



A. Belyaev

*Under the sky of the  
Arctic*

*Witch's castle*

*The person who found the  
person*

"Classics fantasy" **11**

**A. Belyaev**  
**Classics fantasy – 11**

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**Аннотация**

**THE PERSON WHO FOUND THE PERSON** Second, later version of the novel “The Person Who Lost the Face”. Here at all there is no fantasy. It is search history Presto of the real moral, public person. The novel how the person in fight fulfills a dream of the life...

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UNDER THE SKY OF THE ARCTIC

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Конец ознакомительного фрагмента.

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# Classics fantasy – 11

**A. Belyaev**

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# UNDER THE SKY OF THE ARCTIC

## 1. Black and white

– Again the cat behind a wall myauchit – Ignat Bugaev told, quickly looking through production schedules of power plant.

The cleaner of the Guryev hotel for visitors did not understand a joke and seriously answered:

– This is not a cat. This is your neighbor Jim Jolie plays the Hawaiian guitar.

– Black?

– Yes, Black. It arrived to us from America recently. Music does not disturb you? I can tell...

– No, Ashime, music does not disturb me ... – Bugaev thoughtfully drummed thick fingers according to schedules, then quickly got up, left in a corridor and knocked in the next number. The crying, mewling sounds of a guitar stopped.

– Enter! – the melodious tenor was heard.

In the middle of the room, with the lowered guitar in the left hand, there was Black Jim of Jolie. It was high growth, is healthy and young. The collar of an apache plaid shirt and sleeves sprained above elbows opened a dark mighty breast and the athlete's muscles.

– Allow to get acquainted, the companion – said in English Bugaev. – I am an inspector of the high-voltage line, the engineer

Ignatiy Bugaev.

Eyes of the Black still longed, and full lips developed in a hospitable smile, and dazzling-white teeth already sparkled. Jim gave a hand, and Bugaev noticed that the palm was much lighter than his dark hand.

– I am very glad to get acquainted. Jim of Jolie. Worker. The emigrant – the Black answered.

– You not absolutely justify the surname, the companion – Bugaev told. – Jolie – cheerful, noisy, live. And your eyes and your guitar long. About what? About the homeland? About the girl with a flower on a breast?

They took seat at an open window. Jim thoughtfully looked at the sea, on far smoky yarn of trawlers, at the plumose clouds lit with decline purple. His dark fingers already touched on a guitar string habit. And to the accompaniment of a silent, sad song he began to speak about himself. Bugaev listened to words and unfamiliar motive. Strange music with the breaking rhythm explained untold. “These syncopes – Bugaev thought – say more words. Jim left ‘an old rhythm’ and did not enter new... Loneliness? Yes, of course, and loneliness. Jim is similar to the plant postponed for others soil. Botanists call it ‘introduction’. Introduktsionnye of a plant probably too have to have nostalgia – homesickness...”

Jim of Jolie worked in North America at cannery in Kaye-Vest, or Key West, as he told. It is the most southern part of the Florida peninsula. Beyldon and Son cannery. Big there

was a business. Over hundred million dollars. Crisis ate. From year to year production was reduced. Jim was the good worker, and he was held up to the end. And the end was is as follows: Beyldon and the son not only closed case, but also broke the plant – appear, easier to sell the empty site. But nobody bought it. On ruins of the plant the “cave” settlement of the unemployed was formed. Ate fish who was caught. Wore the last rags. And is farther what?

Jim dreamed of a trip to the USSR long ago, as well as his many companions. But all of them did not have enough funds for the road. Perhaps, there was not enough also determination. And Jim had it. And here three friends of Jim put the pennies with his small savings and equipped him to the road. It was the stork not only friendly solidarity, but also calculation: having settled in the USSR, Jim would send money for the road to one of “shareholders”, that after arrival to the USSR – to the following, and so – so far all “shareholders” will not get over on the new homeland.

– Here and all short history of a long way from Key West to Huryef – smiling finished Jolie.

– Not Huryef, but Guryev – Bugaev corrected. – And what you want to do?

– Canned food – Jim answered, publishing a finale on a guitar.

– To me specified this city. I did not know the USSR. But you have other fish, other methods of processing here. It is necessary to be retrained. I should go to Vladivostok. Crabs – my specialty.

But it is a long way again, and on a trip I have no means any more.

– And you have no other specialty? – Bugaev asked.

Jim of Jolie shrugged shoulders:

– I worked in Charleston at buildings. When crisis suspended construction, it was necessary to pass into the food industry. Thought that it is more right: people can cease to build, but is not.

– And it turned out that they can cease and eat? – having grinned Bugaev told. It had a dense bass, and Jolie even shuddered when Ignat suddenly loudly asked:

– You are able to knead concrete?

– It was necessary.

– Perfectly, Jim, perfectly! You will be a concreter. I was written by Vera Kolosova... If you accompany me on your guitar, Jolie, I can recite to you verses fairy tales on the blue-eyed girl who lives very far, in the midnight region. It is similar to the ice queen. – Jim smiled. – But as you do not play, I continue to speak rough prose. It civil engineer. And now builds the wonderful building in which of polar cold will do heat and light.

– It is similar to the fairy tale too – Jim told.

– When you closer get acquainted with our country, you will see that we have many such fairy tales of life. Yes, so about Vera. She wrote me that it on building does not have enough concreters. Allow me to bring you as a gift to Vera Kolosova.

Jim burst out laughing.

– I am afraid that she will not thank you for such gift. I will go with you, companion Bugaev. But I would like to know what the

ice country is and what the magic factory for processing of cold in heat is.

– We still will have time to talk. So far I have to warn about one: it is the country of ice, cold, blizzards, a gloom. After solar Florida such country, perhaps, will seem you hell. Think properly.

– From there is mail to America?

– Well, certainly. There is both mail, and telegraph, and radio.

Jim slapped up to Bugaev's palm the palm.

– Means, on hands. A point – Ignat in Russian finished.

## 2. Live card

Jim with interest observed a small cabin of the airship. Jolie never before was necessary to fly on airships. Below – Bugaev's bed, over it – a suspended bed of Jim with a high grid, as in cribs. Walls are fitted by blue leatherette with imprinted flowers. The external wall is slanted to a floor, in a wall – a low, but wide window. Curtains. At a window – the small little table laid by a white cloth before a table – two stools from dural pipes. Anything superfluous. Light-, warmly, perhaps, even hot. But it is not stuffy. The small propeller freshener works at a little table. In a corner the fan buzzes. As in hot day in the field bumblebees and bees. And against the background of this hum pleasant music – a waltz from the opera “Eugene Onegin”. Radio... Drives at a dream. Jim closes eyes and sees is dense –

blue open spaces of the Gulf of Mexico, the Guryev trawlers... and ahead of it the unknown country of ices and blizzards which he never saw in life expects...

Jim stirred up the head and looked in a window. Steppe. The shadow of the airship runs on the ground. The infinite chain of support of high-voltage transfer leaves afar. On the horizon the lake shines, the woods become blue. The airship flies several days low above the ground. How many was replaced pictures in these hours of flight! Fields, waterless steppes, woods, deserts and again woods. The farther on the North, the their becomes more. And everywhere – in steppes, deserts, even in the woods among long wide glades – busy tractors, trucks, cranes, derrick, trolleys, engines... Whole regiments and battalions of workers... Day after day, step by step people win desert spaces, carry out channels, construct roads, cut through glades in the woods... What persistence! What tension! Ahead – the primitive nature, a solitude, the woods; behind – roads, settlements, the plants, the cities.

In deserts of Central Asia Jim saw a set of solar and vetrosilovy installations. The hot, drying-up sun began to give water, water gives rise to greens of meadows, gardens, groves, shadows, a cool. There will be nothing surprising and in if from cold they begin to get heat.

And further, on the North – the woods. Continuous Siberian woods. With them, perhaps, fight is more difficult, than with deserts. When you fly over these woods, apparently, all globe

is covered with them. To them is not present began, the end. Billions of trees occupied vast spaces and guard the possession.

In the sky the airplane, behind it five gliders on the tow flies. "The air train". Here one glider was unhooked and decreases on a forest glade. It bears to woodcutters mail, food... Already many such air trains Jim saw.

...Highly in the sky the all-metal Tsiolkovsky airship slowly moves, its motors do not work. It goes down stream of the air river. Bugaev explained: "Motorless air transport".

Radio music came to an end. Shmeliny hum of ship propellers and fans became more heard. Transfer of "latest news" began. But Jim still badly understands Russian.

It becomes boring for Jolie. It goes to a saloon.

Bugaev sits at a window. The collar of a white shirt will be undone. On a small table paper, pencils. Bugaev holds a radiotelephone tube in hand, looks in a window, asks invisible interlocutors questions, scolds someone, quickly writes down answers.

Bugaev sees Jim, nods and asks:

– You want some coffee? – They already on "you".

– I thank, I had breakfast – Jim answers.

Bugaev acquainted Jim with the card. There is the southern main line. It goes south from Elba to Chardzhuya directly, then turns on the East – Tashkent, Chirchiq, Naryn, Alma-Ata; then goes on the northeast – to Irtysh, Biysk, Krasnoyarsk, Ilim – and from there on the East – to Zeya, Selendzhu, Bureya, Perm,

Sovgavan, coast of the Pacific Ocean...

– And here northern line: Tyumen, Omsk, Novosibirsk, Krasnoyarsk. Above, to the north of this line, there are only certain stations. I specify the most northern – Tobolsk, Vilyuysk, Yakutsk, Aldan, Kolyma. And further... The white spot is farther. Undeveloped desert. Tundra. Taiga. The infinite sleeping riches.

– We conduct to the Arctic approach with the South and we storm it ice breakers from the Ledovity ocean. The Arctic is a “workshop of weather”. Meteorologists only then will be able unmistakably to forecast the weather when all Arctic becomes covered by network of radio – and meteorological stations. The Arctic is the country infinite and still almost not experienced riches. We only slightly opened the Arctic chest and already found apatites, iron ore, coal, graphite, oil, non-ferrous metals, peat, slates both other and other, besides in such quantities which change all our ideas of world reserves of minerals. And its infinite woods? And incalculable quantity of a sea animal and fish of the polar seas, rivers, lakes? And fur richness of the woods? And uncountable herds of wild deer?

The Arctic is the country of the future, but not the country of “death and horror” what it was and what else seems to much still.

The Arctic ... – Bugaev unexpectedly became silent and crackled fingers. – We did not win up to the end against this country yet – he told more quietly. – You will ask why...

– Cold? Climate?

– No, not cold and not climate – the main obstacle. “Resilience” of the Arctic is in its open spaces, in off road terrain, that she is too great.

In fight against off road terrain we apply all types of “weapon” – the sea and air fleet.

You, likely, read about our last giant ice breakers? To them more ices are not terrible. The great Northern Sea Route is laid.

Our ice breakers blow up icebergs, break ice heavy cases, and sometimes and kindle it. The nose of the ice breaker turns into the heated “electroiron” which melts ice. It is our last invention.

But this iron demands big power consumption.

We have power sources. The Arctic is rich with coal and in particular the wood. But we do not go in the area of the smallest resistance. We protect the wood and coal for more valuable use in chemical industry. But

The Arctic is rich with gratuitous wind power. And all of us more and more use this energy. The deep rivers of Siberia many months in a year are held down by ice. Our scientists work on a problem of year-round use of energy of these rivers. The most interesting experiments of fight against formation of ice, are now conducted by freezing of the rivers.

We began to do in real earnest use of thermal energy of the earth, numerous “furnaces” – hills of Kamchatka. The Kamchatka hills already began to give us energy and will give more and more every year. We could throw a large amount

of energy from the South, from our solar stations. But the Arctic has to feed with energy itself. And we decided to use a boundless source of the Arctic energy – cold. I will not speak to you about this idea in detail, you learn on the place.

Look at the card. We are here – to the north of Baikal, not far from the Angarsk hydroelectric power station. There we will leave the airship and we will change on the airplane which will incur us directly on the North through continuous forests. I am called to the new city, Chelyuskin, for consultation.

– There lives also “the snow queen”? – Jim asked.

– There also lives. You already became interested in it? But, I warn, she is already a bride – laughing Bugaev answered.

### 3. Road adventure

Woods, woods, woods... In a cabin of the plane warmly. Monotonously the motor hoots. Shakes the car. The skilled pilot Semenov heads directly for the North on the hundred third parallel. Armed with the Russian-English dictionary, Jim slowly reads the new Russian novel. Ignat at the next window works with a slide rule, something writes down.

Unexpectedly the pilot switches off motors, rocked the plane.

Ignat looked in a window. It seemed, the earth suddenly rose on end and jumped on the airplane. The plane decreases an abrupt spiral on a small glade.

– Keep! – Ignat to Jim shouted. But the plane without push

already concerned the earth, ran on a grass and stopped.

– Only our Semenov could sit down so dexterously – Ignat delightfully exclaimed. It opened a door in the pilot's cabin. Semenov sat, having leaned back on a chair back. Pale face. From a nose blood flows. The flight mechanic Doronin already gives first aid – moistens Semenov with whisky alcohol, wipes cotton wool the blood-stained hands and a face.

– At it – Doronin explained – there was bleeding from a nose, dizziness... How you feel, Semenov?

Semenov smiled and answered with a gruffish voice:

– Now it is better, but the head is still turned. I cannot understand why it...

The sick pilot was carefully transferred to a cabin of a fodder compartment and laid on a floor, on the outspread mattress, having highly raised the head.

Jim looked in a cabin window. Gloomy, impassable wall of the wood. It seemed to impressionable Jim that dark larches the hostile and triumphing system surrounded the steel bird who came on a silver platter. Now she together with people was a captive of the wood. Around – a deficiency, forest swamps on hundreds, perhaps, thousands of kilometers. You will get lost, you will die of hunger before you reach people. In the airplane of food for only several days... Sick Semenov... Gloomy picture!

But Bugaev is absolutely quiet. He squeezes out water of a towel the strong hands and puts a compress on Semenov's head.

– What became silent? – Ignat asked Jim. – Do not worry. We everywhere houses. If the wood is not quite won, then and over us he does not dominate more. Ourselves will not come out of the wood – we will be found.

It was heard as Doronin works at an emergency radio set and then talks on a radio telephone. In a few minutes it returned.

– The next settlement is nearby, in three hundred kilometers, the next aviapoint – in five hundred – he told. – But somewhere the radio station of the Taiga ship works absolutely nearby.

– Ship? – Semenov asked, raising the head and trying to smile. – Which of us is sick, you or I?

– Perhaps, I became deaf, did not catch – Doronin made a helpless gesture. – But the unknown radio operator clearly told: “Tells the Taiga ship. We are in only thirty kilometers from you, directly on the East. In two hours we will send the doctor as soon as “Dragonfly” returns.

– But directly on the East thousands of kilometers of the continuous wood – Semenov told again.

– I also know that around the wood and to the sea it is far. What waves and winds brought the ship here?

– You also asked about it – Ignat told.

– Also asked. And the radio operator laughs. You come, speaks, and look at.

– Yes, but in two hours it is impossible to pass the wood thirty kilometers. Perhaps, it is a mystification what – Bugaev reflected aloud. – Or it is the air ship which transferred accident, as well

as we.

– With distress signals do not joke – Doronin almost angrily answered.

Time hung heavy. On an end of the second hour after accident “Taiga” reported that “Dragonfly” took off and in a few minutes will be on the place. Means, this is not the doctor, and the airplane? And the mysterious ship really exists?

The motor rumble was heard soon. The last red beams of the sun lit the silvery “Dragonfly” who seemed over the wood. It was the small two-seater airplane – the gelikopter having two propellers.

“Dragonfly” took a detour over a glade, choosing the place of landing. Gelikopter almost steeply fell near Semenov’s car.

The cabin left the elderly woman in a leather coat with a small suitcase in a hand.

Doctor Dubrovina examined Semenov and declared that he needs to be taken on the airplane to hospital. She left drugs from the road first-aid kit, explained how to look after the patient, and departed.

– Hallo! – the voice from a loudspeaker was heard. – The air base speaks. The sanitary airplane arrived. We can send it to you. Spread out fires that it could find you.

Ignat, Jim and Doronin hurried to make fire at the edges of a glade. There was a fresh night. Boughs crackled. Smelled of the burning needles and dampness of the wood. Fires lit a wall of the larches surrounding a glade.

Suddenly Ignat uvidat the blue spark flashing between trunks. The same minute noise of the airplane was heard. It roamed over a glade and decreased in ten meters from travelers.

– Too quite good landing – Doronin approvingly told.

– If to look, in this taiga, it appears, not so there are not enough people – Jim was surprised.

– I said to you that we everywhere houses – Ignat responded.

The pilot left a pilot's cabin, examined a glade and shook the head. Doronin understood it: it is hard to sit down, but it is even more difficult to fly up from this glade. Any minute – you “will hit” in a tree and you will break.

People with lamps approached from the wood. One of them was the bearded man of years for fifty, similar to the old taiga hunter, another – young, almost the young man. Both of them were in leather suits.

Got acquainted. Young it was the captain, and bearded – the navigator of mysterious “Taiga”. Ignat could not wait to find out that it, at last, for the ship. But at first it was necessary to resolve more important issues. The arrived pilot suggested to take Semenov to hospital, instead of Semenov other pilot can conduct the airplane, but Semenov declared that he can entrust nobody the car. He was sure that he in a day or two will recover and will depart further. Not to concern the patient, he was not objected.

With the first beams of the sun Semenov was transferred to the sanitary plane. Doronin helped to examine motors. The

car was dragged on edge of a glade. The plane rose, the abrupt bend made, shook and was behind the wood. Whether it will be leveled?. – with nervousness Doronin thought, listening to sounds. But motors rolled exactly, sounds were removed. The plane became visible already at big height soon. Having made a semicircle, it took on the South.

– Kind way, companion! – Doronin shouted it is experienced as if Semenov could hear him.

– We go, perhaps? – Foma told.

#### 4. Taiga ship

The captain, the navigator, Jim and Ignat, having said goodbye to Doronin, went to the wood.

– Telephone us if bears attack you! – Ignat shouted, turning around, and smiled.

– For myself I am not afraid – Doronin answered. – In a cabin I will not be got. And I have a weapon. However and you remind of yourself.

Travelers went deep into the wood. Smells of a Labrador tea, needles, the earth. Slanting beams of the sun light bloody spots of leaves of a buckthorn. The captain glances at a compass, but Foma Gruzdev has compasses: he looks at boughs of trees, at trunks, on a grass and there is more surely, than Simakov armed with a compass.

At last travelers got out to a big glade. The first that they

saw here, there was a kite of an extraordinary form soaring highly over the wood. Judging by height, it had to be a huge construction! – something like the cylinder thirty meters long cut on two half along a big axis. On each side the cylinder – two semicircular planes turned by the rounded edges back; under the cylinder – the platform and on it the box. Behind “dragon” – a huge tail from several funnels connected by a cable. On the lower platform under the cylinder two human figures potted about.

– It appears, your “Taiga” – the air ship? – Ignat told, addressing Simakov.

– No, “Taiga” – not the air ship – objected the captain. – What you see is only a high-rise electropower plant of “Taiga”. Our “Taiga” carries for itself the flying power plant attached on a steel rope.

– But what represents the ship? – impatiently Ignat asked.

– You will see it soon – the captain quietly answered.

Travelers passed many forest glades, so far, at last, came to a wide forest glade. This glade had an unusual appearance. Low cut trees – it is so low that stubs above the ground were not visible, lay on both sides of a glade as a mowed grass. Over a glade already far behind travelers loomed in the sky of “snakes”, at the end of a glade travelers saw a high pipe, and then and the huge black construction which occupied with the hulk all glade and rising dark weight level with tops of trees. Over the case of this overland dreadnought pipes were seen. The average

pipe was wider and nearly above a factory pipe. It was also seen by them still published. Other pipes were much lower. The whole web of delays strengthened them. On “nose” and “stern” masts rose: obviously, radio station. Any pipe did not smoke. In the case of “ship” round windows were seen.

Travelers approached from a stern and therefore could not define a form and length of this extraordinary ship. It seemed, it stood directly on the earth. And having only approached closely, they could examine “Taiga”. The case of the ship reminded the submarine case. But by the sizes it was the real ship to three floors. On a nose the captain’s cabin with a searchlight over it towered. Ahead of it, lower – three propellers, and one propeller aft. The ship was based upon the wide platforms having the wheels skating rinks reminding skating rinks of road trambovochny cars. Below, under a window, there were closed hatches and exit doors. Several ladders conducted on the main deck.

– There now and “Taiga” – Simakov told. – It is the all-terrain vehicle adapted for long expeditions on a taiga and the tundra at any climatic conditions and at all times years. You still will manage to get acquainted in detail with it, and now to an idemta to have breakfast. All of us got hungry enough. And does not prevent to have a rest. We almost did not sleep this night.

After the captain all climbed a ladder on the deck. At the end of her Ignat noticed peacefully lying “Dragonfly”. She took very few place and reminded the dozing insect.

– How are you, captain? – Ignat someone's cracked басок heard. Near an average pipe there was a thin suntanned young man. It was the mechanic Alexey Zhukov. His hands were soiled with oil.

– Everything is all right – Simakov answered on the run. – Here, brought guests, we will have breakfast. And at you as?

– Oll-rayt – Zhukov answered.

– Oll-rayt – Jim repeated and smiled. Guests got acquainted with Zhukov.

All went down in the saloon which was on average the floor, the capacious room with a high ceiling. The path from linoleum of cream color divided the room into two half. On both sides there were tables laid by pure cloths. On a ceiling – opaque lamps. In a corner – black диглг a loudspeaker. At a wall – the screen. Between little tables – in oak kegs bushes of the blossoming oleanders. Everything shone and sparkled purity.

– Here it is pleasant to me – Jim told. – Here what miracles hide the impassable Soviet woods!

The woman in a white dressing gown brought the smoking breakfast. Ignat pushed Jim and said in low tones:

– Look and it is the doctor who arrived to us.

Simakov burst out laughing and told, addressing Dubrovina:

– Marianna Ivanovna! Our guests are surprised that you today for the waitress.

– Ourselves serve ourselves – having greeted guests, Dubrovina told. – We have no patients, I have more time, than at

others, here I also manage. Eat properly. The lunch will be late.

Jim and Ignat obeyed a good advice and have densely breakfast. Having sated, Ignat addressed the captain:

– Well, tell me in more detail about the ship.

## 5. The inventor tells

Our country was faced by a grandiose task: up to the end to discover Siberia with its inexhaustible power sources and natural wealth. The North is impassable. The seas are barricaded by ices. The Arctic is cut off by vast spaces of the tundra, a taiga, the woods, as impassable as ices of the polar seas. Ices are already punched by our ice breakers. And the woods remained impassable because we had no forest “ice breaker”. Came it is time to be accepted also to the woods. The grid of squares was imposed on vast “free” spaces – at first only on the card, and each square – each kilometer in this square – had to undergo careful inspection: geological, geochemical, botanical, hydrological. Unless this task can be resolved quickly horse draft and pedestrian circulation? The question of vehicles in a taiga demanded bystry permission. Air traffic is good as means of bystry communication, but for the prospecting parties loaded with any tools, supplies, samples of ores and we designate, something was necessary other. It was necessary to construct the ship all-terrain vehicle which could overcome easily off road terrain, contain in itself all prospecting party, tools, food

stocks for long months. The ship which would be both “car”, and “house”, and the marching laboratory which is very decently equipped. And I thought several years of a design of such all-terrain vehicle. Then we began to work as inventive crew at the Chelyabinsk plant.

Tens of projects were rejected by the Chelyabinsk committee of society of inventors, a little – the center. But, eventually, the project was approved and the means are allotted for construction. Two more years left on construction and experiences. Our ship all-terrain vehicle was born. It came to maintaining the Ural branch Academies of Sciences and academic council for studying of productive forces. This council developed the plan and a route of our first, skilled expedition. We are engaged in research of minerals, we study forest riches, in passing we do glades, we conduct meteorerecords and many other things. Daily we report on radio official reports about our works.

Whether “Taiga” justifies the appointment? Ours child, alas, very much and very imperfectly. It is necessary to bring improvements a lot, but generally we as though resolved a task. We can make researches throughout all year, despite frosts, a snowstorm, polar night. It means, rates of development of the North at least treble.

Jim clapped the hands.

– Very well. Oll-rayt! – he exclaimed.

Simakov continued:

– We needed to overcome two main difficulties. The first –

power. To move such large object as “Taiga”, it is necessary to have engines in many thousands of horsepowers. To arrange such zhyulvernovsky “steam house”? For forest area where fuel can be taken on the place – all right; but what you will order to do in the naked tundra where neither a tree, nor a bush, nor a blade? To take a coal reserve for several months? – It is impossible. Besides that the ship would “be inflated” many times over, it would become even heavier, and it should “float” on swamps, on dirt, on hummocks. It would get stuck. Liquid fuel not much more would improve situation.

– Accumulators? – Ignat asked.

– Thought also of them. But even the newest “electric canned food” nevertheless would not provide with energy for many months this steel monster.

And we decided to use wind, having created the wind station. It is a kite. It can be started on 500 meters and runs faultlessly. In local latitudes at such height wind blows steadily. But energy of a dragon is not enough. And we put air turbines – vindrotor. They work not so smoothly, but nevertheless give us a lot of energy. At last... you saw an average pipe of huge height? All its device is very simple. Outside of any mobile parts. Only one tower-shaped cylindrical pipe like a chimney from sheet iron is visible. On the top end, at some distance, it is surrounded with the short cylinder. This external ring is supported from below by very narrow edges. The lower end of a high pipe is open. And here, under whatever corner wind blew, the result will be same:

in a cylindrical tower the vertical stream of air is created. In other words, the wind which is constantly changing the direction and force turns into almost constant air stream here. Speed changes, but the direction – up a pipe – remains invariable. At the lower basis of a wind tower horizontally lying turbine is installed. Such device provides easy access to the cars protected at the same time from all influences of bad weather.

– And for what these small pipes? – Ignat asked.

– The principle of their work is also simple. The cylinder is cut in half, and halves are put horizontally on a basic disk in such a way that edges of one half come for edge another; between them – an interval. Air also gets to this crack. It twirls a rotor, the rotor sets a dynamo in motion.

– And cumulative energy of all these installations is enough to supply the air ship with energy?

– Yes and no. As I told, one high-rise station has not enough. Below wind nevertheless blows changeably. And when “Taiga” goes the continuous wood, below absolutely quietly. And we had to call to the aid one more invention – system of “accumulators” for wind installations of Ufimtsev. In short words, business is as follows.

Wind – gratuitous energy, which everywhere at hand. But all misfortune is that wind – whimsical elements. It blows, ceases to blow, wind force also changes continuously. Hundreds were offered if not thousands of witty projects of advanced wind-driven generators. But inventors, scientists not “got at the root”,

did not set the task to fight against the main lack of wind turbines – inconstancy of their work.

Wind force as I already told, changes often. Even for one minute it is changeable. How to level these minutes of inequality? The accumulator, so-called inertial and kinetic is created. Simply speaking, it is an advanced swing wheel in which inertia force develops. It moves and therefore it is “kinetic”. In it the inertia force and therefore it is “inertial” is used. In order that in him there was less friction and a maximum of useful effect, it was placed in a special case from which air is extorted or which is filled with hydrogen. Wind blows – the flywheel spins. Wind ceased to blow, and the flywheel still spins several minutes, continuing to give the reserved energy. The wind power “jumping” for minutes is a little leveled, and minute breaks in energy supply are eliminated.

But it – only the beginning. In work of wind there are not only minute, but also hour breaks, sometimes throughout many hours. How to fight against it? Accumulator number second. It is the ordinary electric accumulator.

Further there are interruptions in wind energy supply which can last in the days. And on a scene the accumulator number third acts. You are familiar with Schmidt’s electrolyzer? When passing electric current through the acidified or alkaline water water decays on oxygen and hydrogen. Schmidt’s electrolyzer pursuing this aim consists of the pig-iron plates from zakraina which are screwed together with asbestos laying in one whole

battery. Intervals between plates are filled with weak solution of potash. The hydrogen and oxygen which are formed when passing current are taken away separately and gather in vessels. This electrolysis is made by the same wind power. The wind-driven generator “in leisure hours” reserves for itself the gas fuel received from water.

Oxygen – “by-product” – goes on various well – frets, hydrogen serves as fuel for the gas engine with its dynamo.

At last, there is one more reserve, ordinary heat engine, say, on oil, with a dynamo. But almost it is never not necessary to resort to it.

The problem of alignment of inconstancy of wind power was so resolved. These accumulators can be used to wind-driven generators of any design. An invention essence – in combined methods of accumulation of wind power.

– And wind pulls “Taiga” smoothly? – Ignat asked.

Simakov frowned.

– There are nevertheless hitches – he told as if unwillingly. – It is necessary to be defended then to reserve energy in accumulators. But such cases was not enough. We on work flow have long stops during which we also can reserve large amounts of energy.

– So, the problem of energy is more or less resolved. And what was the second difficulty at design of the all-terrain vehicle? Movement mechanism? – Bugaev asked.

– Yes, but it would be most interesting to get acquainted with

this problem, “having swum for a while” by our ship.

## 6. Jim examines the ship

Ignat went to a radio cabin to consult about Semenov and Doronin, and Jim was engaged in survey of extraordinary overland “ship”.

Along all case there was a corridor. Walls and doors of a corridor – from gray opaque metal. On a ceiling – lamps in the cubic glass lamp shades made as if of pieces of ice. On a floor – linoleum. Purely, as in hospital. On a door, against a saloon – the black brilliant plate with an inscription in Russian. Jim carefully slightly opened a door. Anybody. Big, as a saloon, the room in three windows windows. All walls are filled with regiments. On them folders, boxes with numbers. Ranks of the racks filled with the same boxes. Some warehouse...

The next cabin – out-patient clinic. Jim looks and here. Walls and furniture sparkle a whiteness. Surgical table. A glass case with a set of medical tools.

X-ray, quartz and still some devices unknown to Jim. Nearby on a wall – a marble distributive board with knife switches and switches, ampermeters, voltmeters. Under a glass cap – a microscope. In a corner – scales.

“The quite good medical equipment for such small crew” – Jim thought.

The third room – laboratory. Jim already safely opened a door,

believing that he will find nobody.

– Ah, forgive ... – he confusedly speaks and closes a door. Behind a door laughter and as though words is heard: “Where you? Enter...” But it is not solved and goes along the corridor further, carrying away fleeting impression: gloss of chemical ware and tools, samples of minerals on tables and two female heads inclined over microscopes. One – with smoothly combed dark hair, another – short-haired, zolotovolosy. Black, apparently, is more senior; gold – is younger, white, ruddy. Which of them so loudly burst out laughing? Gold?! And why laughed? Likely, Jim looked very silly... To return? No, no... Also did not knock. Will think: “What ill-bred!” Now it will be more careful.

Jim came over to other side of a corridor and carefully knocked at a door on which there was a plate with an inscription “Club”. “Enter” – deafly was heard to it. It slightly opened a door. The room was empty. Really it is that girl heard its knock and responded? Why he is so excited? It is good that there is nobody here.

All wall is occupied by the TV screen. Big lamp receiver. In room corners two desktop billiards with brilliant spheres – ball-bearings. Glass case. In it Ping-Pong, chess, dominoes... A carpet to all room. Easy chairs. Curtains on windows. Beautiful chandelier. Sitting in this room, it is difficult to present that you are in the “impassable” Siberian woods, for thousands of miles from the cities and the railroads.

On average the floor there was one not examined cabin – library. Jim went there. In library he found the doctor Dubrovina. She took sheets of the Pravda newspaper from a radiobildapparat.

At last Jim went down on a ladder to the first floor. There were an electrified kitchen, the engine room, warehouses of provisions, combustible, spare parts. Here, in the certain storeroom, Foma stored skins of the animals killed on hunting and the whole collection of guns, boxes with cartridges, hunting knives... Survey is over. Jim rises by the second floor. In a corridor meets Bugaev.

– Everything is all right – Ignat says. – Our airplane took off forward. Semenov feels like the good fellow. We go on the deck.

## 7. Captives of fire

Foma approached Simakov:

– Smells of ashes, the captain.

– I feel nothing – Simakov told, smelling air.

– I have nostrils of an old tayezhnik. Today wind on the South, and will pull on the North, and you will feel – Foma answered.

– Well that disturbs you? – Simakov asked. – Probably, hunters made fire.

Foma vaguely began to nod the head.

– Everything can be – he answered. – But only whether... it is better for us to be chosen from here somewhat quicker?

– You think that in a taiga the fire? – already with some concern Simakov asked.

– Smells and! – Jim was responsible for the bearded navigator, involving air wide nostrils. Felt a smell of burning and Bugaev and Simakov.

– Perhaps, you are right – the captain told. – It is necessary to get away.

On boughs of trees, from a larch on a larch, jumped with the scared peep of a squirrel. They were a set, and all of them rushed on the North, running away from the fire. Below on a glade three hares rushed. Aside, in a thicket, the big bear seemed. He came to a glade, got on hind legs, smelled air and, again hard having fallen on forward, hasty walked in the wood, with extraordinary speed turning the body.

Over the wood with shout flocks of birds flew. Foma clapped the heavy ruchishcha on each side and groaned. In it the hunter woke up. How many game! But now not to it. It was necessary to ring a bell, convoking all for emergency works.

One by one on the deck inhabitants of “Taiga” appeared: the mechanic Alexey Zhukov, geologists – golden-haired Anna Fokina and black, as the Gipsy, Zinaida Kamneva, the doctor Dubrovina, students probationers – Mitya Dudin (Ignat recognizes in him the pilot of “Dragonfly”) and Fedya Gritsay. Even two dogs laikas disturbed by a bell and the risen turmoil ran out. They heatedly barked from a board at birds and animals.

At last there was a fat man radio operator Grebenshchikov. He

reported that from “Dragon”, the high-rise electropower plant, report about the begun fire.

– We know. Our Foma got wind of this fire earlier, than they from the sky noticed.

Jim looked on “Snake”.

– To them it is good there – he told. – To them not only fire, but, perhaps, and smoke will not reach.

– And if the wire by which “Dragon” is tied to “Taiga” fuses what then? – Ignat objected.

– Not so terribly – Anna Fokina responded.

“She laughed” – Jim, услыхав the girl’s voice thought.

The moment was such that not before official representations. Guests got acquainted with crew a mute nod of the head.

– All hollow parts of “Dragon” are filled with hydrogen – Fokina continued. – “Dragon” will not fall; will carry it for the line of the fire.

– However wind can fall to the South, and “Snakes” in a flame – is disturbing Kamneva told.

– Attention! – the captain shouted. – All in places. Operation of machines at full capacity!

Zhukov ran to the motors. Foma became for a steering wheel. The captain Simakov with Ignat and Jim went to the captain’s cabin, under it the others were grouped.

Motors hooted. “Taiga”, having trembled all over, slowly moved forward. The overland ship approached closely a wall of larches soon. There was no place to go further. Without

restraint propellers on a nose hooted.

– Really one screw draft can be moved this monster? – Ignat asked.

– On snow it is possible – Simakov answered. – Here propellers only help: “Taiga” moves on wheels which rotate by means of motors. There will be time, will tell in detail. And also you will see something.

– Frame! – he shouted.

Ahead of the all-terrain vehicle the metal frame strengthened on low wheels moved forward. The forward ends of a frame were connected by a thin metal plate. Behind a plate, at some distance from it, there passed the metal pipe. It went parallel to a plate and also connected the ends side metal cores. In total together also made the “frame” reminding the shafts connected ahead, but very widely placed.

– Current! – Simakov continued to order, bending to an acoustical pipe.

Jim and Ignat saw how the thin metal strip ahead of “shafts” reddened and was made white-hot. The strip crashed into a larch and passed through its trunk with ease of the knife cutting oil. Juice of a tree addressed in the steam which escaped from a section. The smoke seemed. But at the same moment from the pipe which was behind a plate through holes streams of the foamy liquid which was sticking around the place of a cut began to escape. The flashing flame immediately was extinguished. Hissing amplified. Steam and smoke covered an electric knife.

– Claws!

Two pairs of levers terminating in iron claws came up from where from below. Dudin and Gritsay dexterously operated iron hands. Claws grabbed a tree above a cut and left aside. “Taiga” moved forward. Kamneva, Fokina, Dubrovina helped Dudin and Gritsayu to direct falling of trees when “hands” did not manage to make it in time. “Taiga” bristled up the mechanized hooks, claws, levers.

Work was intense, unsafe, demanding big dexterity and skill. The captain coped from time to time on radio with what speed the fire moves. From a tower of “Dragon” reported to him about it.

– In what direction the closest border of the wood lies? – the captain of coils asked.

– Before us to the horizon the continuous wood – answered from “Dragon”. Simakov frowned.

– It is necessary to send Anna to investigation – he told.

– On an aviette “Dragonfly”? – Ignat asked.

The captain nodded.

– Geologist-pilot. I see, you are versatile persons here – Ignat told.

– It is necessary – Simakov answered. – Anechka likes to fly. He made the order.

In a few minutes “Dragonfly” already rose almost steeply over all-terrain vehicle, having headed for the North, and was behind the wood. Soon it returned.

Simakov began to count that moves quicker – “Taiga” or the fire. How it wound the head, results turned out unfavourable.

– Well that? – Ignat asked.

– The fire makes up – Simakov answered. – And by the evening wind has to amplify.

The fire amplified. Fire covering the increasing forest space itself created wind. It already hooted on tops of trees, carrying caustic smoke, but sparks it was not visible yet.

Over “Taiga” cracked and abruptly “Dragonfly” fell by the deck. The excited, reddened Anna Fokina specified the shortest way from the wood.

Day died away. In the sky the first stars were lit. Animals already ran everything, birds flew by.

– Now clouds, a rain, and the sky, as ill luck would have it, pure – Simakov grumbled.

From “Dragon” reported that the fire does jumps: the risen wind transfers the burning boughs, branches, causing the new centers. Business took a serious turn.

From where again mad animals appeared. Different inhabitants of the wood ran alternately, without paying attention at each other. It became difficult to breathe.

– To lay a pipe and rotors! – Simakov ordered.

The high pipe of vetrosilovy installation turned out folding. It settled as if failed. Rotors were put on one side as steamship pipes when passing the steamship under the bridge.

– To stop motors of air draft!

Part of motors calmed down. Propellers, having turned round and round idling, stopped. Dudin and Gritsay quickly removed them and laid in the case.

– Arch!

– Is an arch! – Pomor was answered by Gritsay.

In a nasal part of the overland ship, over the deck, three metal arches, one above another rose.

– To batten down windows!

– Is to batten down windows!

Jim and Ignat expected, what will be farther. “Taiga” reminded the ship before cyclone approach. She was going to enter fight against a fiery storm and elements of the wood. The wood it is tenacious held in the paws, fire persistently made up for the ship.

Simakov deeply sighed. “Taiga” was ready for storm.

– To give lesoreza. Full speed! – the new team was distributed.

“Taiga” quickly moved forward as the tank in the attack. The cutting torch made white-hot podkashivat thick trunks, and they fell diversely. Trees, rustling as sea waves, fell directly by “Taiga”, fell on arches and on them slid off down. Others fell across the road. “Taiga” crept, rising a nose, a stern as the ship at kilevy rolling. Sometimes on the way so many trunks leaned that it was necessary to recede and again to move to scatter them.

– It already reminds fight of the ice breaker against ice – Ignat noticed.

– Yes, but, at least, the fiery tornado does not pursue the ice

breaker – Jim noticed.

Absolutely darkened. Despite noise of motors, a crash of the falling trees and hissing of fire extinguishers, the rumble of the overtaking fire was already heard. The darkened night sky in the south became crimson. Small sparks flew by over “Taiga” as meteors.

– Here the spark can get, all this garbage needs to be put away – Ignat told.

– You are right – the captain answered. – Here to you and Jim there was a suitable work.

Jim and Ignat began to dump from the deck of a heap of boughs, needles, cones.

– Teplenko becomes to work – Ignat told after a while, wiping sweat from a face and glancing at Jim.

The black figure of the Black was already brightly lit with glow of the fire and seemed bronze.

– Yes, grows warm – Jim noticed, also stopping to take rest.

To the aid of Jim and Ignat Fokina and Kamneva came.

By ran Gritsay and told on the run:

– Nasty business. There is not enough fire extinguishing foam. Stocks are exhausted. Dubrovina does not manage to produce. Somebody help it.

Anna threw a garbage armful overboard and left.

In the wood already was light-and it is hot, as at July noon.

– Gloomy affairs, Jim – said Ignat in low tones. – Perhaps, it would be quieter us to continue a way on the airplane. At the

worst from this hell one-two persons on “Dragonfly” can escape.

– Yes, perhaps, these there above will escape. – Jim showed a hand: highly over the wood “Dragon” brightly shone.

– No, and there to them it is not sweet – it continued, looking after the clouds of crimson smoke rising to “Dragon”.

At this time Ignat and Jim worked aft, near the winch to which “Dragon” was tied.

Gritsay came running and began to give a cable.

– Coils of Tests and Grinev ask to lift them higher, are roasted and choke. They hang over the fire now – explained Gritsay.

“Dragon” began to rise slowly.

The deck was cleared in time. On it sparks and golovn even more often flew. But work could not be given up for one minute: continuously new fragments, boughs, cones from the trees falling on arches and which are rolling down down collected.

Ignat approached the captain’s cabin.

– How are you doing? – he asked Simakov. – Until the end of the wood far?

– Not less than ten kilometers – the captain answered.

From a heat it was already difficult to stand on a nose. Behind “Taiga” on trunks and stubs of mowed trees sparks zmeitsya. One dry tree flared. The fire ran high absolutely close from the all-terrain vehicle. Its case more and more heated up. Was to pant. Heat amplified every minute. But any person from all crew, not excepting girls, did not show panic. Ignat joked:

– And you still were afraid, Jim that you will stiffen from cold

in the north. Perhaps, here is warmer, than in your Florida.

Jim smiled, sparkling teeth.

On the deck the heap of needles, another, the third flashed... Dudin ran, filling in a flame with the fire extinguisher.

The fire cracked, hooted, howled, whistled. Birds and animals outstripped “Taiga” for a long time. Only one people conducted the last fight against a flame. They were exhausted. Dudin used deck hoses, but in a tank there was not a lot of water that it there was enough up to the end forest way. At the same time water was necessary also for cooling of motors and petrol tanks which could blow up from heating. Coils every minute reported the observations. They saw border of the wood for a long time and channelized. The border was close, but the continuous sea of fire – is even closer. Fortunately, wind was changed. Carried smoke and hot air aside. Otherwise all would choke before would devour their flame.

– I see a gleam – Ignat the thunderous voice cried.

All started, looked forward, but behind smoke nothing was visible. However Ignat was not mistaken. Only several rows of trees separated a taiga from wood border.

Filled up by sparks, choking, captives of fire continued to fight for the life, dumping the lighting-up boughs from the deck. Грищай from the water remains in a bucket ran all over people and poured over them. From clothes steam rose.

Suddenly Dudin’s shout sounded from a stern:

– Cable. “Dragon” was hooked for a tree bough. Stop. Stop

the car.

These words were immediately transferred to the captain. Everyone endured heavy second of internal fight. Situation for all was clear: the delay of “Taiga” at least for several minutes can cost life everything. It is possible to escape, having only offered “Dragon” and coils. Behind on many kilometers the fiery sea stormed. And “Dragon” will inevitably fall in fire. But to allow death of companions... never. All to escape – or to die all.

– Stop.

“Taiga” stopped as the bridled horse. Dudin, having poured over itself the water remains from a bucket, pulled a cable, trying to release it.

“Be not late because of us. Save the all-terrain vehicle and crew” – wired coils.

The captain only annoyancely waved a hand. Dudin continued to wind on the winch, to release a cable. But the cable was strongly hooked for a bough. The tree already flared below. Flame fires, getting over from a branch on a branch, approached a cable. The cable will be warmed, metal will become more softly and will tear...

Everything, having forgotten about personal security, with nervousness monitored Dudin’s work. Foma, having taped heavy boots on the iron deck, disappeared in the hatch.

– Ignat, you have a revolver? – Jim asked.

Ignat trembled from this question and viewed with great concern Jim. Really at it did not sustain nerves and he wants

to commit suicide? But Jim, overcoming nervousness, smiled. Ignat after short fluctuation gave the revolver to Jim. The same minute from the hatch Foma with a rifle in hands rose. The same thought came to Em and Jim to mind. They began to send to a bough a bullet behind a bullet. The bough cracked – the cable was released. All breathed a sigh of relief.

And a circle of “Taiga” the flame stormed. Heat became intolerable. It was impossible to remain further on the deck. Simakov gave the order to all to go down to the internal room of the ship. But he decided to remain on the captain’s bridge.

– Alive you will burn down – Ignat objected.

Simakov persisted.

– I have to ... – Simakov choked with smoke, has a fit of coughing and reeled.

Ignat seized him with the huge ruchishcha as he of the child, and incurred to the hatch.

In a saloon Simakov regained consciousness and again tried to come to the deck. Ignat squeezed a hand of the captain and strictly told:

– Sidi, “Taiga” moves forward and itself will get out of the fire. There was a half a kilometer.

Anna Fokina dropped the head on a table. Faint... Jim rushed to it to the aid. But what he could make? Raised the zolotovolosy head of the girl, perplexed blew in a face. Dubrovina with white as at the dead person, the person being unsteady and clinging to hot walls, ran to the first-aid kit behind alcohol. But near

a door itself fell.

– However business – tobacco – Foma spoke anybody without addressing.

– Hallo. You are living? – coils cabled. – “Taiga” is at edge of the wood. Remained no more...

– What is? Why he did not finish speaking? – Simakov was excited and cried in the receiver: – Testov! Testov! Hallo! Grinev! Do not answer. Really “Dragon” came off? I go on the deck – Simakov resolutely told.

Ignat saw that this time to dissuade is useless.

– Wait a moment. Before the father do not climb in a scorching heat – Foma hooted, placing hands before Simakov – I say, wait a moment, but I will knock not that. Sidi. I now...

Foma, rolling over as the bear, left and returned with a leather coat, a helmet and dark glasses soon.

– Here, put on. Yes water have a shower bath. I still preserved half-buckets. Simakov quickly put on. Foma poured over it from legs to the head.

– Now we go.

Ignat also followed them.

Hardly climbed up a hot iron ladder to the hatch. Foma, having put on leather mittens, opened the hatch. Drenched them with hot crimson smoke. Foma quickly slammed the hatch.

– Cover. Kayuk – he told. – It is impossible to leave. All the same you will burn down. – And it violently brought together Simakov from a ladder.

Being unsteady, reached a saloon. People sat and lay on tables, there was not so hot, as on the heated floor. Silence, rumble of motors, fire noise...

– However as though freshened up a little – Foma told.

And at the same moment the coil voice bearing a message about rescue was distributed.

– “Taiga” left the fire. Whether you are living? We are living. Cold wind quickly ostuzhivat walls of “Taiga”. Are saved.

## 8. “Dragon” in the swamp

“Taiga” stopped. All come to the deck covered with ashes and coals. Somewhere else the semi-burned boughs smoke. Lowering sky. Sows a rain, as through a sieve. Looks rise up. Where it is proud “Dragon”, emptiness flew. Around night. Silence...

– The navigator, mechanics, in places! Full speed! – Simakov orders.

– The full speed is impossible. Accumulators were exhausted – Dudin reports.

Simakov frowns and gives new team:

– To lift Dyubo’s pipe and vindrotor.

– Is to lift Dyubo and vindrotor – Grishin and Dudin answer.

In a few minutes “Taiga” slowly turns and goes to a big fire. Fire laid in the wood a huge gap. At the edges still flare as torches, lonely trees. “Taiga” moves wearily as if the covered with wounds monster. Wind slowly pours in forces in the exhausted

accumulators. And people as tireless ants, already strive, clean the deck from garbage, ashes, coals. Here the first searchlight flashed and filled in with blue light the road ahead.

– Simakov! I fly to investigation – Anna Fokina says.

The captain tenderly smiles. He wanted to offer it it, but regretted it.

– And forces will not hand over in flight? – he asks carefully.

– After such bath it is just necessary to be aired.

– Companion Fokina – Jim says – it is possible also for me with you to fly?

– You fly – Simakov answers. – I for you, Anna, will be quieter. Its help can be necessary.

Anna takes the wheel, and, obedient to her movements, graceful “Dragonfly” soars up up and rushes over a big fire. Drenches them with warm air. The smell of burning reaches. Jim askance glances at Anna Fokina. From under a helmet the golden lock of hair is beaten out from it and trembles on the blushed cheek.

“Dragonfly” does a sharp bend, is turned on the place. Jim looks down and sees two flashing points of blue light. “Dragonfly” sits down on the earth. Run up to the car with pocket electric lamps of Tests and Grinev. Fokina runs out from a cabin and embraces young people.

– Testov! Grinev! Are live? – joyfully she exclaims.

– Intact.

– And “Dragon”?

– And it as it should be. Fell behind a big fire, on the swamp.

Decided to reach “Taiga” on foot.

– “Taiga” meets halfway. And you what, Tests, you limp?

– Hurt a little.

– It not business. It is difficult for you to go. Companion Jim!

Give way to it. I will bring him to “Taiga”.

“Dragonfly” flew away.

Stumbling, shivering from a rain and wind, Jim goes after Grinev. Light of a pocket lamp lights ahead burned trunks of trees, hummocks, pools...

In the distance the searchlight of “Taiga” flashed. Jim breathes a sigh of relief.

## 9. Forest examination

All were going to have dinner in a saloon.

When satisfied the first hunger, Simakov told:

– Well, and now, companions, let’s sum up the results.

– Leave, Simakov – interrupted him Ignat. – Found time a production meeting to arrange! You will be in time still. After such scrape it is necessary to have a rest, to have fun. Here Jim of Jolie to us will play the Hawaiian guitar. He from Florida drags it and even in a bed does not leave it. Will wake up, will play and again will fall asleep.

Jim brought a guitar and played, having brought together around himself all inhabitants of the all-terrain vehicle.

– Well, and we are with you, the old man, we will sit down here in a corner and we will talk if you so cannot wait – Ignat told. – The fire showed much...

– Shortcomings of a design of “Taiga” – “old man” inserted.

– Let’s tell, subquality work – Ignat softened. – The first – an electrofile of trees. To cut off a tree the metal strip made white-hot, of course, it is rather, than a saw. But fire danger is big. Ourselves caused the fire around “Taiga”...

– We did not have fire extinguishing foam.

– It – not an objection. Or rather, it proves the same what also I speak about. How many materials for production of this foam we have to carry with ourselves to file and extinguish trees throughout hundreds of kilometers of a forest way!

I think that it is necessary to pass to cutting with saws, only to improve them, to bring cutting speed to a maximum. The second. What most of all delivered efforts during the fire? The fact that trees, boughs, needles fell on the deck. Ourselves made a fire by all-terrain vehicle. If there was no deck, then, I think, the all-terrain vehicle could be made such really all-terrain vehicle that it could make the way also through a flame.

– Well, you intercepted it – Dudin told, listening to a conversation. – We would fry in “Taiga”.

– You so think? – Ignat addressed it. – You had to read about creation of the interplanetary ship? At a departure from the terrestrial atmosphere there has to be such huge friction that the cover of the rocket can melt. And nevertheless people are going

to fly on the rocket, without frying at the same time. How they assume to reach it? The external cover will be made of the most refractory metal, say, from chromic or manganic steel. Under this cover – insulating layers, asbestos laying, then an internal metal wall and coolers from liquid oxygen or ammonia. The rocket is hermetically closed. Inside – cylinders with the compressed or liquid oxygen, the devices absorbing carbonic acid. If “Taiga” represented such interplanetary rocket but moving on wheels, it could go absolutely quietly through a wildfire flame.

– But the interplanetary rocket flies by the terrestrial atmosphere of everything in several seconds and gets to temperature of world cold which quickly cools it – Grishin told.

– If the rocket was badly covered from external heat, then and there would be enough several seconds to incinerate also it, and people. Unless meteorites do not burn down in the atmosphere? Fire of wildfire will not give such high temperature. It is all about metal.

– Most of all trouble upon us was brought by the deck. Though it and level with the wood, and strong air draft on it threw not only boughs, but also trees. The deck is necessary because on it all vetrosilovy engines are installed. This pipe and rotors are very bulky. They get wind power, but on the run probably create big resistance and this most slow down the movement.

– All this quite right – Simakov answered. – “Taiga”, of course, did not pass forest examination. It is obvious. We will

consider experience and we will think what to make changes. But on snow, and to us to wait for it not for long, I think, our all-terrain vehicle so will not cut a poor figure. And here propellers are good. On their easy snow road it is quite enough...

– It is still too a question, my friend! – Ignat objected. – A snowmobile – not an example. Sledge are light, and “Taiga” with all the freight weighs, likely, not less good engine.

The conversation was interrupted by Jim. He started singing the Black song in which fun, the suppressed natural cheerfulness and passion of its race make the way through melancholy of sad historical destiny of the people.

This singing was so unexpected that even Simakov forgot a thought which he wanted to state. All sat silently as captivated.

Happy with the had effect, muffling an applause, Jim started singing the new song at such incendiary and prompt speed that at listeners hands and legs came. Fokina the first did not keep, darted off and began to dance, behind her – Kamneva, Dudin, Grishin, Ignat, even Dubrovina. Foma, pritopyvy the nozhishchy, clapped hands on hips and muttered a bass:

– To N and Jim! Here so Jim! It directly... Jim!

Late at night, passing across the deck, Ignat noticed Anna Fokina and Jim near the captain’s cabin.

– Not dates grow there, and figs, cotton, almonds, grapes, lemons, oranges, grenades, peaches ... – Jim, obviously said, telling about the homeland.

## 10. "Arrived!"

"Taiga" left extreme northern border of growth of the wood and went on the desert naked area. Somewhere else were seen pathetic as if the trees plucked by wind, the clumsy, bent-down to the earth birches, knotty, curve. They slatsya almost on the ground. The soil went marshy. In air smelled of sour. Marsh gases escaped from the earth, puffed, gave smacking kiss, grunted, puzyrit oozy water. Geologists sat in the studies and processed material: sorted samples of minerals, numbered, displayed on boxes, noted the location, the area of a bedding in the magazine.

Kamneva summed up the results and made the report. Research of minerals among continuous massifs of the wood was new business. The geologist rushed into narkomlesovsky possession. Under protection hitherto of the inaccessible woods huge richness of the most various minerals was kept.

Jim went near laboratory and could not wait when Anna Fokina ends the work. He sighed, sang a song. Eventually Fokina left in a corridor, took it by hand and entered into laboratory.

– I see that it is boring for you and you hang about. Desire to sit down for work. You will help me to sort samples. But if only you are absent-minded – I will banish.

Jim tried so that on his dark forehead sweat droplets acted.

Ignat got acquainted with the navigator Foma Gruzdev closer and learned his biography. Gruzdev spent thirty years in a taiga. He – the hunter pathfinder – traveled all over Siberia from the

Urals to Kamchatka and saw much on the century. Was also on the mines, but there it was not pleasant to it.

– “Gold, gold! How many because of you it is evil!” – he liked to repeat, telling about Aldan of imperial times. – The people were nasty there. On gold the mad. Here, by the way, *быль*, but not an invention. The priiskatel sails on Kuta’s mouth. And it has a wife yes two children. The wife with children came to the coast: “Take me – says – with himself. What with children of one to do to me?” And at a priiskatel only gold on mind. Sent the wife far away. An oar pushed away the boat. Started singing the song. The wife of one child threw into the river and another swung. Another was managed to be taken away, and the first and sank. And a priiskatel – though that. Even did not stop singing the song – left...

– How you got on “Taiga”? – Ignat asked.

– I know a taiga, here and got on “Taiga”. A taiga – it such, as cards will not help. How many these expeditions I saw! People both with cards, and with compasses go, and will stop by in the swamp – and horses and will ruin themselves. The taiga should be known. Or here to go by such ship...

– It is pleasant to you on “Taiga”? You do not miss hunting?

– Happens. I got used to wander. And got used to “Taiga”. People are good. As a stop – I ружьишко for shoulders also went to wander. I deliver provisions. Both it is pleasant to me, and all are happy.

He looked at the horizon and, having shaken the head,

muttered to himself in moustaches:

– Mean place. Go, soaring, to the captain yes tell him that he went round this bog.

Ignat went to Simakov and gave him Foma's council.

– We have to test “Taiga” in any conditions – Simakov answered.

– Your business – Foma grumbled.

“Taiga” entered the boggy lowland which overgrew at the edges a sedge. The great number of wild geese was removed and with loud cackling flew by over “Taiga”.

“Taiga” moved more and more slowly. Day was gloomy, autumn, similar to deep twilight. Low clouds mixed up with the fog rising above the ground. Bright colors of fall grew dull. Gray and black color prevailed.

In “Taiga” fires were lit already. From round windows on pools and the dried-up grass rays of light fell, crept on the ground and suddenly, having stopped, lit hummocks, moss-grown, with cloudberry, blueberry...

– Arrived! – Foma grinned.

Wide, heavy wheels of “Taiga” got stuck in fenny ooze. Simakov ordered to pass to a caterpillar drive. Mechanisms worked well, replacement happened quickly.

– Full speed!

“Taiga” moved, crept several meters and again stopped.

– Backing! – Simakov to the engine room shouted.

The case of “Taiga” began to tremble from tension, but

“Taiga” still stood still.

– Strongly mudflows – Ignat told. – It is necessary to avralit again.

– Yes – Simakov shortly answered.

The bell rang out. All crew rose by the deck. Simakov explained situation. It is necessary to purify the dirt which jammed into tapes of a caterpillar drive and under the vessel case. All armed with shovels and turned to work.

– When the ice breaker rubs clean ice, nobody says that ice breakers – an unusable thing and that therefore it is necessary to recognize himself won by elements and to refuse swimming in the polar seas – Simakov told, working with Ignat.

Already absolutely darkened, and it was necessary to light searchlights. From work as everything was hot. By the night wind blew from the North, dispersed clouds. With the wind cold came. Pools dragged on thin ice. Marsh ooze hardened as mixed concrete.

– And what if to spread out fires and to warm the earth? – offered Kamnev.

Simakov looked back. Around bush. It is necessary to spend a lot of time to find in this desert of firewood for fires. Wood already far. And fires will not help...

At midnight the exhausted people threw shovels. Decided to have a rest and for the next day to turn to work again.

In the morning the southern wind blew, became warmer, and ice thawed. But “Taiga” was still motionless.

Jim threw a shovel and ran, jumping from a hummock on a hummock, from “Taiga”, on a small height aside. It stayed some time there and then excited returned, smiling.

– Oll-rayt! I thought up! – he shouted still from a distance. – There, on a hillock, a lake. It is a lot of water. It is necessary to take hoses and to pump over water here. Ooze will become liquid...

– And we will stick even more deeply – Ignat added. – Eh you, inventor!

Jim’s face was extended. But Simakov thought.

– Silent backing! – Simakov ordered to Zhukov, having climbed up the captain’s bridge.

Travelers stood on the deck and expected, what will be farther. “Taiga” shook, slowly moved back, stopped, once again moved, again stopped... In a quarter of hour the all-terrain vehicle passed only ten of meters. But it obviously got out of the viscous lowland, approaching more dense soil. Blades of wheels began to take sticky dirt.

– To replace blades with a caterpillar!

– Take your time to laugh at it – he told Ignat. – You are not familiar with a design of “Taiga” yet. Jim gives quite good advice. If there is enough water, it will raise the case of “Taiga”. We will use ridge wheels. They will play a role and steamship and overland wheels...

– We will gain the whole tons to silt – Ignat objected.

– Let’s look – Simakov answered.

Collected and connected fire hoses, but all of them were not enough to a lake. It was necessary to dig the small channel. At last water was started up and began to fill the lowland quickly. The caterpillar drive was replaced with wheel and bladed.

“Taiga” went even quicker and at last left the fenny place. A backing it moved still some time, then turned and began to bypass the rotten lowland.

On the same day coils declared that they terminated products.

– We go to lower “Snake” – Dudin offered Ignat. They passed on a stern. Dudin switched off the current going on a cable from “Dragon” and began to reel up this thin steel cable on the electric winch. “Dragon” went down below and below and grew in the eyes. Ignat distinctly saw platforms of Testov and Grinev standing at a handrail. They waved to it a hand and something shouted. The tail of “Dragon” touched the earth. Still in a few minutes the huge construction smoothly fell and became on sliding props. Ignat quickly ran away on a ladder and went to “Dragon”. Coils met halfway already to it.

– Well, show your celestial dwelling – he told.

– And show me – Jim responded behind his back.

“Dragon” stood on the earth and easily rocked. It was necessary to Vzlezat on a rope ladder.

– Here below still warmly – told Tests. It was in a fur coat, valenoks, a cap, as well as his companion.

– And at you at height? – Ignat asked.

– Furious, cold wind.

In the middle of the fenced platform there was a small lodge, otoplyaemy and lit by electricity. Cold wind turned the generator to the public and into heat. A case for products, a little table, two chairs and one trailing bed in which coils in turn fell down. Electric heaters, tiles, radio receiver, small radio station, TV. On a table a box with books and another is, less – pharmaceutical. On the open area meteorological tools, the anemometer, a barograph, the thermometer.

– The side planes, spaces under a floor and over a ceiling are filled with hydrogen – Grinev explained. – Gas considerably facilitates, almost counterbalances the weight of “Dragon”. Rise rather to start “Snake”, requires wind measuring five-six points. Rise is facilitated by so-called effect of Magnus: at a side pressure of wind on the rotating rotor the difference of air pressure turns out – below more, at the top of a rotor it is less – and “Dragon” goes up.

– And I can rise on “Snake”? – Ignat asked.

– And me too – Jim did not lag behind. Coils exchanged glances.

– Perhaps, it is possible for one of you. But only it for about three days, will not come to an end a stock of products yet. Which of you is more familiar with electrical equipment?

– I am electrical engineer as you know – Ignat told.

He put on more warmly and with impatience expected rise. To drag the prepared box with products it was short. But five-point wind had to be expected several hours. At last it blew.

“Taiga” moved, the cable stretched, “Dragon” stood several seconds as if in thought, and began to separate from the earth. Above, above. Ice wind burned Ignat’s cheeks. Bugaev pulled a cap with ear-flaps over a forehead more densely.

## 11. Night on “Snake”

– Not so here it is pleasant how you expected? – asked with a smile of Tests. – And it is just flowers.

– Trifles – Ignat answered. – What I, did not see wind?

The above they rose, the wind became stronger and colder.

Having put on fur mittens, Ignat armed with the sea field-glass, but left it soon: fog laid down, drew distances a veil. Low rushing clouds shrouded in times “Snake”, and then even the side planes on “Dragon” were seen only dark, indistinct stains. On “Taiga” fires flashed. A bright sheaf of light, punching fog, lit a way of the all-terrain vehicle. It lit a searchlight on a nose, over the captain’s cabin.

– On “Taiga” all sit in a warm saloon now and have hot tea – Ignat almost with envy told. His hands stiffened, despite fur gloves.

– Well that, and we can drink – answered Tests. They entered a lodge.

– As if on rafts – Ignat told.

Tests lit a lamp and turned on the electric furnace. Temperature of quick start to rise. Then, having examined

a dynamo, Tests connected the drive to the rotating part of the wind-driven generator. Wind began to make the electric power.

– Now we can switch off accumulators – he told.

There was an electric kettle, and in it water quickly began to boil.

– Let's have tea with music – continued Tests as the hospitable owner. Having tinkered with earphones about radio sets, Tests chose number become cheerful. Ignat saw a scene on the TV screen. In the Leningrad theater there was an opera. Music and singing filled the lodge flying at the height of 500 meters.

– What it is necessary to you? And warmly, both light-, and tea is, and music plays – told Tests. Some time they sat silently and had tea. Ignat liked to drink, but Tests every time when that poured a new cup glanced at him askance. At last did not bear and told: – At us here, the brother, a ration. Watch that there was enough water for three days.

– You and told. I drink the fourth.

Ignat removed from himself a cup and wiped sweat from a forehead.

After tea music stopped, the screen went out. Tests explained to Ignat what he has to do what to watch in the watch.

Bugaev approached a library box and looked at backs of books.

– Second-hand articles. Read everything. You lagged behind here – he told with a type of the capital inhabitant.

– Well, take the book from telelibrary – answered Tests.

– You here and have a telelibrary? – Ignat was surprised.

– Well still! Here, you see? Ignat caused on radio Lenin library in Moscow, chose the book and took seat at a table, having put before himself the metal snow-white leaf similar to the Bristol cardboard pulled the hinge on which the black box with a lens below was strengthened from a wall, and turned on the device, having extinguished a lamp. The cover of the last magazine accurately affected the white field in a little increased look. The thin wire terminating in the button went down from a box on a table. From time to time Ignat pressed the button, and pages of the magazine were turned.

The motor hooted. Wind. In a suspended bed already whistled a nose of Tests. Ignat read till midnight, at last pressed the button three times in a row. The light book disappeared. He yawned and stretched. Put the red head on a table and took a nap, but immediately woke up. It is impossible to sleep: it on watch! He wanted to freshen up. Quietly put on, came to the platform. Wind and prickly snow needles burned a face. “Ege – Ignat thought – it seems, the blizzard is played. The winter comes”.

Window fires on “Taiga” were not visible. Even strong light of a searchlight as though grew dull, spread. “Tomorrow ‘Taiga’ will become on skis and will go quicker...”

Ignat returned to a lodge. The wind gust from the opened door reached Testov, that grumbled and was closed by the blanket which moved down from shoulders. Not to disturb him, Ignat put on earphones and began to soar on air. He visited

Moscow, Tbilisi, Tashkent, Paris, New York, Madrid, Oslo. Listened to music, saw performances, boxing competitions, a gallop of camels, the half-naked people flying on the TV screen, standing on a board, on high waves of a surf under hot beams of the tropical sun... And there is a wish to sleep after all. He removed earphones and again hung the head on a table...

– Watchman! Fell asleep? – he heard Testov's voice.

– Also did not think – Ignat answered, blinking red eyelashes. – Only took a nap a bit – he burst out laughing.

– That, took a nap – continued by tone of reproach Tests. – It is good that at us everything is provided. – Tests looked at a tape of recording devices and approached a radio telephone. – Hallo, “Taiga”! Yes. “Dragon”. What wind force at you? Six points? And at us nine and to ten. Be on duty at the winch. If wind amplifies, it is necessary to lower “Snake”.

– To admit, I am guilty, did not explain you everything – told Tests, addressing Ignat. – But who could expect such wind! To watch the generator not so important. If as happens to it, the automatic alarm system will report on it now. Yes I also always wake up, even not in the watch if interruptions only begin. And here it is necessary to watch a pressure of wind. The cable can sustain tension with a wind force which is not exceeding ten points... And wind reaches already ten now. If the cable breaks, we head over heels will depart on the earth. It is good still that on “Snake” the automatic machine which begins to operate when wind force passes for nine points is installed. The signal is

transmitted and down, to “Taiga”.

Threw “snakes” here and there. There were moments when people from “Taiga” already began to reel up a cable, but by the morning wind was appeased, also the blizzard ceased. Clouds dashed away, there was a light frost. The autumn sun long was not shown over the horizon. Ignat looked in the field-glass. Taimyr Lake became covered with ice.

– In one night! That North! And the earth is white – Ignat told, observing the turned white taiga. It became lighter and as if is even more spacious.

The earth froze, and “Taiga” quickly moved forward. The all-terrain vehicle changed the northeast direction and went north almost directly. The first beams of the sun lit the brilliant surface of the small river. “Taiga” quickly went to it, going down to water on the low coast.

Breaking thin ice, “Taiga” entered the river and, slowly rocking, floated.

– Good fellow Simakov! – Ignat exclaimed.

“Taiga” went on a current, trying to discover the place for a crossing. But the opposite coast was very abrupt.

– It is already worse – Ignat argued. – The all-terrain vehicle after all – not the all-terrain vehicle. Cannot rise by the abrupt coast. Here, perhaps, and I will think up nothing. It is impossible to invent the tank which would climb walls.

This travel continued all day. And only by the evening not far from a confluence of inflow to Taimyr “Taiga” came to other

coast, considerably having deviated a course. Now, going to Cape Chelyuskin, it was necessary to go on the northeast.

Again snow went.

“Taiga” replaced wheels with skis and quickly went north, hooting all propellers. The pipe and rotors were laid to reduce resistance.

– And “Dragon” has to brake strongly. Now though cut off it.

– We go on accumulators – told Tests. – You were lucky.

Bothered, true to fly on “Snake”? “Snake” we will lay too soon. The winch already started working.

– Where to lay it, such vast object?

– It at us folding. We will also lay on the deck – answered

Tests.  
– And accumulators will be exhausted what then?

– We will stop at the station of underground gasification.

To it will be enough. For now we stand there, again will earn all wind-driven generators and will reserve new “canned food” of electricity. They will be enough to Chelyuskin. Here when we will sweep with chic!

“Dragon” decreased, Ignat already without field-glass well saw Jim and waved to it the cap with ear-flaps.

## 12. Homesickness

“Taiga” slid on skis on snow with a speed of fifteen kilometers per hour.

– Quite good speed for such large object – Ignat said. – After all you are a good fellow, Simakov.

The captain became cheerful. Holding the ground the captain's bridge, he spoke to Ignat:

– In these latitudes the sled road stands at least eight months in a year. If “Taiga” was adapted only for winter, it also in this case would be repaid. Only thanks to it it is possible to make researches and in the polar winter now. As far as it accelerates our development of the Arctic!

\* \* \*

The coming polar night nasty influenced Jim. Its organism too got used to the sun, his sight – to bright lighting. Ignat noticed that Jim sees worse him, and assumed that Jim has in general a poor eyesight, did not understand yet that eyes at Jim did not adapt to poor illumination of the North yet.

Ignat passed to Jim's cabin and in a corridor uslykhat the aching sounds of the Hawaiian guitar which Jim did not leave. From this tool as though adapted for plaintive plaints, cheerful Jolie took the trills splashing fun and roulades until recently. But now the guitar sadly dropped the vibrating sounds as if mourning the dying sun.

– You long? – Ignat asked, entering a cabin. Jim sadly smiled and continued to torment silently strings with the dexterous black fingers. – About what or about whom? – Ignat continued the

interrogation. Jim did not answer. – About the sun you cry? – Ignat continued. – Boring country? Unusable climate? Wild, deserted, blind, dead desert? White shroud of snow?. Where green grass? Where pink, red, lilac flowers? Give me a spring branch of almonds with pink colors! And that on it the paradise birdie sat and sang cheerful songs. Ти – ти – whether! Ти – ти – whether! And that bananas fell in a mouth, and green parrots shouted: “Long live sun!” And monkeys shook on tails – Ignat began to recite to the sound of music. – About it you sing? About it you cry? It is a pity, I am not a poet. It is a pity that Stepan Asatkin is not with us. He would compose such bananny stanzas under your music, and you would sing them together. You should get acquainted with it.

But only here that, buddy ... – And Ignat sat down by Jim, put to him a hand on a shoulder. – You arrived to these gloomy polar places from the Florida which bathes in the sun, without knowing winter and snow. There is no snow there? Why you arrived here? Because there is a lot of sun, and it is even more people. There is no sun, but it is more than enough of the place for people.

– In the solar countries there is a lot of empty seat – Jim answered.

– So there we are not idle too. Deserts to fields, in gardens we remake. Let's reach also other world deserts. But it is necessary and to think of such piece how our North. Here riches plenty.

Jim jerked strings. The wild chord was heard.

– Try to persuade our navigator Thomas to go with you from

here to your Florida. For any bananas will not go. But I not about that. The person gets used to everything. And here we should suit so life that also the visitor of people like you did not miss, did not pine by the sun...

– You cannot order to the sun that it shone here, as in tropics – Jim told.

– And we will also not order it. Ourselves will make here and light, and warmly, both the sun, and tropics. And even to you we will grow up bananas in greenhouses if you without them cannot live. Think whether it is worth undertaking this business? To win against darkness, cold, ices. To move apart in breadth our planet which becomes rather small.

– Dreams – Jim melancholically responded.

Ignat even a fist on a table knocked.

– And electrification of such country, how being Rasey – not dreams? And Dneprogesa – not a dream? Alteration of deserts in gardens – not dreams? Our solar, vetrosilovy installations – not dreams? And you the hands could feel these dreams. And this “Dragon” – not a dream? And “Taiga” on which we with comfort travel – not a dream? And, at last, new people are not a dream? My friend, you did not begin to enjoy this fascinating work yet: to dream immediately to turn a dream into reality. Here is how you will enter this work, so you just will not have time for melancholy. Dreams!. – still Ignat worried. – Here, wait, we will arrive to Chelyuskin, we will look at “The ice city”. You will see one more dream which it is possible to feel hands, the dream

created by people. “You give the sun” – you say? Let’s give you the sun. And if I do not keep the promise – you can go to the Florida and to call me the deceiver.

– I will not return to Florida. But I then will go to Uzbekistan.

– You can go also to our Transcaucasia. There you will find the real Florida. Oranges, lemons, cinnamon, carnation, vanilla, pineapples, cocoa. What your tropical soul will wish. But I assure you that you and will find the sun in “The ice city”. And even you will eat oranges. If not homebrew, so imported.

Jim did not answer, only began to touch strings quicker.

– Komrayd Jolie! Companion Jim! – the ringing voice of Anna Fokina was heard suddenly.

Jim all started, lit up, rejected a guitar on a bed and ran out in a corridor.

Ignat looked to him following and murmured as the doctor making the diagnosis:

– Nostalgia – homesickness – complicated, apparently, by an acute heart disease.

And, having grinned, added:

– And I read lectures on economy and sociology to it...

### 13. The city which is not marked on the map

Again cold wind, a blizzard, zg not to see. As it is not similar to Ignat’s dreams of heat, the sun and bananas!

The searchlight is extinguished. Only the headlights which are

hung up below propellers and lighting only small space ahead of the all-terrain vehicle burn. “Taiga” goes slowly. The captain is installed on the bridge and peers into darkness. Ignat notices in the distance the shining spark. It dies away, appears again. Light white, similar to electric. To Chelyuskin not so close. At least days of a way.

The light point begins to blur during the shining fog.

– What for fire? – Ignat asks the captain.

– By my calculations, it has to be the working town where coal gasification is made – Simakov answered.

The shining fog at approach to it broke up to separate points. They stretched a long chain of arc lamps. It was strange to see this line of fires among the lifeless, dead snow desert. Reflections of light laid down bluish spots on the white atlas of a taiga. Between all-terrain vehicle fires, cutting off, some animal quickly moved.

– Look: dog! – with surprise Ignat exclaimed.

– Not a dog, but a polar wolf – was heard басок Gruzdev who approached behind.

– Here wolves are found?

– Not only wolves. If there are wolves, then there has to be also a wolf food. Meat. Here the wild deer comes. And polar foxes are found. And partridges. About polar bears and there is nothing to speak. On the coast their empire was.

– And you and here, Foma, hunted? On bears?

– Where I did not hunt and what animal did not hunt! – Foma

answered. – Both on a bear, and on a tiger.

– How many tigers killed?

– How many to you and hares not to kill. Without one tigers killed fifty. From a berdan. In private. To Osmnadsat alive caught artel – four us in artel was.

Jim approached. Ignat translated it Foma's story about his hunting feats.

– Here tigers are found? – Jim asked, showing to a hand on a taiga.

Foma grinned:

– To Ussuri are found.

– How you caught them?

– Networks rope. And even just in a blanket.

Ignat translated the answer. Jim laughed, but Foma with offense shouted at him:

– I tell the truth! Now people began to build cunning traps. Caught raccoons and shot. And on Chukotka interrupted polar bears – not to count. Only the animal is intimidated now. Other life begins, not animal.

– Yes, these fires protect new working settlements from wild beasts – Simakov told. – And you know how many to fat inhabitants only of one Chukotka spent for heating and lighting of the dwellings? It is more than four thousand tons per year. Began to deliver them kerosene, and also electric light appears now.

– And skins? – Foma continued. – Inhabitants of the house

built of skins. To tell directly, gold houses. A tiger – striped gold. Skins of a polar bear, a seal, a walrus, a deer – the same gold. And in vain vanished. There were I last year on the cape Serdtse-Kamen. Was to Hodyrke-reke, the Vilyuysk district. There now points of supply. Big supply of goods. Both food, and boards, and other construction materials are brought. Change for skins. Yes you will see how now natives began to live. Absolutely other life went.

Behind the line of fires standard two-storeyed wooden houses already distinctly were seen. Their windows were brightly lit. Ignat burst out laughing.

– What you? – Simakov interviewed.

– Trouble now to geographers. Change maps and textbooks of geography nearly every day.

– Yes, now, to know geography of the USSR, it is necessary to fill up the knowledge continuously. Who lagged behind, that will get lost in the USSR.

– And pipes are not visible on roofs. And not to see smoke.

– Electric heating.

– Whether not too expensive pleasure? – Ignat asked.

– Not too – Simakov answered. – However it is time for us “to moor”.

“Taiga” stopped, bells rang out again. All came to the deck and turned to work. Pipes, rotors were lifted, “Dragon” is started. Wind began to develop energy, to charge accumulators.

– There is a power plant here. Whether it is simpler to charge

accumulators at the station? – Jim asked.

– It is not necessary to lose any watt of energy if it is possible to do without these losses. Each electron comes at us to “the general copper”. In its all economic essence of a kustovaniye and uniform network – it is instructive Ignat told.

In the city already noticed arrival of “Taiga”. Several people in fur clothes hurried to the all-terrain vehicle.

– Well, how are you doing? did not burn down? – the young man asked, approaching Simakov and clapping a fur glove on his glove. It was the chairman of city council of Spheres.

– And you know? – the captain asked.

– Your radio operator told us.

– Likely, Grebenshchikov was in time – with some displeasure Simakov noticed. He prepared a surprise for October holidays and did not want that learned about “Taiga” ahead of time.

– I radiated the directed wave only here and on Chelyuskin – the confused Grebenshchikov told. – Situation was too serious, and I just in case arranged about the help. I believed that autogyros like “Dragonfly” could take out us from a flame.

– Nobody about it asked you. Misconduct...

– To you will quarrel, we go to our hotel. You will have a rest – you will tell. And you at us did not freeze, the companion? – Sharov addressed Jim. – Let’s warm, we will warm!

Jim smiled, having sparkled teeth as keys of the opened grand piano. He was still surprised by these “a big family”. Whoever they met, everywhere were as if old acquaintances whom left

only yesterday. Common interests, common language, friendly address.

– My name is Sharov. And you? Jim? Well, we go. The frost is absolutely light, twenty two degrees. I will show you our town and production. How it is called? Without name. Somehow all was no time to think of it – with laughter Sharov answered Ignat's question. – We for fun call its Medvezhansk. Perhaps, and there will be this name. And why Medvezhansk? Because when we arrived with the first party here and settled down in marching tents, bears pripozhalovat to us. Yes, how many! Ten two. We thought that to us here and the end came. However they did not touch us. Only went around at a respectful distance, smelled air, among themselves about something talked.

– Well, the end not to us, and their kingdom came – other young man dancing on snow responded. – We too here not with barehanded arrived. We had a machine gun. Ivan, the machine gunner, as cracked then laid dozen of bears, the others ran up. Fat at us how many was! These skins hang in the City Council as a banner of Medvezhansk.

At all arrived the mood was lightened. Fires, cheerful young voices, laughter, jokes worked excitingly. On one of these fires and vigorous laughter the victory over elements, proud joy of the person who conquered the dead desert was felt. Expansive Jim began to sing already, having forgotten for a while about the Florida sun, and Ignat declared that he was not tired at all and wants to examine first of all production, and then and the city.

The others supported his desire.

– We go on the station if so – Sharov told. On the way to them some more people joined. All of them were young. A cheerful crowd surrounded visitors. Funny represented “wild natives” and executed the national dance “bear”. So with dances also brought to the place. Entered the small stone house.

Here it was warm also light-. The internal room is occupied with the cylindrical tanks connected by pipes. Near cars several people in blue special clothes worked. Jim looked narrowly at them and could not distinguish who here the worker who the engineer. In the beginning he thought that the chief engineer – the tall old thickset person wearing spectacles, but he was the simple worker. And the chief engineer – the pretty young man, and this young man called himself... companion Glebovoy.

The engineer Glebova was a little chilled and, offering explanations, spoke a gruffish contralto, but Jim did not even listen attentively to these explanations because he badly understood.

Having finished the station, they entered the small brick house. In the first room there was only a control panel, in the second – an elevator cabin. More than anything. Glebova started over again explaining. Ignat shortly answered an inquiring look of Jim:

– We examine new installation which turns energy of coal directly into electric current.

Jim pretended that understood, and nodded. Glebova pointed

a finger down and told:

– Under your legs there is a battery of huge elements.

– Well, show us them rather! – Ignat exclaimed.

Glebova suggested to take off fur clothes.

– The elevator, unfortunately, can accomodate only four people, including the elevator operator – she told. Ignat asked to lower first of all him together with Jim.

The elevator operator turned the lever, and the cabin began to fall quickly.

– Leave!

Before them there was a spacious gallery in which there were huge tanks height about the house, similar to martin furnaces. Walls and the arches of gallery were fastened by reinforced concrete. Bright lamps lit this gallery. At the end of it the second was seen, behind it the third... the whole underground city leaving afar wide and high “streets” with “houses” – tanks. One wall had a glazed office. In it behind a desk the person worked, drinking tea from a glass. “Underground in the Arctic and as though at himself in the apartment” – Jim was surprised.

– My assistant, the engineer Stepanov – Glebova told.

On a sound of voices he turned back, nodded and continued to work. Light of lamps was reflected in stone plates. Air pure, warm and... full deficiency. Steps were boomingly given under the arches of high gallery. Glebova went ahead and on the run told:

– For observation of this huge battery of elements at us only

three engineers.

– Eh, it is a pity, Jim, you understand in it few – Ignat addressed Jolie. – I see, you are not concerned by an extraordinary element underground. If there was with me a friend Stepan Asatkin, in him the poet would start talking: “It is far behind the Polar circle, at a depth of one hundred meters the necessary, useless coal lay to nobody. People came – and this coal became heat, light, food, clothes, culture, joy...”

Day ended with “feast”. Sharov treated travelers with a tasty and various lunch, having surprised Jim is fresher greens and wild strawberry.

– Fruits of our polar electrogreenhouses – Sharov told. – Greens, vegetables in the north – a foremost thing. You, likely, did not eat long ago some greens? On “Taiga” nobody was ill you a scurvy?

– Since vitamins began to produce in the chemical way, the scurvy goes to the area of legends – Simakov answered. – But, certainly, fresh greens are unlike more pleasant than powders.

– Here oranges. These are yet not polar, unfortunately – on airplanes and airships bring – Sharov told. – But give term, perhaps, and we will live up to local. Here, look what is there, on Chelyuskin, becomes.

Jim with pleasure destroyed oranges. Hospitable a predgorsoveta allocated with them guests on the road. They decided to spend the night in “Taiga”. Dudin and Grishin left before the termination of a lunch: the snow-storm rose, it was

necessary to remove a pipe and “Snake”.

Wind stormed all night long. When Ignat woke up and came to the deck, he uvidat that “Taiga” is brought by snow almost to the lower windows.

– Perhaps, it is necessary to dig out – he told Simakov who already held the ground the captain’s bridge.

– Let’s be chosen – that surely answered. It gave the order, and propellers started working. But “Taiga” sat down thoroughly. It was necessary to put a caterpillar drive instead of runners. Business went rather. The all-terrain vehicle got out of a snowdrift and again became on skis.

– Went!

#### 14. Uneasy night

There was only the fourth hour p.m., but in the polar sky, dark blue with a greenish shade, stars already burned. Polar night. Equal ice wind blew directly in a face. With dry hissing as desert sand, was transferred from place to place small snow. Wind, playing snow dust, lifted it to the deck and said directly, pricked the thinnest crystal needles.

Polar night was not such dark as Jim expected. The stars which covered all sky dimly lit white snow. Month hung on the sky. Cold, appear, froze both the sky, and month, and stars and made them ice, crystal. So they were transparent and... are cold. Yes, even stars seemed to Jim multi-colored, transparent cold small

pieces of ice. Directly ahead, in the north, the sky shone at the horizon equal blue glow. Highly over it strips of pale blue light flashed and died away

– As if inhabitants of planets exchange words light signals – Ignat told.

Jim for the first time saw the polar lights. And though it was not too effective, Jolie with curiosity observed this mute game of heavenly fires. He began to understand beauty of the North.

– Strange – Ignat continued – over the horizon light remains to constants – amplifies, does not throw out beams. It is possible to think that it is not the polar lights, but far fires of the city.

Simakov grinned.

– So it also is – he answered. – We drive up to Chelyuskin.

– It is necessary to warn about our arrival – Ignat exclaimed and went to a radio cabin. It caused Chelyuskin and asked to transfer to Stepan Asatkin and Leonid Merkulov: “Let leave to meet”.

But they did not leave, and left. Ignat uvidat quickly coming light of headlights soon. Stepan and Leonid arrived on a snowmobile. With them there was a fall which Stepan presented to Ignat and Jim:

– Andrey Ivanovich Lelkin. The chief engineer of the most northern power plant in the world. Change to us in a snowmobile. Rather dokaty.

And in a few minutes Jim and Ignat already rushed to Chelyuskin, briskly talking.

Chelyuskin gradually opened before them. Lamps – there was much more, than on stations of underground gasification, wooden izbas, stone houses, warehouses of forest materials, sheds, bricks, stones, winches, cranes, catarpillars...

Jim was interested:

– So it is also “The ice city”?

– It is still an embryo – a city germ – Stepan told.

– It becomes already similar to the ice city – Ignat exclaimed, pointing to the ice columns serving as support for wires. – It is thought dexterously up!

– We here widely use “local construction material” – Stepan told. – And ice – magnificent material: always near at hand, strong, cheap, pliable. Here it is hard to deliver the wood. And we use ice everywhere where it is only possible. Our meteorologist Verkhovsky thinks out all this. You get acquainted with it. “Father Frost”. Interesting old man. Have a look at these ice cubes.

– Ice house? – Ignat asked.

– Ice *тепляк* – Asatkin explained. – To build on such frost – hard piece. Mittens disturb, without mittens, any minute, will freeze hands. Now we perform almost all works in *teplyaka*. We build over construction an easy case from thin plywood or even a cardboard and we pour water. It turns out ice *тепляк* with any thickness of walls. It perfectly keeps heat. Heating – electric or gas.

– But what will be with all these *teplyaka* and ice columns

when the summer comes?

– In the summer of a teplyaka are not necessary, and columns let thaw. It is temporary conducting for publicizing of buildings. Work will be finished before heat comes.

– We and Jima already prepared for you a house. For visitors we have no hotel yet. Froze, Jim? – asked Pelkin Jima as old friend.

– Cold – Jim answered.

– And what, Pelkin whether you threw the North for the sake of hot Florida? – Ignat asked.

– Of course, no – the fall answered.

– Here, you see, Jim. Andrey Ivanovich says that the best places on the globe begin only behind the Polar circle. – All burst out laughing.

– We will warm you – Asatkin consoled. – Here and izba. It only witness mark...

– From whom it is necessary to guard here? – with surprise Jim asked.

– From polar bears mainly. Despite fires, these curious animals quite often visit us. Overlook – will get into our refrigerators.

– Yes, in storage of products it is far better in the north, than in Florida. Meat does not spoil – Ignat told.

All entered a small izba. Walls smelled of a fresh larch. Electric lighting is carried already out, but the electric furnace is not installed yet. In a corner on bricks there is a small iron

furnace. Near it a heap of spill and scraps.

Pelkin quickly kindled the furnace, put a teapot. Merkulov brought from a snowmobile suitcases with bread, canned food, cervine sausage. Friends decided not to go to the dining room, and to have dinner here to talk and “to remember old times”.

Merkulov and Asatkin were “nomadic builders”. They traveled all over all USSR from edge to edge. Their ways dispersed from Ignat, again were crossed. It was the meeting after several years of separation.

Jim with interest listened to life of “people without settled life”. He well knew “vagrant America”. But there people loafed from end to end in job searches. They were pursued as tramps, arrested, put in prison. This homeless was considered almost beyond the law. The homeland for them was not the homeland, but the country inhabited by hostile tribes in a police uniform. The unemployed felt almost the same as the first English pioneers among the virgin nature and the hostile Indian population.

And these Asatkin and Merkulov! They are not bezdomna. They only live in the big-big house where one “room” is called Central Asia, another the Far East, the third... yes all rooms and not to count.

The human voice of clock radios reported time everyone a quarter of hour. Friends did not notice how midnight came. Pelkin, Asatkin and Merkulov began to say goodbye.

– Do not forget to switch off clock radios, otherwise this herald will disturb you at night. Put this arrow at six in the

morning. Not early? And in six you will be woken – told, leaving, Pelkin. – Good night.

They left. Ignat wearily stretched, and Jim sat at an oven and everything enclosed firewood. The furnace was heated.

– Really to you it is still cold? – Ignat asked, undressing.

– By the morning will blow – Jim answered. – The house is recently difficult.

At last they switched off clock radios, turned off light and settled. Ignat immediately snored. To Jim it was not fallen down. Whether stirred roulades which were removed a nose by Ignat, whether the homeland was remembered. There now day. The bright, hot sun shines. And on streets also warmly, is even even warmer, than in this izba... And here behind the walls smelling of pitch wind howls, lifting blizzards. Around on one thousand kilometers the ice desert. Wolves, bears... Anna Fokina was remembered. Whether he will see it tomorrow? To Jim it became sad. It is a pity, the Hawaiian guitar in a suitcase. Would play on it, absolutely quietly not to wake Ignat. However, perhaps, and gun shots you will not wake him... No, it, Jim, will not remain here. Will go to Uzbekistan, to Transcaucasia. There is more sun, more probably home.

Under a floor, at an oven, the crash was heard. Crude dries up. Again crash and someone's heavy sighs. Ignat sighs? No, he snores exactly, rhythmic. A strong crash, hissing, as in a water tap, when there is no water, whistle, a smack... And suddenly Jim felt that the bed under him is unsteady. Or he has a dream?

Jim pinched himself for a cheek. No, he does not sleep. The crash does not stop. Jim begins to worry. He lowers legs on a floor and feels in darkness that the floor board into which he stepped costs an edge. In the formed crack bears ice cold. It is necessary to light fire rather. Jim goes on a floor, stumbles, falls. Legs freeze. Where this damned switch? Jim switched on light. At the same moment the roar was distributed. Boards of a floor rose, turned, from under them water began to act. Jim woke Ignat. That half asleep could not understand in what business.

– Rather! Get up rather! – Jim hurried him. The izba was quickly filled with water. One more shot. The wall warped, between logs the crack was formed. Frosty air began to enter this crack with whistle. Water rose, froze, ice with a crash broke, from a crack stuck out water flows and immediately froze. In the face of the surprised Jim and Ignat the izba turned into a glacier.

They began to put on quickly. Ice already on half-meter filled an izba. It squeezed out a door which with a crash was opened, and now in an izba became also cold, as well as outside.

Hardly two friends ran out on the street as there was a new eruption. On their eyes all izba was filled with ice up to the top. Ice squeezed out windows, came to light. With a roar of weapon shots it broke off a tree, a stone, everything where water got and where it froze.

The amazed Jim and Ignat stood and looked at this extraordinary show. Ice filled an izba to a ceiling, stuck out from windows and a door, went down to the earth. At last everything

calmed down. Light of the next lamp lit dilapidated to a witness mark.

– Legs did not wet? Go rather to mine to a witness mark to be heated and dry. Not that you will be left without legs. Pound legs snow, take off boots! – the appeared watchman – the Chukchi or the Yakut ordered goodness knows where from. Jim and Ignat could not distinguish him yet. The watchman forced to undress legs and to rub with snow. Only when legs became red as paws of a goose, the watchman took away Jim and Ignat in the izba standing in the neighbourhood.

– What happened? – Jim asked.

Ignat already understood and explained to him:

– All this permafrost “jokes”. You do not know what is permafrost? The layer of the frozen soil which is not thawing in the summer. In places here even during a thirty-degree summer heat the sun heats the soil only on one and a half meters. And below the layer of the chilled soil and ice lies. It never thaws. Though, of course, permafrost actually is not eternal. It is possible that to – гда in these latitudes there was warmer climate and permafrost was not. It is also possible that the climate will become warmer over time and permafrost will disappear. But now it is necessary to potter with it much. It prevents agriculture though small permafrost and does not interfere with growth of some plants. But especially permafrost brings a lot of trouble upon builders. The bases, walls of buildings burst, sometimes all building collapses. The majority, for example,

of the railway buildings lying on the route of the Great Siberian way is constructed in permafrost strip. And repair of these buildings destroyed by permafrost manages if I am not mistaken, millions in five in a year.

– But why it occurs?

– Very simply – Ignat answered. – Our izba or to a witness mark was constructed on the frozen soil. Unpleasant property of permafrost – its water tightness. From here also all tricks which are caused by permafrost to builders result. Ground waters are clamped in rather thin layer of earth. From above – the soil which is freezing together in the winter, and from below – permafrost layer. This layer gives quicksands and landslides in the summer. In the winter – it is even worse. As winter frosts it is more and more, expose to frost the top layer of earth, ground waters which are between this top layer and lower, merzlotny below and below, contract stronger. There is a huge pressure – to two thousand kilograms per square centimeter. Water breaks through the top frozen layer in the thinnest or weak point. And a weak point – the made most winter-proof. You heated the furnace, the soil under a floor got warm, ground waters broke, filled the house up to the top, and the house turned into a continuous piece of ice. I was told about such comical case on the Yakut and Amur highway when the barrel put in the fall upside down was a heater. There came frosts, the soil around a barrel began to freeze through quite strongly. And under a barrel still rather warm air remained, and there frost

penetration went more slowly. Pressure difference turned out. Ground waters broke and filled a barrel from below. Sometimes these waters form huge hillocks of a pucheniye, up to ten meters high and fifty meters wide. Permafrost – our enemy with whom we conduct persistent fight.

Ignat and Jim dried up stockings, fur boots. Ignat looked in a window. The watchman, apparently, reported already the accident. Near icy witness marks there were several people. The old man wearing spectacles, dressed in a big fur-coat to toe, pottered with the camera. The woman, also in a fur-coat stood nearby. Natives swung mittens and spoke about something.

– Let's go, we will look what they do there.

– What, unsuccessfully slept? – Pelkin asked, approaching them. – It at us happens. It is visible, very much you heated.

The photographer who appeared the meteorologist Verkhovsky grumbled: the device refused to work.

– The lock does not act on cold – he said. – It is necessary to warm up. – Someone ran behind chips and spread out a fire. Verkhovsky, holding the device over a flame, prepared. The woman in a fur-coat pressed a pocket small lamp. Dazzling light of extraordinary force flashed.

– Belief! – Bugaev screamed.

– Ignat!

The bright flash of magnesium blinded Jim. He heard as snow under Ignat's legs began to creak.

– Why you did not report about the arrival? – Vera asked.

Jim understood that the girl who was him in dazzling flash of magnesium also was “the snow queen” – the engineer Vera Kolosova.

## 15. Father Frost

– This the real ice city – Ignat exclaimed.

Jim with surprise looked at an unprecedented show. On the bank of the frozen sea there was the whole town of dome-shaped ice houses. Lit with bright electric light, they had an extraordinary appearance as if houses of the fantastic city of the unknown planet. Ice houses-kupoly had no windows. Several steps cut from huge bricks of ice conducted to a low and narrow door. Between houses people in fur clothes wandered and dogs ran. At the sight of strangers of a laika began a bark, but immediately waved tails.

– Where here Verkhovsky’s house? – Ignat asked the counter Eskimo.

– Father Frost? – the Eskimo smiled and pointed to the ice dome differing in nothing from others.

Jim and Ignat approached to the door. It was veiled by cervine skins from within.

– There is no electric call – Ignat told, inspecting a door. – To knock on an ice wall – will not hear. It is necessary to enter without report. – And he tried to raise a skin. But it was densely attached.

– Now I will open – Verkhovsky's voice was heard. The edge of a skin rose. Having bent, Ignat and Jim entered the dwelling. They were met by the owner, the meteorologist Verkhovsky. Having looked at his big gray-haired beard, Ignat grinned and told:

– You here Father Frost are called. It for your gray-haired beard?

– And not only for a beard – the old scientist similar to toy fir-tree Father Frost answered. – I fight against a frost here and I operate it on a potreba of the person. You sit down, guests you will be, I will tell.

On it there was a jersey, leather trousers and pima. Guests looked round. The interior of the ice house was so original, as well as its appearance.

– As if under a dome of observatory you are – Ignat noticed.

– This modernized “needle” – the Eskimo dwelling – Father Frost told – in a most up-to-date way equipped.

The modern equipment consisted in electric lighting, an electric oven, a plate. On a wooden floor there was a dining table with three chairs. At an entrance door – “kitchen”. Along vaulted walls the table ring having a gap only at a door for pass in the room lasted. On a table – books, meteorological devices, heaps of papers, magazines. Over this infinite table there was an iron rod on which it is possible to move an electric bulb to any place.

– And electric kitchen at you what for? Unless you not in the public dining room have dinner?

– You will sometimes be earned, there is no wish to go, I prepare houses – the meteorologist answered. – Here a ventilation outlet, you see? And light-, and warmly, and air good.

And Verkhovsky told a story of the ice city.

– I arrived with the first party of builders here. It was necessary to live in tents. It was in the summer. We were brought here by the ice breaker. In the afternoon in tents was even hot, at night coldishly. But also in the summer sometimes the snowball dropped out. After us there had to arrive the steamship with food and forest construction material. But jammed it. Our ice breaker went to revenue It made the way through heavy ices very slowly. And the winter was on a nose. It was necessary to undertake something not to appear in tents to winter frosts. But what you will undertake here? The strip of the woods lies far in the south. We had several trucks, saws, axes. Counted – not to manage to cut down, take out, construct. While thought-guessed, the frost knocked. The coast froze, the rivers froze. Here the thought also came to my mind: it is necessary to build houses of ice. – Verkhovsky waved a hand on a ceiling. – As though simple piece, and it is not so simple to put such house. I set our architects – Verochka Kolosova and her assistants – for drawings and calculations. It was necessary to draw precisely a figure of each ice “brick” from which then it would be possible to put these vaulted houses.

For them it was the task like that which was resolved by the

famous Italian architect Brunelleski when he projected a dome Florentine “дуомо” – a cathedral. But, however, nothing – coped our Brunelleski. To tell the truth, the first a needle left such that Eskimos, likely, would laugh. It is good that material painfully pliable. There you will chop off, there you will fill in with water, a frost will take – that your concrete. Remarkable material. And here, on our happiness, and Eskimos came. And what you think? This builders! Did of house snow on own arshin – a palm yes a mitten. One Eskimo cuts out a form of bricks on snow, other of these bricks builds the snow house. The house directly in the eyes grows. Whether you trust, for half an hour on the house did. Inside a scraper will scratch, will level – and it is ready. The stove bench snow will be built, on it skins outlined. The door is closed by an ice block. Will light three-four lamps on seal fat – heat will become so that undressed it is possible to go. In the spring when the arch begins to melt, holes thawed patches stop up with new snow bricks.

So we built the first ice settlements and this winter lived the real Eskimos. We had flour, crackers.

But there was not enough meat, fats. And here to us Eskimos and Chukchi helped to hunt an animal. We had guns. Provided with meat, fat of. Also were lit with fat, fat and отоплялись, and ate fat.

However, several people got sick with a scurvy at us without habit to such food. Reported about it on radio. To us on airplanes vitamin medicines delivered. And all patients got on feet soon.

But nevertheless this first winter was heavy.

Brought construction materials in the summer. Then to deliver hard here. Here I also thought: why don't we use local construction material at all – ice – where it is only possible? Talked to our engineers, discussed this business and developed the real ice industry. Columns support for temporary conducting of electricity were seen? Ice. These houses – a needle – ice. Teplyaki on buildings and some works – ice... It is necessary to tell about these teplyaka separately. Now I will prepare tea.

– Too ice?

– Hot.

– To us it is not cold – Ignat told. – Here even our tropical Jim and that, apparently, does not freeze. You did not freeze, Jim?

– Did not freeze, and hot to tea I will drink – Jim answered, shrinking.

– But tell, please – Ignat asked a question – from internal heat, from your electrokitchen unless ice walls do not melt?

– Of course, melt a little, but an utter nonsense. If on centimeter two in a month melt what it means at a wall thickness in meter? And if thawed more, the trouble is not big. Pour from above water, the new ice layer will accrue. Only also put that by spring your ice izba in an internal cubic capacity will win – will become more spacious. So I wanted to tell about teplyaka.

– Forgive, I interrupt you – Jim told. – Here permafrost moved us from wooden witness marks and destroyed it. And there cannot be it?

– About permafrost there will be a special conversation? So far I will tell only one: the izba was under construction on frozen soil, and a needle is under construction on the ice base. Ice – the bad conductor of heat. It does not allow to be warmed to the soil and to be swollen out. So about teplyaka.

What here, on Far North, we had to fight most of all against? With cold and a gloom. Well, we suffered only the first winter from a gloom. Installed in the summer wind-driven generators which gave us the first energy, and with it and light. Then the station of underground gasification, and further not far off and the temperature station – our main goal earned. Now we have enough light. And it was necessary to tinker with cold. It is impossible to conduct construction on Far North only in short polar summer. So and in two hundred years of everything that we started, you will not build. It was necessary to resolve by all means a question of a year-round construction season. Business as though and not it terrible. In fur clothes warmly. But in it it is difficult to work in the open air. The main thing – hands. In fur mittens it is inconvenient. It is not work any more – bear paws. Well, our many workers, especially from alien, also removed mittens: in work supposedly hands will not freeze. Till the native winter, on the frosts measured. And here as will take, you iron – hands and are freezed. – Verkhovsky sighed. – Several people so on imprudence of hands lost. Gangrene – also cut off fingers, and even all brush. Of course, we began to build wooden teplyak at once. But there was not enough tree. Here again remembered

ice. Light board or plywood тепляк water you will pour – and it is ready. Does not pass heat. And then and entirely learned to build of ice. “The plant of ice casting” was opened. From thin sheets of iron of forms made a large number. Water of a form you will pour, on a frost you will expose – it is ready. Froze. Then in the warm room you will bring them that walls a bit thawed, and take out freely. Here to you an ice column with grooves. Here to you ice board of any size and thickness. You will start an ice board in a groove of an ice column, water you will flow – and it was soldered without the slightest crack. But with water without habit too stories left. Water on a frost – that fire. To one worker naked hands poured, they in ice ingots addressed at once. It was necessary to thaw carefully. Incidentally from a hose warm water poured over another. It turned into an ice statue. It is good that the face was not filled in. Speaks, even laughs, to it it became even warmer under skins, and cannot set either a hand, or a leg. And to the earth froze. It was necessary to cut down it from an ice pedestal, in тепляк to carry and there to thaw.

Gradually seized also ice production. For teplyakam warehouses for provisions began to do. In the summer of geese, ducks we will fill; polar bears – all the year round shoot. And in ice warehouses. On ice columns ice regiments, an ice roof, ice fences... With these fences the funny thing at us left. We built them above human height and thickness in a quarter of meter. The bear should not get (our warehouses stand on the suburb). And products began to vanish. It is visible, bears managed. And

lighting electric did not save, even electrograggerses did not help. We began to watch. And what you think? Bears sapped. Both breathe, and lick, and scrape claws ice and eventually will do a manhole. It was necessary to do then more thickly ice walls and with a slope. Couple of bears was hit on the crime scene. Then their marauding came to an end. After all and now alien bears still get, go around warehouses. And local we are known. Close are not shown. Like border now at us: we see them, they – us, and they do not cross the border.

After warehouses we undertook construction of ice roads for a snowmobile. Beauty! One hundred and fifty kilometers per hour you fly. Arrow.

– Snow the way does not sweep up?

– Yes in these latitudes in general rainfall is not enough. The cloth of the ice road is a little raised that wind blew off snow. No, does not stir snow.

– And bridges?

– Wow! And bridges ice. By all means sweep. Well, here. The ice sculpture came for the ice industry. Verochka Kolosova was the real sculptor. In free time it began to cut busts from ice. Made a polar bear. Beauty. And I suggested a thought to it – to make a metal form. Found clays, it molded Lenin and Stalin's big busts, cast a compound pig-iron form that did not break off, and began to fabricate busts from ice. Now these busts in each polar settlement, in each reindeer-breeding collective farm, in each reserve.

Also the ice recreation park is remarkable.

– Park? – mistrustfully Ignat asked.

– The park – Verkhovsky confirmed. – And when only children managed to build all this?! Funny. Ice fantastic trees. Ice towers. Inside – the course upward, and on a cone surface, from top to down, the screw, a spiral – an ice path for the sledge. Ice roller coaster and what! You will move down down – and there some more kilometers from dispersal you rush. Skating rinks with catapults for skaters. Catapults are, of course, not ice. Palace of miracles. The right, the real palace, to three floors, with halls inside and intricate turrets outside! And in each hall – the fancy things made of ice. Both statues, and animals, and even woods. Furniture is ice, on walls bas-reliefs. With electricity it is lit, you will enter in the evening – beauty. Magic. The fairy tale from “Thousands and one night”. A miracle which you will not find and you will not create in the warm countries.

Think, it is only water, the frozen water. Here what does a frost!

No, whatever you may say, a frost – it is remarkable piece. How it at Pushkin?.

...mighty winter,

As the vigorous leader, conducts

On us shaggy teams

The frosts and snow...

Or at Nekrasov: “Moroz voivode a patrol bypasses the possession”. Of course – the voivode. With it do not joke. But if was able to undertake it, then and he from the voivode in our servant will turn back. Here we will build the temperature station and a frost to the public, in heat, we will turn into work.

– And all your ice city with a spring will thaw as the Snow Maiden – Ignat told.

– Will thaw – Verkhovsky as if he also really was Father Frost mourning death of the kingdom heaved a deep sigh! – Will thaw. As you will think of it is melancholy will take. Whether you trust, at me begins to suck in the pit of the stomach when the sun for the summer turns and because of the horizon is shown. No, the right, is a pity. Here this short summer to anything. It is not enough from it joy.

– Or perhaps will also not thaw! – suddenly he shouted and derisively looked at Ignat.

– Whether you read about such project: to arrange among the Atlantic Ocean the artificial island airport from ice? In warm climate, in the warm sea! Ice should be done artificial there – refrigerators, keeping it under heat insulation... And freezing of the soil at large earthwork? Here, eventually, only energy is necessary. We will be rich with it soon, and then, I think, we will keep on all the year round our many ice constructions.

– To you to move to the South Pole. There ice does not thaw also in the summer.

– Let's reach also Youzhny, give term. There, likely, for us still such riches under an ice cover are hidden about which we also do not dare to imagine.

Here and tea is ready, here fresh bear's flesh. Excellent piece. We killed this bear last year, and watch what fresh meat.

– But in the summer your refrigerators thaw – Ignat was surprised.

– And we, smart guy, store only such stock of provisions which is necessary to us for the winter in them. By then, as begins to grow warm, and warehouses become empty. And we store all other stocks in permafrost. There meat at least thousand years fresh will lie. Heard about the mammoth found in permafrost? Its meat so well remained that wolves and dogs of its fir-tree. They say, and some scientist tried mamontyatina. Here and permafrost on something was useful though it also causes many troubles to our Verochka.

– And there is a lot of it, this permafrost? – Jim asked.

– Whether there is a lot of? Perhaps, Florid about one hundred will get. The southern border of permafrost goes from Mezen through Berezov on Turukhansk, goes out of the USSR, appears at Blagoveshchensk again, turns on the South, small Hingan bends around, creeps to the southern parts of the Sea of Okhotsk...

– Why such broken border?

– Depends on the different reasons: from thickness of snow cover, from the soil, humidity, from height above sea level.

Skins at doors began to move.

– Brought someone else. – The old man opened a fur door. – And – and-and, Verochka. And we just spoke about your deadly enemy.

– About what enemy? – Kolosova asked. Her cheeks from a frost burned. Hoarfrost on a hat and a fur collar quickly turned into brilliant droplets.

– Well, what enemy at you? Of course, not the person. All the person love our Verochka. Permafrost – here your enemy.

– Ah and. It is right. – The girl sighed.

– What, again? – Verkhovsky asked.

– Again – the girl sadly answered.

– Well what to do. The enemy is strong, as they say, but we will win against him, Verochka. Sit down with us, drink, tell.

The girl waved a hand.

– Not to tea to me. I would like that you looked, Verkhovsky... when terminate tea to have – she added, having had a look at Ignat, with appetite who was eating greedily smoked bear's flesh and washing down pieces with hot tea.

– We now. We already finish – Ignat told, quickly chewing a piece. – We will go too.

All quickly put on and came to a frost.

Ignat and Jim got over in hotel. In number there were two more persons – the representative Soyuzkinoradio who arrived to arrange sound telecinema, and the ethnographer “with a linguistic bias” as he introduced himself. He came to study the northern people and tried to discover root communication of their languages with languages of North America. He was convinced that the American Indians came to America from Asia through an isthmus which existed once on the place of the Bering Strait. The ethnographer arrived from Votyatsky edge where he studied votyak.

Jima it was uninteresting to listen to stories of the ethnographer about votyaka. He was interested in the film technician Kostin, cheerful, strongly sutulovaty cripple more (the left leg at it was shorter than right). From the constant movement along a crutch on big and index fingers of Kostin there were callosities.

Once, when behind walls of hotel the polar blizzard stormed, Kostin suggested Jim, Ignat and the ethnographer to look at a picture.

Kostin extinguished an electric lamp under a ceiling, included current in the device and in the twilight began to conjure.

Audience uvidat boundless ice-rinks of the Arctic Ocean, smooth as the surface of the frozen lake, with chaotically heated up ice blocks. The panorama moved, and Jim clearly imagined that he flies on the airplane and under it there pass the dead,

snow spaces lit with twilight light. Here ice slopes – icebergs – with the hung arches, ice bridges which half fell, caves – and again a boundless smooth surface rise izjyazvleny the sun, warm winds and rains... Here ice-covered, snow-covered rocky edges of some island rise. The polar bear looks back, turns the head up, apparently, looks directly at Jim and probably frightened by noise of aeroplanny motors, hurries to take refuge in coastal hummocks.

The island departures back – and again the desert, the snow plain endlessly and edges.

But here it began as though to turn around. Or the airplane a spiral rises up? The horizon extends, rises. Contours of coastal gulfs, bays, capes, islands are visible distinctly. Ignat learns and calls them.

And suddenly all this dead space recovered. From a lip to a lip, from a bay to a bay, from the gulf to the gulf, from the Continent to islands on a white background of snow the set of dark sticks, similar to Koch's sticks as they are represented in bacteriology courses moved. It is, of course, already the animation imposed on film pictures from nature.

– If you could see through ice, you would uvidat such picture – the voice of the invisible announcer was heard. – These are submarines which carry out communication between separate points of the coast, polar stations, winterings, islands... And here the big stick separated from our coast and, crossing the North Pole, goes to coast of America. That moves the big passenger

underwater ship making flights under ice between the USSR and North America...

Jim was stunned. How? These unruly people get even under ice of the cold Arctic seas? And there life, movement, work? Jim already got used that in a wild taiga and even in the dead tundra of the person it is easier to meet, than it would be possible to expect. But under ice! No, it is improbable! Of course, the submarine can float some space under ice. Jim remembers Vilkins's attempts.

But it, Jim, want to assure that there is a regular, brisk underwater and subglacial movement...

– Submarines transport mail, vitaminozny products, medicines, furs, the radio equipment – the announcer continues. – We have no winterers who are cut off from the world for eight-ten months in a year now. In case of need each winterer can be transported to Moscow, Leningrad and is replaced by other winterer.

– Saw? Heard? – Kostin asks. – Well that! And if not all believe that underwater communication really exists, can admire a type of submarines outside and from within.

And on the screen images of submarines appeared, on appearance it is not enough what differing from usual, military.

– Never I would agree to work in the submarine, in cold water, under ice! – Jim told.

– Yes there warmly! – Ignat burst out laughing. – Look, the thermometer shows twenty three degrees.

– Nevertheless it is terrible – the ethnographer supported Jim. – As you will think that around ice water, and over the head, maybe, five-meter ice, so you and at thirty degrees of heat will tear a frost!

– A habit – Ignat objected.

– Correctly! – Kostin responded. – Whether here you want to have a talk with seamen of scuba diving? I will establish bilateral connection with the old friend, the captain of the U-246 submarine, and his team now.

It tinkered, jumped, and the pomerknuvshy screen recovered again.

On the screen the person of average years with cut moustaches and the cheerful blinked eyes appeared. On it there was a form of Navy.

– Kostin! You called me?

– To companion Yershov, captain of the U-246 submarine, respect! – the projectionist in the microphone answered. – My cohabitants according to number are interested in underwater communication. If you please, tell how it and that.

– It is possible to tell but only I do not like to spin in front of the televizorny device. Admired – and enough! I am switched off.

The screen went out, and at the same moment Yershov's voice was heard:

– Now we will have a talk. Well what to tell you? How we seized subglacial transport? Not at once, of course. There were also failures, but about them will tell later. The fact the fact that

seized; and seized because we are people persistent.

– Forgive, please – Kostin's voice was heard because of the device. – You where are now, Yershov?

– Where? Where to me to be? Not on an oven, of course. In the submarine, as always.

– Under water?

– Under water.

– Under ice?

– Under two-meter continuous ice.

– And anything?

– Not nothing, and is excellent. We have heat, light-, comfortably. Clean air. Mechanisms work as a chronometer. Precisely according to the schedule we will be on the place.

– Well that! – Kostin told. – And we have that here such children who consider that it is worse than the submarine on the earth and there is no place.

– Yes they, likely, never were in the modern submarine? Would swim for a while with me, would tell other! – hotly Yershov exclaimed. – We have real underwater ships with the big tonnage and spacious passenger cabins. We photographed transfer of several thousand workers, engineers, technicians together with materials and bulky details of cars. Look how at us all this is organized.

Audience saw pictures on the TV again.

Before them there was a pure big bay protected from an impact of the drifting ices by a powerful dam. Ashore – the

arc-shaped pier filled with numerous cranes. Near pier stood in a row as huge spindles, the underwater ships. Over water the black shining backs of these new, terribly big inhabitants of water rose only. On pier there were people in warm fur suits. They patted shaggy mittens, foot tapped legs. It was visible that there is a furious frost. But wet backs of underwater giants did not ice over. From them there was even steam as from the horses who ran on a frost there are a lot of kilometers. The external surface of the underwater ships heated up electricity. Above cases of the underwater ships open hatches were seen. There was a loading. Huge arrows of cranes highly flew by over the heads of the people standing on the coast, took freights in boxes, gave them to holds of the ships.

Jim arrived from the country of the advanced equipment. He saw constructions of large ocean ports, but what he saw on the screen now, struck it. Designs, the principles of loading mechanisms were as though the same. Another surprised: rates and coordination of work. Cranes moved silently and with such speed that the head was turned, looking at them. It was some chain of quickly rotating roundabouts. What power! What victory over friction, weight!

Jim gasped when he saw how the huge ten-wheel engine swept by in a roundabout, and he did not manage to disappear in a hold subsoil as it was followed by other, same heavy and bulky cars. Cranes stood on such distance one from another that the ends of their arrows could touch on the run each other if not the hour

accuracy of the mechanisms rotating arrows in one direction.

Did not pass also several minutes as all freights were absorbed by underwater monsters.

The melodious sound was distributed, cranes instantly stopped, having extended the arrows in the direction of port. In several seconds landing of people began.

Watching them, the audience as though also made landing and fluently examined an interior of the multystoried underwater ship. There was everything that happens by big ocean steamships: both fine cabins, and pools for swimming, and platforms for games, and library, and auditoriums. But was also features in machines and devices much: laboratories for processing of sea water in oxygen; standard installations for creation of artificial climate; powerful cars for explosions and melting of floating ices; warehouses of underwater suits for big depths with a reserve of oxygen, drinking water, food and the engines allowing divers to float quickly in any direction across and verticals. Even devices and devices for geological researches at the bottom of the sea.

And in ways of loading, and in the device of the underwater ships there was a lot of “poetry” of the equipment that all were delighted.

The underwater ship went with a huge speed... The new port, some mountains covered with snow, the city, the plant... The young ruddy worker ascends to a station platform – one of many thousands of people transferred with unprecedented speed together with cars, materials for thousands of kilometers

under ices.

Audience involuntarily deeply sighed, having ended viewing of this amazing, concerning movie. Yershov, having allowed the audience to recover, continued:

– We did not gather as some other, straight away to cross all Arctic Ocean. We began with coasting swimming. The first submarines could pass without rise on a surface only small spaces. We long and carefully studied a bottom of the polar seas, ices, undercurrents. Adapted submarines for subglacial swimming and improved them. We had drills with which it is possible to drill ice, and tubes for receiving external air, and good explosives. Also case durability increased by compression, the accumulators, a radio communication, radio lots warning about obstacles in a way were improved. At “station” we were expected always by a ready ice-hole – гидропорт. Here is how this business carefully accustomed. Also adjusted so that now risk any. Action radius everything extends. And already the first big passenger subglacial ships crossed the ocean from European to the American coast.

– And incidents after all were? And failures? – Kostin asked.

– The person also will not learn to go without to falling – Yershov answered. – There were also failures, there were also incidents. In the submarine all unfortunate incidents come down to the fact that it is impossible to emerge for some reason or other and the crew risks to choke. Was and with us such case when I on “Perch” swam – so called our submarine. This “Perch” got to an

ice trap. There was a furious storm. Nervousness is such that our "Perch" even at a decent depth danced as the glass devil in a jar. It was necessary to fall even below. We had an oxygen reserve for about sixty hours, but nevertheless situation was serious. There is nothing to rise to the surface and to think: screws instantly would break in wild chaos of the rubbing, breaking, mixing up ice floes. But how many hours, days the storm still will last?.

We slowly moved forward, to the polar station – the purpose of our swimming. And suddenly – stop! A push from which all of us got. Somehow looked round, we see: we are in an ice cave. Perhaps, we went off-course and entered a cave which was formed in the glacier of some island which was going down in water; and maybe, it was also in an iceberg; and maybe, it just was an ice heap in shallow water. Anyway, it is necessary to get out of a cave. It was such size that the submarine could not be deployed. It was necessary to go carefully a backing. In a few minutes intense silence we felt a push again. Ice hammered an exit from a cave. We appeared in an ice trap. Us was four: I am a captain, my assistant navigator Chudakov and mechanics Shanin and Burmin. With them I swim also now. We began to confer what to do. Fortunately, the radio station was as it should be. From the polar station, by our calculations, we were nearby. We, of course, immediately wired the situation. But from the outside of special hope to assign it was not come to the rescue. First, storm. The airplane will not depart. And if arrives what he can make? With itself will not bring divers with the full

equipment. And divers during a storm will not be able to work. From above to lay down a bomb? The bomb together with an ice cave and us could blow up. Ice breakers nearby were not and it was under our conditions difficult to expect the help from them. Here unless more powerful, than ours, the submarine could try to punch the ice stopper which corked our cave if this stopper is not really big. But also for this time it is necessary.

– I – say the mechanic Burmin – I will take with myself an ammonal charge, I will leave in a cave, I will put a charge in a stopper, I will fit wires and I will return. Let's blow up an electric spark.

– What will turn out? – the second mechanic, Shanin objects. – All ice cave at explosion will collapse and will crush us.

– Perhaps will also not crush – the navigator Chudakov says. – We in water, and ice is lighter than water.

– We first of all should survey the place of an exit from a cave. Perhaps, the stopper absolutely is also not big. Perhaps, our submarine hit against the hummock which is carried away down by a storm – I expressed the opinion.

– To survey is the first business – Burmin, and behind it and all others agreed.

We quickly equipped Burmin, helped it to put on in a diving suit, fastened to it on a back the oxygen device, distances in one hand an electric lamp, in other kaylo and released outside via the special hatch. In half an hour we hear Kyle's blows to the case: gives signals that we opened the hatch. Opened. We listen –

silence. And then again ringing knock on the case. What there befell? It was come urgently Shanina to the rescue to send. Both returned soon. It appeared, at Burmin the electric lamp deteriorated. He somehow came across the submarine, and the hatch in the dark could not find in any way. The stopper, in his opinion, is not big at all. Just pieces of ice jammed. Burmin assured that he in one place even punched a hole. But there will be enough work at several o'clock and on how many, definitely you will not consider: can be, new pieces of ice a current will bring. There is nothing to blow up, so. Not a wall, and porridge, but as to clear up this mess – here a question.

It was necessary to work in turn. Pieces of ice were involved in a cave and rose up. It became close. Worked hour after an hour, cautiously watching an oxygen consumption.

Well, further I have to disappoint you. You wait for the description as there was not enough oxygen as all began to choke as at the last moment we were saved. Perhaps, it and would be more interesting to listen, but actually everything occurred differently. There was enough oxygen. Got out of a cave independently. But when there passed several knots, again all fell from a push. Really new ice wall? No, iron. We faced, fortunately, on small to the course, the submarine which arrived to help out us. It damaged a radio set and therefore she could not warn us about the arrival. This boat was it is precautionary the large supply of oxygen cylinders is taken. We managed to receive them under water. Both boats were defended, the storm did not

stop yet.

Here and all story – finished Yershov.

– And how on the ice-rink threw out you? – Kostin asked.

– It and not a so interesting adventure! – Yershov answered.

– And you after all tell – Kostin was not appeased.

– Well, well, I will tell. The storm threw out us on the ice-rink.

Ice floes froze together, and our submarine remained to drift on an ice floe. To the polar station was not really far, perhaps, on foot would reach; but how to throw the submarine? Caused the help. The airplane on skis arrived. Explosions the ice-hole was made. The submarine from ice was torn off, to the airplane tied and tightened to edge of an ice-hole. Then I entered the submarine, and people pushed off it in water. I accepted back freight, crew, fell and continued swimming. Exclusively. And now good-bye.

– Well that? – having addressed Jim, the ethnographer and Ignat, Kostin asked. – Saw? Heard? Are happy? Well, I will show you one more picture, but only with half an eye.

On the TV there was an image of the globe turned to the viewer by the Northern hemisphere. From London line to Paris, Berlin, Warsaw, Moscow further on the East, to the Chukotski Peninsula, through the Bering Strait, to Fairbanks, Chicago, New York suddenly ran... The globe turned, the territory of North America opened. The black line from New York went down, to the southern states, to Kay-Vesta to extremities of the Florida peninsula.

– What is it? – Jim, увидав on the globe familiar places started.

– And it here that – Kostin answered. And Jim saw on the screen huge, a strange look an electric train which promptly moved on a track, the exceeding width a usual track twice.

– The shortest Trans-Siberian way from Europe to America – Kostin explained.

– How? And it already exists? – Jim exclaimed and even rose on a chair.

– You will know everything, you will grow old soon – Kostin told. – For today enough. It is necessary and for club to leave something.

The screen went out, the bulb under a ceiling was lit, and Jim still looked at a white rectangle of the screen.

## 17. An adventure on the ice road

To the room were knocked. Jim playing a sad song the Hawaiian guitar screamed from surprise. Vera Kolosova, fresh and ruddy as always was on the threshold.

– I did not prevent? – The girl quickly removed a fur-coat. Ignat helped it to pull down a heavy fur coat through the head. Now it stood in a woolen jersey and a gray knitted skirt. Then removed also valenoks, having put them in a corner – valenoks were covered with snow, snow thawed, and from them flowed. In woolen stockings, home-style, she approached a table and

took seat on the stool substituted by Jim. Jim started over again strumming a song – this time more cheerful. Some time all were silent. – You will not deceive me this song, Jim – at last the girl told. – You grieve, I know. And you want to leave. I heard how you spoke about it with Ignat.

Jim silently nodded, continuing to touch strings.

– And so – the girl continued. – I spoke about you with the grandfather and with some of ours. Your mood very much disturbs us. I will be frank. What is endured by you was endured almost by each of us, at least, so far work did not take. You worry, perhaps, more sharply than others because your homeland – the complete antithesis to local places. You are sick with nostalgia – homesickness. It is the real disease. And from us many do not maintain. In particular southerners. Yesterday there left one Ukrainian, the day before yesterday – the companion the Caucasus. Even one person from the Urals ran away though in the Urals and tangerines do not ripen. In a word, there is what is called labor fluidity. And it harmfully affects construction. We have a club, there is a cinema, companion Kostin puts big televizorny installation. We will see performances of capital theaters – operas, dramas, ballets. We have a library. We suit a polar zoo. But all this, probably, is not enough.

– Perhaps, from some of these entertainments even the return action turns out – Ignat inserted. – The person will look at the opera – and will even more pull him to Moscow, Leningrad. Will see on the TV screen the sea beach in Koktebel, and then

will leave theater – around night, the snowstorm – and will raise a howl a wolf. Will come home and will begin to stack suitcases.

– Yes, happens and so – Vera agreed.

– Well what you thought up? – Ignat asked.

– It is necessary for us...

– To arrange tropics behind the Polar circle? – Ignat asked with a smile.

– Yes, to arrange tropics. Presents. Not illusive tropics on the screen, and with the real water...

– And, perhaps, even with the real sun?

– Almost. It will shine and heat not less and to give us all the vivifying beams, as well as the real sun... You want to do the sun, Jim? You want to do tropics? This work just approaches you. The you will be better to work, the it is rather you and another grieving receive a corner of tropics where you will feel almost like at home.

– I am not able to do the sun – Jim told and again tried to smile.

– We will teach – Vera answered.

– Wait a moment, it is enough to talk in riddles. What did you start? To arrange a greenhouse? A botanical garden under glass? – Ignat asked.

– Only not under glass. We already developed the project, in the plan it stood on the second turn. Now we were convinced that it is a question of prime importance, and decided to begin work, without postponing. We will build the underground resort. The resort in which it will be possible to spend all free time,

to bathe, lie on the beach under bright beams of “sun”.

– Resort underground! How many time you will pick the earth that your resort was a little bit more mole hole? Whether it is simpler to make a greenhouse?

– Ingenious Ignat, but did not guess. We want to use the huge underground mines formed after coal gasification.

– Who knew that you managed to exhaust so much coal from the earth?

– Well, Jim, undertake this work and finish it. If you also grieve and be torn after that to the South, we will not hold you. We just also decided to direct all melancholiacs to this work like you... But I warn that now this place – our future tropics – perhaps, gloomier, than the winter tundra.

– And it is quite good. When you leave it, and the tundra will seem to you more beautiful – Ignat noticed.

Jim still continued to pinch strings.

– We go with me now and Ignat – Kolosova continued. – Let’s sweep on a snowmobile on the ice road.

– Ignat got up and, without telling the word, took away a guitar from Jim and pulled down to it a cap.

Then he quickly began to put on.

– To go so to go as the parrot when his cat pulled from a cage told. You will get, Jim, in these claws – you will not escape.

Jim burst out laughing, looked at Kolosova and too began to put on.

In a minute they already quickly went on the city.

Here and suburb. A number of lamps costs an equal system as sentry protection. Behind city boundaries ice garages are visible. Brightly windows of the station shine. From the station run away afar as two silver strips, wide ice roads. Close – several access roads connected to garages.

– And it that for a hillock? – Ignat asked, pointing to the hill of the frozen earth towering behind the station.

– We build a dam of frozen soil – Kolosova answered. – We dam the small small river. There will be an excess tank of water. I said that with water at us it is bad.

– And in the summer artificial refrigerators you will preserve your dam against thawing?

– No, the cheapest way and more simply – Kolosova answered. – The body of a dam becomes covered by an insulating layer – peat – centimeters on twenty. From above – beddings of sand and dead wood to protect from access of warm summer water. Here generally and all. Such dam will cost cheaper concrete...

– And permafrost can be useful on something! – Ignat suddenly burst out laughing. Kolosova bewildered looked at it. – I remembered our conversation with Jim – Ignat explained. – We should conduct with you, Verochka, a talk on warmer subjects not to freeze our friend at all.

The belief answered with a smile. Possibly, Ignat already told it about Jim's nedoumeniye.

– Well that, we will speak about the hot underground resort

where there will be cozy corners under the blossoming oleanders.

When approached the station, Ignat attentively examined a way. It was on half-meter above the soil and had a tray appearance. On curves of edge of a tray strongly rose that owing to the developing centrifugal force a snowmobile did not descend from a way.

– However this road expensively has to cost, especially if to mean that it should be built annually.

– Certainly, we were only able to afford such luxury possessing a sufficient stock of the electric power. Now, all enterprises are still not built, we have even some excess of energy.

– You receive this energy for the account of gasification of coal, of course. But when we will build the temperature station, energy will be even more – Ignat told.

– By then also the power line connecting polar stations to the general network will be ended. And everything will go to the general copper. Then, of course, we will not begin to spend energy for these local ice roads. By then the coast of the North Sea will be surrounded with a threefold belt – air, marine and terrestrial transport. The first power line is already laid from Igarka. And as for difficulties of laying of the ice road, they are already not so big. Here, look at this car.

Behind an extreme hangar there was a huge catarpillar. From its sides the levers terminating in the bent blades are attached. Above ladle. Behind the construction reminding the small tender

towered. Under the tender two ovoid shaft were seen.

– There is a car doing the ice road. It goes forward, levers fall, blades on the run take snow and throw in a ladle. Snow gets to a copper where it is kindled by the electric furnace. Buassye's accumulators are located behind, in the tender. Water follows here, behind the tender. Thus, this car, moving forward with a speed of ten-fifteen kilometers per hour, reserves the ready ice road. However, not absolutely ready. At the first pass the tray appears yet not sufficient thickness and there are no zakraina. Thickness and zakraina are increased by special cars at a secondary and third pro-race, and the speed of cars every time increases. Generally, per day it is possible to carry out about hundred kilometers of a way.

If snow cover is equal and has sufficient thickness, then there is no need to row up snow and to turn it into water. It is enough to pass on such "tank" – and back skating rinks will squeeze out an ice tray in snow. Two-three route trips – and trays become ideally smooth. Now on this line a snowmobile plies. Their skis are put at a small angle, according to curvature of cross section of a tray.

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