's proposal, an expedition was organized in Austria-Hungary. The expedition was led by two officers of the Austrian fleet, Lieutenant Julius von Payer and Lieutenant Karl Weyprecht.

On June 13, 1872, the expedition sailed from the German port of Bremerhaven on the wooden steamship Tegethof. The expedition, consisting of twenty-four men, sailed for Barents Sea, taking enough provisions to last three years.

In 1872 the southern boundary of the icepack in Barents Sea stretched far south. It lay some 180 kilometres south of its normal location. The Tegethof encountered it at 74° 15' northern latitude and 48° 30' eastern longitude and was unable to travel very far north that season.

At the end of August it became icebound near the northwest shore of Novaya Zemlia at 76° 22' latitude. It was not able to reach even the northern boundary of Novaya Zemlia. No one in the expedition even dreamt at that time that their ship would never escape from the tight embrace of the ice pack.

From that point the icebound drift of the Tegethof began, and the vessel was carried into the open sea. The polar night set in, and with it

tempests and snowstorms. At all times the expedition had to be prepared to abandon ship in the event that it might be crushed by ice.

The mass of ice squeezed the ship and crept up on deck and the vessel creaked and groaned. Finally the sun reappeared and the expedition met it with great joy. They breathed more easily because spring had arrived.

The ice floes surrounding the Tegethof had frozen together into a great ice field so there was no longer a threat of being crushed by ice and sent to the bottom of the sea. However, the expedition soon realized that there was little hope of entering open water soon. On the contrary, with each day it became clearer that they might be obliged to spend yet another winter on drifting ice. Winds and tides carried the vessel northward.

The 30th of August, 1873 was a day of tremendous joy for the expedition. From the side of the ship they saw a mountainous land with glaciers. They named it Franz Joseph Land in honor of the Austrian Emperor at that time.

At that point the expedition was located southeast of the archipelago, but strong north winds did not allow the ship to approach it closely. It was finally possible to land on November 1, 1873 on an island which they named Wilczek Land in honor of Count Wilczek, who had financed the expedition.

The island presents a dreary landscape with snow, bare cliffs, and frozen stones. But to the

expedition members, it seemed like a veritable paradise, or so Julius von Payer described it in his journal. Near the island the ship froze into the shore ice and there it remained secured all winter and the following spring.

The polar night arrived and remained for one hundred and twenty-six days. Expedition members started suffering from scurvy. On the 16th of March machinist Krysk diėd of scurvy and was buried on Wilczek Land.

As soon as the sun re-emerged after the long polar night the expedition made plans to travel with sleds and explore Franz Joseph Land. The first reconnaissance was made by Julius von Payer between March 10th and 15th, 1874. He explored Hall Island and the peak of Sinclair Glacier. The weather was calm but the temperature was -50° C.

At the end of March, Payer with six expedition members and all three dogs left the Tegethof to make a major trip to the North. They reached the most northerly point of Franz Joseph Land on Rudolph Island and named it Cape Fliegel. Payer himself did not realize that this Cape Fliegel is the most northerly point of Franz Joseph Land. It seemed to him that north of Rudolph Island lay two other islands, which he named Peterman Land and King Oscar Land.

Subsequent expeditions found that there are no such islands north of Rudolph Island. Evidently Payer was misled by a large refraction

and mistook huge ice crags for islands. These remained on maps of Franz Joseph Land until later expeditions corrected the misinformation.

The absence of the islands was discovered during a journey by Captain Umberto Cagni in the expedition of Duke Abruzzi. It was also noted in 1914 by navigation officer Albanov of the ship Saint Anna, travelling in these parts. Further verification came from the icebreaker Sedov in 1929 and from the Zeppelin flight in 1931.

Payer travelled about a month, gathering a collection of rocks and materials for geographic descriptions, and for sketches of Franz Joseph Land. The survey of the islands was superficial and the map turned out to be highly inaccurate.

However, Payer must not be blamed for that. He did his very best under the difficult conditions of a hasty expedition by sled in inclement weather.

It is unfair to wonder why Payer could not distinguish adequately among a whole group of islands, covered with glaciers which often merged into the sea ice.

Evidently Payer considered straits to be valleys filled with snow. Because he travelled in the spring when all the straits were filled with ice fields and frequently shrouded in fog, such errors would be very easy to make.

Payer's basic error lay in his mistaken assumption that Franz Joseph Land consisted of two islands, Wilczek Land on the east and Zych Land on the west, separated by Austrian Strait.

May arrived. The ship was still icebound near Wilczek Land. There was no reason to hope that the situation would change. There was only one solution; to travel in lifeboats toward Novaya Zemlia where there was some hope of meeting Russian traders.

On May 20, 1874, the expedition of twenty-three men abandoned the Tegethof, taking with them four lifeboats. Besides the boats and sleds they took four and a half tonnes of provisions and equipment. The provisions included pemmican, sausage with peas and preserved meat.

At first it was necessary to drag the boats on the ice. Travelling was very slow and difficult; the ice was uneven, with soft, wet snow and many polynias, or open patches of water. All this made hauling very difficult. Constant southerly winds carried the ice north nearly as fast as the expedition struggled south. After a month of ceaseless, exhausting work, members of the expedition managed to travel only 27.5 kilometres from the ship, while ahead of them lay a journey of another 450 kilometres.

At the end of June they began to encounter open channels in the ice in which they could travel in their boats. Alas, luck did not smile on them; the ice floes soon came together again. The expedition had no choice but to travel south. We may imagine the feelings of the expedition members who in two months managed to travel only twenty-seven kilometres from the ship. They

could still clearly see the big, now familiar, basalt cliffs of Wilczek Land.

Many expedition members wondered if it would have been better to return to the ship. But there was great doubt that they could manage to do that. And so passed their days.

Only in the middle of July did there appear large channels in the ice through which the boats could move. Even so, the ice floes frequently came together, making it necessary to pull the boats out and wait until the channels opened again.

Finally on August 15, the expedition came into open water at 77° 40' northern latitude.

The mood of the expedition lifted; they had escaped from the clutch of the ice. All the more moving were Payer's characteristic comments made in his journal on that day: "Despite the overwhelming joy we felt at the thought of our salvation, still we cannot consider without regret that we must say farewell forever to the frozen polar kingdom, a kingdom of ice whose sheen blinded us with its beauty."

And Payer spoke the truth. The polar regions invariably enchant those who live in them. They enchant even when living in them involves many hardships and troubles.

The expedition headed for Novaya Zemlia and on the 18th of August they stepped ashore at Chernyi Cape. Afterward they followed the coastline of Novaya Zemlia. On the 23rd day of August in Pekhovy, or Fur Bay the expedition

members saw two trading schooners at anchor. The commander of the schooner Nikolovay was the trader Fedor Voronyn. He took the Austrians to the town of Varde, a port in Northern Norway. Fedor Voronyn was the grandfather of the contemporary famous polar captain Vladimir Ivanovich Voronyn. In 1931 he successfully took the icebreaker Sibiryakov through the northeast passage, and in 1933-34 he completed the same route with the steamship Chelaskin.

Quiet Bay

The 7th of August. We were anchored near the southern coast of some island. We could not determine our location because all day and evening we had been moving in a thick fog. We called Quiet Bay with the help of a radiopelengator and found out that we were near the southern shores of MacClintock Island.

Rain was falling on the morning of August 8. The Lomonosov sailed through Allen Young Strait, rounded Northern Cape and entered British Channel. We were eager to see the place where we would live for more than a year.

As we rounded Cape Sedov the radio station mast appeared. On shore people gathered and the Lomonosov's horn blasted a greeting. The radio station responded with salvos. Two plumes of smoke appeared and echoes rolled across the Bay.

This, our radio station, was located on Cape Sedov in Quiet Bay, at 80° 20' northern latitude

and 50° 20' longitude. It was the most northerly populated outpost in the Soviet Union.

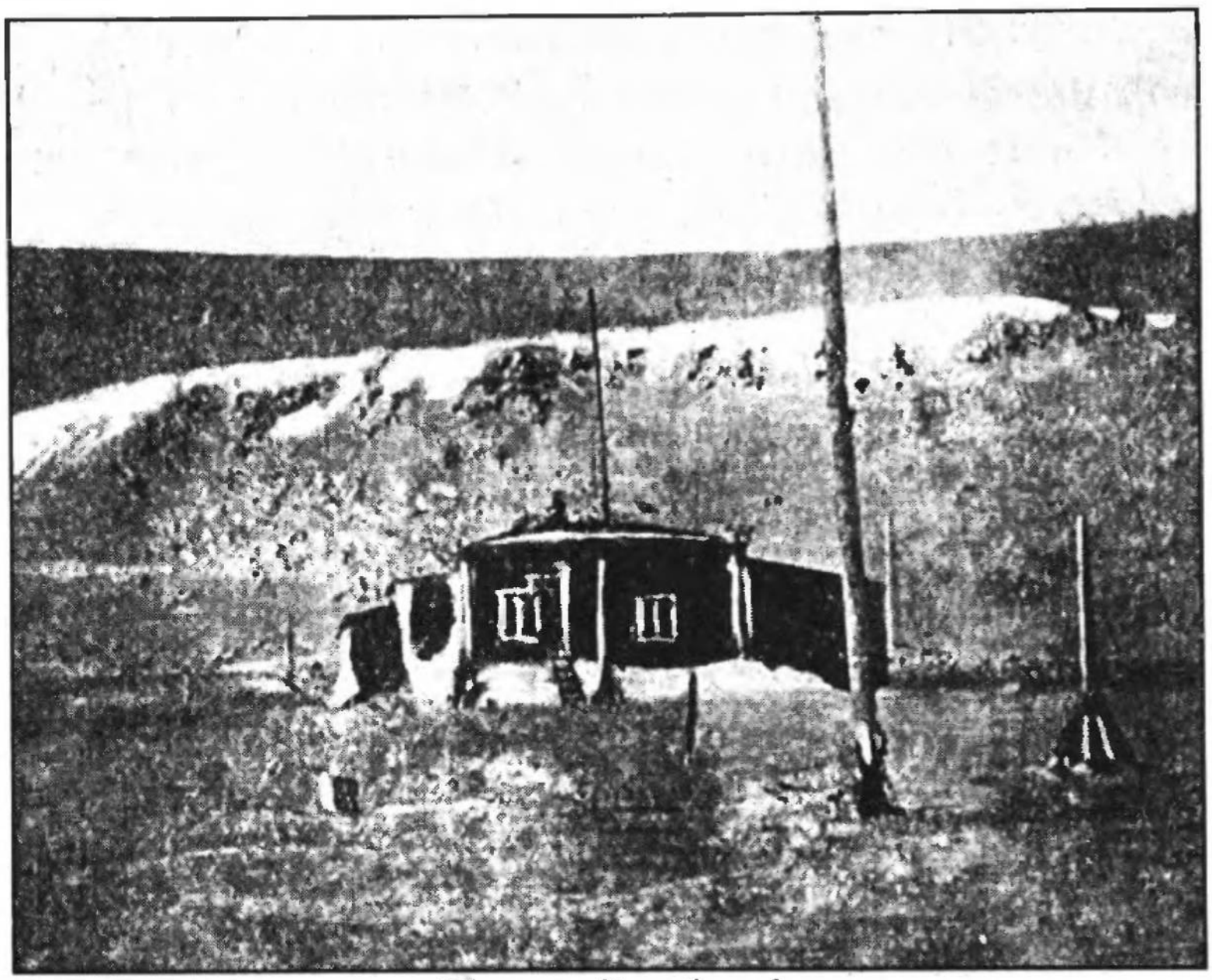
On the south side of the Bay rose the colossal Rubini Cliff, so named by Jackson in honor of the Italian tenor who lived at the beginning of the 19th century. The height of the cliff was 162 metres above sea level. Its walls were vertical and on the even plateau on its top were visible two large cairns. They served as orientation points for mariners.

Rubini Cliff's vertical side clearly showed vertical stratification so characteristic of basaltic formations, giving the impression of neatly stacked rows of wood. In another place great boulders lay in a fan shape.

On the side of the bay where the station was located rose steep cliffs. The shore sloped to the sea in terraces, indicating the gradual uplifting of the island. The station stood on one of the terraces. The plateau above the station rose to 140 metres. Climbing up to it was difficult because of very steep precipices.

Quiet Bay was a very good location for the radio station. Very strong tides quickly dissolved the ice and the bay was ice-free relatively early. Access into the bay was always easy as long as a vessel could get through to the southern shores of Franz Joseph Land.

Enormous bird rookeries, the largest on Rubini Cliff, and another on the cliffs above the station, assured the zymovchyks and their dogs a



The radio shack

supply of meat for half a year, from March till August. In the bay and in Menelaus Strait there were seals whose meat was good for dogs and when fresh, suitable for people as well. Because there were seals available near the station, bears came here also. Their meat is indispensable for people, because in its fresh state, it is one of the best safeguards against scurvy.

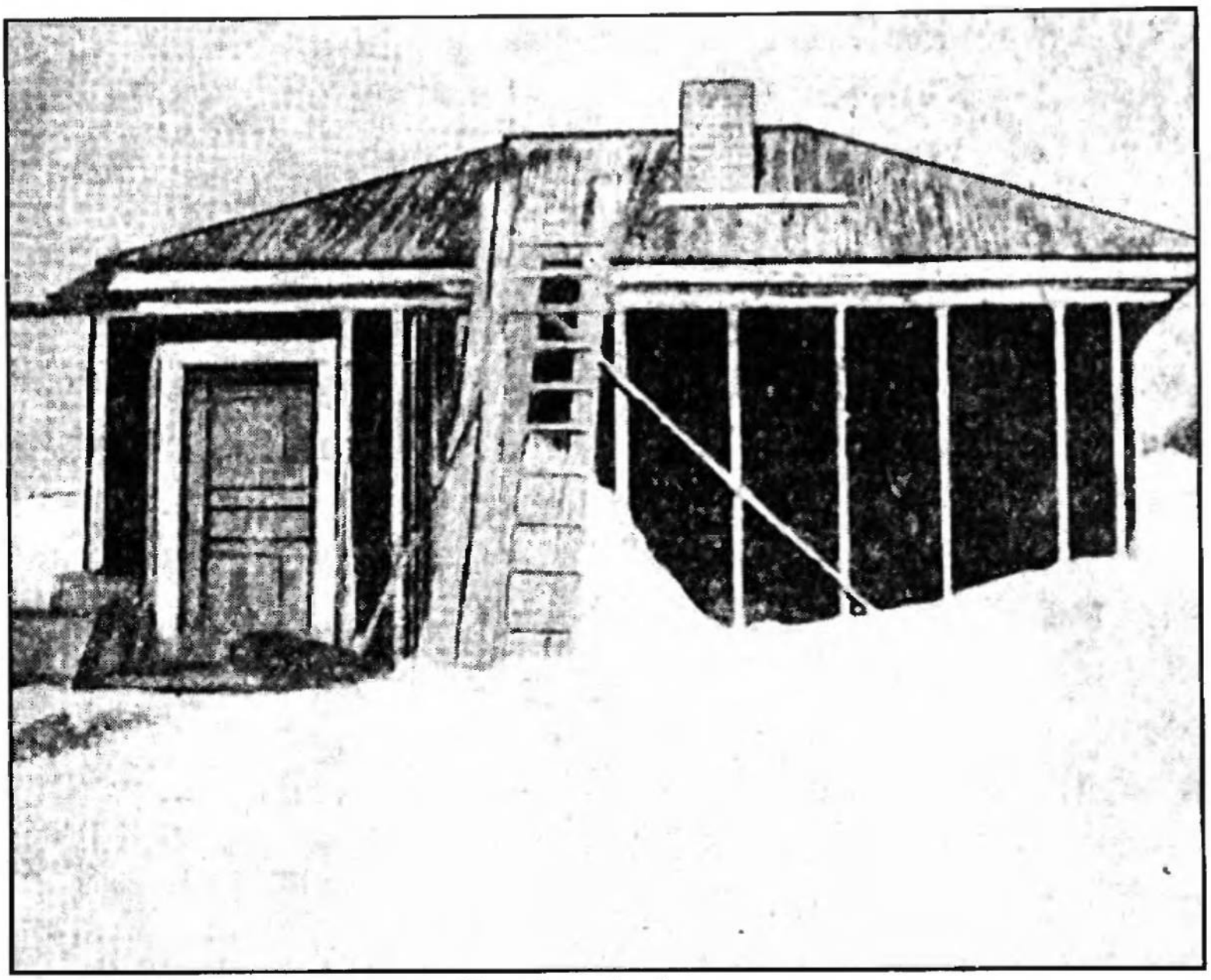
On the isthmus near Rubini Cliff spoon grass (*Cochleara fenestrata*) could be gathered for salad. Fresh greens are necessary and precious in polar environments. Their supply is limited but they could be gathered and stored, as

demonstrated at Flora Bay by Leigh Smith and later, by Jackson.

The station in Quiet Bay was established on a terrace. The main building was located some 20 metres from the shore. The station was built in 1929 and had been increased with every new group of zymovchyks. In 1929 the living quarters and bathhouse were built, in 1930 a separate radio building, in 1931 the magnetic pavilion, and in 1932 a second living quarters and a hangar for aircraft. All buildings were wooden. Living conditions for the zymovchyks were comfortable for each of them had his own room. This was absolutely essential for zymovchyks because constant interaction with the same people in a limited environment can become oppressive. The rooms were located on either side of the corridor and each zymovchyk could at will isolate himself from his fellows and enjoy solitude.

Each room was furnished with basic necessities, such as a bed, a bookcase, a commode, a table with two chairs, a mirror, a washstand, a lamp and pails for water and coal. There was one stove to heat two rooms.

The station's purpose was to gather weather information by conducting regular meteorological observations and to send them daily by radio to the mainland. Many meteorological stations in various countries eagerly awaited weather news from Quiet Bay. They entered it on their charts which they used as a base in forecasting weather.



The bath house

Weather forecasting has great economic significance. For the preparation of accurate forecasting it is essential to have observations on weather in polar regions. Weather in our latitudes depends in great measure upon weather conditions in the Arctic.

Air is warmest around the equator and coldest around both polar regions. The cold and heavy air masses above the polar regions are called "polar caps." Exchanges of air take place between the polar caps and tropical air. Such exchanges in the layers of air closest to the earth occur in the form of powerful separate streams;

cold air breaking out from the polar region heads toward the equator where it is met by streams of warm air. Where the cold and warm streams collide powerful winds called cyclones are created. In our countries they move from west to east. Our weather results from these cyclones.

In order to develop a prognosis for weather in our latitude it is essential to note the place and time of a cyclone and to monitor the direction of its movement. Therefore it is necessary to carry out observations on atmospheric conditions in the polar region and on the masses of cold air moving from there toward the south.

The polar air cap moves either in our direction or the American direction. As well, it increases or decreases but usually over a long period, it stays more or less normal. Therefore the observation of atmospheric conditions in the Arctic makes it possible to make long-range weather forecasts.

And that is very important for agriculture in villages, for the growing of grain in our chernozem, or black soil region, and generally for the economy as a whole.

The observations made at Quiet Bay were necessary also for ships bound for hunting in the Franz Joseph Land region. They needed to know about weather conditions and the ice situation in the far north.

Expeditions into the Karsky Sea region which connects by sea routes Western Siberia

with the European sector of the Soviet Union and Western Europe also required weather news from Quiet Bay. As well, Quiet Bay had an important impact on air transport in the Arctic. It would be advisable to develop a Trans Arctic air base on Franz Joseph Land, to provide meteorological services for Trans Arctic flights.

Quiet Bay has its own rich history. In 1914 a polar drama took place here. A Russian expedition was overwintering in the Bay, having given itself the task of reaching the North Pole. The head of the expedition was George Y. Sedov.

In 1912 Sedov developed a proposal for an expedition to travel by ship to Franz Joseph Land and from there to reach the North Pole via the ice fields. He had the support of marine military circles, and the tsarist authority offered Sedov financial backing to the amount of 108,000 rubles. Sedov outfitted a hunting ship, the St. Foka, and with a two-year supply of food and coal he set out for Franz Joseph Land in August 1912. He planned to overwinter there and to reach the North Pole in the spring of 1913 with the use of skis and dogs.

Things did not turn out well for Sedov. The St. Foka was icebound and it was necessary to overwinter near the shores of Novaya Zemlia. The next winter the expedition spent at Quiet Bay in very difficult circumstances. The health of most of the members including Sedov had deteriorated. He suffered from scurvy. He became weak, his

gums had softened and his feet hurt. Despite these difficulties, on the 15th of February, seven days before the return of the sun, Sedov decided to attempt the expedition to the North Pole. He was accompanied by sailors Lynnick and Pushtovny. Both volunteered willingly. It did not occur to either of them how tragic the outcome of their journey would be.

"In the pre-dawn mist of the polar night on the ice of Quiet Bay stood two sleds, each harnessed to twelve dogs. Sedov examined the sleds, called all the expedition members into the common cabin and commenced farewells. He was pale, his lips were tightly clenched and his eyes gleamed with determination. He hesitated some time before speaking.

"Finally, controlling himself, he said, 'I am not saying goodbye, only, until we see each other again.' But he could not continue. Ill and tired, he broke down and wept. For the first and last time I saw tears in the eyes of the man with an iron will."

Thus was that moment recalled by a member of the expedition, V.V. Vizy. After a few hours, the sleds of Sedov and his companions disappeared in the polar darkness.

Right from the start Sedov's illness made for difficulties. At the beginning of the trek he could not walk. The sailors placed him in a sled. A storm raged around them - there were frequent storms during that journey. Frequently lapsing into unconsciousness, Sedov still held onto the

Unloading cargo at Quiet Bay

compass and with trembling lips whispered, "Course north, course north."

The expedition was moving along the eastern side of British Channel. On February 28 they reached Neimeyer Strait. There they encountered a huge stretch of open water. Sedov kept losing consciousness and stopped writing in his journal.

On March 2nd the sailors set up a tent, into which Sedov crawled with difficulty. His feet were frozen. The sailors rubbed them with alcohol and noticed dark blue scurvy patches. A blizzard howled around them and blew snow around the

tent. They spent three days in the tent. It was bitterly cold. Sedov became more ill. His head rested on the sailors' knees and they kept a hot Primus on his chest. At 2:40 pm on March 5th Sedov died. His last words were "Lynnick, Lynnick, hold on!" But it was impossible to carry out this wish of the man who never demanded anything and who strived so hard.

The men buried Sedov at Cape Brorock on Rudolph Island. On a small cairn they placed a cross made out of his skis and laid the flag which Sedov had hoped to plant at the North Pole. Beside his grave they left the sled on which he had made his last journey north.

The Lomonosov anchored a kilometre away from the station, in the deeper part of the bay where there would be less threat to it from tides bearing icebergs.

From the station people came out on a motor boat. Among them was the outgoing zymovlia's physician and assistant director, comrade Kulayev. The Director, Ivanov, had departed on the icebreaker Malygin, unwilling to wait for the changeover. They quickly came on board and, after introductions, gave us our mail that had arrived at the bay by Zeppelin. Then they started telling us about their zymovlia. They had so much to share. It seemed that each of them wanted to tell about everything, good and bad that they had lived through, especially during the long polar night.

Despite a light drizzle, unloading of the ship commenced immediately. The cargo was transported by rowboats, whereas lumber and wood were lowered directly into the water. Rafts were made and towed ashore with ropes and tow boats. It was much harder to unload the steers and pigs. They became frightened observing the whole operation. Folding hammock-like slings were fastened under their bellies and they were lowered from the ship onto the boats. At shore they were greeted by the loud barking of dogs who nipped at their feet and gave them no peace.

Engineer Ilyashevich quickly found the placed for the magnetic pavilion. The carpenters and stove setters set to work and the zymovchyks helped them. The polar day,which at Quiet Bay lasts 134 days,· when the sun is still visible at midnight, and good weather expedited work. It was hardest of all to cope with the barrels of clay and cement. They were awkward and heavy and had to be rolled over large rocks. All that could be heard was the command: "One, two, go!"

The station magnetologist Nikolaysky was constantly present at the pavilion's site and delighted to see the daily progress on his pavilion. The carpenters teased him that if he did not treat them to "whitey" (vodka) at the opening of the pavilion they would hammer some steel nails into the pavilion.

"You can't watch us all the time, Alexei Petrovich, we'll hammer in a focus point for you

unless you give us your word," teased our carpenter Alexander.

In a magnetic pavilion, all boards and blocks must be attached only by copper nails. There mustn't be even one little iron spike.

On the 15th of August, at 8 am, a Norwegian motor vessel, the Isbjorn, sailed into Quiet Bay. It had been chartered by a group of French tourists, had sailed around Svalbard, and made its way to Franz Joseph Land. They came to the station for a visit. They were interested in our scientific work and looked over our equipment. That evening we returned their visit. As they left Quiet Bay they asked our permission to hunt polar bears in the event that they might encounter them.

From August 8 to the 16 the Lomonosov anchored at Quiet Bay. It could not travel further into the archipelago to conduct hydrological work because it did not have sufficient coal.

The incoming zymovlia loaned the Lomonosov twenty-two tonnes of coal from its stores, to enable it to travel to the Russian Port on Novaya Zemlia. There it would wait for a delivery of coal from Archangelsk, and carry on with hydrological work in Karsky Sea. In their spare time the officers of the ship took boat trips to Rubini Cliff and to the Valley of Silence.

On the 14th of August the group travelled to Scott Keltie Island. They stayed overnight and at dawn started their return to the station. It was a difficult trip. A strong wind nudged the boat

toward British Channel, and the tide pulled it in the same direction. It took strenuous rowing to get back to the station.

Comrade L.O. Petovsky remained on Scott-Keltie. As a biologist, he was interested in learning about the local lake. He worked there all day. The wind did not die down and the waves were very high. It was not advisable to attempt to retrieve the biologist by boat. So the Lomonosov was obliged to lift anchor and retrieve Comrade Petovsky from Scott-Keltie.

On August 14th at dinnertime there was a commotion among the hunters. Someone yelled into the dining room, "Walrus!" They jumped up and rushed to the shore with guns. Two walruses had climbed out on the beach. Unsuccessful shots drove them back into the water where one walrus was killed and the other was wounded.

The dead one sank near the beach and only after twenty-four hours when it floated up again were we able to take it. The wounded one alternated diving and raising its head again and filled the bay with its cries.

On shore the dogs barked. A little dog, Bodryk, couldn't bear it any longer. He threw himself into the water and swam toward the place where the walrus had surfaced. It was a most unusual sight. Suddenly the walrus surfaced beside the dog, roared and dived, not to appear again. The dog kept swimming in the same place until the Nenetz Timosha called him ashore.

The outgoing zymovchyks told us that in March Bodryk had run off to Scott-Keltie. After a day Timosha followed him and found him in the Strait of Menelaus beside a bear seated on an iceberg. Bodryk was watching that bear and did not want to leave.

On the 15th of August the magnetic pavilion was completed and the Lomonosov was due to depart at 9 am on the 16th. At 8 pm on the evening of the 15th members of both zymovlias gathered in the company cabin. The outgoing zymovlia gave a report on their work.

The new zymovchyks needed to get specific information of a practical character to help them orient themselves to the work. It was clear from the report that the meteorological observations were going well. Much material had been gathered and would be analyzed in Leningrad in the future. The biologist, Comrade Demy, a woman, had gathered a rich ornithological collection as well as a herbarium.

The spring and summer excursions of the Station Director, Ivanov, resulted in detailed corrections in the cartography of Prince George Island and Hermitage Island. The unceasing, dedicated efforts of the radio operator, comrade Yalev and the mechanic Plosnikov, must also be noted here.

During the meeting the incoming zymovchyks shared their proposed work plans. There would remain ten of us during the zymovlia:

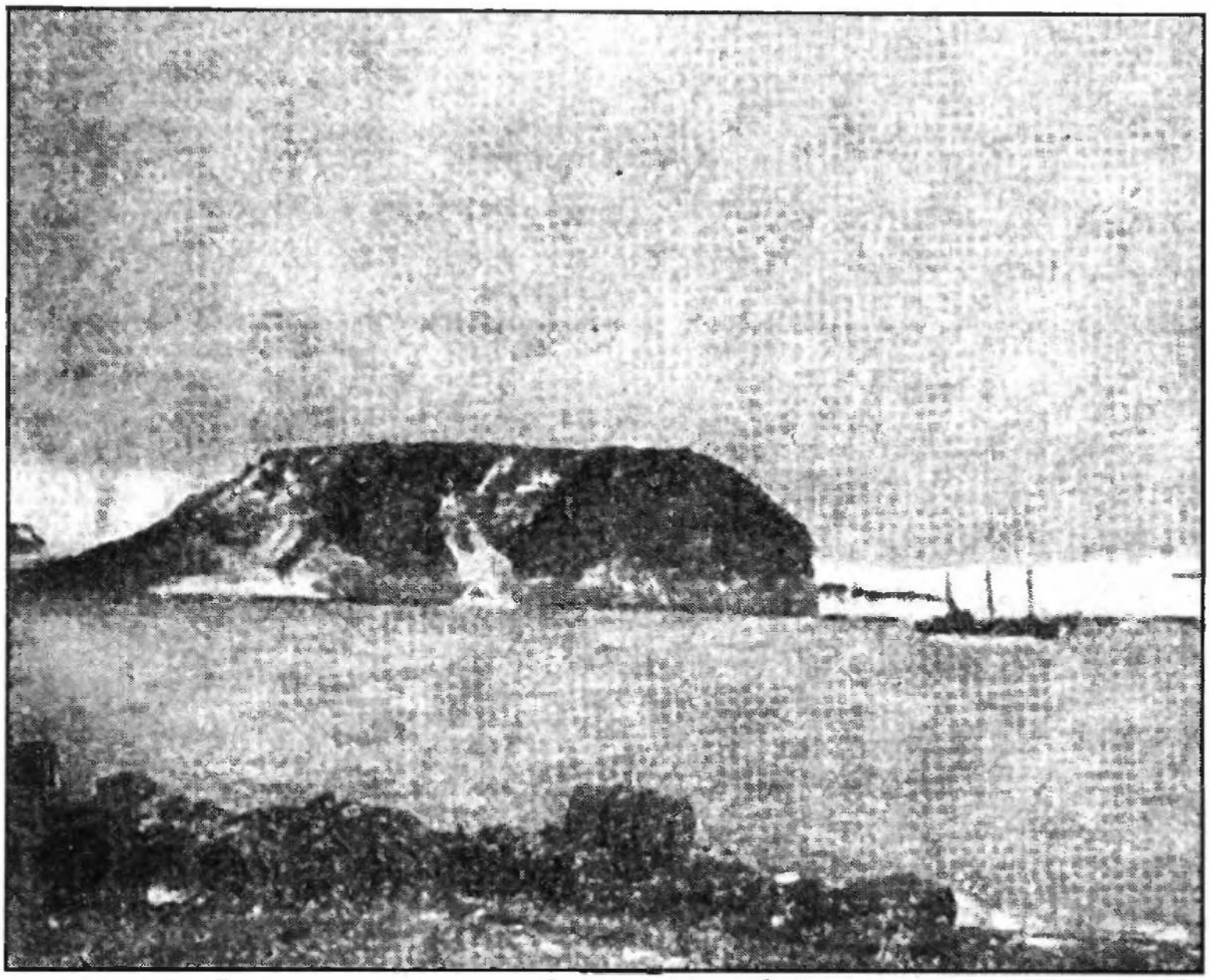
1. Kulayev, Luka Vasilievich, physician and director of the expedition
2. Ivanychuk, Mykhailo Nikolaevich, assistant director and geomorphologist
3. Nikolay Peter Alekseevich, magnetologist
4. Teploukhov, Vladimir Konstanovich, aerolog
5. Teploukhov, Konstantin Konstanovich, aerolog
6. Borovsky, Nikolai Yakovlevich, radio operator
7. Semenov, Stepan Ilarionovich, mechanic
8. Tamberg, Vladimir Ivanovich, cook
9. Nietzsche, Felix Alfredovich, handyman
10. Samoilov, Ivan Nikolaevich, carpenter

The physician, besides professional duties, was to help with meteorological observations. As Director of the expedition, he would fulfill various administrative functions and work according to the instructions of the Arctic Institute.

My major work was to take place in spring; the geomorphological investigation of the eastern part of Franz Joseph Land. I was to investigate Austrian Strait and to reach Wilczek Land. Before the polar night commenced, I had to acquaint myself with the geological formations and the glaciers in the region where the station is located.

The magnetologist had to install the equipment necessary for observations of the earth's magnetism and make daily notations of seismic recordings.

Both aerologs would carry out the meteorological services. They had to pay special attention to the temperature, humidity, and



Lomonosov sailing out of Quiet Bay

barometric pressure with the assistance of Professor Molchanov's radioprobe system.

The radio operator would be responsible for the unceasing work of the radio station and for maintaining contact with Matochkin Strait and Severnaya Zemlia.

The mechanic's responsibility was to look after the motor and the equipment of the station.

The Cook had promised to feed the zymovchyks beautifully.

The work of the handyman was to wash dishes and to take care of the cow and the dogs.

In the springtime he would accompany me in the expedition to the Austrian Strait.

The carpenter had remained with the zymovlia in order to fix the floor and the garret of the house, to caulk the whole house and bathhouse, to build a barn for the cow and to do all the carpentry chores at the station.

The meeting ended and everyone retired. But not everyone went to sleep. The new zymovchyks quickly finished their letters so they could be delivered to the mainland. From now on there would be only radio contact.

The Departure of the Lomonosov

At 8 am on August 16th a bell rang out at the station. The crew of the ship and the outgoing and new zymovchyks all gathered in the company cabin. Our host now was Vladimir Ivanovich Tamberg, the new cook of the zymovchyks. After breakfast there was a festive opening of the pavilion. Then came the time of farewells. Everyone shook hands and exchanged hugs as if we were parting forever. Best wishes were exchanged – to happily live through the long polar night, to be healthy and to live harmoniously.

It was hard for the outgoing zymovchyks to part with the dogs, who had become accustomed to them. This could especially be said of comrade Demy, the woman biologist. All the dogs gathered on the beach. From the ship came the second whistle. One boat after another rowed away

toward the ship. The Lomonosov's flag was hoisted; it was pulling its anchor.

The last whistle resounded in the bay, bouncing from Rubini Cliff and Cape Sedov with a repeating echo. It was sad to part from people with whom we had worked so long in Leningrad. It was sad for the ship's crew also as we had gotten along so well together. Most of all we all missed Adam Petrovich Randek, our first mate.

The Lomonosov shuddered, the stern shifted, the water foamed up and became murky. The ship moved toward Menelaus Strait and the horn sent out a last message: "Farewell, keep healthy – we'll see you in a year." From deck our friends waved white handkerchiefs and from the shore we sent them salvos.

The dogs howled piteously, staring in the direction of the departing steamer. It was carrying off the Nenetz, Timosha, who had fed them all year, and the zymovchyks, each of whom had a favorite among them.

For a while yet we could see the Lomonosov from the roof of the house. Then we could see only a little cloud of smoke, which finally disappeared behind Cape Dundee in DeBruin Strait.

Scientific Research Work

The meteorological work of the station was of the greatest importance. It was done by the two aerologs and the physician, each being on duty for ten days at a time. Besides the usual observation

they monitored wind velocity in the upper layers of the atmosphere with the help of special kites and balloons. In good weather they sent the radio probes of Professor Molchonov's System, and with their help learned about the temperature, barometric pressure, and humidity in various layers of the atmosphere.

The magnetologist installed the equipment for the observation of earth magnetism. Every day at 4 pm, he changed the ribbon and announced the results.

As a geomorphologist I needed to acquaint myself with the geological features and the glaciers in the area prior to the advent of the polar night. On the 3rd of September at 11 am, I set out for Dead Seal Island. Our motor was a four horsepower, suitable for rivers. Knowing its caprices we always took oars with us. The water was very quiet. Near the island smooth rounded boulders appeared in the water resembling walruses in size.

Terns nested on the island, and on the rocks we found young seagulls. The island was not long. I made a survey of our route.

When at 4 pm we started back, we were met by a strong easterly wind. The sea became turbulent and the outgoing tide moved swiftly toward British Channel. A kilometre away from the island our motor stopped. My companion Stepan worked at reviving it for an hour and a half while I had to keep the boat on course rowing

against the powerful tide which would have taken us into the Channel.

With the tide came ice floes, also pressing against the boat. It was impossible to break through them with the oars and they helped the tide to carry us. I was running out of strength, and could not call upon Stepan to take the oars. Finally, after being imprisoned for an hour and a half, the motor started running and we arrived at the station at 7 o'clock in the morning.

After that I started studying the glacier at Quiet Bay, noting the signs by which its movement could be monitored. I gathered and dried plants and made notes of those whose seeds I wanted to gather next season.

Preparations for Winter

After the Lomonosov departed we had major work to do to winterize the station. We needed to complete it before autumn snowstorms and the four-month-long polar night commenced. We worked in an orderly manner, beginning right after dinner. We cleaned up the beach of scattered boxes and bags from the produce and assorted items of the station's inventory. At a distance from the shore we stacked the building materials.

As well as dogs, we had a cow named Bravenka, a Kholmogorka, who gave us twelve liters of milk a day. It was necessary to provide her with a warm shelter, and the cow barn turned out to be very warm. For the dogs we built a

doghouse. Here they sat more quietly and did not fight and bite one another as they did in the open. In wintertime they would be much warmer here.

In order to keep from freezing during the long winter night while struggling through snowstorms to fetch coal, we built a coal storage shed at the eastern side of the station.

There we stored all our coal. The entrance to the shed was straight from the corridor in the station house.

We did all this work in after-dinner hours. After work we went to the dining room, drank tea, played chess and dominoes and Ivan Nikolaevich played the gramophone.

On the 20th of August the hunting vessel Leningradgostorg, commanded by Captain Vorotilov, came to Quiet Bay. It came to Franz Joseph Land on a hunting expedition, primarily for walrus, in the area of Alexandra Land and Chaşe Island.

The ship stayed for an hour. The crew looked over the station, took our mail for the mainland, and bidding farewell to the zymovchyks, took off. In that year those were our last visitors from the mainland.

Museum of the Arctic

Forty kilometres southeast of Quiet Bay lies the island of Nordbrook. Its high white summit always attracted our interest. On the west side of the island is Flora Cape, a base for many of the

expeditions that worked in Franz Joseph Land. From a historical point of view it is one of the most interesting places in the Arctic. Here in 1881-82 the English expedition of Leigh Smith overwintered in very difficult conditions. Here also, Frederick Jackson spent three years in a row exploring, during that time, the western and central parts of the archipelago. In June 1896 Fridtjof Nansen and his partner arrived here after their travels in the North polar sea.

Also at Flora Cape a part of the American expedition of Fiala waited for rescue in 1904-05. And in 1914 first mate Albanov and sailor Kondrat walked here from the vessel Saint Anna. They stayed here for the winter. And once again an unexpected meeting. Sedov's expedition, on its way to Murmansk, came here to dismantle Jackson's winter quarters for fuel for their ship. And here they picked up Albanov and Kondrat.

The Scottish sportsman Leigh Smith did much to explore Franz Joseph Land. He was familiar with polar regions from Svalbard. For his own convenience he had built a wooden steam-yacht, the Eira, which was fit to sail in the midst of ice. Leigh Smith travelled twice to Franz Joseph Land. The first journey took place in 1880 and was very successful. In a very short time, sixteen days, he explored the hitherto unknown southern shores of Franz Joseph Land and discovered many new islands.

In 1891 Leigh Smith came here again. The expedition built a house on Bell Island. Afterward, the ship went to Nordbrook Island and anchored over Flora Cape on the 21st of August in 1891.

Unexpectedly, on a quiet, sunny day, ice floes appeared in the east. The incoming tide brought them swiftly to where the Eira was moored. The ship was squeezed between the ice floes and the shore ice. The powerful pressure of the ice crushed the vessel and in two hours it sank. It was impossible in such a short time to save much from the ship.

However, they rescued a significant portion of the produce and the boats. They hauled it all ashore. From boards rescued from the broken Eira, and from stones and turf they built a home, covering it with sails salvaged from the ship. In that home, twenty-five men had to spend the long polar night. They could not travel by boat to Bell Island where they had so recently built a home because Myers Strait was choked with ice.

Leigh Smith put all his effort into securing meat and driftwood for the winter. By the onset of winter they killed thirteen bears, twenty-one walruses, and 1200 murres. Each zymovchyk received per day 750 grams of fresh meat, 200 grams of vegetables and 125 grams of flour, tea, sugar, milk and a glass of rum. Every time they killed a bear, they collected the blood and drank it either in its fresh form or made it into a soup. Fresh meat and blood are the best means that

polar peoples have of combating scurvy. Leigh Smith's expedition confirmed this by their experiment. All participants maintained very good health during the course of the winter.

During the polar night the zymovchyks did not fret. They found work for themselves, prepared their boats for future use, made clothing and sails and cooked and preserved meat. There was lots of meat. Polar bears came right up to the dwelling. These were all males, wandering in the icy wilderness, looking for seals. During that time female bears winter in the snowy burrows from which they emerge with their cubs in the spring.

The first bird, a white polar owl, appeared on Flora Cape on February 8. At the beginning of March came murres and other birds, and in June many geese arrived. Thanks to the coming of the birds the expedition always had fresh meat.

Finally the time of departure had arrived. On June 21 the expedition of Leigh Smith set out for Novaya Zemlia in four boats. Each boat was equipped with a chronometer, a compass, a sextant and navigational charts as well as a large supply of arms and ammunition. For each man, eighty kilograms of produce was allotted.

The passage to Novaya Zemlia was very difficult. The boats had to wend their way through narrow channels which kept widening and narrowing. This made passing through them very hard. Often it was necessary to haul the boats onto the ice and wait until open water appeared

again. It was only on the 2nd of August that Leigh Smith arrived at Novaya Zemlia. There in the entrance to Matochkin Strait, he encountered three vessels sent out to search for his expedition.

Of the simple dwelling where Leigh Smith and his friends wintered, there is now no sign. Time and ferocious storms have destroyed it.

On Flora Cape once stood a tiny hamlet called "Elmwood" by Frederick Jackson. Here Jackson lived three years in a row from 1894 to 1897. The purpose of this English expedition was to explore Franz Joseph Land as a possible operating base for a sled route to the North Pole.

Frederick Jackson prepared the first map of Franz Joseph Land that more or less approaches reality. He explored all the islands west of British Channel. He drove around in a sled drawn by dogs and Siberian ponies. He did all his work primarily in spring. In summertime he used a boat to explore the southern shores.

In 1932 at Cape Dundee I saw the remains of a former produce store house, or perhaps a camp. The appearance of the tin cans suggested that they had lain there since Jackson's stay on the island. He enjoyed exploring so much that he wanted to stay on for a fourth year. However, financial difficulties forced his return to England.

During Jackson's expedition between 1895 and 1897 Fridtjof Nansen and Hjalmar Johansen also overwintered on Franz Joseph Land. Nansen wished to study some aspects of the Northern

polar sea concerning which there were at that time various discordant conjectures.

He organized an expedition on the Fram in 1893-1896. According to a careful plan, he allowed the vessel to become icebound near Novo Siberian Island, and to drift with the ice in a northwesterly direction.

Nansen's ship, the Fram, which was custom-built to his specifications, was the only ship to travel so far north in that manner. No other vessel, before or since, has done that. Nansen solved a basic oceanographic problem of the Arctic and laid a foundation for our contemporary investigations in the Arctic basin and in the climate of that region.

Nansen was unable to come close to the North Pole. As the Fram was being carried westward, it was still some 700 kilometres from the Pole. Nansen decided, together with Johansen, to try to reach the Pole on sled-boats. The difficult conditions of the trek allowed them to reach only the latitude of 86° 04'. From there Nansen turned south in order to reach Franz Joseph Land and then make his way to Svalbard in Norway.

On the 6th of August Nansen approached Franz Joseph Land and discovered a row of new islands, including Belaya Zemlia in the northeast of the archipelago.

On the 28th of August they reached Jackson Island and decided to overwinter on Cape Norway and travel south early in the new year. On a

terrace above the shore they built a hut of stones, moss and walrus hides. They worked almost with bare hands, using the most primitive tools, like the shoulder blade of a walrus, a pick made from a walrus claw and such.

The hut was three metres long and under two metres wide. It was so low that only in the middle was it possible to stand upright. Nonetheless it sheltered the zymovchyks from the terrible winter cold and storms. They laid in a huge store of bear meat for the winter. They used walrus blubber for fuel. They conducted regular meteorological observations and walked to their food stores, but most of the time they just lay and slept. They lived exclusively upon bear meat which kept them in excellent health. Once again this provided evidence that scurvy comes not from malnutrition but from a lack of fresh food.

In the second half of May Nansen and Johansen left their winter hut and travelled south following the islands lying along the eastern side of British Channel. In June using kayaks, they reached the southern shores of Franz Joseph Land and following the southern edge of Nordbrook Island they turned west.

There, relaxing on Nordbrook Island, they nearly lost their kayaks. Nansen wanted to survey the ice situation and climbed up on the terrace. Suddenly a strong wind swept off the glacier and took the kayaks out to sea. Nansen had to follow after them for nearly a kilometre. There he was

faced with another problem. A walrus pierced his kayak with its claws and it would have sunk if Johansen had not rescued it in time.

It was nearly time to stop their kayaking. As has been mentioned, the polar explorer Frederick Jackson was overwintering on Flora Cape and there Nansen met him. Here is what Nansen has written about that interesting episode:

"With mixed feelings I hiked over countless hills and hummocks, when again, unexpectedly I heard a human voice, a stranger's voice, the first after three years. The blood rushed to my head and my heart beat strongly as I ran up a hillock and yelled at the top of my lungs. That human voice echoing in the midst of icy wilderness, that call to life reminded me of the family that waited for me. I no longer saw or felt anything as I ran among the hills and icy ridges. Again I heard a cry from the direction of an ice ridge and saw a figure walking along the ridge. It was a dog; but in the distance there was another figure and that was a man. Who might it be? We quickly approached one another. I took off my cap and so did he. I heard him talking to his dog and started listening. He spoke in English. Coming closer, I thought I recognized Jackson whom I had seen once before.

"I put on my cap, we extended our hands in a sincere handshake. From one side, a civilized European in a decent English outfit, in high rubber boots, neatly shaved, washed with a fragrant soap whose scent was noticed by the

keen sense of smell of the savage on the other side. A savage dressed in dirty rags, permeated by blubber and soot, with long, untrimmed hair, unkempt beard; whose normally fair complexion was not discernible under a heavy layer of soot and grease. It had been impossible to clean it off all winter. Neither of us knew each other nor from where we had appeared."

"How do you do!" commenced Jackson.

"How do you do!"

"I'm very pleased to see you!"

"Thank you, I'm pleased to see you too!"

"You are here with a ship?"

"No, my ship isn't here."

"How many of you are here?"

"I have a companion, on the edge of the ice."

"You wouldn't be Nansen, would you?"

"Yes, that is who I am."

"I am very happy to see you."

And once again strong handshakes began all around. Nansen and Johansen remained as Jackson's guests until the arrival of the vessel Windward which supplied Jackson's expedition with produce.

On that ship the two polar "Robinsons" made their way to Norway.

Nothing remains of the structure built by Jackson on Flora Cape. Wellman's American expedition in 1898 moved one of the sheds to Cape Tegethof on Hall Island. Jackson's last hut was dismantled for fuel by Sedov's expedition.

There was a little house here built of boards and bamboo poles with insulation of moss between. It was likely built by the American expedition of Anthony Fiala. At present it is half-buried in icy snow. To the east of the hut is a gray stone monument, brought from Italy, and placed in honor of the members of the Abruzzi expedition, who died in the wilderness of the polar sea. They were Lieutenant Cuerini, the mountaineering guide, Olle, and the machinist, a Norwegian, Stekken. Their names are carved on the north side of the monument, facing the direction where the brave explorers lost their lives. They led Captain Umberto Cagni in his expedition toward the North Pole on drifting ice. Cagni managed to reach the 86° 34' latitude breaking the record set by Nansen in 1885. Cuerini's rescue mission replenished Cagni's food supplies at sea, but did not return to the expedition's base at Warmsprings Bay.

In 1914 on Flora Cape there was an interesting meeting of Albanov with the expedition of Lieutenant Sedov. Albanov was first mate on the schooner Saint Anna during H.L. Brusilov's expedition. The expedition attempted to travel by a northeasterly sea route, the same route that the icebreaker Sibiryakov travelled in 1932.

In the fall of 1912 the Saint Anna was icebound off the coast of Yamal, and the drifting ice carried it northward. The expedition spent two polar nights adrift and there seemed no hope of escaping the ice. In the spring of 1914 the ship

was north of Franz Joseph Land. Although the food supplies were managed very economically, and frequently supplemented by bear meat, the food situation at the end of the second year of the drift was very difficult.

Then, on April 23, 1914, when the Saint Anna was at latitude 83° 17' north, approximately 160 kilometres from the nearest island of Franz Joseph Land, Rudolph Island, a party of eleven men headed by first mate V.I. Albanov left the ship in order to walk to Franz Joseph Land. They hoped to find shelter and produce on Flora Cape, to live there for a while hunting as did Nansen and Johansen. Thirteen men remained aboard ship where there was sufficient food to last them another year.

Reading Albanov's diary, we see how extremely hard was the journey of these men who sought to escape death which threatened the ship from crushing by ice and from starvation.

The route of these unfortunate people was so heavy. Snow came upon them, ice crags, open water and cracks in the ice blocked their path and they had to make lengthy detours. But most frightening of all was the fact that the ice carried them steadily westward and past Franz Joseph Land, or so it seemed to Albanov.

Having ascertained their latitude, Albanov calculated that they should have reached Rudolph Island, but there was no land anywhere in sight. That terrible knowledge lowered morale,

discouraged the travelers, and they suffered even more from scurvy.

"We have to die anyway; there is no point suffering so much before death; why bother going further?" said the tired sailors. Albanov pleaded and tried to encourage them but to no avail. They sought every opportunity to lie down. The only way to make them go forward was to use physical force. Albanov used his fists to urge the men to keep moving.

On August 18 Albanov saw a silhouette of land on the horizon. It was Alexandra Land, the largest island in the western section of the archipelago. Albanov noticed the white cloud-like forms just above the horizon. They held their places and their forms without changing until the fog covered them.

At first Albanov did not tell his companions, fearing that it might not be land that he saw, but only ice crags. Only after four days was he absolutely certain that it was really land. He wrote "That land seemed magical, fantastic, and seemed as far from reality as a picture. Its amazing colour is like the colour of the moon. Its perfect, curving forms gives no clue as to the distance that separates us from it."

On the 8th of July the unfortunate people arrived at the island. There, at Mary Harmsworth Bay they found many birds and eider eggs. That was a lucky find as they had only two kilograms of hard tack and a kilogram of salt left. They rested

a few days, gained strength and courage and moved on toward Flora Cape. They separated into two parties; one walked along the glacier of Alexandra Land, and the other paddled along the shore in two kayaks. Several times the kayaks were subject to walrus attacks and the brave sailors often looked death in the eyes.

The party hiking along the ice was in dreadful straits; their feet hurt and were covered with sores from scurvy. The first to fall ill and die was the sailor Archireev. They left his body on the ice. Albanov agreed to wait for the first party on Grant Cape. But it did not arrive. Perhaps they fell into a crevasse and perished in it, or, having no more strength left, just lay down on the glacier and died. Later efforts to find these people did not succeed in doing so.

Albanov stayed on Bell Island. The sailor Nielsen was so weary that climbing out of the kayak he had to crawl to the tent. He stopped talking and could not understand the words of his friends. After a few hours he died. The whole group was in a painful emotional state. Albanov wrote of his own feelings as follows:

"The death of that man did not move us too deeply; it seemed to be a foreseeable event...but how strange it seemed; the man walked with us for three months and now, depleted of all strength he has ceased to exist and does not need to go anywhere anymore. All his work and effort and deprivation have been in vain.

"And we must still get to that island, and it is still twelve miles away. In truth, the death of a comrade did not distress us. But it was not callousness or hard-heartedness. It was a normal sense of numbness in the face of death which was constantly behind our backs. In an almost surly way we considered the next 'candidate,' Shpakovsky, wondering 'will he be able to get there, or will he take the next sad turn?'

"When he was asked to fetch something and was slow to return one of the others called out to him, 'slowing down, slowing down, are you! Do you want to follow Nielsen?' That was not hostility toward Shpakovsky; he had never harmed anyone. It was the helpless anger of a healthy man toward illness clutching at a friend, and a call to fight until death."

Flora Cape was near, but Albanov became consumed with doubt. Would they be able to reach it or not? His feet hurt so badly that at times he could not walk at all. On the 21st of July two kayaks paddled toward Flora. Fog came in and they were soon lost from sight. The wind started up and the sea became rough. Albanov and Kondrat, travelling in one of the kayaks, decided to pull it up on an iceberg and wait until the sea calmed down. They put on their parkas and fell asleep. They woke up when the iceberg split and they were toppled into the water.

The wind did not abate and they barely managed to climb up on a chunk of the iceberg.

But to remain there meant certain death. They decided to go back to Bell Island. For six hours they struggled against the turbulent sea which constantly threatened to submerge the little kayaks. But finally they did make it to the island. They started a fire and dumped into it everything burnable: pieces of sled, skis and bandages.

They could not rest in their wet parkas. Both shivered from cold and besides that Kondrat had frozen his toes. They warmed up by the fire and gained some strength.

Luckily the wind died down. Albanov and Kondrat gathered their last strength, got into their kayaks and reached Flora Cape where there was the little house and food. That was July 22.

The second kayak, with Shpakovsky and Lunaev did not arrive at Flora Cape. They probably drowned during the storm when Albanov and Kondrat were on the iceberg.

Albanov and Kondrat were the only survivors of Brusilov's expedition. The fate of the Saint Anna is unknown. Most probably it was crushed by ice.

On Flora Cape, Albanov and Kondrat began preparations for winter. They tidied up the little American house, picking up all the scattered food and equipment. But they did not need to endure another winter camp. On the 2nd of August the ship St. Foka arrived at Flora Bay, returning to Archangelsk with Lieutenant Sedov's expedition. As the ship approached Flora Cape a man was

seen on the beach. He hurriedly paddled a kayak toward the ship. It was first mate Albanov. He told the crew of Sedov's expedition about the fate of Brusilov's expedition.

All this tragedy had a powerful impact on Albanov's nervous system and he developed psychological illness. He died a short while ago. His friend Kondrat is employed on a ship in the Soviet fleet.

Autumn

The days were getting shorter. We noticed this every day. The seagulls had flown south. Among the cliffs one could still find snow buntings, and, along the beach, a snipe hunting for food. The bird bazaars, or rookeries, had become silent. On the surface of the water there occasionally appeared a seal. The dogs, noticing them, rushed down to the beach and barked mercilessly. The seal came closer, as if interested in the barking or our whistling. She raised her little grey head above the water, looked in all directions and then dived down again.

Ice was coming into the bay and we watched carefully, so that the dogs didn't get caught on it and be carried out to sea by the tide. Dogs frequently jump from one ice floe to another when they see a seal.

On September 28 we heard loud and continuing barking near Sedov Cape. It seemed to be coming closer to the station. In the intervals

between barking outbursts we could hear a hissing sound as if a hundred locomotives were coming into a train station. These were beluga whales. They were travelling from the North Polar basin to Barents Sea.

The moon was hiding behind clouds so we could not see the belugas very well, and only when they broke from the water. All the bay right up to Scott-Keltie swarmed with migrating belugas. Huge waves dashed against the shore.

The hunters couldn't resist, and they started shooting. The dogs were beside themselves, barking and running around. The belugas circled around Rubini Cliff, then withdrew into Menelaus Strait.

On the first of October one beluga was killed. It weighed 800 kilograms. The remaining belugas passed south on the 13th of October before evening.

On the 14th of October was the last day we saw snow buntings. On the water we could still see seabirds but not for long. On the 21st of October the water was covered with a thin sheet of ice and the birds had gone.

On the 22nd of October five ptarmigan flew into the station. The temperature had dropped to -10 - 13° C; thawing was frequent and there were wild winds and snowstorms. In November the gusts of wind went up to 147 kph.

The polar night arrived. On the 20th of October we no longer saw the sun. It would only

rise again on the 22nd of February, as the polar night lasts 126 days. On the first few days during the noon hour there was still twilight on the southern horizon. It was magical in its beauty. Just above the horizon there was the reflection of the sun; above it yellow, green and light blue, while the rest of the sky was ultramarine. I stood for a long while delighting in the beauty of the twilight colours and their delicate mergings.

But we didn't have long to enjoy these twilights. By the 9th of November the dark night had set in, fully dark even at noon. So it would continue for 86 days.

In British Channel and in Quiet Bay, everywhere there was ice. Only beside the station was there a narrow stretch of open water, along with the ice floes and crags and pieces of old ice fields brought into the bay in autumn by the tides.

There was a pervasive stillness. There was no more shivering sound from the ice. Only occasionally during the movement of the tides were there certain rhythmic sounds. At that time the ice was breaking. It sounded as if someone was breathing very deeply. I loved that unusual music and listened to it a long, long time. All around it was so peaceful and quiet.

The Commander of Scott-Keltie Island

"Ivan Nikolaevich, you know I dreamt about two bears last night. It's as if they came right here beside the bathhouse." So started Stepan's

conversation when he came to breakfast from his country home. We called the radio building, which stood above the main building the "country home." Radio Operator Stepan lived there with the dog named Bourgeois. "As you know, I fried blubber all day yesterday and the wind carried its smell over British Channel. Remember, if the bears come, they are mine!"

We had lived at the station for a month and not one bear had appeared on the horizon. As can be seen from the preceding conversation, this worried our hunters. Each one wanted to be the first to get a bear. Every day one or another fried seal blubber as an attraction for bears. But the bears weren't coming. It was necessary to go somewhere away from the station and lie in wait for them. Last season's zymovchyks told us that the bears move through Scott-Keltie Island.

On the 5th of October Fritz and Ivan got up from the lunch table earlier than usual. After 10 minutes we saw them on the beach, launching a small red boat. They were dressed lightly and carried meager supplies: a tin of meat each and a few pieces of hard tack. They took guns, shells and tobacco.

From the station to Scott-Keltie is only four kilometres. But twenty minutes after they left, the bay started filling up with ice floes. The ice chased our hunters near to the island.

Escaping from the ice, they sailed along the shore into the Strait of Menelaus. It became dark

outdoors. Next day the bay was filled with ice. We constantly looked out to Scott-Keltie. Near 1 pm two dark figures appeared at the edge of the island. We heard two shots. We fired also to let them know that we could see them. We could not help them, however. The ice situation would not allow us to rescue them.

At first one of them stood, then he sat down and we could no longer see him. Later on we found out that was Fritz. The other one, Ivan Nikolaevich, kept walking up and down the beach. Stepan made a smoldering bonfire of rags soaked with coal oil to show them that we could see them. Once again darkness set in and our hunters had to spend another night under the open sky.

Toward morning an east wind blew the ice out of the bay. The wind was so strong, however, that at first it wasn't possible to travel to Scott-Keltie. Only at 10 am, still during a strong wind, Stepan started the motor and with the two Teploukhov brothers set out for the island.

They took oars along because our motor frequently refused to work. Cold and hungry, the hunters awaited rescue. At noon they were safely back at the station. In the dining room they were nicely fed. Afterward Ivan Nikolaevich told us about their predicament:

"The ice field drove us close to Scott-Keltie and we saved ourselves from it by approaching the island from the left. The west bank of the island is not steep and the ocean is not deep there.

Everywhere in the shallow water stood icebergs. We made our way between them to the beach, dragging the boat with us.

"There was heavy snow on the island and we camped by the boats. We ate our food the first night. As soon as it became light we struggled through the snow across the island to be nearer the station. The deep, fresh snow made walking difficult. We saw your signals from the beach.

"I kept walking to stay warm. Fritz was angry; he just sat by a stone and rattled his teeth. We were both ravenous but had no food to eat.

"Then we remembered that two weeks ago we buried a seal here for bear bait. We dug it up and had dinner. That last night was very hard. Cold wind blew from the direction of Rubini Cliff and although during the first night we still waited for bears, the last night we did not. Fritz cursed himself, me and bears! We wanted to sleep, we were so tired, but now we worried that a bear might come, after all, and attack us. We were so happy to see the boat coming!"

The return to the station was not easy. The waves were huge and filled one-third of the boat. It was not a pleasant moment.

However, Stepan would not wait any longer for the wind to quiet down and the barometer suggested that it would not do so. That was confirmed at noon when, after a safe return, the wind became so strong that it would have been impossible to travel to Scott-Keltie at all. Weather

here changes very quickly and it is necessary to seize the right moment.

All evening and the following day all the conversation was about our hunters. The most interesting part of all was when they told tales about each other. Their adventure gave us a new theme for discussion, and that is important during a zymovlia.

After one whole month of living together, we had exhausted our stories. At dinnertime each of us had repeatedly told our most interesting episodes, so that we were all overly familiar with them and no longer found them interesting. Often the narrator was interrupted and someone else would finish his story, for we all knew how it would end. We knew, for example, that Nikolsky would tell us about apples in Alma Ata, or how at the Mashtor it was easier to work than here at Quiet Bay. We knew that Fritz would every day tell us how the Nenetz was mauled by a bear. We needed a new interesting topic of conversation and the hunting adventure provided us with one. As well, Ivan Nikolaevich knew how to tell a story with gentle humor.

The next day after the return of the hunters Ivan Nikolaevich drank his whole ration of wine for the month and knocked on the Director's door with a notification in his hand. He asked the Director of the station to rent him Scott-Keltie Island for the duration of our zymovlia. The Director agreed, formulated a certificate, signed it

and stamped it with the station stamp. At dinner time Ivan Nikolaevich was officially declared the Commander of Scott-Keltie Island during the zymovlia of 1931-2.

"After dinner, my children, I am inviting visits in honor of my new appointment," said Ivan Nikolaevich. "But please note that this is not a dry celebration; everyone must come with a bottle in his pocket!"

With each day, Ivan Nikolaevich assumed more designations. Everyone appreciated him and showered him with titles!

October Holidays

(Julian Calendar Calculation)

The polar night exercised her rights; there was no more beautiful twilight. At dinnertime on the 6th of November the Director of the zymovlia greeted us on the occasion of the October holidays, wished us all the best for the polar night, and success in completing all the tasks set out for us by the Institute. On the 6th and 7th of November we listened both at lunch and dinnertime to broadcasts from Leningrad and Moscow of the October holiday celebrations.

On the second day of the October holidays our first bear visited the station. It was followed on the 9th of November by a second, which we killed by the water in front of the station. At 4 pm we heard fierce barking from the dogs in front of the polynia (open water) and a turbulence in the

water. On the water around the polynia stood the dogs and the bear swam around in the water. It tried to climb out on the ice but it kept breaking through. Stepan and I were walking up to the polynia from the direction of the sea.

We could see only the black silhouettes of the dogs and heard the splashing of the bear. There was a shot and three strides from Stepan the bear fell upon the ice. It had tried to make its way through the ring of dogs, finally breaking through, and landing in front of us.

On the 9th of November, at seven in the morning, I was awakened by my beloved march "Casablanca." In the doorway stood the gramophone and behind it, Ivan Nikolaevich. He knew that today was my birthday and came to greet me. This was not exclusive treatment for me. In the dining room was a list of the birthdays of all the zymovchyks. These days were on the list of statutory holidays at the station. Each birthday the cook prepared a special dinner, and the celebrant put two bottles of wine on the table - the monthly ration.

Northern Lights

In winter I studied the northern lights. At the station we did not have any special equipment for this; I sketched their forms, noting their development and intensity. That winter, northern lights occurred very frequently. In fact there was hardly any occasion in clear weather when they

could not be seen. Northern lights occur in high layers of the atmosphere, at 50 to 500 kilometres. They are caused by electrically charged particles; electrons meet air and cause it to shine.

We were left with unforgettable experiences of these marvelously beautiful manifestations in nature. Their greatest intensity was in the southern sector of the heavens. They started moving from east by northeast toward west by northwest, breaking out in a great sheaf of rays.

These rays moved toward the zenith, fading, then flaming up again. Among them, along the southern horizon floated an arch where, from one end to the other, with unbelievable swiftness flickered violet, orange and green colours. When the rays moved upward toward the zenith, that ribbon, woven from moving colours, rose high above the horizon. The intensity of the light diminished briefly only to rise high again with even more intense brightness and speed.

From both sides of the arch moved streaks of beautiful forms, and below it, curtains of light. Everything pulsed, changed every second and moved. Reaching to 60° above the horizon, the arch and streamers, all light, flew toward the zenith. Violet predominated over the others and was the first to fly upward. There appeared a crown of rays touching the horizon here and there with white streamers. In the center of the crown was a wild dance, with a play of colours, violet, green and orange, vibrating and going round and

round. As if from a fiery crater in the midst of the heavens, there flew out flames toward the horizon.

Less frequently, three or four times during the whole winter, we saw northern lights in the form of a stationary arch above the southern horizon, with a dark segment below it.

As an illustration of one night, take the northern lights on the 23rd of November, 1931.

In the southeast there unfurled a silver streak with a bluish-violet tinge. It rose, shone more brightly, and changed the forms and intensity of the colours. From one end it was a streak; further on it became a thin curtain of light, a delicate veil. The curtain flowed majestically over the sky, grew, then diminished, flashed on a curve with green rays, then flowed with a bright light for a few seconds, then gathered into folds, flew toward the zenith, then separated into two streams, forming a river of light flowing from horizon to horizon.

In following what was happening over one part of the horizon one could not catch what was happening elsewhere. In the west there was a patch of orange light; it grew swiftly, turned into a curtain and floated over the heavens, changing into fantastic forms.

There was a bitter frost outside. It was tempting to return to the warm room and thaw out my fingers, which were chilled from sketching. But once again, the sky blazed out. One of the curtains began to gather into itself everything else.

Then having taken in all the light, the curtain danced among the stars. It seemed as if someone in the blue sphere was waving a colossal ribbon which unfurled itself and played out with marvelous colours.

The upper part of it was a silvery-blue, below that it was golden, and the bottom layer was purple. But suddenly, the ribbon was gone. She was at the zenith, gathered into folds and leaped toward the horizon in sheaves of light, orange, violet-rose and green. It is impossible to describe in words the beauty of that crown of light with the wild dance of colour in its center.

The whole bay was alight, and one could see all the way to Bear Cape. But only for a moment. Suddenly all the light dimmed and only the Milky Way stretched across the sky from northwest to southwest. But wait! Another streak blazed out, then another, then a crown.

All the long polar night the northern lights danced in the sky, blazing and fading. Snow and ice reflected the lights as they came and went and then disappeared altogether.

It was as if someone was shining an enormous light over Quiet Bay, brightening every corner and then put it out. All around was a dark starry sky, a dark silence. Only from Rubini Cliff came the light creaking of ice pressing against the massive crag. The ice fractured and moaned helplessly. The sound, light and distant, was so pleasant to hear in the silent wilderness.

For those who have not seen the beauty of polar nature, written description cannot recreate it. Perhaps it only seems like an incomprehensible scene, the landscape of an unknown planet.

New Year

Today Vladimir Ivanovich made a number of preparations toward celebrating the new year. On the tables there were cakes, pastries, patés, beef roll-ups, marinated herring, all of which he prepared during the day so that there would be less work in the evening.

After dinner Ivan Nikolaevich called on me. His appearance suggested that he had already commenced celebrating the new year.

"Listen, Mykhailo Nikolaevich," he started, "tomorrow we are celebrating the new year. At dinnertime I plan to visit the zymovchyks in my capacity as Commander of the Scott-Keltie Island. I have a parade uniform of my own creation, and you will be my secretary, responsible for all the activities of my republic. I have prepared a review of the work of my administration in 1931."

"Great!" I said. "In two hours we'll go over the text so that there are no discrepancies!"

Ivan Nikolaevich left and I began work. At 11:30 Vladimir Ivanovich set the table. Exactly at 10 to 12 the bell rang in the corridor. The zymovchyks gathered in the dining room/living room. Wishing one another a happy new year, they also wished one another a lot of bears!

On the table stood a loudspeaker sending New Year's wishes over all the Union as well as abroad. Everyone thanked Vladimir Ivanovich for his diligent care of us. After the feast we sat around a long time.

Vladimir Ivanovich proposed playing the first game of dominoes in the new year; others sat on the sofas and sang, and Ivan Nikolaevich played the gramophone. It was nearly three am before we parted.

On the first of January we sat down to lunch as usual. At the table also sat our dear Vladimir Ivanovich who so rarely dined with us. Only Ivan Nikolaevich was missing.

Suddenly there came a loud noise from the corridor, somewhat resembling the blaring of an auto horn. Our radio operator jumped to his feet, looking in the direction of the noise with amazement. "What is that signal?" he cried.

The door opened. "Happy New Year!" greeted the Commander of Scott-Keltie Island. "Hurray, hurray, hurray!" everyone shouted.

Ivan Nikolaevich approached the Director, then one after another, everyone else. He wished each one of us a happy new year and, in the name of the entire polar bear population of Scott-Keltie, better luck than last year! Today Ivan Nikolaevich appeared in a special outfit, a broad ribbon across his chest, epaulets on his shoulders, spurs, badges, eyeglasses, and a briefcase. In the briefcase he carried a large bunch of "speeches"

and "telegrams"; their subject was pure mischief and not one of the zymovchyks was forgotten.

Ivan Nikolaevich entertained us for a long time with his humor.

Preparations for an Expedition

My assignment included exploring the eastern part of Franz Joseph Land, specifically the Wilczek Land regions, and if possible, Graham Bell Island. This area has been the least studied.

To date, only the Baldwin expedition in 1899 had been to Graham Bell Island and to the western shore of Wilczek Land.

No other expedition from the Soviet Union, or elsewhere, had been there since. In 1929 and 1930 the icebreaker Sedov had attempted to get there but was unsuccessful because of the impassable ice conditions.

My specific tasks included the survey of access routes, the study of geological features, the gathering of rock specimens, and to prepare a geomorphological description.

According to an agreement with the All-Union Arctic Institute, the steamship Lomonosov was supposed to take me to Alger Island and to leave there a cache of food for my springtime expedition, as well as meat for dogs. That would have expedited the work of the expedition. However, things turned out otherwise.

The Lomonosov had to spend twenty-two days getting to Franz Joseph Land instead of the

expected ten to twelve days. Consequently it not only had insufficient coal to travel to Alger Island, but had to borrow twenty-two tonnes of coal from the zymovlia stores to enable it to travel to the Russian harbor on Novaya Zemlia.

During the long polar night I had to work on the technology of transportation by dogs. There were a number of sleds at the station but upon examination they were found to be badly in need of repairs. Some had broken runners; others did not run straight.

The repairs took place in the corridor. The station carpenter, Samoilov, worked on the sleds, and harnesses were sewn by Nietzsche, the station handyman. I had to help them constantly.

There also were no adequate tents. Most of them were worn out, while others were far too large for a dog sled expedition. We set up a sewing machine in the company cabin, the living room/dining room; from a special material we prepared a new tent.

Our footwear was inadequate for such a long journey as mine. The pymy and lenty given us at the Gostorg in Archangelsk were unsuitable. Pymy and lenty are footwear made from reindeer hide and cover the whole foot and leg. Lenty are thin and have the hair inside. Pymy are heavier with the hair outside. Their soles were made of small pieces and besides, the leather had not been prepared properly. Walking on snow and ice, they quickly absorbed moisture and broke. Warm

footwear is extremely important in travelling, all the more so because it may be necessary to sleep outdoors. In view of the circumstances, we decided to allot three or four pairs of footwear for each man, to allow for changes.

We needed to construct an odometer to measure the distances we would travel. Stepan took charge of that. He also made a short, four-sided tin container for our Primus stove at the same time. He spent a great deal of time making them, but the odometer proved to be very accurate, and the field kitchen was very convenient during our travels. Comrade Samoilov built us two boxes with covers where we stored scientific instruments and food.

Learning to travel by dog sled had to wait until the bay was frozen. Comrade Nietzsche gave me my first lessons. At first it was hard to harness the dogs to the sleds. They didn't enjoy being harnessed, especially after they had been free all summer. I did my training before lunch. With the help of another friend I managed to harness the dogs. My first attempts were done by using the second, or follower sled. It was not too difficult to ride a follower sled as both the dogs and the sled follow a lead easily. But I had to learn to handle the dogs and sled by myself to travel alone. The problem was that as soon as the dogs came out on the ice, they wanted to turn back to the station. It took a lot of effort to get them out of sight of the station. After that, travel became much easier.

My training was also made difficult by the presence of great cracks in the ice near shore. Most of them were covered with snow so that it was very easy to fall into them, and there was the danger of breaking or spraining an ankle.

The most troublesome difficulty of all was working with the young dogs who had never been harnessed before. Each dog had to be trained separately to take its place on the dog team. Several days were spent on that.

And so I gained my knowledge of travelling with dogs!

The Order of A Day

The station awakened at 6:30 am. The first to rise was the cook and after him the handyman. At 6:45 the meteorologist on duty commenced his observations. He awakened the radio operator. At ten minutes after seven the telegram reporting the weather was ready. The radio operator transmitted it to the station at Matochkin Strait. At seven-thirty the remaining zymovchyks were roused by the bell in the corridor. Breakfast was at eight o'clock.

After breakfast everyone went to work according to his specialty. Besides that, each had to be the kitchen helper once every nine days. It was necessary to bring water, snow or ice sufficient for the whole day, and to saw and split enough wood for the kitchen and the heater.

The station had its own running water system. This consisted of troughs, laid end to end, reaching from the upper terrace to the store room. As the snow on the plateau melted, the melted water flowed along the troughs. The system worked from the middle of June until mid-August. Afterward it was necessary to travel for water by boat some two kilometres to a little creek. After it froze, we brought in snow to melt for water. During most of the year we broke off ice from the icebergs stranded in the shallows near the station and hauled it in by sled.

Once every nine days each of us was responsible for the corridor. It was necessary to keep it swept clean, and to make sure that all of the lamps there were lit during the polar night.

Besides all of these duties, once in every month and a half, two of us had to heat up the steam bath.

At 1 pm a meteorological observation had to be taken and transmitted immediately by radio.

At 2 pm the lunch bell would ring.

At 7 pm another meteorological report and the dinner bell.

At 9 pm a meteorological report again.

After dinner everyone remained in the company cabin. Each evening at 8:30 I would check our chronometer according to the signals from Leningrad. After this we listened to the radio report of Evening Workers' newspaper from Leningrad. We would all gather around the

The Valley of Silence

loudspeaker and listen with great interest to the news of events in the Union, and its stormy domestic development. At 8 pm we listened to broadcasts of operas or concerts. Upon request we tried various European radio stations and listened to their concerts.

In the company cabin we also had chess, checkers and dominoes. Domino games we called by the traditional northern name of Goat. For great interest we kept a Goat journal and the results of the Goat games were announced at the end of the month.

At 9 pm there was boiling water ready for tea or cocoa. In the event of electrical storms when the radio did not work, Ivan Nikolaevich brought in the gramophone and played records on request. At 11:30 pm we listened to the latest news and retired to our own rooms

There was a large library at the station, of at least fifteen hundred volumes of popular science and literature. Rarely did any of us fall asleep right away. Everyone read one book or another, all the more so because insomnia is so common during the polar night.

So we passed the evening when there was no moonlight or when the weather was bad. On moonlight nights we took off on skis down the bay or else into the Valley of Silence, and after such a jaunt we would go to sleep.

Frequently we went on skis to Bear Cape, six kilometres from the station. That name was given to it in 1914 by professor Vizy, a member of the Sedov expedition. He was working there and did not notice, at first, that a bear was coming toward him. When he did notice, he stayed calm and tried to scare the bear off by waving his skis and ski poles. This did not help. The bear kept on coming. The professor had a small Browning. He shot it and the unwanted guest ran away. Ever since, the zymovchyks have called it Bear Cape.

Two kilometres from Quiet Bay the plateau is cut by a deep gorge with steep, nearly vertical walls, the Valley of Silence, which was named by

Sedov's expedition. From the east it is blocked by a high, beautiful amphitheatre from which a little creek flows downward into the valley. In summertime, by the walls of the amphitheatre it is possible to find pieces of petrified wood, ancient driftwood brought there by the sea. Having been there for hundreds and hundreds of years, these pieces of wood had turned into coal.

On the first and the fifteenth of each month we weighed ourselves. Everyone's weight was entered on a diagram by the physician. During these days there was always a fresh topic of conversation in the dining room.

Some zymovchyks wanted to gain weight. On the evening before the weighing days they would look into the store room and eat heavily. However, it was effort in vain. Our magnetologist kept losing weight, and neither chocolates nor jam seemed to help.

The diagram of all our weight hung above the heater. The heaviest of all of us was Vladimir Ivanovich and he was in first place at the very top of the diagram. On the 15th of September his weight went right off the diagram. The physician had to prepare another one. On the 1st of December Vladimir Ivanovich had gained so much weight that he went off the diagram again. More work for the physician. In the long run, everyone gained weight. Ivan Nikolaevich gained thirteen kilograms during the zymovlia. All this resulted from fresh food and a healthy polar climate.

Every ten days we had a celebration which we awaited impatiently; it was the steam bath! For the water we melted ice or snow, which we took from the drifts right beside the bathhouse. Wind blows the snow so hard that it has to be cut with a hand saw. The next day, after the bath, we took turns, two of us at a time, doing the laundry.

During the polar night, every month the moon stayed on the horizon for eight to twelve days at a time. Beautiful halos could then be seen; a golden cross swept in a wide band, from top to bottom, widening at the horizon; at its sides were false moons.

The lowest temperature we experienced in winter was in February, when it was -43° C.

There were frequent fierce storms with winds up to 145 kph. In winter the wind usually blew from the east. It carried hard grains of snow, and flailed eyes and cheeks with them. It was very hard to walk against such wind, impossible to see, and it nearly bowled one over.

The wind howled wildly, the wires hummed, and the station was wrapped in semi-darkness. But work was not slowed a minute. Everything proceeded accurately and on schedule.

Connections with the Mainland

Our connection with the mainland was maintained by radio. Each zymovchyk could have sixty words of free messages per month. Any extra words were tracked by the bookkeeping office of

the Arctic Institute and would be dealt with at the end of the zymovlia. The radio operator in town would keep track of credit for each zymovchyk.

It was wonderful to receive news from the mainland. The radio operator always brought the radiograms at breakfast time. Everyone waited impatiently for his appearance in the dining room.

The radio connected us with the entire Union, so we did not feel isolated. The directors of the Leningrad radio, the Moscow Station, and those of other cities informed us of the latest news and attainments in the life of the Soviet Union.

As well, the Arctic Institute arranged radio communications with various polar radio stations, including our own.

These radio transmissions always took place after midnight. At the microphone were usually representatives of the Arctic Institute, the geophysical and hydrographical agencies, and other scientific organizations in Leningrad.

They shared with us the latest scientific developments in the Union and abroad, gave information and directions concerning our work, and transmitted our mail. Our families and friends also spoke with us.

After each such transmission our radio operator had a great deal of work, transcribing professional and private radiograms.

During the period of our own zymovlia there were two such broadcasts, both during the polar night. In summer it was much more difficult to

conduct such a broadcast because of frequent electrical interference.

It is interesting to reflect on an episode during the time of the first zymovlia in Quiet Bay 1929-1930, a conversation. between two poles, here described by radio operator Krenkel:

"On the 12th of January, 1930 at 11:40 pm I completed the evening report to Matochkin Strait, and decided to make the radio summons signal 'CQ-CQ,' 'Calling everyone, everyone.' I spent four minutes tapping out into the heavens the dots and dashes for CQ-CQ.

"Setting my motor to receive replies, I heard that some station was responding to my signal. I heard the call sign of the American government station. I was surprised because government stations don't usually answer the calls of weaker stations such as ours.

"The unknown station asked for our co-ordinates and to identify to whom our station belonged. I replied that our station was located in the heart of the Arctic, on Franz Joseph Land, and belonged to the first socialist country in the world.

"The response was, 'Greetings!' It soon became clear that I had established communications with the Antarctic expedition of admiral Richard Byrd. It was located near Ross Basin in Ross Sea. The geographic co-ordinates of their station were 78° 35' 30" southern latitude, and 163° 35' western longitude. The two poles of the earth were speaking to each other.

"The southern station said: 'Today is a summer day - only two degrees of frost. It is the end of summer. The ice is melting from the heat of the sun. A heavy cloud cover is making it difficult for air ships to take off.

"The expedition's ship, the City of New York, has passed the shores of New Zealand and is nearing the ice fields, in order to exchange the zymovlia crew. Our expedition has three airships and other machines, which are suitable for use in studying polar regions.

'We use powerful evaporators to obtain water from ice. Our main base is located on the Ross ice barrier. There are forty-two of us and we have lots of sled dogs. Our goal is to reach the South Pole. Recently one of our groups returned, having travelled 400 miles in the icy wilderness. Half a year ago we had a period of -60° frost. And how are things with you?'

"The station at Quiet Bay replied, 'At present it is pitch-dark night. There is a howling blizzard outside. There are seven of us here and we are all well and living harmoniously, like a family. We are in contact with the Soviet Union. Every day we send meteorological reports to the main geophysical observatory.

"The Leningrad Authority has on two occasions organized conversations through radio transmission. We have listened to the greetings of our families, children and close friends!'

"In the last response, the Antarctic radio station sent us greetings from an aviator who in 1928 flew over Franz Joseph Land while searching for Roald Amundsen.

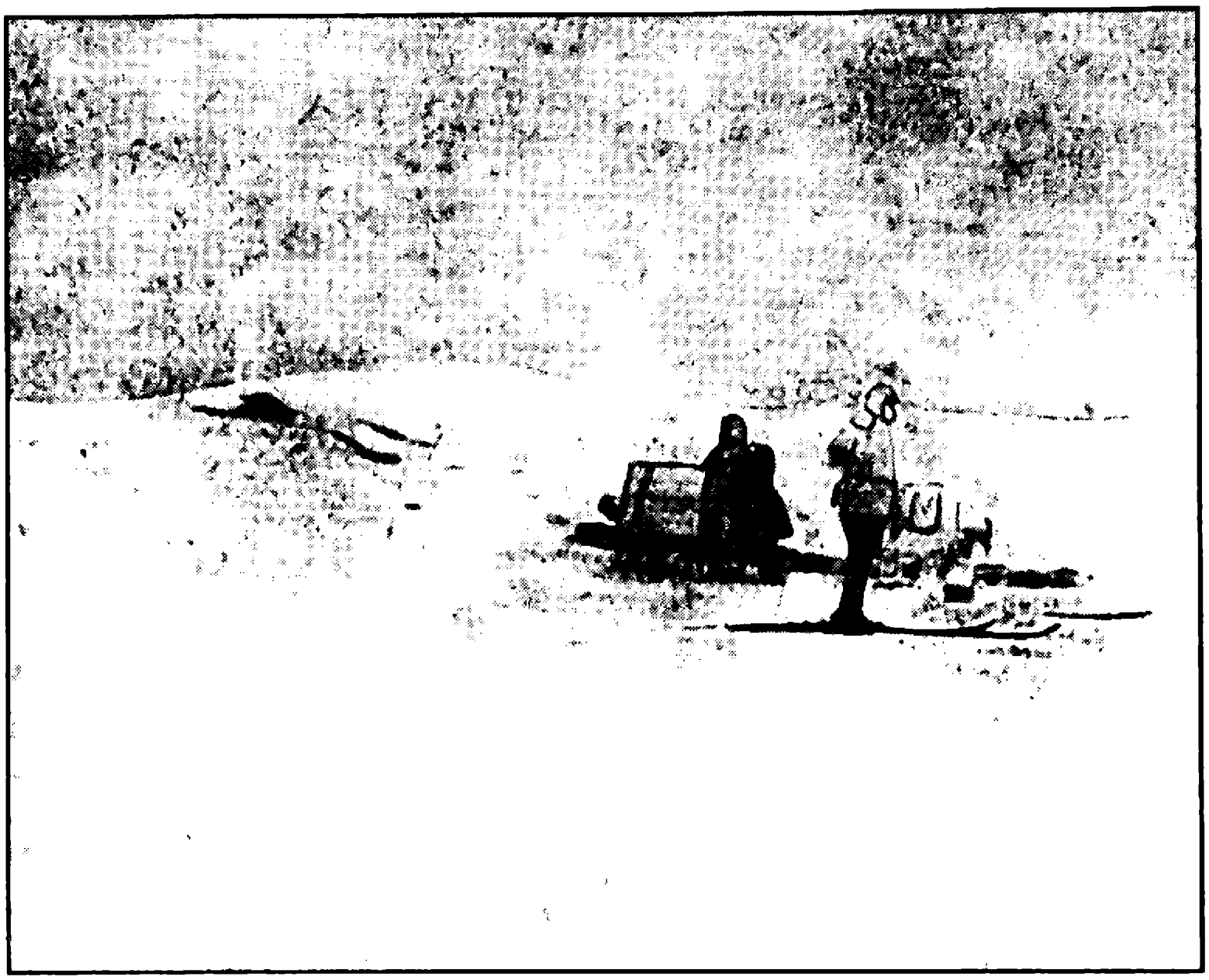
"After that the transmission failed. The strength of Byrd's radio station is 800 watts, the strength of the station at Quiet Bay is 500 watts and the distance between the two radio stations is more than seventeen thousand kilometres."

Comrade Krenkel broke the world record for long distance communication. Afterward he tried many times to contact the station in Antarctica again, without success. But it must be noted that short waves are very peculiar and unpredictable.

Since 1931 there has been an active radio station on Kamenev Island in Severnaya Zemlia. Thus far it has never managed to establish contact with the radio station on Matochkin Strait, and all its radiograms to that destination must be sent through the station at Quiet Bay.

Journey to Alger Island

In preparing for the journey to the eastern part of the archipelago it was essential to have a supply of meat for the dogs that would last them for at least a few days. We did not have such an extra supply at the station. So it was necessary for me, together with Comrade Nietzsche to travel to Cape Dundee for a hunt. We spent two days there and returned with nothing. It was impossible to stay there any longer, as the tent we took let snow



The remains of the American Ziegler Expedition on Alger Island

in so badly that every hour we had to go outside and shake ourselves free of it.

It was still before the return of the sun on February 20th, but it was time to think of the expedition to Wilczek Land. Along the way there, it was first necessary to establish food caches where, in the event of a successful hunt for bears, we could also leave the meat.

Bad weather did not allow us to leave before the 10th of March. Comrade Nietzsche and I travelled with two sleds. Beyond the Valley of Silence I had the first accident – my sled got stuck

among ice crags and by myself I didn't know what to do. My comrade, who was travelling ahead, returned with his sled and rescued me from the unpleasant situation.

Beyond Lewis-Puill Cape our route lay among ice crags and hundreds of hillocks and dips. Toward evening we arrived at Jefferson Island, travelled along the bottom of it and camped on the northern side. We had to set up the tent on the ground where there was almost no snow. It was impossible to sleep that night because of the intense cold – reaching to -39° C. I spent the night walking around the tent keeping watch. Before sunrise there was a beautiful panorama on neighboring Nansen and Pritchet Islands. After breakfast I stayed in the tent while Comrade Nietzsche took a gun and travelled toward Nansen Island. He returned after lunch without anything. We had to spend another night on Jefferson Island. The prospects for successful hunting seemed poor, so we took down our tent and drove toward Alger Island.

Along the way we came to the southwest headland of Pritchet Island. The book "Hunters and Hunting in the Arctic" indicates that this place was visited in August 1909 by the Belgian expedition of the Duke of Orleans. Here, on the shore, the Duke of Orleans noticed scattered boxes. This was a supply base for Baldwin's expedition. The boxes had been covered with stones, and two logs were placed alongside to

indicate that there lay a supply cache. We took one tin to determine whether or not the food was spoiled. After tidying up the supply cache, we travelled along the bottom of Pritchet and Bliss Islands to Alger Island.

Travelling on even ice was easy but beyond Bliss Island we encountered a wide stretch of ice crags. The dogs became so tired heading through difficult terrain that they barely made it to the island. There we set up camp on the ruins of Baldwin's zymovlia site, S.E. Camp Ziegler. The building was all snowed in so we dug it out. We climbed in through the windows and roof and dug out the snow inside. The place was filled with snow nearly to the roof.

Baldwin's expedition had planned to reach the North Pole but did not manage to do so. The scientific findings of the expedition were also of little significance, and yet the expedition was extremely well equipped. They had fifty-one men, four hundred and twenty dogs, fifteen ponies and sixty sleds.

The failure of Baldwin's expedition may be explained by the lack of agreement among its American and Norwegian participants. The ship America wintered near Alger Island and returned from Franz Joseph Land in 1902.

In 1904-1905 two members of Fiala's expedition wintered there. At the beginning of the polar night Fiala with several expedition members walked from Flora Cape to Warmsprings Bay. The

journey was very difficult. Fiala nearly died in a crevasse on a glacier on Hooker Island. The sailor MacEarnen froze his toes so badly that he could not go further and was obliged to overwinter in the Baldwin expedition camp on Alger Island.

Reilly, an officer of Fiala's expedition, remained with him. There they both spent the polar night and were in good health in the spring. However, the long polar night proved difficult for them; they got on each other's nerves so badly that they went for days at a time without speaking to each other.

In 1914 Professor Vizy, a member of Sedov's expedition, returned and prepared a survey of the route between Hooker and Alger Islands, leaving a notice in both Russian and English about the state of Sedov's expedition.

Next day we travelled on both sleds to Negri Gulf. Following the coast of Hall Island, we noticed a yellowish patch among the ice crags in the bay. It was a bear. When it saw us, it immediately hid among the crags. I stayed with the sleds and Nietzsche, with a few of the dogs went after the bear. There was a considerable distance between the sleds and the bear. It ran very fast. It was difficult to pursue it among the crags and the crevasses – all the more so because the dogs didn't notice the bear for quite a while. It hid itself away.

The next day we also had no luck and returned to Alger Island in bad humor. It was time to return home. However, near Mathilda Island I

saw a bear with two cubs. We sicked the dogs and they ran toward the bear with all their might. My partner's sled got stuck against a crag, so only my dogs sped after the bear, and she ran very fast. Getting ready to shoot I dropped the reins and had to make some acrobatic moves to retrieve them. The bear approached an iceberg. She nudged her cubs with her snout as if signaling them to run to a familiar place, and off they went.

She, herself, climbed the iceberg and watched her children from its height. My Germanka got unharnessed. I turned the sled upside down, unharnessed a few dogs, grabbed my gun and took aim. Alas, it got stuck. I reloaded it, tried again, but nothing happened. Before me was an interesting picture: a fifteen metre high iceberg with two humps on top, and between them, as if in a window, stood the bear. Paying no attention to me and the dogs, she only watched out for her children. I had no choice but to wait for my partner. He appeared after half an hour, and shot the bear, who tumbled down fifteen metres. We skinned her and took the meat back to Alger Island. There we cut it into pieces, froze each one separately, stored them in zinc boxes, spent the night and left for home.

Travelling from Alger Island along the ice we decided to stop by a labyrinth of icebergs near a cliff, which we named The Monk. The dogs needed a rest. Comrade Nietzsche put a plug of tobacco in his mouth and started chewing and I talked about

our forthcoming trip to Wilczek Land. Afterward, I decided to take a look behind the iceberg where we had stopped. It was a long iceberg, approximately twenty metres.

At the end of the iceberg I saw a bear's head peering out. It was looking in our direction. As soon as it noticed me, it started running toward me full force. I turned and yelled "Fritz! Bear!" We had discussed such possibilities and our agreement was that if they happened, Fritz would grab the gun and I would hold the dogs.

Fritz wounded the bear in the left leg. It jumped, then turned around and charged straight for the dogs. I managed to unharness Svatia and Maria. They ran after the bear and Fritz followed them. I stayed with the sleds. With my bare left hand I held the metal harness lead of eighteen dogs, and in my right hand was a whip, in the event the bear charged me. In about ten minutes Fritz returned. The bear was killed. Fritz skinned it and I helped him, holding the paws apart. At a temperature of -21° and in a strong wind this was not easy work. In an hour the meat was loaded on the sleds and we returned to Ziegler. Here we repeated the same procedure as yesterday.

In the morning we left for home. We no longer wanted to encounter bears, only to hurry back to the station. On the way back we saw the tracks of the two bear cubs who had walked back and forth in the place where they had left their mother. Around 7 pm we came to the Lewis-Puill

headland on Hooker Island. Coming toward us, some 100 metres away, was a bear.

The dogs were either too tired, or perhaps the wind prevented them from smelling the bear. However, as soon as we unharnessed them, they took off after it. Fritz followed the dogs. He returned after two hours.

The bear was killed and was lying on an iceberg some five kilometres away. Running away from the dogs, it had climbed up on the first available iceberg.

We continued. Near Markham Cape the dogs were so tired we had to take a rest break after every kilometre. It took five hours to travel sixteen kilometres from Lewis-Puill Cape to the station.

The last days of March and the first ten of April were spent making preparations for the expedition to Wilczek Land.

Off to Wilczek Land

April 10th

From early morning we were busy loading the sleds. On mine we placed the boxes with the instruments and food, a can of kerosene, the stove, a bag with bedding, a reindeer hide for a mattress, and a sovik, an outer garment with a hood and hair on the outside. At the side of the sled I strapped a gun, and in a case at the back, the odometer. The load weighed 300 kilograms.

The other sled was less heavily loaded, as on it would ride Kostia the aerolog and Stepan the

mechanic. The sled was loaded with a tent, footwear, an axe, two bags of bedding, two reindeer hides, two soviks, spare harnesses, one bag of food, eighty kilograms of meat for the dogs, sufficient for four days, and two guns. All the goods were carefully tied down.

The dogs were barking in their house, suspecting a long trip. Only Uralka played freely behind the dog house and the station. Two days before our departure she refused to enter the doghouse or to allow herself to be caught, even avoiding tempting offers. Clearly, she had a premonition that preparations for an expedition were under way.

Vladimir Ivanovich prepared delicious pastries for breakfast, made us hot café au lait, and gave directions for the road. Stepan must bring him a souvenir from the camp of the American expedition financed by Ziegler, and I must bring back some interesting stones.

After breakfast we laid out the harnesses and started hooking up the dogs. We used the fan-shape of harnessing that the Nentsy use. No one person can harness the dogs alone so our friends helped us. Each dog was led out of the doghouse on a leash. Milka, the leader of my dog team, came to be harnessed willingly. At my call she ran over and sat down by her place in the harness. Milka was a very intelligent dog and she realized that she was the leader. Grom had to be woken up and led out. He was deaf and heard nothing. He was

followed by Bourgeois who nearly bit me while I put the collar around his neck. Ivan Nikolaevich and Vladimir Konstantinovich stood beside the sleds to prevent the dogs from tangling their harnesses. Such tangling of harnesses happened tens of time every day of our journey.

Stepan spent all morning at the radio in the radio shack, checking over every bit of the equipment from all sides. He gave detailed directions to the radio operator who would have to perform a mechanic's duties as well as his own during the whole month of his absence.

"A bear with cubs in the bay!" shouted Stepan from the veranda of the radio shack. The whole station was in a turmoil; such excitement for the hunters!

Fortunately we had finished harnessing the dogs, so our helpers were free to participate in the hunt. Nikolsky ran ahead, followed by Stepan. Vladimir Ivanovich was the last, dragging a sled to carry back the quarry.

There was absolute certainty that the hunt would be successful; a female bear will never leave her cub. An hour later she was on the sled, near the bathhouse, with the tiny cub sitting beside her. It was no more than six weeks old. Our magnetologist Nikolsky undertook to care for it and be responsible for its upbringing.

At 10 am everything was ready. We shook hands with our friends remaining at the station. "Good luck, until we see one another again!" Then,

"Tprrr!" rang out the command. I lifted the back of my sled to help the dogs start. At this, they threw themselves forward and my sled moved ahead; after it the second sled also. By the bathhouse, the dogs tried hard to turn back. It took a lot of effort to persuade them to move in the desired direction. As soon as we were lost from sight behind Cape Sedov, where the station could not be seen any more, the dogs realized that we were not turning back, and things got easier.

Ahead of my sled, on the side of the trail sat Uralka. She was waiting for us. The dogs barked their displeasure that she was not in harness. But for the time being, there was nothing to be done. She was rejoicing in her freedom. We hoped to catch her at the nearest rest stop. This was very important for me as the dogs in my team were not strong and the sled was very heavy.

We crossed a row of cracks in the ice, stretching from Cape Sedov in the direction of Dead Seal Island. The sleds travelled swiftly over the hard-packed snow. Far to the left we could see the silhouette of Prince George Land. In front of it lay a row of colossal table-top icebergs. A wide zone of ice crags appeared. It stretched all the way to Markham Cape and went out far into British Channel. We had to traverse it because a detour was impossible.

Markham Cape stood out clearly with its vertical basalt walls. The black color of these cliffs was in stark contrast to its white surroundings.

Beyond Markham Cape we turned into Allen Young Strait. Our route went through newly-fallen powder snow. Travelling was not easy.

Suddenly the dogs threw themselves forward and turned to the left. Ahead of us something enormous sat on an ice crag. Only when we came nearer, to our great amazement, it turned out to be only a seagull. Such deceptive visions occur frequently in polar regions, and are caused by powerful refraction.

About 3 pm we arrived at Lewis-Puill Cape, the northeastern headland of Hooker Island. It was necessary to give the dogs a rest and to have lunch ourselves. Lunch would not be what Vladimir Ivanovich would prepare. Today it would be cold sausage and bagels. We would have hot food only in camp.

At our rest stop we realized that across the route we had to follow lay a great field of ice crags. Again, a detour was impossible. We had to walk alongside of the sleds, constantly helping the dogs to pull them over ice hummocks drifted over with snow. Stepan walked ahead of the sleds and the dogs followed in his footsteps, oblivious of their weariness. In his hands he had a lariat, always keeping an eye on Uralka who always kept out of his reach. Then he tried another method. He carved a piece of meat, snipped off chunks and laid them on the snow. Uralka approached them cautiously, aware of Stepan's plans.

Near Jefferson Island we stopped for fifteen minutes. It was a little rest for the dogs and Kostia had time to smoke a pipe. I tried to walk to the island to find our last month's camp. I couldn't reach it because there were many cracks in the ice and knee-deep water was coming through.

The road to Pritchet Island was good, even, and with hard-packed snow. The distance was not great – five kilometres – and we would reach our destination for this day. Right beside the island there was a lot of water on the ice coming in from Hamilton Strait.

"Lie down!" rang out a command and the dogs stopped. We hammered a pole into the deep snow, tied the reins to it and started to set up the tent. One after another the dogs lay down in the snow, huddled together in a heap. We stopped on the southwestern side of Pritchet Island, taking care to find a place with a lot of snow. We dug a pit one metre deep and 3.2 x 3 metres in length and width for the tent. The depth of the tent pit allowed us more room as well as the comfort of moving around without having to bend over. Besides, it was quieter here, and if need be, there was storage room. We piled snow around the tent, using snow blocks to hold down its edges. We used loose snow to chink holes between the blocks. In the middle of the tent we made a platform. We brought in the reindeer hides and bags of bedding which also served as pillows.

In camp each of us took turns being in charge of the cooking. We had a sufficient supply of kerosene and of methylated spirits. We carried matches in our trouser or breast pockets so that they would not get damp. To get them out of these safe places was not easy.

The first need of each was to have a drink of cool water. We started up the Primus and filled the teakettle with snow and chips of ice. After a few gulps of water the teakettle was set aside and a frying pan was set on the Primus. In it butter was melted and slices of frozen bread, sprinkled with salt and pepper were laid on the butter.

The bread, soaked in the butter, became soft. Then, we fried bear meat sliced thinly and frozen. Each had five or six slices of meat and two slices of bread. We made coffee or cocoa with evaporated milk and drank it with biscuits.

We always drank our coffee grounds and all because in twenty minutes after a meal, any solids would have frozen in the kettle. Once in a while instead of meat, we would heat up fish in marinade or fry some sausage.

After dinner we took out sacks with meat for the dogs, who knew our routine well. As soon as we appeared with the sacks they stood up, shook off the snow, wagged their tails and barked happily. We knew the character of our dogs; they attacked those who were weak, timid, or of another breed. Such dogs we tied beside the tent. They included Bourgeois, Smelyi, and Volchok.

After feeding the dogs we took the harnesses inside the tent and laid them by our heads, otherwise the dogs would chew up every bit of the tanned leather. When it was necessary to unload the sleds and store our goods in the tent we stood the sleds upright against a pole. Most of the time, however, we just took in the harness and covered up the sleds. If the meat was not packed in zinc containers, we took it into the tent.

In the tent we dried our wet footwear over the Primus, and next to our bosoms we carried dry footwear. It was cold but at least it was dry.

We felt sorry for our dogs and therefore we developed a habit of not discouraging them from coming into the tent. They soon realized this and the tent was always full of them. They lay down wherever there was a free space.

They even lay on top of us from head to foot. Sometimes our feet felt numb from their weight and the air was stuffy. Some of the dogs showed jealousy. Others, for example, Milka, knew their role in the team and demanded privileged places in the tent. Other dogs did not come into the tent, for example, Yushar, Seredja and Krivoy. Stepan's favorite, Bourgeois, lay beside him.

At 10 pm the sky was covered with clouds and soon after a gray fog appeared. The wind started up and was followed with snow. We had fed the dogs. Only Uralka lay down at a distance, her body twisted into a pretzel and her face toward the tent. Not one effort to approach her met with

success – she just ran away. For that day we had to give up the thought of catching her.

It was pleasant to sit in the tent after our day's work. Kostia smoked his pipe, Stepan dried his boots. We talked about our friends at the station, how at this time after supper they play Goat; and how Ivan Nikolaevich may be playing his favorite record on the gramophone: "Ah, Matriona is a fine woman." Outside the wind howled and inside the Primus hissed. We lay down to sleep. Only the dogs continued to search for a comfortable place and irritated one another both in the tent and outside.

When the weather permitted, we would rest six or seven hours and continue on our way. Whoever was on kitchen duty that day rose first and prepared breakfast, which was the same as dinner. Some dogs suspected we would be leaving soon and tried to sneak away from the tent before they could be harnessed. In the end they always let themselves be caught, but in order to save time we used to tether them somewhere near the sleds.

Leaving camp was not a simple procedure. No matter how we tried to economize on time it still took a minimum of three hours. We had to have breakfast, clean and carry out all our goods, load them on the sleds and tie the loads down well, harness the dogs and take down the tent.

11th of April

At dawn there was a heavy fog. We packed up and left camp at 11 am. We used the map to establish the azimuth (a means for calculating distance and direction) for Brady Island, made a note of the odometer reading, and took off. Bliss Island lies side by side with neighboring Pritchet Island. It wasn't hard to get there in good weather, but this day it was difficult. It was hard to orient ourselves throughout the day, as the visibility was no more than 200 metres. After travelling eight kilometres I took an east by northeast direction toward Alger Island. Stepan frequently left the sled and walked ahead, trying to tempt Uralka with meat. About 5 pm the wind briefly swept aside the clouds in the direction of Alger Island. This gave us a chance to see if we were on the right track, and we were.

We also took that opportunity to orient ourselves toward the farthest one of the row of icebergs before us. In five minutes the fog rolled in. We drove toward a high iceberg situated two kilometres north of Brady Island, where the bear had been killed during the March expedition. I could remember the forms and locations of some of the icebergs. At the iceberg we decided to give the dogs an hour's rest. We made coffee and enjoyed it with pastries.

We drove past Mathilda Island. Travelling over fresh powder snow tired out the dogs and ourselves. Every fifty metres or so we had to get off

the sleds and help the dogs over the hummocks. If we had not done that, the dogs would have stopped and it would have been much harder to start up again.

Two kilometres past Mathilda Island we stopped for a rest. All of us kept constant watch on Uralka and considered various ways of catching her. She lay down some twenty steps from my sled with her back to me, and her eyes constantly watching her enemy, Stepan.

I gestured to my companions that I wanted to take advantage of a favorable moment. Stepan stood by the second sled and kept his eyes on me. Kostia walked in a direction perpendicular to the sled. Uralka now had to keep an eye on both of them, and she was interested in Kostia's behavior.

I held my breath and crept toward Uralka as quickly as a cat, and threw myself at her, grabbing her by the throat. She tore the skin on my hand with her paw. Stepan ran over; she bit his hand. All this notwithstanding, Uralka was ours!

Kostia quickly passed us a halter and within minutes Uralka was once more harnessed to the sled. Not once did any one of us hit her. The dogs started sniffing Uralka and the first sled's dog team rejoiced!

We were off again. Uralka threw herself forward and the whole team raced after her. We drove toward S.E. Camp Ziegler, the place where a month ago Comrade Nietzsche and I spent three days getting a meat supply for the dogs for the

next trip. The dogs sensed that we would soon be camping again and moved quickly toward a site with which they were familiar.

It was after midnight. The clouds were dissipating and to the south of us we could see the silhouette of MacClintock Island. We arrived at camp at 2 am on April 12th. The ruins of the zymovlia camp of the American Ziegler expedition were drifted over with snow. The snow had buried the tent pegs that we had left a month ago at the corner of the camp. We had to spend an hour cleaning out the entryway into it. Aside from the tent, we carried all our things into the building. We carried out our firmly established routines, and lay down to sleep after 5 am. This day it was a bit easier to sleep and we did not wake up until after 2 pm. There was a blizzard outside which did not quiet down all day. For two days it was impossible to travel; it was necessary to wait for better weather.

April 14th

In the evening the wind died down. We quickly loaded the sleds, left behind some of the food, and took off for Hayes Island. The weather was cloudy but the visibility was adequate. Before us were the outlines of the western shores of Hall Island. We needed to cross its northwestern corner. The road was easy as the snow was hard-packed everywhere.

Only a kilometre away from the western side of Hall Island, there was a three-kilometre-wide stretch of ice crags coming in from Negri Strait. All maps of the northwest part of Hall Island indicated that it was covered by a glacier which descended steeply into the sea.

Our expedition established that so-called Wiggins Cape on Payer's map was a low bank, covered with pebbles, where there was no snow at all in the summertime. The snow-free ground included a triangle, six kilometres in length, formed by the west and north sides of the island.

After crossing Hall Island we needed to drive another sixteen kilometres toward the southeast headland of Hayes Island. Five kilometres beyond Hall Island we saw a bear near a precipice on an island on the right side. Stepan and Kostia took Yushar and Svatia and went after the bear while I stayed behind with the sleds. The bear was killed. Kostia came back to the sleds and we drove to the bear which Stepan was already skinning.

Next day we took the hide to Alger Island and returning from there, took the meat to Hayes. We were near to Hayes Island, perhaps four kilometres away. We gave the dogs a rest and Stepan went ahead on skis to find a campsite. After half an hour we started out again. After less than a kilometre we were met by two bears. They raised their heads in surprise and sniffed the air but the wind was blowing from their direction toward us. Not changing direction, they peacefully

kept on walking. Kostia took two dogs and I remained with the sleds. The dogs barked loudly; apparently the bears had never seen either dogs or humans and did not realize they were in danger. Only when Kostia wounded one of them did they start running away.

The dogs chased them and the gun did its work. Kostia returned and we drove up to the dead bears. One of them was old but the other was only three years old. Stepan returned, tired of waiting for us, and helped us to skin the bears.

It was 7 pm. I made meteorological observations. The temperature was -27.8° C and the strength of the wind was 15 kph.

We left the bear hides and meat, and made our way to Hayes Island. There we set up our tent, had dinner, fed the dogs and went to sleep. When I came out of the tent in the morning, I did not see Uralka. She was lying off to the side, a few paces from the tent, sunning herself. Walking past her, I turned back swiftly and grabbed her by the collar. She had been tied up on a leather leash and during the night had chewed it through. After that we tethered her with a chain.

On Alger Island we had cached meat and a can of kerosene. I needed to get there. Kostia went with me and Stepan stayed with the tent. His guard dog was Sava.

The dogs sped swiftly along a familiar route, especially since the sleds were unloaded. Along the way we picked up the bear skins. Beyond Hall

Island, right after the stretch of ice crags, among a huge collection of icebergs I noticed a yellowish patch on one of them. It was a female bear. She was looking around and sniffing the air in our direction. Below the iceberg a little cub sat waiting for its mother. They may have been hungry, wandering in the icy wilderness where there were no breaks in the ice. It was still too early for seals. We released a few dogs and they dashed for the iceberg. The bear ran down from the iceberg and together with her cub they ran fast toward Markham Channel. We returned to the sled. We arrived on Alger Island at 7 pm, fed our dogs, rested five hours and returned the next day. Along the way we picked up the bear meat.

Stepan was waiting for us by the tent. While we were away he had made a reconnaissance of our route to Wilczek Land; it did not promise to be an easy journey.

April 17th

At 11 am we started crossing Austrian Strait on our way to Wilczek Land. Near the southeastern headland of Hayes Island and beyond it was a great stretch of ice crags at least six kilometres wide. The snow was fresh and wet, making travelling difficult. Added to these problems there was yet another.

Powerful tides in Austrian Gulf had broken through the ice crag field, leaving giant cracks and polynias. These were covered with a thin layer of

snow. There was also a lot of meltwater covered with a thin layer of ice which kept breaking under the sleds. Of course the water not very deep, only up to forty centimetres, but feet stepping into it got soaked right through.

My Swedish sled had wide runners and was better able to get through such water. But it was more difficult for the other sled, which was shorter and narrower. Stepan took a stick in his hand, and walking ahead of me prodded the snow to test for firmness underneath.

We followed one another very closely so that we could give quick help in case of an accident. Our dogs were impatient to move when someone was ahead of them but they must stay in one place and wait for the command "Tprrr!" Hearing it, they lurched forward to catch up with Stepan.

April 18th

At 5 pm we drove out upon a beach. This surprised me, because according to the odometer this could not be Wilczek Land. Here and there we saw small basalt outcrops. We travelled down the beach and descended onto the ice again.

After three kilometres we came to another island. The weather was foggy and visibility was minimal; it was difficult to orient ourselves. One thing was clear: before us was a group of islands which did not appear on our maps.

Suddenly, unexpectedly, our dogs smelled a bear behind the island. They wanted to go straight

across the island but it was steep and rocky, so we had to go around. Then we saw a bear with a cub.

Stepan jumped on my sled and Kostia stayed behind on his. The tired dogs, who were barely managing to pull the sled, now ran with all their might, despite Stepan's extra weight. Some thirty paces from the bear I stopped the dogs. As usual they raised up a crazy barking.

The bear was killed and Kostia drove up. We skinned the bear, loaded the sleds and drove back to the previous island. There, we set up the tent on its eastern side. On the western side we were sheltered by a rocky ridge.

It was my day for kitchen duty. I had barely finished frying the meat when once again there was wild barking. Stepan ran out. Some thirty metres away we saw a huge bear heading for our tent. Stepan grabbed a gun and in a few seconds the bear lay on the snow. Kostia's dog team had broken out of their tether and they had rushed toward the bear. Fortunately, he was shot before he could dispatch the dogs. I quickly fed our hunters, as heavy work awaited them, skinning the bears and cutting up the meat.

After dinner I tidied up the tent, rearranged the loads on the sleds, fed all of the dogs, and lay down to sleep. Stepan and Kostia soon came in also. They buried the meat deep in the snow. While we were sleeping the dogs tried to uncover the cache but they did not manage to reach it.

We woke up at 10 am. Outside it was foggy and windy. Ahead of us lay a difficult trip. Yesterday I had taken advantage of a brief break in the fog to make a sighting of Cape Heller and planned our approach to it. We had to reach it today. We had to hurry because the days were passing quickly and there was little time left. The transporting of food and the storm on Alger Island served to limit the time we could spend here.

We were determined to reach Wilczek Land because it had never been visited by a Soviet expedition. We planned our route slightly to the right, closer to the coast of Wilczek Land so that we could drive along it to Cape Heller. In a storm it was best not to go straight across because it was too easy to lose the way.

Immediately after the new islands there began a stretch of ice crags. There were cracks in the ice everywhere, some wide, some narrow; all had drifted over with snow. The wind became stronger, blew straight into our eyes, froze our cheeks. Snow started falling. It was impossible to see a sled more than twenty paces away. I kept looking back for the second sled because the snow covered my tracks immediately.

Wilczek Land broke into the sea with a steep glacier wall. In places along the shore, water had recently overflowed and covered large areas.

After eight hours we arrived at Cape Heller. Here the outline of the shore was bow-shaped. In the distance a great basalt wall reached far out to

sea. It was connected to Wilczek Land by a narrow isthmus. At the base of the Cape lay dark stone structures made by human hands. We guessed that they were the remains of Fort MacKinley from the time of Wellman's expedition.

The expedition of the American journalist Wellman was financed by the American Geographical Society. The purpose of this expedition was to explore Franz Joseph Land, especially its eastern region, to reach the North Pole if possible, or at least to set a record for reaching a high latitude.

Wellman's expedition consisted of four Americans and five Norwegians. It arrived on Franz Joseph Land in 1889 on the polar steamship Fridtjof. It stopped at Flora Cape on Nordbrook Island, took one of the sheds of the Jackson expedition, and settled for the winter on Cape Tegethof on Hall Island.

The ship returned to Norway that fall. A party under the leadership of the meteorologist, Baldwin, built a storage depot. It was located on the western shore of Wilczek Land at Cape Heller, some eighty kilometres from the zymovlia camp of the expedition.

In retrospect it seems obvious that the depot could not have helped Wellman in the extensive travels he had planned. The depot they built was named Fort MacKinley. Two Norwegians, Paul Bjervik and Berndt Bentsen, would remain there for the winter. The fort was a hut built of stones,

walrus hides and pieces of driftwood. There the expedition left approximately a tonne of food supplies, a sled, boats and forty dogs.

Both Norwegians had experience in Arctic expeditions. Bjervik had participated in Wellman's expedition to Svalbard in 1894, and Bentsen in Nansen's expedition on the Fram. The two Norwegians were obliged to spend the polar winter here under harsh conditions.

Near the end of February, when the sun finally reappeared, Wellman prepared for his expedition to the North Pole and arrived at Fort MacKinley. Bjervik told him about the tragedy that had happened during the polar night. In the fall, Bentsen became ill.

Despite all the care that Bjervik gave him, his health deteriorated day by day. He died on the 2nd of January, 1899. As he lay dying he pleaded with Bjervik not to bury him during the polar night. He feared that his body would not be buried deeply enough and that it would be found by polar bears and arctic foxes.

Bjervik kept the promise he made to his dying friend.

Walking into the hut, Wellman saw two sleeping bags. In one of them lay the body of Bentsen, completely frozen into the bedding.

Bjervik, the lone living occupant of the fort, slept side by side with his dead companion. His only joy was the dog team in his care. Wellman noted that the difficult circumstance which forced

Bjervik to live the second half of the polar night alone, beside a dead companion, seemed to have little effect on him. He appeared normal, only somewhat inclined to nervousness and to complaining about insomnia.

The next day they buried Bentsen's body. Bjervik, his faithful friend, spent a long time working on the grave, paying no attention to the strong wind and a temperature of -42° C.

Our expedition set up our tent near Bentsen's grave. On it Bjervik had laid a basalt flagstone. The cross on the flagstone did not have a crossbar, since only Orthodox faith crosses have a lower, smaller crosspiece. The date on it could be easily read.

Within twenty paces from the gravesite were visible the remains of the fort, a four-cornered foundation made from basalt blocks and two pieces of driftwood.

Our recent experience had taught us to take turns watching for bears, and this soon proved to be the right decision. No sooner had we started lunch when Stepan shouted for Kostia and they both took off after the bear which had come very close to the tent. It ran into a nearby polynia where a bullet finished it. We pulled it out of the water and there was more work for Stepan and Kostia, and a supply of meat for the dogs.

The ice situation around Cape Heller was similar to that around Hayes Island; everywhere there was broken, corroded ice and many

polynias. Frequent snowstorms, fog, poor visibility, all these were impediments to the work of the expedition. Besides all that, our supply of bread was running out and other food supplies were also diminishing. We decided to return, but first to undertake the survey of the newly discovered islands.

Komsomol Islands

This group of islands in Austrian Strait does not appear either on Soviet or on American maps. They lie at a position from 80° 41' to 59° 03' E. from Greenwich.

A comparison of British Admiralty maps with our own indicates that the earlier entries, based on old materials, were not accurate.

The contours and location of a whole group of islands, as well as their names, were incorrect. On the English Hayes maps there was an incorrect location of islands which, in reality, lay near Hall Island. The large Hayes Island, shown on our maps, did not appear on theirs at all.

The group of four islands discovered by us in Austrian Strait I named the Komsomol Islands. The location of these islands was determined with the help of the odometer, the indications of the geological compass and by pacing.

During the time of our travels in the eastern part of the archipelago the weather was cloudy and foggy, which made it impossible to use the sextant, which is a marine instrument used in the

determination of the height of the sun above the horizon, essential for the determination of geographic latitude and longitude.

The coastline of the northern island measured three kilometres. It ran northwest to southeast, sloping downward toward the west, and breaking off steeply on its eastern side.

The northern end of this island was more rounded and consisted of two flat-topped humps of different elevations. One was twenty-one metres and the other seventeen metres above sea level. The south end of the island narrowed into a rocky esker. A little islet lay one hundred and twenty metres away.

Three kilometres to the southeast lay the largest of the Komsomol islands. It was narrow at its northern end and widened toward the south. In some places, it ended in rocky ridges which continued into the sea. It tended to slope toward its western shore. The height of the island was sixteen metres above sea level.

Travelling around the periphery of the Komsomol Islands group I observed and made note of a powerful current in Austrian Strait. Near Cape Storm there lay a huge polynia. From it a strong current flowed over the ice field and created many cracks and deep pools of water.

It was important to point out that in the northeastern region of Franz Joseph Land it was possible to come upon groups of little islets. They were not visible from a distance and it was

necessary to come right up to them before they were seen. From Hayes Island we could clearly see the contours of the coastline of Wilczek Land, but we did not see the Komsomol Island group which lay nearer to us. The snow on the sea ice and on the islands blended into one visual impression.

I completed the survey of the Komsomol Islands in two days. Survey work was hindered by a snow storm. The wind blew with a strength of not less than thirty-six kph. Snow flying into our eyes felt like sand. It was difficult to manage the dogs, and even worse, using bare hands in the cold to work with the compass and the odometer. The temperature went down to -27° C. With the wind-chill, such cold seemed to go straight through us. Kostia and his dog team remained with the tent and Stepan travelled with me. After finishing, we quickly returned to the tent. There we could warm up, dry our footwear and eat.

Return to Quiet Bay

On the 25th of April we packed up our camp and travelled to Hayes Island. The route was a familiar one, but it was impossible to avoid the craggy icefield with its cracks and polynias.

We headed for the very middle of the island hoping against hope that the icefield would be narrower in that direction.

But that did not help. Stepan, as before, walked ahead, with a stick in his hand, grasping the ice for a safe passage. In one place he broke

into the water. Grabbing hold of an ice crag, he pulled himself up before I could reach him. He immediately changed into dry pymy and lenty, and in half an hour we were off again.

We arrived on Hayes Island. Its eastern and southeastern coast rose fifty metres above sea level and dropped steeply down to the sea. On the plateau the snow was two metres deep. Below the cliffs stretched a narrow terrace full of stony material sloughing off from them.

Stepan went across to our former campsite while Kostia and I drove along the beach. Four kilometres west of its southeastern promontory the coastline of Hayes Island became less steep. There, in a low spot we pitched our tent.

Next day I went to the interior of the island. Contrary to the maps, the eastern side of the island was not glaciated and during summer there would be no snow there. In April there already were significant stretches which were either free of snow or covered by only a thin layer of it.

On the west side of the island there loomed a tall mountain covered by a glacier.

Across the east side of the island stretched two basalt ridges, one rising to sixty-five metres above sea level. With their sharp edges they stood out strikingly in the sandy terrain and gave one the impression of mountains in miniature.

I did not get to the northern shore of the island. However, looking at it carefully through binoculars, I came to the conclusion that it, also,

was not glaciated, but resembled, to a significant degree, the eastern coast.

From Hayes Island, we travelled to Alger Island. There we left a little canned meat, kerosene, and some candles in Baldwin's former camp. On the 27th of April we travelled on.

On this day there was a peculiar fog in the air, full of diffuse light. The snow was unbearably bright and hurt the eyes. During other days, when the weather was bright, the reflection of light upon snow did not bother the eyes unduly. Tired eyes could have a rest looking at the blue sky. But on this day, even with sunglasses, the diffuse light came in from the sides and hurt.

At 8 pm we set up camp on Bliss Island near a high cliff. The top of the island was covered with a glacial cap and steep cliffs were covered with snow. Headlands and cornices gave the island the appearance of a fortress. Only here and there underneath the blinding white cornices could the black basalt ridges be seen. On the cornices sat large white seagulls which often came here from Quiet Bay. No other species of gull was seen here, only those.

On the 28th of April we left at 10 am. Steve went ahead on skis and Kostia and I followed him. Right from early morning the barometer predicted bad weather.

We travelled three kilometres when a squall hit, and the air was all snow. It was impossible to see anything and difficult to orient oneself.

I tried to keep driving but went off track. I stopped and placed the sleds side by side. The dogs got into a huddle and we sat on the sleds with backs to the wind, looked at the barometer, and waited for a change in the weather.

After an hour and a half the squall quieted down. We carried on. Past Jefferson Island we came to a stretch of icecrags. Another squall came. We stopped again, waited it out and took off again. A south wind blew and snow was falling. Visibility was not more than fifty metres. I calculated the azimuth on an iceberg which seemed far away from me. But, wonder of wonders, after two or three minutes, I was beside it! I took the compass out again but that was no way to travel, stopping every fifty metres. The wind, for the most part, was blowing from one direction, so I decided to orient myself by the wind. It blew me in the face, from the left side, at an angle of 60° to 70°. And that was my azimuth.

Ice crag followed ice crag, with a lot of deep fresh snow which the wind had not blown into solid drifts as yet. I put on sunglasses, but they steamed up and I couldn't see the dogs. So I travelled without using the glasses.

Being on the first sled, I had to search out the route. Vision was constantly strained; I had to look in all directions, watching not to lose the second sled. The dogs did help by barking furiously if they sensed a problem, especially Yushar. When I heard that barking I knew that

Kostia had either entangled on an ice crag, or had to stop to straighten our Belka's harness.

We had to be careful not to pass Hooker Island and wind up in British Channel, bypassing Quiet Bay, and arriving at Prince George Land!

We had to stop often to give the dogs, and ourselves, a rest, because making our way among the ice crags strained every muscle. We had to help the dogs constantly, lifting the sleds with poles, skinning our shoulders. We had to help the dogs haul the sleds over snowdrifts, yelling encouragement the whole time.

The dogs frequently tangled their harnesses and jumped out of the traces, which had to be put to rights immediately. At times this could be done with a pole, out of my sled. If that were not possible, I had to get out to do it; otherwise a dog's leg would get chafed and it would not be able to stay in harness. The dogs were used to having their traces straightened; as soon as one was tangled, the dog would look at us for help.

The dogs pulled slowly. Milka, the leader, barked and howled in various tones, encouraging the others to pull. But in the end, even she was too tired to go on. She stopped and all the others stopped with her.

We rested.

Then we kept on going, orienting ourselves by the wind. For greater assurance and safety I kept bearing a little more to the left. At last we reached Hooker Island. We were not far off course.

We arrived only one kilometre to the left of Lewis-Puill Cape which was our destination. I remembered well that close to the Cape there was a crack in the ice that we would not be able to avoid. But the ice was covered in snow and we could not see it. Suddenly six dogs were in the water. Swiftly, with the help of a pole I jumped over the crack. I grabbed Uralka by the collar and shouted "Tprrr!" The dogs lunged forward and the sled was pulled across the crack. It turned out that I had approached the crack at an oblique corner. Elsewhere it was almost two metres wide.

Kostia arrived with his dog team. He stood at the edge of the crack, a little above where I had been and threw me the reins. I shouted "Tprrr!" and ran ahead with the reins. The dogs swiftly crossed the crack without mishap.

We kept going. I laid the reins on top of the sled and straightened the baggage. The dogs leaped forward. I didn't manage to catch the reins; they fell on the ice and dragged along. I yelled at the dogs, but in vain. They ran toward shore. I realized immediately why; we had stayed two days on that spot at the beginning of March, and the dogs were anxious to get to a familiar place. But near the beach there were colossal crevasses and the edge of a glacier. "The dogs will be lost," I thought, running after them, almost grabbing the sled. I fell into a crack, got out again, ran after the sled, nearly out of strength. I fell on the ice with outstretched arms, grabbing the reins in my

hands. The dogs stopped, and I lay sprawled, a magnificent physique in full attire!

From Lewis-Puill Cape to Markham Cape there was deep fresh snow and a lot of water on the ice. We stopped to rest after nearly every kilometre. The dogs were so tired.

We turned toward Markham Cape, travelling through the last stretch of craggy ice. It was two o'clock in the morning April 29th.

My eyes hurt and it was difficult for me to see. I could not distinguish between snowdrifts and level places, where, in that jumble of ice blocks it would have been easiest to pass. We were all tired and decided to unharness the dogs. It was five kilometres to the station. Kostia remained with the sleds to make sure that the dogs did not chew the bear skins. Uralka and I walked to the station to summon Vladimir, Kostia's brother, to come for him.

My eyes hurt. I was overtired that day and longed to sleep. I wanted to sit down for a minute, just to rest. But I was sure I mustn't do that. My eyes were sticking together. It felt as if the air were full of smoke, but I couldn't smell it. My feet refused to work. I feared that I might fall asleep standing up. I summoned my last bit of strength.

At Cape Sedov I walked onto the beach, counting my steps out loud. This road was very familiar to me, as I had walked it dozens of times from the station and back again. I could see Rubini Cliff, the station mast, and the radio

shack. The station was sound asleep. Uralka was walking by my side. When I stopped, she stopped. She was so nonchalant today. Why didn't she rush off to the station? Eight hundred paces, eight hundred and one, nine hundred.

I reached the station at six o'clock in the morning. It was warm in my room, as they had heated it up. The air in the room was like smoke, only it didn't smell like smoke. My eyes hurt and tears were dripping down.

I started undressing but didn't finish. I fell asleep. And beside me, on the floor, lay Uralka.

I slept till lunchtime. My eyes seemed better. After lunch Vladimir Konstantinovich and I took a dog team each and went to get the sleds. We were back in an hour.

In twenty days the expedition had travelled 430 kilometres.

In reviewing the work of our expedition to the eastern part of Franz Joseph Land the following achievements must be noted:

1. Discovery and mapping of the Komsomol Islands group in Austrian Strait.
2. Corrections made in the mapping of Hayes and Hall Islands.
3. Determination of the presence of powerful tides in Austrian Strait.
4. Established that the eastern region of Franz Joseph Land was not adequately explored.

On April 30, from the early morning, my eyes brimmed with tears. They felt as if they were

full of sand. After lunch I closed my window to darken the room and placed a cold compress over my eyes. I spent the first and second of May lying down. At meal time I wore dark glasses, ate quickly and returned to the darkened room.

On the third of May, my eyes stopped hurting. I was able to go outdoors, but wore sunglasses for a long time.

The Polar Day

It was near spring. Twilights had returned, and soon the sun would reappear. We were happy that this would happen. Everyone could hardly wait. And they got on my nerves asking me several times a day about the height of the sun below the horizon. I had to check out the position of the sun below the horizon every three days. I hung a diagram above the heater, beside the vitamin diagram and the diagram of our weights.

Long and unbroken darkness weakens health and affects the emotional health of people. It affects the condition of blood and the work of the body's organs. We had fresh food, so that none of us suffered from scurvy; nonetheless, toward the end of the polar night, we were all pale. Most of us complained of chest pains, and all of us felt more or less nervous. A few of us suffered from insomnia which resulted in greater nervousness. There were no other illnesses at the station. We all had an excellent appetite and each of us had gained weight by the end of the zymovlia.

The sun rose on February 22. We had all gathered on the plateau so we could see more of it, but it stayed only a few minutes, then disappeared. However, twilight lasted until 3 pm. Venus could be seen above the southern horizon between 10 am and 3 in the afternoon.

Shortly after the reappearance of the sun, the first birds arrived. They were the guillemots. They sat on the black edges of the basalt cliffs, and once a day they flew south, where there were polynias, to feed. The birds brought variety into the life of the zymovchyks; their never-ending cries were a delight to us. We were glad also that now we would not be short of meat for the dogs. Every day brought more and more birds. Their voices resounded from Rubini Cliff, where there was one of the very largest bird bazaars, or rookeries, in the vicinity of our station.

We had several sub-species of gulls and auks, puffins, fulmars, murres, and loons. The loons swam and dove beautifully. From Rubini Cliff we heard their cries, similar to laughter. Whole flocks of guillemots soared in the air, flying above the cliffs. The last to arrive were the eider ducks who nested on Dead Seal Island. Geese nested on Scott-Keltie Island around the lake.

In early April snow-buntings arrived, and a little later on, snipes, both land birds.

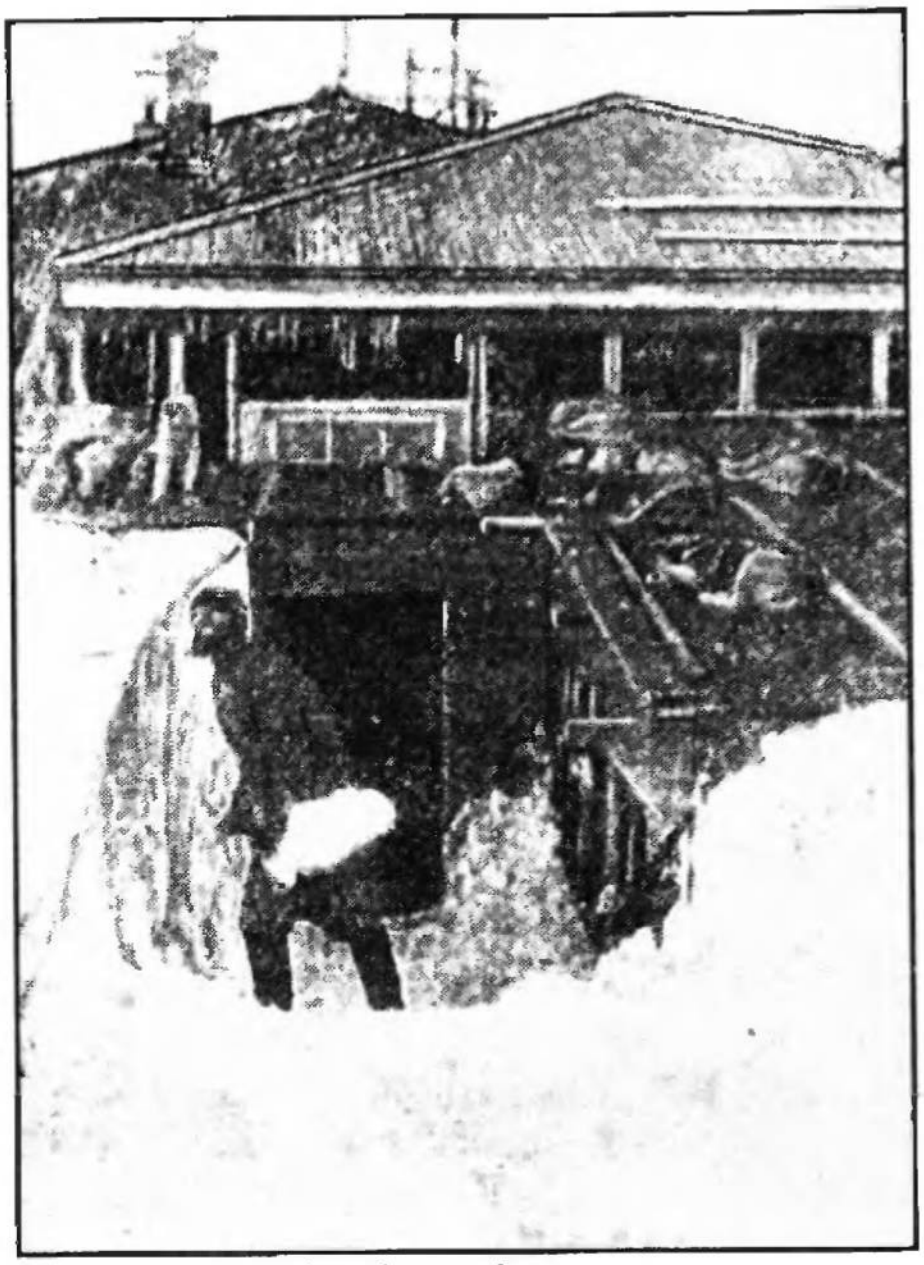
The day lengthened and from the 14th of April the sun did not set. The polar day had started; in this region it would last 138 days, to

The shore at Quiet Bay
during the second half of July

the 29th of August. The sun warmed everything. The snow on the roofs melted and the dogs climbed up on the roof because it was so warm there. In the first half of June we dug the snow away from our water system. We had running water again, but only during the lunch period.

Summer

The temperature of the three summer months on Franz Joseph Land was close to zero, therefore the summer was usually cold. Nowhere else in the Northern Hemisphere were there such cold summers. The reason for this is that Franz



Zymovchyks clearing snow
from the entrance to the station, June, 1932

Joseph Land was surrounded by great expanses of water which were almost always covered with ice. Besides this, approximately ninety percent of the surface of the islands in the archipelago was covered by glaciers. They also contributed to the coldness of the summer temperature.

There was very little variation in the summer temperature. The reason was that the lower stratum of air over the surface of the water had a constant temperature of 0°. Because of the cool summer temperatures, soil on Franz Joseph Land thawed only to a limited depth. Near the

The geomorphologist of the expedition
Author of the book

station it thawed to forty centimetres, and on the plateau north of the station, 140 metres above sea level, to thirty-six centimetres.

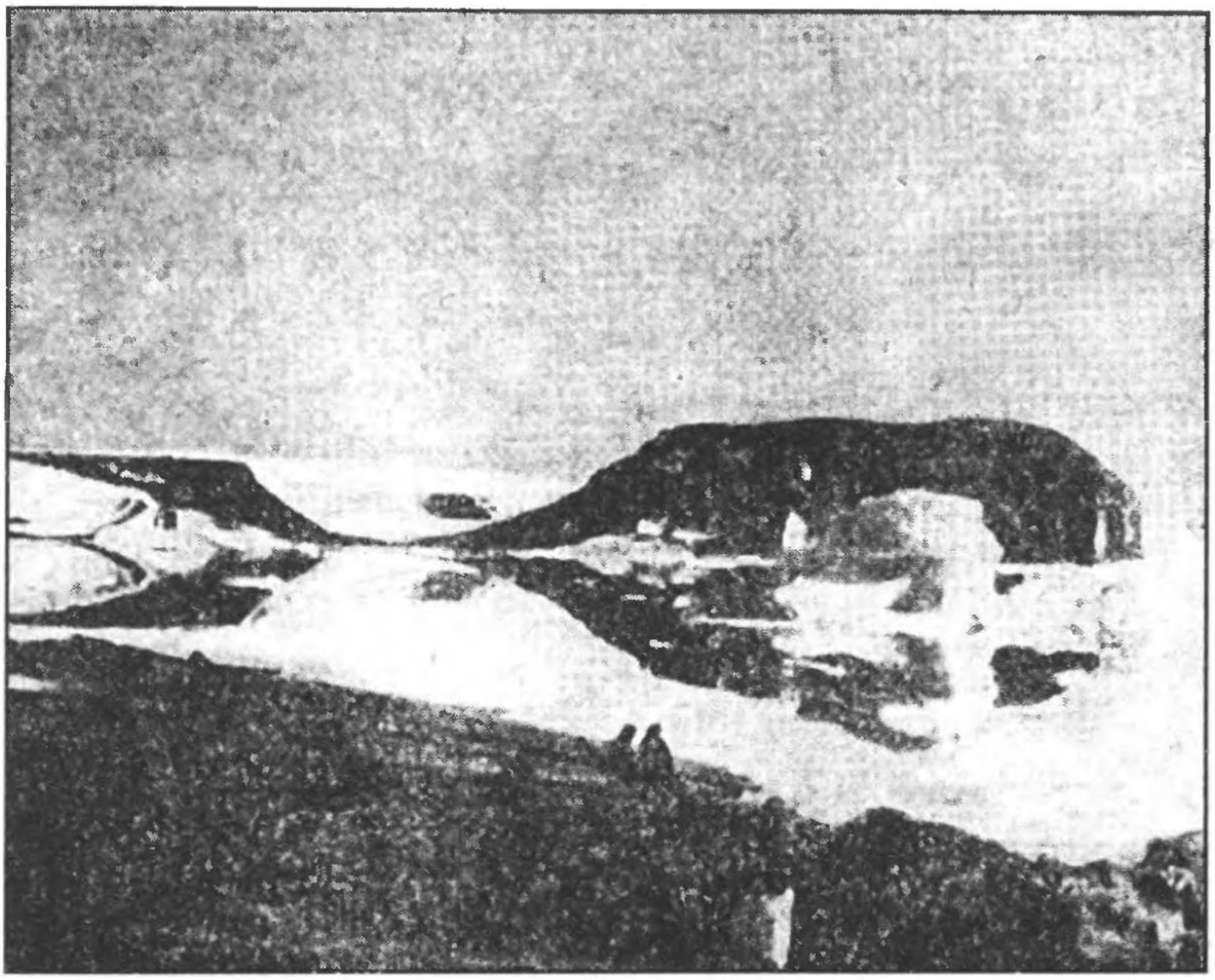
There was heavy precipitation here in the summer, and indeed, throughout the year, an average of 300-500 mm. Precipitation was almost exclusively in the form of snow. Such heavy precipitation, together with the low summer temperature appeared to be the reason for the unusually great glaciation of Franz Joseph Land. The glacial forms here were reminiscent of those in the Antarctic. All these climate characteristics

had an influence upon the vegetation. The soil here was stony. Cliffs and landslides were covered with tiny lichens or were completely bare. Very common on the local black basalt cliffs was an orange-colored lichen; most cliffs were quite covered with it. They were visible from afar, against the black background of the stone. On every bit of soil that was not covered with ice, some vegetation could have been seen.

Even on Rudolph Island, the most northerly part of Franz Joseph Land, we saw those beauties of the tundra, the arctic poppies. They were little flowers and came in yellow, pale yellow, and even white, like narcissi. Besides arctic poppies, four varieties of saxifrage grew here, also buttercups and krupok. The flowering plants had tiny leaves, gathered in thick rosettes. They were frequently covered with silvery down.

There was an explosion of growth in spring. As soon as the heat of the sun melted the snow, the seed pods of last season's poppies poked out. After a few hours they burst, releasing their seeds. All vegetation wakened quickly. Little green sprouts, often covered in down, appeared among old, dead leaves. Afterward buds appeared, and in a few days, flowers bloomed. The earliest blossoms to appear here were the lilac colored saxifrages.

It was characteristic of arctic plants that if there was a snowfall while they were blooming, it did not impair their development after it melted. The flowering period began in the second half of

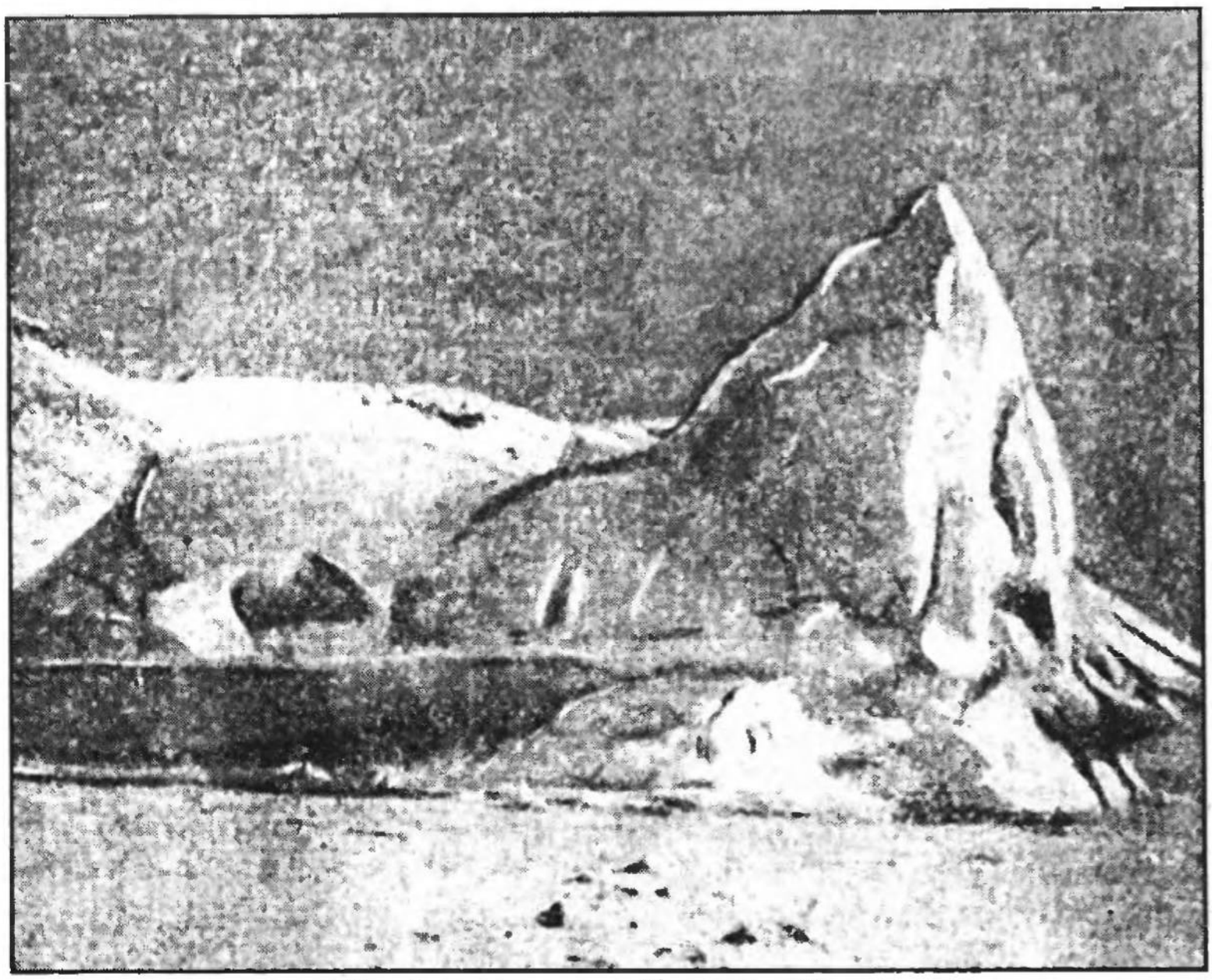


Calm Sea July 1932

June and continued only into August. During such a short growing season the seeds could not ripen; therefore all plants were biennial.

Willows grew on Franz Joseph Land, though they were hard to see in the dry turf. One saw only the tiny leaves; the twigs spread laterally, hidden in the turf. They bloomed in the early days of July.

On the terraces, by the landslips, there was a lot of water from the melting snow. During the second half of July buttercups grew here in profusion. There was moss growing in hollows where water had gathered.



Iceberg near the station

Near Rubini Cliff, from the Yuri Glacier side there was a lush growth of grass. In other places grass was encountered only as an individual plant. Pink and green snow was common on Franz Joseph Land. It was tiny algae, living right on the snow, which gave a distinctive tint to the sidehills.

During the polar day, after lunch, hardly anyone would remain in the company cabin. The zymovchyks went out in boats, hunted birds for dog food, and gathered down for Vladimir Ivanovich, whom we called, at that time, the "Director of Downtrest."

Water flowed from the glaciers. One day in July, at 1 pm, the temperature rose to 11 C°, but during the "night" of that day, it dropped to -2 C°.

The first eight days of July at Quiet Bay were remarkable for calm water. Rubini Cliff was reflected in the water as if in a mirror. The glacial cap of Hooker Island shone with blinding brightness. There was thunderous roaring near Bear Cape when the glacier calved and its ice fell into the sea, creating icebergs.

Icebergs here have flat, even tops with vertical sides. Such table-shape icebergs are characteristic mostly in the polar seas of the southern hemisphere; in the north they are found in large numbers only on Franz Joseph Land. I saw them only around the southwestern side of Alger Island, near Hays Island, and in Allen Young Strait during my springtime journeys.

All winter long and lingering until July there was a colossal tabletop iceberg near Franz Joseph Land. By our calculation it was no less than two kilometres long. In the middle of July it broke into three pieces and floated around a long time near the eastern side of Prince George Land. The icebergs I saw reached fifteen to twenty metres in height. Their underwater portions would have been no less than a hundred metres deep.

Near the station, in the shallows, there were many smaller icebergs. Before the sea froze over, when there was no water on the shore, we went to the icebergs to get a supply of ice for the kitchen.

We took ice from them throughout the polar night and into June.

Across from the station near Scott-Keltie Island there was an iceberg with an unusual shape. We called it "Icebreaker." It resembled a table. Now it was transformed into a grandiose pyramid. Incoming and outgoing tides floated it back and forth between the northern-eastern side of Scott-Keltie Island and toward Bear Cape. Thanks to its massive movements, thick ice could not form in its path and very often, in winter, we saw open water there. But even it finally became stuck in shallow water. There it sat for nearly half a month until spring tides carried it off. We boated over to it and saw its colossal "root" underneath the water.

What beautiful colours these icebergs had! Sky-blue, dark blue, nearly emerald! It was hard to take one's eyes away from such beauty, especially when looking at the colours in them. The icebergs frequently broke, turned over, creating huge fountains and waves. It would have been terrible for any little boat to be near them at such times. For that reason we did not approach the icebergs closely, especially since some of them were constantly producing large waves.

Livestock at Quiet Bay

At the station we had twenty-eight dogs. Handyman Comrade Nietzsche took care of them, feeding them once a day, at 6 pm. I frequently

The magnetologist and the bear

helped him with the feeding. He cut up the meat, and I made sure that the dogs sat at a distance and did not approach him. As soon as they saw Comrade Nietzsche with an axe over his shoulder, they ran after him, barking loudly. Those of them that were out on the ice in the bay flew like arrows to the station at the sound of a whistle and the call "Hello! Hello." I taught the dogs to sit in a semi-circle near the bathhouse and wait quietly until the meat had been cut into pieces. It was necessary to watch carefully that the strong dogs did not take away meat from the weaker ones.

The bear on his tether

We had dogs of various breeds, mostly Siberian laikas and Archangelsk dvorniadjkas. They constantly fought and attacked one another and had to be closed up in the dog house.

An old reddish-brown dog, Bourgeois, lived by himself. He guarded the "country home," that is, the radio building which stood apart. Stepan lived there. Bourgeois always escorted him from the country home to the station and awaited him outside the door. As soon as the dogs noticed Bourgeois they would try to attack him. Bourgeois growled, stood his ground, stretched out his neck, and, choosing his victim, hurled himself at her

and bit with his sharp teeth. The injured dog yelped and ran away, with all the others following.

Bourgeois kept a store of food for himself. A good piece of meat he hid under the radio shack. Pieces of blubber and bones he laid out in various places in front of the building, and hiding himself, watched. As soon as a dog approached the food, he would hurl himself on it. The older dogs knew Bourgeois' tricks and rarely came, but the young ones frequently became his victims.

Besides the dogs, the living inventory at the station included the cow, Bravenka, a pig, a cat, whom we had to do away with in winter because he suffered so much during his third polar winter, two hens and a rooster. In warm weather, the rooster and hens were kept in the attic. In winter, we brought them into the kitchen.

There Vladimir Ivanovich had a constant war with the rooster. It crowed whenever it felt like it, and once it started, it was hard to stop it. Vladimir Ivanovich would hit a cloth against its cage and finally the rooster would keep quiet.

In April we acquired a young bear cub we named Mishka. Comrade Nikolsky set it up in the corridor of the magnetic pavilion. He brought in snow for it and it was very comfortable, but when he left the pavilion, it climbed up to the windows and roared loudly.

The bear was happy when "Papa" Nikolsky returned to the pavilion; Mishka sniffed at his hands and favored him. During the day Nikolsky

took it out for a bath in the ice hole, and brought it into the company cabin.

Mishka felt disturbed by the large group of people and he tried to climb out of the windows. However, after a while he got used to us. At lunch time he received a bowl of soup. This did not satisfy him; he walked up to the table, stood on his hind legs, and with the front ones tried to climb up on the table. In June we had to put a muzzle on him because he liked to catch hold of us at times. He did not like this change and tried to take the muzzle off.

When Papa walked out, leaving him alone, he threw himself at the door and roared until we let him out. Then he would walk around us, smelling each one's hands and in that way determining who was his caretaker. He was fed with blubber cut into little pieces. The dogs became used to him and the young ones even played with him.

Only Yushar and Svatia were unfriendly toward him. But knowing that this Mishka was one of us and that they must not attack him because they would be punished, they just walked by him as if they did not notice him.

In July we tied Mishka near the house. We built him a hut and a platform. There our "ballet master" could dance by the hour, always pointing his head upward when he approached the edge of the platform.

The Changeover Is Coming

12th of July. Today at lunchtime the radio operator brought us the welcome news that the icebreaker Malygin had left Archangelsk. There was great excitement at the station, as our tour of duty was nearing an end.

The zymovchyks then began their feverish preparations for departure; everyone waited impatiently for the arrival of the new shift. From that day, at a certain time, Nikolay Yakovlevich sent the Malygin reports on the weather and ice conditions in the region around the station.

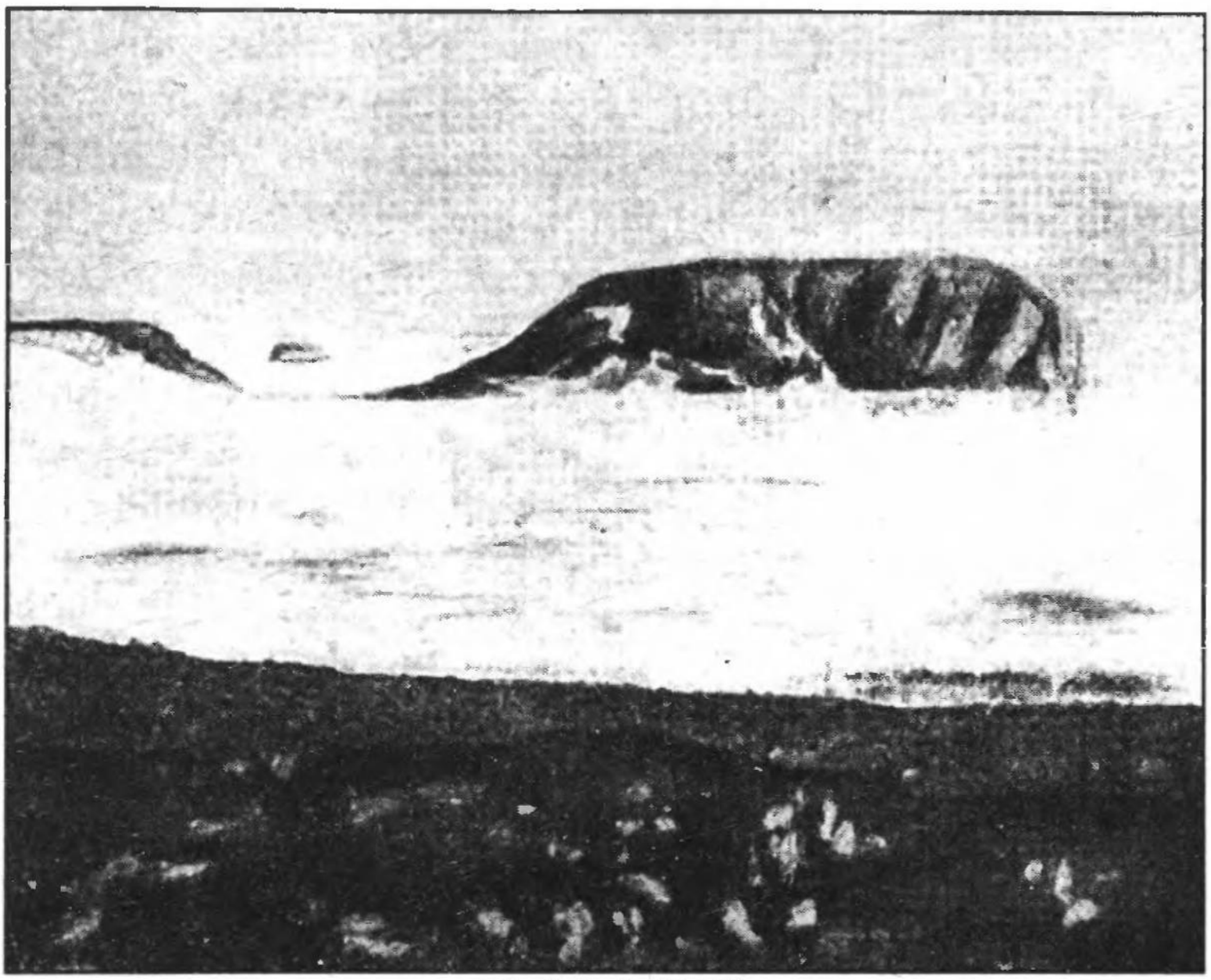
The reports on ice conditions were, for the most part, my responsibility, so I had to hike up onto the plateau in order to have a better view of the surrounding region. The ice had broken up in Quiet Bay, holding on only in a cul-de-sac. In Menelaus Strait the ice still held, and there was no visible open water. In British Channel the polynias grew larger every day.

On the day of the Malygin's departure from Archangelsk, a huge herd of beluga whales migrated from south to north. We killed two near the station, a meat supply for the dogs.

Before our departure we had to put all our energy into clearing and tidying up the station. The manure from the barn was hauled out and thrown into the sea. From time to time it landed on an ice floe and, during an incoming tide, deceived our hunters into thinking that the manure was a walrus, or at least, a seal.

I, together with the director of the zymovlia, commenced preparing for the transfer of goods. Besides that, everyone, according to his specialty, prepared documents for the transfer. I examined the station library and drew up a document listing its inventory and correcting any inaccuracies.

And so passed our days. On the 17th of July the radio operator brought us the news that the Malygin had gotten stuck in the ice and was drifting with it. We couldn't pretend that the news did not have an effect on our mood. All the zymovchyks talked about was whether the



Rubini Cliff.
In foreground, icebergs in the shallows

Malygin would reach us or would stay stuck. There was a bit of teasing of those who had their boxes packed and ready to take out to the beach. What if they had to unpack them in case we were obliged to spend another zymovlia here? The situation with the Malygin was especially unpleasant for Fritz who had to prepare to spend a zymovlia at Matochkin Strait station on Novaya Zemlia. But in two days the Malygin broke free of the ice and neared our station.

At this time, it was essential to give the most accurate reports on the ice conditions in Menelaus

and DeBruin Straits, in British Channel, and in Allen Young, Aberdeen, and Smithson Straits.

On July 19, the director and I hiked to the dome of Hooker Island from where we could make the most accurate observations. From the plateau we walked onto the glacier above Quiet Bay. Our feet immediately sank up to the knees in "snow porridge," that is, crystals mixed with water. It felt as if we were walking on peas. There was water flowing down everywhere, and no detour around.

Neither of us had brought any food with us. In our pockets, we had some remains of breakfast which all of us usually gave to the dogs. Today we had forgotten to give them to the dogs, and they served us well. We each had some snow for a drink and that was our lunch. Having noted down observations on the map we carefully descended toward Rubini Cliff where we arrived at 4 pm.

Our boots were full of water. We put on dry socks but that helped very little, as from Rubini we had to walk along the ice of the bay which was full of water, crevasses and wet snow. Our walk on the ice that day required preparatory training. We had to jump over cracks and pools of water, and to creep carefully across snow, which sometimes lay over wide crevices. It would have been very difficult to try to walk around them.

At 5 pm, we arrived at the station. The entire contingent of dogs came out to greet us, the youngest ones leading the pack. The happiest of all was Milka. Barking, jumping up to our faces,

wagging tails, such was the display of doggy joy and sympathy toward those who cared for them.

In my room, I dried my body thoroughly, rubbed my feet and legs right up to the knees with tincture of iodine, drank two glasses of spirits and went to have dinner. These measures were necessary because I have rheumatism. I walked in cold water up to my knees for several hours in a row and had no bad after-effects, neither a cold nor pains in my legs. But the truth is that one does not catch a cold in the Arctic, though it is possible to freeze.

After dinner, I didn't feel like resting and went out to work on cleaning up the beach.

On the 22nd of July the Malygin sailed into Quiet Bay. We welcomed the long-awaited guests with a salvo from our guns. The long blast from the icebreaker ship resounded throughout the bay and reverberated from Rubini Cliff.

On the prow and deck of the ship stood the new zymovchyks and the crew. Some were looking at the station through binoculars as we stood near the bathhouse. Stepan readied a welcoming explosive charge for denotation. After the honk from the icebreaker our dogs started barking. They were familiar with these visitations; soon they would have to part with their present caretaker and be passed on to a new one.

The Malygin sailed into the deep part of the bay to avoid being threatened by ice floes brought in on the incoming tide. There was still an ice field

in the bay. The Malygin broke into it and stopped in the middle.

All the zymovchyks went back to the station while the director and I went out to visit the icebreaker. We took our ski poles with us to help us jump over the polynias and get from one ice floe to another.

The dogs escorted us along the beach. A few of them followed us onto the ice, but stopped at the first polynia, uncertain they could manage to jump across it. From floe to floe and over the polynias we went, and barely noticed that we had arrived at the icebreaker. A Jacob's ladder was lowered from the Malygin and we quickly climbed up it onto the deck. Dozens of eyes looked at us.

"How are you? Are you all well? How did you overwinter? Weren't you lonely during the long polar night?" Many such questions rained down on each of us.

The new zymovchyks had brought us mail sent from the Institute.

On the icebreaker we became acquainted with Captain Chertkov and with the director of the new zymovlia, Comrade Papanin. In half an hour, one by one the old zymovchyks left the station, and following our tracks, came to the icebreaker.

Everyone gathered in the company cabin, and thus the meeting of the new and old zymovlia took place.

On this first meeting the old and new zymovlia directors and the captain of the ship

stepped forward. In their speeches, the old zymovchyks discussed their attainments during their year's work. The year's work plan had been fully completed. The meteorological work was continuous, as was the observation of the earth's magnetism. The final analysis of their information was to be done in Leningrad.

In Austrian Strait the expedition discovered, surveyed and mapped a group of islands named the Komsomol Islands and made corrections in the mapping of previously discovered regions. Radio connections were carefully maintained at all times. The mechanic not only took care of the machinery, but also, when needed, participated in the expedition.

Vladimir Ivanovich looked after us like a father, always providing variety in the menus, and it must be admitted, spoiled us with his delicious meals and desserts.

The carpenter renewed the attic and floor in every room, chinked the outside of the station and bathhouse and had work for the entire year. His humor brought many happy days into our lives.

The new zymovchyks told us that the work of the station during the second polar year would begin on August 1st with a greatly expanded program. There were now twenty-two zymovchyks.

Captain Chertkov indicated that the icebreaker's cargo should be unloaded in three days of hard work.

The unloading commenced in the morning. Logs and boards were lowered into the water where they were hammered into rafts. Onto them were lowered bricks and produce, and with the help of boats they were pulled to the shore. The following day there was a bit of a problem. A powerful outgoing tide made it impossible to get the raft to the shore. The people in the boats were unable to hold on to it and the tide drove the raft with people on it toward British Channel. Everyone on the ship was worried. The first mate rushed to the station, and with all our strength we organized a rescue mission. I had to run as swiftly as possible up the cliffs and along the plateau and to send the boats gun shot signals from there. That was essential because the bay was enveloped in thick fog and the visibility was only 100 to 150 metres. After an hour, a boat and the raft appeared near Cape Sedov. All ended well.

The Malygin was unloaded in two and a half days. It returned to Archangelsk for more cargo, building materials and produce for Quiet Bay and for a new radio station to be constructed on Rudolph Island. It would bring the remaining zymovchyks. It also took three of the old zymovchyks back to Archangelsk: the radio operator, the aerolog and the handyman. The other seven old zymovchyks remained at the station in order to orient the newcomers to work procedures, and to add to the manpower.

The work at the station proceeded at a quick tempo. From the first of August the station was included in the work program of the Second International Polar Year. Carpenters and stove-setters built another house, a hangar for an aircraft, and enlarged the storeroom. Besides this, they assembled a windmill for the charging of storage batteries.

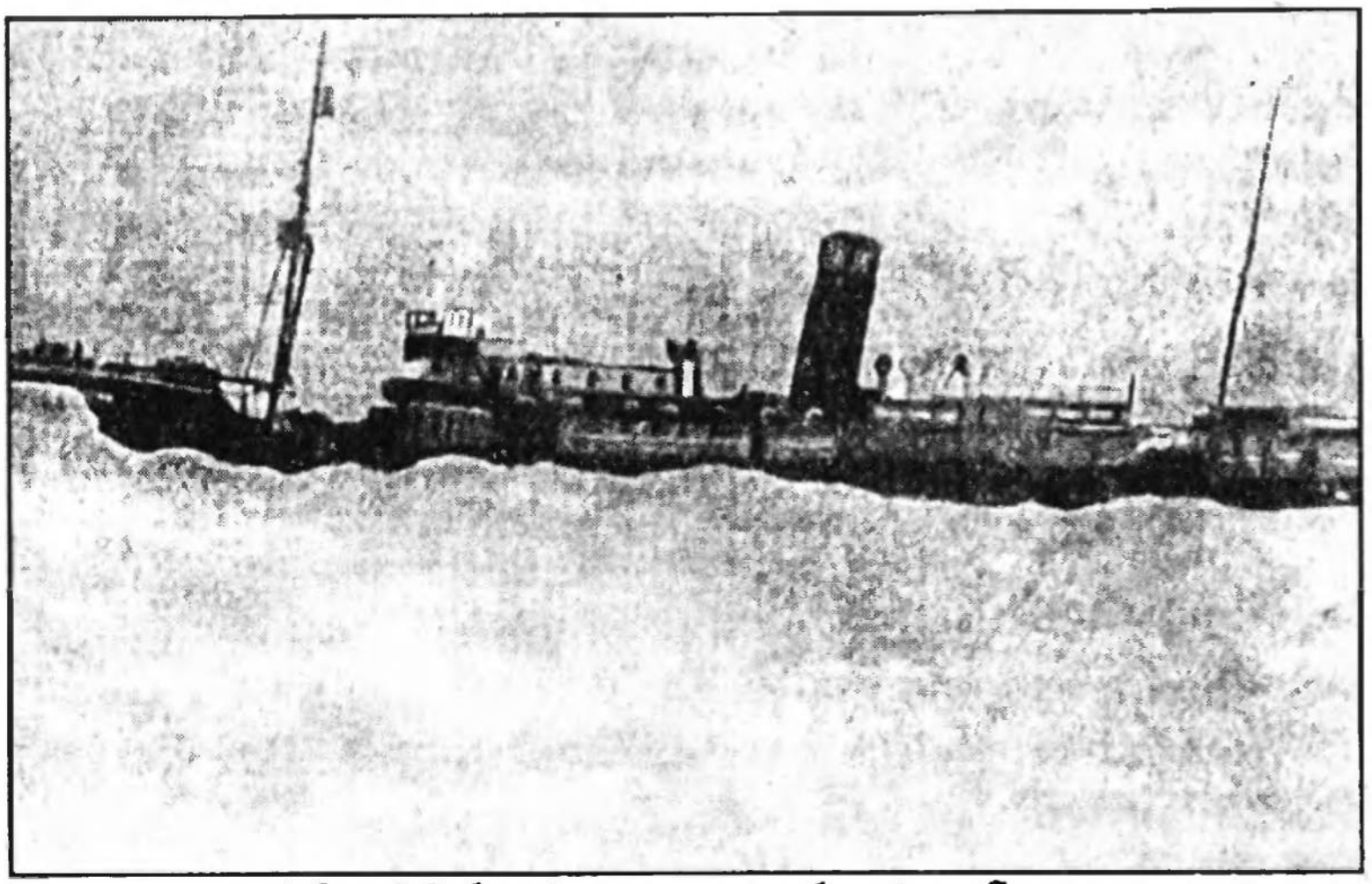
On the 22nd of August the hunting vessel Lentorg sailed into the Bay. A radio station had for several days been supplying it with climactic and ice condition information. The vessel was bound for Austrian Strait, and afterward for Prince George and Alexandra Lands. Unable to wait for the Malygin, it sailed on.

On the 24th of August, the Malygin returned. It brought the remaining zymovchyks, equipment for Quiet Bay, as well as food and a prefabricated home with all the furnishings for the station on Rudolph Island. That station would be in operation after 1932-1933.

On the Malygin arrived the head of the expedition, Pynegin, and the general secretary of the International Society "Antarctic" in Berlin, Dr. Walter Brunze. He had flown over Franz Joseph Land in the Zeppelin in 1931.

From August 20th winter set in at Quiet Bay. When the Malygin arrived, the depth of the snow reached thirty cm. Winter had arrived early.

The Malygin finished unloading its cargo on the 29th of August.



The Malygin among the ice floes at a latitude of 82° 27′ North

To Rudolph Island

The Malygin had left Quiet Bay's supplies and sailed for Rudolph Island. We sailed along the coast of Ketlitz Island, and afterward, Jackson Island, where the two arctic "Robinsons," Nansen and Johansen, spent a winter. We approached Rudolph Island, the most northerly island in the Franz Joseph Land archipelago. The captain steered the ship toward Warmsprings Bay, so named by Julius Von Payer.

Warmsprings Bay made an unforgettable impression upon me. A mighty basalt tower named Table Cape stood like a guardian at the entrance to the bay. The contours of the glacier heights of Rudolph Island were sharply outlined

against the blue sky, and the clouds hovering above the horizon made an enchanting picture of arctic nature that I had come to love so much.

In the arctic there were no cumulus clouds that were so common during summer days in our latitudes. There were only delicate, feathery, cirrus clouds, or a low layer of clouds that covered the sky with an unbroken grey curtain.

Arriving in the bay, our attention was drawn to remains of winter quarters, witnesses of recent human attempts to reach the North Pole. These were the remains of winter expeditions made at the beginning of the 20th century, that of Abruzzi in 1900-02, and of Fiala in 1903-05. It was pleasant to see the remainders of human residence in this icy wilderness.

The main task of the Italian expedition of Duke Abruzzi was to reach the North Pole, or at least, the farthest north latitude. The expedition arrived at Franz Joseph Land on the ship Stella Polare on the 20th of July 1900 and stopped near Flora Cape. There it left a store of food sufficient for twenty men for eight months, as well as five tonnes of coal and four boats. These supplies were left there in event of a shipwreck. They helped Fiala's American expedition that wintered at Flora Cape in 1904-1905. The supplies also helped First Mate Albanov's party, which arrived here from the polar basin without food, in the summer of 1914.

From Flora Cape, the Stella Polare sailed through British Channel into Queen Victoria Sea

and reached a record-breaking latitude of 83° 04' North. Only in 1929 did the icebreaker Sedov reach further north, sailing through ice-free water. Still a greater latitude than Sedov's was reached by the icebreaker Malygin in September, 1932: 82° 27' north.

The Stella Polare returned to Rudolph Island on August 10th and dropped anchor in Warmsprings Bay. On the 8th of September the vessel was strongly squeezed by ice and thrown into the shallows near the beach. The ship sprang leaks and water covered its furnace. The expedition crew quickly removed the cargo to the beach and abandoned the ship.

The expedition had expected to spend the winter on the ship and had not brought a prefabricated building with them. The crew and officers established a camp in two large tents. Over these two they placed a third tent made of sails. The air between the two inner tents and the large outer one proved to be an excellent insulator and protected the zymovchyks from the cold. Even in the coldest weather, the temperature inside the inner tents were +15 C° during the daytime, when the heaters were burning. At night it went down to only +1 C°.

Duke Abruzzi's expedition accomplished major scientific work on Franz Joseph Land. As well, Captain Umberto Cagni reached the latitude of 86° 34' north, and in doing so exceeded Nansen's record by 30'. After Cagni's return,

expedition members repaired the vessel, and in summertime, sailed it into ice-free waters and returned to Norway. The zymovchyks of the Stella Polare confirmed the uselessness of Warmsprings Bay as a winter harbour for ships.

The American expedition arrived at Franz Joseph Land on the ship America. The goal of the expedition was to reach the North Pole or at least to reach a higher latitude. Fiala decided to overwinter the ship in Warmsprings Bay, and the captain of the ship advised against this, but Fiala stood his ground. A powerful autumn storm broke up the ice in the bay. The America was torn from her anchor and drifted with the ice toward the open sea. For three days the ship drifted in various directions, driven by a strong wind, during the darkness of the polar night. Only on the fourth day was it possible to steer the ice-laden America back into the bay.

In December the ship was pressured by ice and began to leak. Expedition members left it and moved ashore. There they settled into the prefabricated wooden house they had brought in its unassembled state from Norway.

At the end of January a terrible hurricane struck the bay and lasted for several days. Strong blizzards howled. After the storm abated, it was immediately noticed that the America was not in its place. Where it had been anchored there was only broken ice. It was never determined what had happened to the ship. Perhaps she sank where

she had been anchored, or possibly she had been carried out into Queen Victoria Sea.

The home of Fiala's expedition was half-ruined when we were there. Inside, it was nearly filled with snow.

The last members of the expedition to leave the bay were Fiala and the expedition mechanic, Hart. They left the bay at the end of May, 1905 and from there walked to Alger Island.

The head of our new expedition, Pynegin, together with the engineer, went ashore to find a place for the station. The sea was calm. Not losing any time, we set to unloading the icebreaker. We had brought two rafts from Quiet Bay and we lowered them into the water.

All members of the expedition, ship's officers and crew, worked as equals in three shifts. Work proceeded at a rapid pace. It was necessary to get the building materials ashore as soon as possible, and to start building the station immediately. The ship was anchored within three hundred metres of the beach. Heavily laden rafts went back and forth. Powerful waves struck at the wharves, and we feared that they would be carried away.

On shore, work went at a feverish pace. The station was quickly being built near the beach.

Next day an icefield drifted into the bay. The unloading had to be discontinued. We were satisfied that the most important part of the job was done; all the building materials were on shore. Our heavy work tempo paid off. In the

arctic, rapid changes must always be kept in mind; the bay may be free of ice, with open water, but in half an hour it may be filled with an icefield and stay that way for a day or two.

Around the Malygin stood great ice floes. Toward evening they formed an immovable surface so that the ship and the beach were connected. I didn't spend much time thinking, but lowered a sled onto the ice, loaded it and two of us hauled it ashore.

That started the unloading process again. From time to time the floes began to separate and it was necessary to lay boards across them. We managed to unload the cow, ten tonnes of coal, the remainder of the food, and all of the zymovchyks' baggage.

While the station was being built, the Malygin travelled further north to conduct hydrological work. We started by measuring the depth of the sea with the help of a sounding lead. We measured the sea at different depths: 10, 25, 50, 75, 100, 200 metres and further, every 100 metres. Water for analysis we obtained with an instrument called a batometer. This was a hollow cylinder which could be opened from both the upper and the lower end. This cylinder, opened at both ends, was lowered into the sea by a metal cable. When it reached a required depth, a "postman," that is, a weight, was lowered by the cable. As it hit the batometer it caused it to close. The batometer was winched up, and the water in

it placed in a jar. It underwent a chemical analysis to determine the quantity of salts, chlorine, phosphorus, nitrogen and sulphate, the quantity of oxygen, as well as various physical properties. The temperature of the water was measured by special thermometers attached to the batometer.

Besides collecting valuable hydrological material, the Malygin was able to reach the latitude of 82° 27' north, breaking the record set by the icebreaker Sedov in 1929.

The latitude was attained by sailing through open water. Because it was necessary to economize on the use of the ship's coal supply, the captain decided not to use the ship's icebreaking capability. In our own opinion, the unusual ice conditions of that summer would have allowed us to travel even further north. Such vast stretches of open water, the "water sky," were visible ahead.

From the record-setting latitude we turned back, setting the course for Belaya Zemlia. Our route took us along the western and northern coast of Rudolph Island. After six hours we saw Belaya Zemlia. It was a group of four islands where only Nansen had landed, on August 10, 1896. He named the group Belaya Zemlia, "white land," and the individual islands were named Eva, Liv, Adelaide and Freden.

Nansen stopped on only one of them, Adelaide. Freden Island might have been seen by Payer. Records indicate that Nansen was the only person to have ever landed on these islands; our

expedition became very interested in visiting this corner of Franz Joseph Land.

The correspondents aboard our ship made festive preparations for the landing. They even designated a group from among themselves who would be the first to step ashore. However, we did not reach Belaya Zemlia. The captain did not want to risk taking the icebreaker into unfamiliar waters whose depths he did not know, so we saw Belaya Zemlia only from a distance. From there we turned toward Hohenlow Island and were fog-bound there for a whole day. After that we went straight to Warmsprings Bay

At the station the work was coming to an end. The radio station mast was up and the meteorological huts were also ready. All the buildings had been roughed in, so that we could take the carpenters back. The zymovchyks would be able to finish the rest themselves.

There had already been guests at the new radio station. First of all came the scientific research vessel, the Knypovich from the biological station at Polarny. It had been sailing near the Malygin, maintained contact, but they passed one another by. The second guests were polar bears. In four days five of them were killed at the station.

At last the day of departure had arrived. On the radio mast and the station, flags were raised; it was the opening of the northernmost radio station in the Arctic. After the festive opening ceremony, the zymovchyks came on board. In the

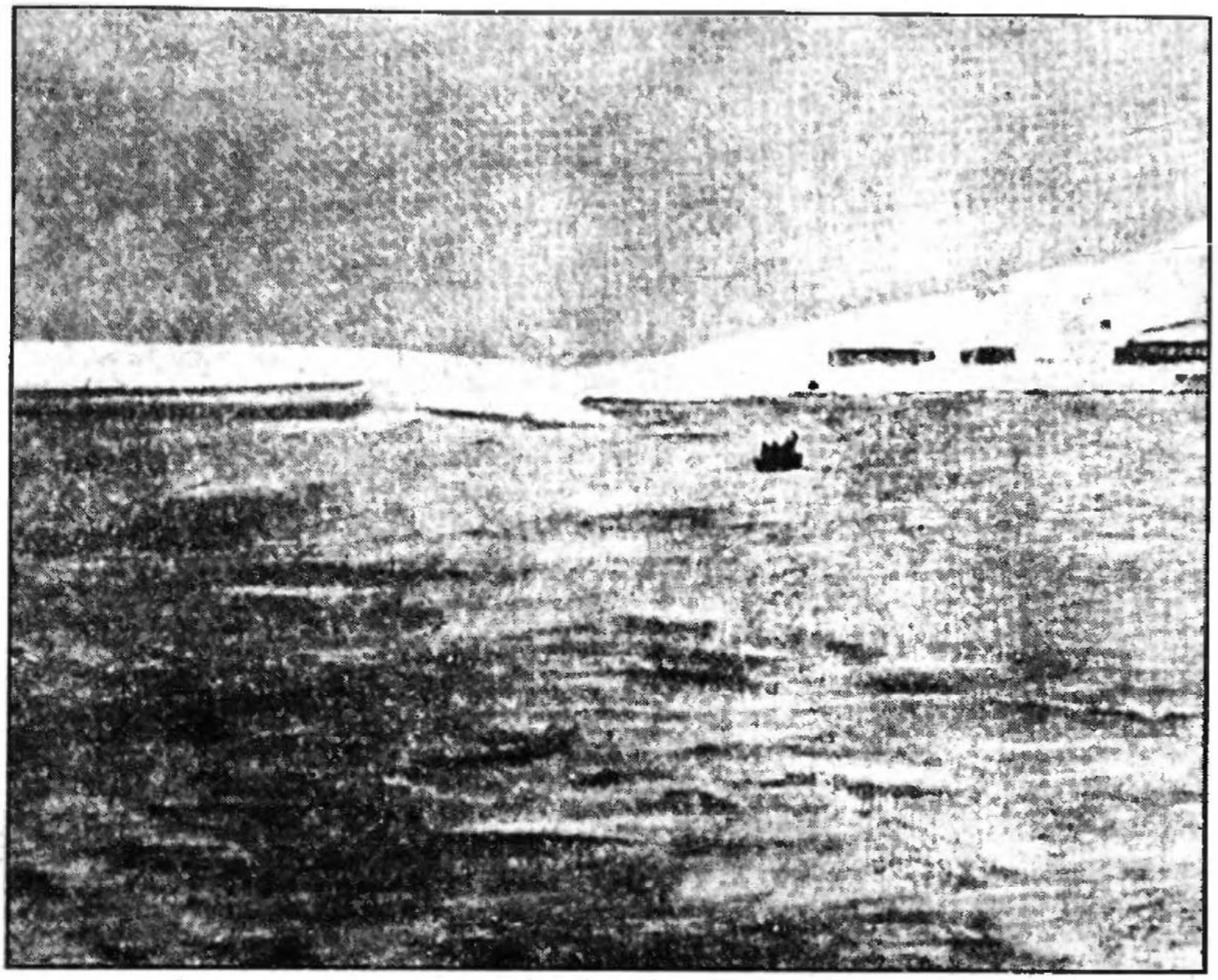
Our radio station at Warmsprings Bay

September 1932

company cabin we had prepared a send-off celebration for them. They left the ship in the morning. The Malygin sounded its horn in a farewell to them, and they responded to us with salvos from their guns.

From Warmsprings Bay we took a now familiar route to Quiet Bay. From the left side of Warmsprings Bay we could see Cape Brorock where Sedov is buried.

The islands of Franz Joseph Land were very similar to one another in appearance. Their surface was covered by glaciers whose edges were broken here and there by cliffs. In looking at them



The new zymovchyks leaving the Malygin

it was sometimes difficult to tell where one island ended and another began. The structure of these islands was very characteristic. Before we arrived at Quiet Bay Captain Chertkov summoned me and asked me to please show him where, in my opinion, Quiet Bay might be. "Because," he said, "your islands are so similar to one another in appearance, it is difficult to tell them apart. You probably know them so much better."

On the 11th of September the Malygin was anchored in Quiet Bay. The whole day was spent in preparation for the departure. The zymovchyks and the workers brought their baggage on board.

Zymovchyks returning to the mainland

The loading was completed and the icebreaker was ready to leave.

Off to the Mainland

On the 12th of September the Malygin left Quiet Bay and took a course to the south. We passed through Menelaus Strait. On the right side of Meyers Strait lay Bruce Island. There was not one dark patch on it; its white glacier was blinding in its brightness, and stood out sharply against the background of the bright blue polar sky. From all sides of the island ice crept down to the sea. Such islands produce table-shaped icebergs.

From time to time colossal blocks of ice break off from the glacier. We say that the glacier is "calving." At the station, often in winter, and even more frequently in summer, we heard the noise of breaking glaciers. It reminded us of the sound of a far-away eruption.

The Malygin came to Bell Island, then turned and sailed alongside the south coast of Nordbrook Island.

On Flora Cape we could see a little bamboo hut and a monument honoring the three members of the Abruzzi expedition lost in the Sea of Queen Victoria. From Flora Cape the Malygin took a course southwest toward Murmansk. We travelled through completely ice-free waters.

On the 13th of September the barometer warned of an impending storm. In the evening Varda and Archangelsk stations forecast a hurricane front moving toward us. The boatswain tied and covered everything on deck. The boat rolled and leaned from 20° to 30°.

The company cabin and the salon above it emptied. Seasickness arrives unexpectedly, with dizziness, heaviness in the legs, and difficulty in maintaining balance. One just wants to get to the cabin as quickly as possible to lie down and sleep. People scattered toward their cabins, like mice.

I stood at the salon window and looked at the wild sea. A few small waves would be followed by an enormous one. Water washed over the deck. The icebreaker rolled all the more because it was

not heavily loaded. I walked out onto the bridge. There, standing watch, were the senior navigator, Comrade Dubynin and a steering wheel sailor. Beside them stood Captain Chertkov. On the stern stood the boatswain and a sailor, no one else. Their watch ended in an hour. The relief shift would come but no one would replace the captain and the boatswain. Their sense of responsibility did not allow them to leave their posts.

In the evening the salon was empty. The barometer was falling, and the waves mercilessly rolled the Malygin from side to side.

At 2 am on September 14 the waves inclined the Malygin to 43°. When a ship lists to 45° it could capsize. The captain changed course; instead of southwest he steered toward the northwest. The ship went into a drift. We had to move away from the hurricane. Dishes clattered in the galley. In the cabins things moved everywhere and fell. In the berths either our heads or our feet were raised up. It was hard to get used to sleeping in such circumstances, but nothing was to be done about it. Dividers had been laid out on the tables to prevent the dishes from falling off.

In the morning there was hardly anyone in the dining room. Most people didn't come out of their cabins. Some came, looked around, ordered tea, but without waiting for it to be served, returned to their cabins.

At 2 pm the captain again steered the ship to the southwest toward Murmansk. The storm

continued but not as strongly. The Malygin was running short of coal, and it was necessary to get to Murmansk as soon as possible.

In the morning of September 15th the storm strengthened again. However, this time it rocked the ship's keel with a pitching motion. The Malygin carried on because it was not threatened as much as it had been by the sideways rolling. Toward evening the wind stopped. The deck and the company cabin came alive again. People who hadn't been seen in two and a half days no longer needed to "rest."

On September 16 we saw the coastline of Kolsky Peninsula. On the horizon we saw smoke from ships carrying lumber to Western Europe. On the left was Kildin Island where, recently, an arctic fox reserve was established. Approaching the coast closer we saw lighthouses. We met fishing boats and small cutters, motor boats.

We entered Kolsky fjord. It was so pleasant to see green trees on the shore. I had not seen them in over a year. The cutters honked greetings at the Malygin.

The sun set, gilding the clouds over the horizon with its rays.

At 8 pm we sailed into Murmansk.

"Throw the mooring line!"

We had reached the Mainland.

Afterword

Mykhailo Ivanychuk's return to Kharkiv was busy, productive and rewarding. He had become famous and was in demand as a speaker and lecturer. Scientists and journalists sought him out for interviews. Ivanychuk's technical report, "A description of the Land Forms of Wilczek Land and Komsomol Islands," won him a doctorate from the University of Kharkiv and an appointment as professor of geomorphology in the Department of Physical Geography.

He met and married Nina Sokolova, a young woman of Latvian and German parentage. In a letter to brother Ivan he described her as the most beautiful girl in Kharkiv, and himself as the happiest person in the world. He wrote "14 Months on Franz Joseph Land," a popular account of the expedition, and dedicated it to his bride. A copy of it, with dried arctic poppies inside, was sent to Ivan and his family, where it became a precious family treasure. To the three children in the family, the book became a source of wonder and delight, read and reread frequently. Polar bears, beluga whales, northern lights and dogsleds were exotic subjects in those times.

Uncle Mykhailo became the subject of hero worship, and the children longed to meet him and to hear more of his exciting stories. However, the book and the letter that accompanied it were the last communication they ever had with their beloved uncle.

Stalin and his cohorts launched a systematic destruction of Ukrainian people, either by outright genocide or by terrorizing into submission and inaction those who remained alive. Soviet Ukraine became a giant trap for its people. Correspondence and travel to other countries, including Western Ukraine, was forbidden. Individuals who, like Mykhailo Ivanychuk, had come from Western Ukraine, were especially targeted for destruction. The Ukrainian Worker Press, which had published his book, was closed down on orders from Moscow, as were the other three major Ukrainian publishing houses.

There were arrests, interrogations with torture, executions and sentences to Siberian prison camps. Families who were notified that their members had been sentenced to ten years in prison "without permission to have visits or correspondence," found out years later that such a sentence was Soviet doublespeak for a sentence of death. There were many suicides of Ukrainian intellectuals and politicians who had started out believing in the Bolshevik system, or, at least, in the possibility of creating an autonomous Ukrainian republic within the USSR, and found out belatedly that they had been deceived. There was the horrific genocide of millions of industrious, resourceful, independent Ukrainian peasants forced to give up their harvests to the state with no allowance of the food they had produced for their own sustenance.

In April of 1933, Mykhailo Ivanychuk participated in a geographic expedition of University of Kharkiv scientists and graduate students. They travelled in four boats down the Dnipro River, from its northern reaches at Chernihiv to its delta at Kherson, studying the riverbed and valley features in preparation for hydroelectric projects. Roman Ivanychuk describes his uncle's journey as a descent into hell. Working their way down the river, the expedition passed sinister, deserted villages with no sign of human or animal life. Occasionally, they saw people, bloated from hunger, furtively gathering sorrel, nettles and other weeds in the fields, in attempts to ward off starvation.

Once they passed a living village. Smoke billowed from a chimney, a cow grazed in the ditch, a tractor rattled noisily in the field, and people worked there with hoes. But they were a "spring brigade" of city people putting in crops. The granary was guarded by armed militia.

The expedition members had only sufficient food for themselves, with nothing extra to share. They camped and ate away from any possible habitation, ashamed of having food while others were dying from lack of it.

Back in Kharkiv, on his walk to work, Mykhailo grieved for the "wild children," peasant youngsters who had found their way to the city and were herded into a wire fence compound. They were given minimal food, and their bodies

were removed after starvation took its course. Mykhailo broke slices of bread into tiny pieces and gave them to the wailing children. But he and Nina sadly realized that they could not manage to save them with their own meagre resources.

Ukrainian writers, scientists, politicians and intellectuals, including many of Mykhailo's friends and colleagues, were arrested and disappeared. Others, desperate to save their own lives, became informers. Dr. Stepan Rudnitsky, eminent geographer and head of the Department of Geography at Kharkiv University, was arrested and sent to prison camp in Siberia where, eventually, he was executed. His two adolescent children were also arrested because their widowed father was "an enemy of the state." Many years later, Dr. Rudnitsky was given a posthumous rehabilitation. His children disappeared, and no trace of them was ever found. Mykhailo realized that he, too, was under surveillance when even his closest friend began to avoid him.

The Arctic Institute had chosen Mykhailo Ivanychuk to participate in another scientific expedition, this time to the Antarctic. Once again, he was to serve as assistant director. Then suddenly, without any explanation, his name was removed from the list of participants. The reason soon became apparent; at the end of April, 1937, he was arrested. There was interrogation, with torture, a forced confession, and finally, in August, execution. His wife, Nina, who knew

nothing of his whereabouts, was notified that he had been given a sentence of ten years, "without the privilege of visitors or correspondence." By 1940, all senior scientists of the Arctic Institute had been executed and their archives destroyed.

No one will ever know what, precisely, Mykhailo Ivanychuk experienced during his arrest, interrogation and torture. But in 1943, his fourteen-year-old nephew Roman was thrown into prison. Too small and young to be tortured and interrogated, he witnessed what happened to adult prisoners around him. He describes the experience in his book, "Pathways Free and Not Free: Memories and Meditations."

"The lock clicked, the guard shoved me in the back, and I found myself in darkness. Unshaven faces surrounded me... loud, surprised voices angrily protested that such a child was thrown into prison. Protests against NKVD sadists.... A bearded prisoner approached me, took me by the hand and led me to his resting place, a large winter coat spread out on the cement floor.

"This man was Petro Volosheniuk from Voskresenets. He took care of me, and I, of him. Every second night he was led out for interrogation. In the morning he was thrown back in, ravaged by torture but with a proud smile on his lips; he had held out. I fed him milk from a supply that mother sent for me.

"Volosheniuk lay still for a long time. I often leaned over to listen if he was still breathing; he was so swollen, his skin so bluish, some of his teeth knocked out. Only his eyes kept scanning the ceiling. Once in a while they rested on me and I noticed tears in them.

"Then bit by bit from somewhere within him a song came forth, the clear melody of a strange song that to this day is my favourite: 'I will bring my dear horse into the orchard.' It was so sad, so moving, that I cried. Volosheniuk sang and sang, pouring all his pain into his song, recuperating only enough to be dragged out again the following night for an interrogation.

"So passed weeks. I became acquainted with all the prisoners, over forty of us in that hall. Such a variety of people: doctors, professors, drivers, swineherds, a composer, tailors, shoemakers, and so many others....

"And Volosheniuk sang about his horse until he died from beatings. Before his death he told me this: 'I did not betray anyone, I did not betray. I want you to know this and to tell others if they ask. As for me, I was betrayed by Yaroslav Mykolaichuk from Voskresenets.' "

Nor did Mykhailo Ivanychuk betray anyone. The detailed protocol of his arrest and forced confession lists names of colleagues in Czechoslovakia to whom he wrote, but no one living in Soviet Ukraine of that time.

In 1958, after Stalin's death, Mykhailo Ivanychuk was posthumously rehabilitated by a military tribunal which ruled that there had been no grounds for his arrest and sentence – no evidence at all that he had committed the deeds of which he was accused.

It was only after the Soviet Union collapsed that Ukrainian families managed to get detailed information about the fate of their lost members. In separate petitions, both Yevhen Ivanychuk and Cara Bergman were able, finally, to find out what had happened to Mykhailo.

The following information is from the National Archives of the Kharkiv Region:

> Archival Information In the penal section of archival materials from 1937, there is the following information on Ivanychuk, Mykhailo (Son of Nicholas): Born in 1894 in the village of Pylipy, District of Kolomyia, Halychyna. (Ethnic) Ukrainian; citizen of USSR; son of a kulak; former officer of Austrian Army; highly educated – he completed studies at the Faculty of Natural Sciences, Prague University, Czechoslovakia, in 1926. By profession he was a pedagogue, a geographer, and a geologist. Prior to his arrest he taught at the Hydrometeorological Institute (University of Kharkiv), lived in the City of Kharkiv at 52 Serpent Street. His socio-economic origins

were peasant: his father worked at village agriculture and owned land.

Marital Status: married to Nina (Daughter of Nicholas) Sokolova-Ivanychuk. She worked as secretary to the Tannery Research Institute. Living in Halychyna were his mother, Pelahia (Daughter of Adrian) Ivanychuk, his brother Ivan, and his sisters, Maria and Olha.

On April 28, 1937, Mykhailo Ivanychuk was arrested by the 3rd Division of the NKVD (Kharkiv Division of Ukrainian Sector) on charges of the following pre-meditated transgressions: [legal descriptive abbreviations listed in the original]. Upon return to the USSR from Czechoslovakia, he joined the Ukrainian Military Organization, UMO. Under its direction, he engaged in counter-revolutionary activities aimed at the USSR. He associated with anti-soviet persons and led them in anti-soviet agitation. He gathered information of espionage nature and forwarded it to a lecturer at Prague University.

On August 9th, 1937, the Tribunal of the NKVD, Kharkiv Division sentenced Mykhailo Ivanychuk to death by firing squad. The sentence was carried out on August 17th, 1937 in the City of Kharkiv. The place of his burial is not known.

On September 9th, 1958, the Military Tribunal of the Kiev Military Region revoked the sentence given Mykhailo Ivanychuk by the Kharkiv Regional NKVD Tribunal, on the grounds that the charges laid against him were unsubstantiated, and that he had not been guilty of the crimes of which he had been accused. He was granted a posthumous absolution. Basis of Judgement: [legal descriptive abbreviations listed in the original].

[Official Archives Stamp and signatures]

In 1992, at Lviv University, the Ukrainian Geographic Society hosted a symposium dedicated to Mykhailo Ivanychuk. His name was entered in the Ukrainian Geographic Encyclopedia, and the Russian government was asked to name after him the four islands he discovered in the Franz Joseph Land archipelago. As yet, the request has not been granted. Surely, a state that aspires to be considered civilized can do better for a man who worked so hard for it, and was treated in such a barbaric manner.

Three months after Mykhailo's death in August 1937, his only child, a son, Stanislav, was born. As the wife of an alleged enemy of the state, Nina Sokolova Ivanychuk would, at best, have been subject to harassment, and would have been at risk of banishment to prison camp. Little is known of her life at that time. She started using

her mother's maiden surname, Krause, because, as Germans were not a prime target of Soviet persecution at that time, avoiding her husband's surname was a wise survival strategy for her and her baby.

Stanislav remembers a close, supportive family group, all using the protective surname of Krause. The group included his mother, his maternal grandmother Ella and a maternal aunt Vera, who was an architect, all of whom sheltered a little boy with love and care. He remembers many moves to different cities, insufficient food, and then, with the withdrawal of the German Army, a long, terrifying journey to Germany in freight trains. Hunger and fear of bombardment impressed a six-year-old child.

There was a home on the outskirts of Berlin, with memories of mother's beautifully decorated woven baskets which she made and sold for a living, the gathering of wild food, such as berries and mushrooms, to supplement meagre wartime rations, and his father's book with a photograph of him in it.

In their push to end World War II, the Russian Army invaded their community which later became part of East Germany. Mother cut out father's picture and burned his book, since it was too dangerous to keep it. Once again, the little family was threatened. Russian soldiers occupied, vandalized, and plundered their home in a cruel and most humiliating fashion. Six months later,

Aunt Vera was captured and sent to a Siberian prison camp. Grandmother Ella suffered a brain haemorrhage and died, mother was critically ill, and the little boy, bedridden with pneumonia, was in the temporary care of friends.

In a selfless, courageous act of love, Nina Krause, dying, probably of tuberculosis, in the summer of 1948, asked a distant cousin in West Germany to take her ten-year-old son away to safety in the British sector and to raise him as her own. Irma Bergman explained to the border guards that he was only going for a little family visit. Her son safe in the West, Nina Krause Ivanychuk was taken to a hospital in Berlin and died shortly afterward.

Irma and Alfred Bergman soon adopted their young visitor, giving him a new name, a new identity, and, upon immigration to the USA in 1956, a new nationality as well.

A dutiful, and appreciative adopted son, Erwin Bergman, encouraged and helped by his wife, Lea, gave the Bergmans the deep joy of a family and of grandchildren. Yet, always there was the awareness of another family of origin; a beautiful, suffering mother, whose life was so tragically short, and a father, known only from a cherished photograph, whose fate and whose family were unknown. Erwin and his family persisted in searching for information about them, until, at last, they found it.

It was only after the Soviet occupation of Western Ukraine in 1940 that Nina Ivanychuk was able to get a letter through to her family-in-law. In what was described as a very short and careful letter, for censorship was endemic and consequences deadly, she told Mykhailo's brother Ivan about Mykhailo's arrest and sentence. In a grim irony, Nina and Ivan and his family hoped that Mykhailo's sentence really was to prison camp, and not to death. There were a few other cautious letters, then, after Nina and her family left for Germany with the withdrawing German Army, all correspondence ceased. The Ivanychuks did not know if the Krause family had survived the bombardment of Germany.

Anxious and worried, Ivan wrote politely to the authorities in Moscow pleading with them to shorten his brother's prison sentence. There was no reply, but shortly after his petition Ivan was summoned to Kolomyia to appear before the NKVD officials there. He returned a sad and deeply frightened man. He told his family about Mykhailo's fate and warned everyone not to ever mention his name or to speak of him. As relatives of "an enemy of the state," they were at great risk themselves, and had been placed on a list of potential deportees to Siberia.

Ten-year-old Roman ran into the cold winter night, shook his fist at the frosty sky and cried, "I will avenge you, my uncle!" And avenge him he did, with a series of brilliant and popular novels

about Ukrainian history. One of them, "Because War is War," is based on his uncle's life and times, and is dedicated to his memory. In writing it Roman hoped that somewhere in the world his cousin might hear of the book and contact him. Ten years were to pass before that happened.

The family lived in fear of deportation to prison camp. They burned most of their library and all of Ivan's and Mykhailo's diaries and very extensive correspondence. Only Mykhailo's book was spared; Ivan took the risk of hiding it under the rafters of the roof where it was damaged over time, but survives in his family to this day.

Roman Ivanychuk has painful memories of the book-burning. He cried as the flames licked away at the cover painting of his favourite legendary hero, Kozak Mamay. Perhaps inspired by his uncle's writing, Roman had written his first novel. Father asked him to burn it also. But "what author can bear to destroy his own work?" asks Roman. He disobeyed and hid his booklet in the attic. When, shortly afterward, their home was searched for incriminating evidence, an NKVD scout discovered the little literary work. He denounced Roman in crude intimidating terms: "Hanging is too good for you, scoundrel! It's either the prison camp or the military, brat! Choose!"

Ivan, always so cautious and diplomatic, pleaded with the intruder: "It was a school assignment, and the silly kid just got carried away." His age and small stature, perhaps more

than his father's pleas, saved Roman on that occasion. The booklet was taken away and may still be buried somewhere in the NKVD archives.

The family sliced and dried bread, and stored it in sacks in the attic, for to be arrested did not mean that one would be fed. One harshly cold winter day the village resounded with the creak of heavy sleds, the wailing of women and children, and the protests of men. Fourteen families of the poor mountain village were dragged from their homes, driven to the city, and shipped by train to Siberia. The Ivanychuks were spared as a family, but within a few years both sons were arrested, and the eldest, Yevhen, barely sixteen, was sent to prison in Siberia for ten years. Roman was held in a local prison for nearly two months, but too small in stature and too young to send to prison camp, he was eventually released.

Crippled at an early age, illiterate and housebound, Mykhailo's aged mother waited for news of her son. On Christmas Eve, the holiest, most special part of the Ukrainian Christmas celebration, Ivan harnessed his horse and took his family to visit Babusia, or Granny, in the next village, five kilometres away. They brought gifts of special holiday food, and the photographs of Mykhailo that she so loved to see.

Wise, loving Ivan spared her the truth which he knew that, in her fragile physical and emotional state, she could neither comprehend nor bear. Too handicapped to leave her home,

completely immersed in her religious faith, she still had a picture of the Austrian Kaiser among her pictures of saints, in a place of honour on the wall. She was unaware that the Kaiser was long gone, and that his empire was replaced by a far more ruthless and brutal invader.

Ivan sat beside her and showed her the photographs one by one; Mykhailo as a young officer, as a student in Prague, as a scientist-explorer, and as a professor, sitting in a semi-circle with his students. But why weren't there any recent photographs, Babusia wanted to know, and when would her Mykhas come to see them? Ivan explained that Mykhailo was doing such important, secret work that he must not be photographed, nor may he come for a visit. Babusia, disappointed and sad, but somewhat reassured, believed that if the Kaiser entrusted her Mykhailo with looking after his lands, he would surely have arranged for him to live comfortably. Yet she found it hard to understand why the Kaiser, who ruled over half the world, would want such a northern land, covered with ice and snow, uninhabited, and unsuitable for growing things. And why must her Mykhailo take care of it? Roman Ivanychuk writes, "And so she died, dear elderly one, with pride in her son and sorrowful longing for him, unaware of his fate and the terrible price he paid for his talent."

Do traits of personality run in families? In the Ivanychuk-Bergman family, traumatized by

war, separated by two continents and three cultures, certain qualities do appear to persist:

–The will to look beyond one's immediate concerns toward a greater good, and to work to secure and maintain it. Babusia Ivanychuk had profound religious faith and served her church as long as her frail body allowed. Mykhailo fought for Ukrainian independence and exercised diligence and fearlessness as a scientist and explorer. Ivan struggled as a village teacher against illiteracy and ignorance. Roman's courageous efforts, as a writer for Ukraine's independence and nation-building often placed him at risk of imprisonment. Erwin Bergman today continues his tireless and effective work as an environmentalist and champion of community well-being.

–The love of nature. Witness Mykhailo's beautiful descriptions of northern lights and physical characteristics of the High Arctic, Roman's marvellous portrayal of the mountain setting of his village, Erwin's love of his Canadian mountain home and his assistance to his Canadian community in preserving wilderness beauty from industrial pillage.

–A sensitivity to language and a facility in its use. Dido, or Grandfather Ivanychuk, poor, illiterate, worn out from endless work just to feed and clothe his family, freed from labour at last by illness, waiting for death as for a friend to rescue him from pain, sang beautiful, haunting songs:

"I will go to the nut tree garden,
I will pluck a nut tree leaf.
Upon it I'll write my three sorrows:
That I have neither father nor mother,
That I have neither sister nor brother,
That my loved one must marry another."

It seems more than chance that his descendants were and are so talented with the use of language. Ivan, dedicated village teacher and lover of books, brought literacy to a village that before his coming did not know how to read, and was the father of Roman, a distinguished novelist, and of Yevhen, a writer whose talent was thwarted in a Siberian prison camp.

Mykhailo, scientist and explorer, described his work and adventures for future generations, and his son Erwin, whose verbal skills were so effective in protecting the natural environment and the well-being of communities from industrial pollution and environmental degradation.

And the fourth generation: Roman's daughter Natalia, who is a professor of languages, is fluent in several. Erwin's daughter Cara, educated as a biologist, used communication technology to find information about her lost grandfather and his family, and led to the re-establishment of family contacts.

Erwin Bergman has written the following: "After nearly sixty years with both family members in the new and old world believing that they were

the only survivors of the Bolshevik and World War II holocausts, all the children of Mykhailo and Ivan Ivanychuk had a tearful reunion in Lviv, in 2001. They knew then that they were the more fortunate ones."

–Determination and tenacity to fight for what is right. Mykhailo did not flinch from the battle for his nation's independence. Roman risked Soviet retribution, and wrote and lectured toward the same goal. Erwin, honoured repeatedly by his city, Portland, Oregon, for his volunteer work as an environmentalist, told a journalist: "A great country is not going to survive on its own. You have to be the steward of a country. You can't just take, take, take." The journalist commented that, in retirement, he continues to use a great portion of his energy to protect the things that most of us are content to take for granted. "Sometimes," says Erwin, "you have to put your name on the firing line."

Most Canadians and Americans and other members of the diaspora of Ukrainian origin have been spared the horror and destructiveness of direct encounters with the Soviet regime. But they have not escaped its effects. Most of us have lost members of our families in Ukraine. Those whose origins are in central or eastern Ukraine lost family members or neighbors during the Holodomor, the forced famine of 1932-33, and during the rest of the Stalinist era when hundreds of Ukrainian writers, scientists, political leaders,

and intellectuals lost their lives. Those of us whose origins are in Western Ukraine lost family members when the Red Army invaded their land and established a Bolshevik regime in 1939.

Our lost family members were robbed of their human right to normal lives, their talents were not realized, their contributions to society were not completed. They and their families were deprived of each other's potential for love and understanding, support and knowledge, laughter and joy. The preservation of Mykhailo Ivanychuk's memory in literature, the determination of his far-flung family to find each other, the translation of his book into a language which his descendants and others can understand; all these culminate in celebration and defiance.

The planners and implementers of physical, racial and cultural genocide wrought horrible damage and pain, but they did not succeed in their ultimate goals. Their wicked deeds have served to heighten human awareness of the evil inherent in unlimited, unprincipled power and greed, and the importance to human life of consideration and respect.

For those who were so brutally destroyed we hold memorial services and sing "*vichnaya pamiat*" – "eternal memory."

May remembering them provide incentive to appreciate and preserve a rich cultural heritage, Ukraine's gift to our human family.

—Gloria K. Atamanenko

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14 Months on Franz Joseph Land

Mykhailo Ivanychuk was a brilliant Ukrainian scientist and Arctic explorer. His misfortune was to have lived in the time of the USSR. In turn, he was lionized, then vilified and murdered, then eventually rehabilitated by the regime.

This is the story of Mykhailo Ivanychuk's exploration of the High Arctic, told in his own words, along with notes on his life story.

This is the first English version of Ivanychuk's work, ably translated by Gloria Atamanenko, a personal friend of Ivanychuk's family.

Mykhailo Ivanychuk

Gloria Atamanenko

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