# SOVIET SKETCHES



## AN ARCTIC GARDENER

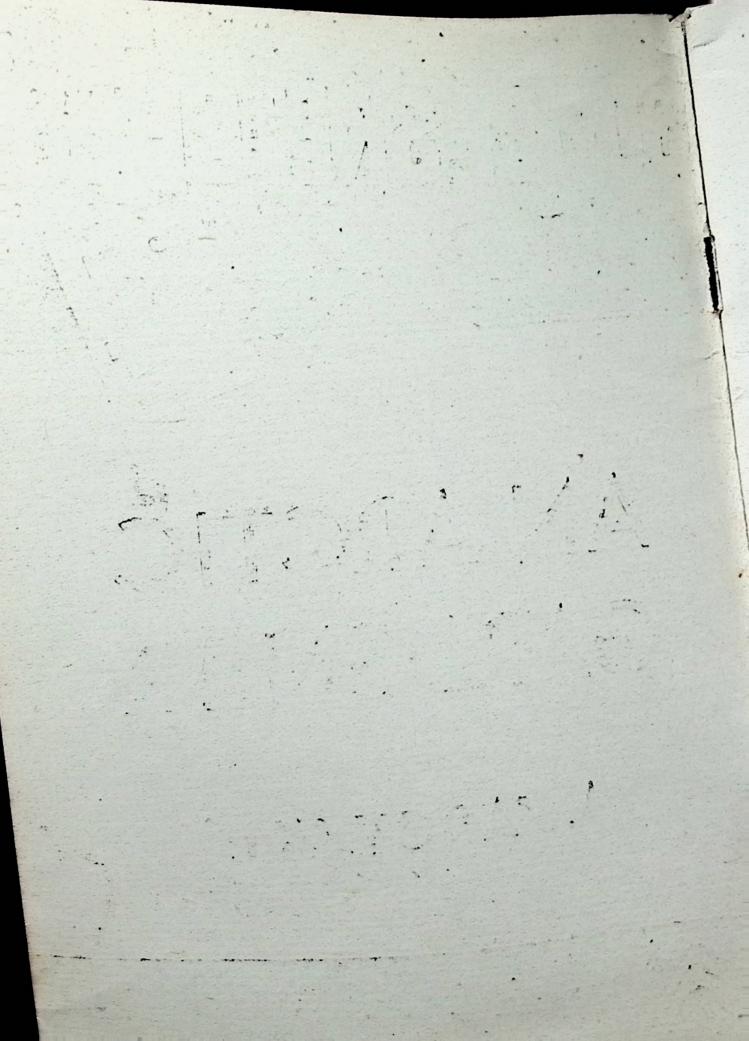
A. SADOVSKY



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### AN ARCTIC GARDENER

By A. SADOVSKY

1

I remember Anna Stepanovna, wife of skipper Demidov, a former Red Partisan, telling me how Eichfeld first came to Khibini:

"One day a man called Johann Hansovich Eichfeld arrived here. Fair-haired he was, with a red flush on his cheeks. Really, he was quite good-looking when he first came.

"'Why, have you come here to grow old?' I asked him.

"'Aha!' says he. 'Anna Stepanovna's guessed my secret! Well then,' says he, 'let's have a race. The one who grows old first gets a prize—a glassful of vodka and two herrings.'

"The war was just over at that time. But the scurvy wasn't over. . . . He and I were taking a walk one day around the place. My husband looked out of the window and laughed when he saw us walking along arm-in-arm. Some way off we saw a man standing. Leaning up against one of the houses—all doubled up. When we came a bit closer, we saw his legs were giving way under him. Just leaning up against the wall, he was—terrible-looking, covered with blood, and gaunt as death. He stood there taking his teeth out of his mouth. . . . And he couldn't even hold his own teeth in his fingers.

Fancy being that weak! He pulled them out, one after the other—like this—and they fell down to the ground. And he stood there, all doubled up. When Johann Hansovich saw that, his face fell.

"'Well,' he said, 'that's the first time I ever saw people

putting away their own teeth.'

"'There now,' said I, 'and you chose this place to come and grow old in.'

"'All right,' says he, 'I'll stay on a bit and then leave.'
"There was nothing but tree-stumps and roots up in these parts. Nobody ever tried to grow anything. Only once in a blue moon you'd find a man with a garden patch beneath his window. The Lapps were the only ones who didn't get scurvy. To be sure, they didn't eat any vegetables either. But then their stomachs weren't turned by raw meat."

Eichfeld had his predecessors. They did not work on the Khibini soil for long, only one summer, but all the same Eichfeld reckoned on finding a bit of reclaimed marshland and some kind of a dwelling left behind by them. What was his disappointment when he found nothing but a rickety cabin-frame and a couple of hoes. "So they told me about their plans as if they were

finished results."

All he got was the sympathy of Anna Stepanovna, who herself kept a garden patch beneath her window. Her sympathy was very agreeable, but one could hardly begin work on that alone.

Previous to this, Eichfeld had unfolded his Arctic plans to Academician Vavilov, who heard him out with great attention. But, alas, those were the hard times of the "economic restoration" period when the plant institute itself was eking out a miserable existence.

"I'd advise you to hitch on to some wealthy institu-

tion," said the academician.

Eichfeld tried to get help from the land settling department of the Murmansk Railway.

In those days the only settlers in the Kola Peninsula were the railwaymen living along the narrow ribbon of the main line. The railwaymen in these northern parts were victims to scurvy. Fresh vegetables were the only cure for scurvy. And the railwaymen had to make shift as best they could to preserve their health; they had a few freight cars patrol the line with vegetables growing on the roofs.

"Regular gardens of Semiramis," said Eichfeld. The effect produced by these "gardens" was quite negligible, but the Murmansk people were uncommonly proud of them, all the same. They even launched out into statistics, pointing out that the first people to colonize these regions-tsarist officials who built the main line on human bones during war-time to gain an outlet to a non-icebound port on the Barentz Sea-did absolutely nothing to combat scurvy, whereas now vegetables had increased by 200-300 per cent.

The percentages were high, but the vegetables were lacking.

Curious that the enterprising Yankees, who bought Alaska from the tsarist government, should have taken with them not only cradles for the panning of gold dust but also vegetable shoots, including even strawberries.

Eichfeld wrote about this to the managing board of the Murmansk Railway, when asking for funds for his experiments.

He got nothing. In 1923 there were few who believed that anything would grow during the brief cool summer on the hard Khibini soil. Eichfeld was a true son of his age, and he backed up his arguments with quotations from Engels and Marx. For example:

"Man, too, influences nature, changes it, creates for himself new conditions of existence."

"Fertility is not at all such a native quality of a soil as might seem; it is intimately connected with contemporary social relations."

The applicant was correct, reserved, polite, but amazingly insistent, like all people who are stubbornly bent on attaining their ends. His quotations had their effect; they were like a red rag to a bull. How the devil could you grow things in a place where the winter lasted nine months!... But an angry light would begin to flicker in Eichfeld's cool grey eyes when they suddenly started questioning him about his knowledge as though he were a student at an examination.

One big-wig asked him rudely enough:

"Couldn't the young man bring us some information on his own experiments, besides these quotations?"

And again:

"Has the young man read Haberlandt?"

Eichfeld told his friends that he only just withstood the temptation of turning around and showing the patches on the seat of his trousers, to prove that he was a sedulous and well-read man.

Yes, he had read Haberlandt. The well-known German scientist, an unquestioned authority on the temperature of soils, wrote as follows:

"To ripen oats we require a total of mean temperatures during the period of development and growth amounting to not less than 1940 degrees Centigrade, for barley 1600 degrees, for peas 2100 degrees, for edible roots 1500 degrees."... And at Khibini, as Eichfeld was later able to verify for himself, "the total of mean temperatures in the period from July to September amounted to only 1135 degrees Centigrade. Besides this, many days would have to be excluded when the temper-

ature dropped below that minimum point at which plants are able to develop at all."

"With what lance," mused Eichfeld, "can I defeat

this mailed opponent?"

He had been an impassioned botanist in early childhood. And he had caused much annoyance to his grandmother by the mess he made in bringing home all the plants and flowers that struck his youthful fancy. But these are purely idyllic features in his biography, capable of touching the hearts of none but close relatives at an evening of family reminiscences. He traversed Karelia with a party of geological surveyors. And he was much angered by the Karelians. How obstinately they sat up there in the highlands, on the moraine! They hesitated to go down to the boggy lowlands and to drain them, to grub up the roots and obtain good arable land. Drain the bogs-they'd heard that tale before! . . . The horror stories which he never failed to tell about people with "petrified" legs and fingers unable to hold their own teeth were perfectly well known as it was.

And as for the quotations, if the truth be told, they caused Eichfeld to be regarded as a shameless demagogue even by people who were fond of mixing in a few quotations themselves, when speaking at meetings.

Who was this fair-haired fellow with the sickly flush on his cheeks and the patches on his trousers, who came straight from the lecture-rooms of the institute and had had almost no practical experience? He made short work of Haberlandt, mumbled some fine phrases down his nose such as "truth is the daughter of time, not of authority," and finally, as might have been expected, asked for money!

Where was the boundary line between this young man and the horde of adventurers who also asked for money and juggled with quotations just as cleverly as he? Eichfeld had to undergo many humiliations before he was at last given funds to finance his work.

He was energetically sponsored by Academician Vav-

ilov. And they let him have two hundred rubles.

Two hundred rubles for a year's work! This sum had to suffice to support him and one worker, his assistant. In effect, this gift was the final and most subtle form of mockery. Eichfeld told the professor:

"Well, I've acquired capital at last, and it cost me such pains to get it that I feel qualms about spending it

on a ticket to Khibini."

Vavilov took the hint. He lent Eichfeld 16 rubles out of his own pocket for travelling expenses. And Eichfeld went off to the North with a light purse but with high hopes in his heart. At Khibini he was given shelter—almost as an act of charity—by Anna Stepanovna. She was very pleased someone had come who was not consumed with hatred for the Khibini soil.

"I like any kind of soil myself," she told Eichfeld. "Even Khibini soil. I've been partial to it ever since

I was a child."

And Eichfeld liked her. Once, watching her chase a cockroach from the wall, he burst out laughing.

"What do you want to squash cockroaches for? They

bring luck."

"Just because they're dirty," answered Anna Stepanovna, calmly conscious of her superiority to all such

superstitions.

Eichfeld chose out a piece of marshland. It had to be fertilized, so, like a poor Chinese peasant, he dragged baskets of manure all the way from the railway station, several kilometres distant. The worker hired to help him, some tramp from the northern wilds, refused to work in the marsh in torn boots.

"This man likes nothing but finished results; he doesn't

like the process of labour," observed Eichfeld philosophically, and changed footwear with the tramp, giving him his untanned leather top-boots and himself donning the torn boots.

In July, when several cabbages and potatoes had already begun to sprout in the experimental garden, an unexpected enemy appeared—a hare. It industriously wormed its way into the garden and nibbled up all the cabbage leaves. One insignificant little animal brought all Eichfeld's efforts to nought. He sat up nights with a gun, on the watch against the gluttonous rodent. Once he dozed off on a rock, warmed by the midnight sun. And when he woke up-his bog had changed beyond recognition. Terrible indeed was the spectacle that confronted him! Everything around him was glittering like a silver mine beneath a coating of white hoar-frost. Dozing off in his fatigue, Eichfeld had not noticed how the temperature was falling. A frost in July-what a cruel blow! The young scientist's heart sank within him. He vividly pictured his return to the land settling department of the Murmansk Railway, and the ironical remarks he would hear behind his back:

"Aha-a. . . . The young man with the quotations from Marx and Engels."

2

The family of the Esthonian peasant, Hans Eichfeld, was split in two by the revolution.

The mother and the second son remained in Esthonia, while the eldest son, who took an active part in the peasant uprising of 1905, and the youngest son, Johann, made the Soviet Union their home.

If the question of choosing which country to live in was decided upon some kind of hypothetical scales, then the year 1905 was a heavy weight which decided Johann in favour of the Land of Soviets.

For in that year a detachment of sailors from the Baltic Fleet was sent from St. Petersburg to flog and shoot the insurgent peasants.

One day a neighbour told little Johann:

"Can you hear the shooting in the forest? They're finishing off your brother there."

Johann ran off to the forest, his shirt billowing out on his back like a sail. Soon he caught sight of an uneven, wavering line of people. They were standing with their backs to the trees, on the edge of a freshly dug pit. And opposite them Johann saw another line of people—people in sailors' caps with fluttering ribbons, with stiff bulging necks and rifles at the ready. . . . Johann gasped. As he ran, he looked for his brother in the wavering line of people standing with their backs to the wood, but their faces merged in a white blur before his eyes.

Then it seemed to Johann as if his ear-drums had split and his head burst open—such a deafening bang came from the men with the fluttering ribbons.

Several men tottered and fell—and at that moment Johann was tripped up and sent spinning. He lost consciousness, and came round a few minutes later in somebody's strong arms.

The sky was swaying quite close above his head, and from the sky there looked down a pair of startled blue eyes in a red perspiring face, twitching with excitement.

He had been knocked over and picked up (Eichfeld to this day is convinced of this) by one and the same sallor, who had surreptitiously left the ranks of the firing squad.

The sailor carried Johann off to one side and set him

down on his feet. Then he laid his strong hand on Johann's shoulder and turned him right about.

"Get away from here, nipper, and don't take offence at the service," said the sailor sternly and ran back to the firing squad, while Johann, now feeling faint and sick, trudged off home.

Much later he learned that the neighbour was mistaken; his brother had got away across the frontier and taken refuge somewhere in Scandinavia.

The episode in the forest stuck fast in his memory. How often it turned the scales in settling Johann Eichfeld's destiny!

He began earning his own living while still a boy, before he had finished school. And on account of his elder brother the police kept him under observation. He was permitted to live and work only in the most out-of-the-way parts of western Russia. But all the time, as a sunflower turns toward the sun, he kept turning to nature and at the same time to those places where there were books and people able to help him prepare for the university as an "extern" student.

A true lover of nature, he could not rest content with merely contemplating her; he wanted to follow the example of the great reformers. . . . He studied hard. He studied ferociously! This country post office clerk belonged to that type of young people who are able to sit down to a book after a harassing twelve-hour day of deciphering telegrams and counting out other people's money. Tall rouleaus of gold coins accumulated on his office desk, but it was not this that fretted his soul or kept him awake at nights.

The war shattered his plans. In 1916 Eichfeld was made a soldier, and received such a dose of parade-

ground drill that he himself asked leave to join a regiment that was being sent to the front. But at last a joyful day arrived. The hurricane of revolution flung open the door to learning that had hitherto remained closed before him. The "alma mater" received her stepson.

But how relentless is life! Once again Eichfeld's perseverance was put to the test. He had to live on an eighth of a pound of bread and a herring per day.

"Like the Jew in the story," he jested when he had completed the course, "I might have lost my sight and acquired nothing but piles. As it is, I've come off well: received a certificate saying I've graduated from the institute, and tuberculosis into the bargain."

Eichfeld proposed curing his tuberculosis at Khibini, by hauling baskets full of manure from the station.

July. . . . Midnight sun. . . . Silver hoar-frost. . . . Among the vegetable beds, blighted by the frost, roved a sunburnt fellow in patched trousers with a gun on his shoulder, muttering something under his breath. Anna Stepanovna was already up. She liked to take a look at the experimental garden early in the morning.

"There now," said she, quite distressed. "And you

came here to grow old."

Then she invited Eichfeld to come in and have breakfast. He kept muttering to himself under his breath. . . . She fished out a bottle from a secret corner.

"The skipper's. Never mind, he'll share it with us. Feel better now? Speak louder, don't keep muttering like an evil spirit! Have another glass. And stop muttering, will you? What trouble I've had with those potatoes! No sooner do they begin to bloom than the frost nips them. It's a pity to dig them up when they're still little. And yet, if you leave them to grow in the earth, the

frost freezes them up as tight as a coffin. Believe it or not, but I've had to hack them out with an axe before now!"

But Eichfeld was not listening to her. Summoning his saving humour to his aid, he was reasoning it out for himself.

"If I believed in a supreme being, I would have said this was a sign from god. Away with grief, Anna Stepanovna, let us rejoice together. And let us congratulate ourselves that the frost has smitten our garden. A few specimens have survived, the majority have perished. But strength does not lie in numbers. Far more important is something else, Herr Haberlandt! At one stroke we have hit upon those types which are able to survive even here—at a latitude of 67° 44′ North. The weak have perished—to hell with them, the damned mollycoddles! The strong have withstood the blow and survived. We shall marry them to others. Do you know, Anna Stepanovna, what the marriage of plants is called? Selection."

"Why don't you get married yourself?"

"My bride hasn't grown up yet."

3

The railwaymen of Khibini shrugged their shoulders resignedly at the obstinate crank when they saw his ravaged garden. Only Anna Stepanovna, who herself had zealously carried stones from her garden plot, continued as before to lend an attentive ear to the counsels of the young scientist.

Eichfeld bore no resemblance whatever to the armchair type of scientist. He was a man of action, and maybe that was just the reason why Anna Stepanovna believed in him.

But even she began to have misgivings when she heard him one day loudly reciting what appeared to be psalms as he paced with measured steps up and down his

garden plot.

Eichfeld, however, was not reciting psalms. He was recalling Goethe's lines, where he says that the poet's soul, pining in solitude, must seek contact with the outer world, and explain his wisdom to those who are eager to hear him.

He recalled Goethe, and the author of Faust, out of gratitude, immediately put a curious idea into his head: to gather in his harvest, take it to the Murmansk Railway and show everybody what could be grown at a latitude of 67° 44′ North!

Poor harvest! It could all be packed into one box. Anna Stepanovna hung around solicitously in the offing while Eichfeld pulled up the cabbages and potatoes.

A little black-eyed girl came running up, squatted down on her heels, and gazed at the wondrous cabbages. Her wide-open eyes looked spellbound. Suddenly she snatched up a cabbage and pressed it tight to her breast.

"Put it back," said Eichfeld.

She silently shook her head.

"Now then, Agnia, put it back!" said Anna Stepanovna.

The little girl jumped up and ran off, her bare, dirty heels twinkling.

"Stop, stop, little hare!" shouted Eichfeld, but he did not try to overtake her. "Whose child is that?" he asked, after a moment's silence.

"The Vopiyashinas'."

"A-ah, the switchman. Does he still drink as hard as he used to?"

"Oh, he's a hopeless case!"

"And it was probably the parents who sent the little girl to get the cabbage. How many times have I told that switchman: Plant a garden, grow something. They just won't listen. Their grandfathers didn't grow things so they're not going to either. Oh, those grandfathers! They don't like the process of labour; they only like the finished results. Sent the little girl right off to fetch the cabbage."

"She probably came of her own accord. She's from the White Sea coast, never saw a cabbage in her life."

Eichfeld began travelling the Murmansk line on a freight train. He got out at all the stations, called the railwaymen together, showed them the vegetables. He felt a bit awkward—like a conjuror—when he told them:

"Look, these were grown at a latitude of 67°44' North."

The railwaymen did not believe him. They laughed, and told him nasty stories to his face about hunters who, returning empty-handed from the chase, dropped in at the butcher's to buy game on the way home.

"He's kidding us, that's all."

Then he returned to Khibini to fetch the worker who had helped him dig the garden. He was to "bear witness." Eichfeld himself referred to him in jest as "the incorruptible."

The "incorruptible" swore like a trooper at the meetings. He ended by pouring such a torrent of curses on the heads of the sceptics that the latter went off into guffaws of laughter.

"Where ever did you pick up this scallywag?" they asked him.

Suddenly he was dealt a blow from a quarter where he least of all expected unpleasantness. A journalist named Zatsepin, at the instance of some of the Murmansk people, who were impatient to see the day when they could tie up all the world's cranks in a sack and drown them in the depths of the sea, published a newspaper article attacking Eichfeld. He demanded outright that this "squandering of public money" be put a stop to, and proceeded to prove, not without humour, that a single cabbage could be made to grow even at the North Pole. . . . At some out-of-the-way station Eichfeld was overtaken by a telegram ordering him to hand over all his "stock-in-trade" at once.

A few days later Eichfeld was ready to leave for Uzbekistan.

"You ought to be thankful," said Anna Stepanovna, as she said goodbye. "You'll live longer now! Mind what I say: go home, get married and start living like a human being for a change."

Black-eyed Agnia was also hanging around, gaping at Eichfeld, staring at him with amazed black eyes, as if expecting some miraculous cabbage to appear any moment.

"What's the matter, dearie?" laughed Anna Stepanovna. "Want a cabbage?"

"Yes, want . . . cabbage," confessed Agnia frankly.

Uzbekistan did not give Eichfeld the peace and quiet he had hoped for. Curiously enough, the hot South in its immobility called to Eichfeld's mind the familiar features of the far-off North. A certain barefoot trader in the bazaar stuck in his memory long after, for some reason or other. He flew into a terrible temper when Eichfeld wanted to buy up all the ten loaves in his stand at once.

For ten minutes on end the Uzbek cursed the dumbfounded Eichfeld, his father, his uncle, and all his relatives.

Ignoble man, ignoble purchaser! By his thoughtless action he wanted to cheat the Uzbek of the joys of a whole day's trading.

Ignoble man! One should click one's tongue. One should name a price. Go away and come back. Bargain. And only then take the loaf. And that would have been a mark of respect for the trading ability of the Uzbeks. . , .

That year, Uzbekistan somehow struck Eichfeld as being just as stationary, in its own way, as the North. Here, just as in the far northern latitudes he had so receptly left, he was foiled at every turn by the sloth of hated traditions. And then, it was too hot down South! Too bad, for he began to cough more and more! And the harder he coughed, the more ruthlessly did he curse himself for being a "traitor to the job he had started up North."

"It looks," Eichfeld decided at last, "as though I shall have to go and ask Vavilov for a loan again."

One day, while glancing through the paper, his eye fell on a brief news item about a new mineral that had been found in the Khibini mountains. For a whole hour he sat reading it through again and again. He laid down the paper, sat lost in thought, then read again about the outcrops of apatite that had been found. He had known about the apatite before, but the mention of it in the paper was important to him because it focussed the whole country's attention upon this new mineral.

"You have ruined me," chuckled Eichfeld cryptically, as he folded up the paper, "but you have restored me to life. If they really start mining apatite in the Khibini mountains, that means towns with tens of thousands of people will spring up there. Those people will want vegetables. And then my work will not depend on niggardly doles; it will become as needful as our daily bread."

"Come here to grow old again?" Anna Stepanovna greeted him. "Not married yet, are you? Well, whoever would take you, the way you are? You mark my words -get married. Maybe you'll turn into a human being then. What a rolling stone you are! Look at me, now; I'm married for the second time. Two children I've got, only they're not Demidov's, they're from my first husband—a forest keeper, he was. Two sons. Nice kids, aren't they? The skipper and I get on fine, just like me and my late husband. To be sure, I told the skipper right out, when he proposed to me: 'I've got two children,' I told him, 'and I don't intend to grudge them anything. Better think it over ten times first, because I've no use for people who get married and then separate again. Don't go getting any ideas into your head,' I told him. 'I've got a pair of hands, and a head on my shoulders. I keep myself and the children too. Besides, they've given me a bit of a pension to live on.' 'I won't do wrong by the kids nor let anyone else do so either'that's how the skipper answered me. And sure enough, he's kept his word. It's true what I'm telling you-he never forgets his duty as a husband. And every time he comes back from a voyage, he brings some present for the children. The elder one he's sending to school already. And they treat him just like their own father. To be sure, I understand the skipper, too. Since he's a Communist, I never grumble if he signs up for more bonds than the rest when the State Loan is issued. Just look, the skipper's hung up a portrait of Karl Marx. The old writer, you know. I must say I like those old writers myself. . . . Here's Agnia come again. What do you want, Agnia? Cabbages?"

"Shall we plant cabbages, Agnia?" laughed Eichfeld.

"Plant cabbage."

"Well, since you tell me to, I will."

That winter, accompanied by an ardent Polar explorer named Kreps and a geological prospector named Semerov, Eichfeld climbed to the top of Mount Rasvumchorr. On the ice-covered summit they took several specimens of apatite, needed for chemical analysis, and brought their booty back to Leningrad. At a big scientific conference the aged president of the Academy of Science came up to them and solemnly called them heroes. And after him the others also came up and called them heroes, because Semerov, Kreps and Eichfeld had broken the tradition of summer geological prospecting and had undertaken this work in winter, amidst the Polar night and the Polar cold.

Many people were by now beginning to take an interest in the grey-green apatite stone.

A small group of Party functionaries, business managers, journalists and scientists testified that the whole country could be supplied with good and cheap fertilizer from the Khibini mountains. (Apatite contains P2O5phosphoric anhydride.) But another group, which also included Party functionaries, scientists, business managers and journalists, protested against all such rash "crazes." . . . And even some scientists who had been amazed by the rare and original formation of the alkaline strata in the Khibini mountains, hesitated to speak out in favour of apatite, because the experience of other countries seemed to confirm the arguments of the sceptics: outcrops of apatite are to be found in all corners of the world, but apatite has nowhere yet been found in sufficient quantities to make mining pay. In addition to this, they did not believe it would be possible to carry on work all the year round in a region with a long winter and Polar night.

Accordingly they were especially loud in praising the feat of the three explorers.

But the three explorers were restrained in their ressponse.

The fate of polar agricultural experiments was decided on the night of January 1, 1930. On that night those "new social relations," on the development of which Eichfeld had pinned such hopes, were first introduced in the Kola Peninsula.

And he made no mistake in linking his fate with them.

On the evening of December 30 a group of people got out of the train at the Byely siding. They climbed into a motor truck and drove off into the heart of the tundra.

A blizzard was raging. The snow fell thick and fast. The truck often got stuck in the snow drifts. Several times it was heaved out by main force, until at last it stuck fast in the snow like a nail in the wall. The travellers changed into a sleigh. One of them—his name was Sergei Kirov—called over the driver of the truck and told him with a genial smile:

"Soon you'll have to haul ore on tractors over this road. I hope the ore won't get stuck as we did today."

The deep snow drifts mounted like a slanting wall at the side of the road, and the tops of the stunted firtrees only just protruded above the snow, so that the travellers at first took them for tree-stumps. The wind grew stronger. It came bursting in powerful gusts out of the Ramzai gorge. When Kirov entered the little log barrack at Kukisvumchorr—the only building at that time—his face was all covered with a solid mask of snow. . . .

At the conference in the barrack a heated argument

arose among the prospectors. Here, all were in favour of the Khibini apatite, but many were not clear as to where the building materials were to come from, where and how and for how long to build, and, above all, how to keep the workers in this cheerless, gloomy, scurvy-ridden region. Not for nothing were the Khibini mountains named Umptek—"twice impassable tundra."

Kirov sat on a rough bench, beneath the map on the wall, listening carefully. Only towards morning did he speak himself. The prospectors quietly, attentively turned their eyes on this unobtrusive figure in the plain cloth tunic. The slightly puckered eyes, the sharply delineated chin and forehead, the straight nose—every lineament of the open face, its whole aspect was just as clear, plain and precise as his words. Later, those who took part in that memorable conference related how they, like tired travellers in a dark forest, after many wanderings found their way on to the true path under Kirov's guidance.

At dawn they all came out of the barrack. Day was just breaking—a dim, wintry, arctic day. The storm had died down. Someone explained that storms in these parts, no matter when they started, were bound to end, "as if by order," after midnight. Kirov nodded his head, and gazed long and thoughtfully at the mountains. The prospectors pointed to the dim, scarcely visible summit, swathed in cloud. Kukisvumchorr—the mountain of the long valley, which has concealed this fertilizing mineral wealth for thousands of years past.

"Hard to tackle, that mountain—like science. At the first glance you'd say it can't be done. But when you venture a bit closer and start climbing, you soon hit on a path that'll lead you up."

After a moment's pause, Kirov added:

"But without people this place can't be broken in. And people must be given the right conditions, so that

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this place may become as habitable as Leningrad. Bear one thing in mind: we're building here for a good long time."

People, equipment, building materials, farm implements made their appearance in the railway settlement of Khibini as soon as the first thousand tons of ore had been hewn out of the neighbouring Khibini mountains.

5

The log cabin was hemmed in on all sides—by the lake, by moraines, by a spur of the rocky mountain range, forever encircled in a nimbus of cloud. All around lay swampy marshland, massive boulders, sand, and an underwood of dwarf birches, crooked and stunted, spreading horizontally over the ground as if crushed by the buffetings of the wind. Even the lightest blue of the northern sky could not redeem the dreariness of the landscape.

In the log cabin lived Eichfeld and several scientific assistants, with Bessy and Tommy next door. The horses stood behind a partition, which they could have demolished at any moment with a single powerful kick. In spring-time the men put on their skis early in the morning and set off across the Imandra for a nameless headland, Bessy and Tommy trotting alongside. The ice was thinning every day. Now Bessy and now Tommy would break through into the water. Then the workmen would set up a terrible yell. They shouted so loud that the fallen horse pricked up its ears. They tugged hard at the rein, and each time a miracle happened: the horse scrambled back onto the ice.

Having reached the nameless headland, the men plunged up to their knees into the bog and started digging ditches, to drain the water into the lake. Then they grubbed up and burned the trees.

Black-eyed, round-faced Agnia had grown up mean-

while. She, too, was working at the station.

"Oh, glory be!" she kept exclaiming!

Agnia was born on the White Sea coast. Her parents, her grandparents, her great-grandparents were native northerners. They were accustomed to call this a godforsaken spot. All the more powerfully, then, was her imagination struck by the fruits that now began to grow in this earth. . . . In the autumn Agnia stood with the others beside the scales, weighing the specimens and scrapping the worthless ones. She picked out the "bridegrooms," who were to be "mated" a second time. Thousands of specimens had been nipped by frost or gone to seed, yielding no fruit at all, but a still greater number—as much as 99 per cent!—were ruthlessly cast aside.

"Solanum acaule," murmured Agnia, wiping the hard, round, apple-like potato with her apron. Two of her student friends, Valya Bocharova and Julia Jacobson, provided Agnia with a steady supply of books. At night her mother cursed Agnia for using up so much lampoil. . . . "Solanum acaule." . . . She liked this hardy American plant! It could stand any degree of frost. But how often she had to throw out a specimen! This ruthless scrapping of good potatoes nearly broke the poor girl's heart. It always seemed to her as if quite a number of these crooked bearded ogres could still be rectified and reformed. She snorted angrily and administered reproofs to everyone. Even to Eichfeld. And Eichfeld smiled to himself.

He was in high good humour. True, there was silver hair on his temples, but his breathing was easier now; his lungs gave him less trouble.

But there was silver hair on his temples, all the same.

"What did I tell you? You're getting old."

"You'd better pay me compliments, or I'll stop giving"

you seeds," Eichfeld parried jokingly.

"Johann Hansovich, listen to what I'm going to tell you. This year the skipper and I went off to the sea. To his relatives, on the White Sea coast. My word, what a lovely place! Sea and rocks and birds. . . . Just as soon as I saw the sea, I understood my skipper through and through. He can't get along away from the water, you know. . . . But there's more than water on that coast. There's land as well. Plenty of land, but only once in a blue moon do you see a garden patch under anybody's window. And wherever there is one, all the neighbours come running up with their saucepans. 'Give us a potato, Mariana.' Listen, Johann Hansovich, this is what I want to tell you: make a trip to the White Sea coast. Honestly, you ought to. They wouldn't listen to me, but maybe your words'll have more weight. . . . I just can't bear to see good soil going to waste!"

How truly he had foreseen the fate of his gardens in the grey-green apatite stone! The polar station came to life, as he had anticipated, when the Political Bureau of the Party Central Committee passed its decision regarding the mining of apatite (this was shortly after Sergei Kirov's visit to the Kola Peninsula) and trains bearing thousands of people began to rumble northward. . . . Then the station, too, began work on a bolder scale. It began to collect flora from all corners of the world. The weak perished, but the hardy survived. The latter were crossed again and again, till at last specimens were obtained able to withstand the summer frosts and the midnight sun and to ripen quickly during the brief arctic summer.

The "miracle" was already accomplished. It turned out that, contrary to all old ideas, certain southern flora

were better adapted to grow in the North than the northern plants themselves. This happened with many plants from the Caucasus, Tunis, Algiers, Abyssinia and Afghanistan, because the mountain climate of these countries, with the abrupt fall in temperature at night time, tallied with the climate of Khibini.

Eichfeld dealt out new seeds and seedlings to the inhabitants of the Khibini settlement. He took specimens to Kem, Kola, Loukhi and the Solovetsky Islands. He sent them to Igarka, to Chukotka and the goldfields of Yakutiato all those places where every ton of vegetables costs huge sums to bring, and where the monotony of the diet and the lack of fresh food breeds scurvy. He was a practical minded man, and he figured out that by the end of the Second Five-Year Plan the population of the Kola Peninsula would be consuming 1,200,000 tons of vegetables and milk, containing up to 90 per cent of water. Consequently, the farms and gardens of the peninsula would free the railroads from the necessity of transporting about a million tons of water. And then he multiplied this figure by the 48 per cent of territory which the inaccessible North occupies in the Land of Soviets. . . .

"Solanum acaule," murmured little Agnia. "Glory be!" Small and round herself, like a prize potato, she went pattering busily over the garden, then crept into a clump of beet, squatted down on her heels, and—vanished from sight.

"Ow. . . . Glory be!"

At night-time Agnia would run out in her slippers and fuss around the beds on her plot. She had been strictly forbidden to make these night excursions. Not long before, her father had died of a stroke. And she had inherited her father's weak heart. She had already had fainting fits several times. . . . And now for the

third time Eichfeld caught her out in the garden at night. He ordered her to go home.

Agnia snorted like an angry kitten, and read Eichfeld a lecture on the spot.

While in Leningrad, on one of his brief trips, Eichfeld received a laconic wire:

"Come quick. Agnia ill."

But, arriving at Khibini, he found only a waxen death-mask, on which her wondering "Glory be!" still seemed to hover.

6

I have already mentioned that Eichfeld, when beginning his horticultural experiments at a latitude of 67°44′ North, referred to the precedents established by the goldseekers of Alaska, and he also liked, on occasion, to display Norwegian and Danish magazines with photos of garden patches cultivated in the mountains of Scandinavia or in the Jutland marshes.

In addition to this, there were old books and ancient tales telling of vegetables that were grown, with varying success, in the northern latitudes of Russia itself. Certain lay-brothers of the Solovetsky Monastery on a White Sea island—a long way south of the Kola Peninsula—dabbled in agriculture but attained very scanty results.

The isolated successes achieved in those days were nothing but matters of chance. And there was no hope of their receiving widespread application at a time when the "masters of the situation" were people like the tsarist statesman Zinoviev, who penned the following typical resolution in answer to a petition from a northern pioneer:

"Seeing that there is perpetual ice in the North, and grain growing there is impossible, while other forms of industry are out of the question, in my opinion and that of my colleagues the people ought to be removed from the North into the interior of the state, but you urge just the contrary, and talk about some kind of a Gulf Stream, which there cannot be in the North. Such notions can be propounded only by lunatics."

There would be no need to recall the shade of this highly placed tsarist official from the grave were it not that his dogged opinion about "some kind of a Gulf Stream, which there cannot be in the North" has come down to our day in modernized form. As the reader will recall, Eichfeld was obliged to splinter quite a lot of lances before he succeeded in proving the worth of his ideas. He had to tilt in two directions—against the inertia of nature and against the inertia of man. In both instances Eichfeld evinced an adequate degree of tenacity.

Quite recently, by the by, I have run into people who want to belittle Eichfeld's achievements, but this was done with considerable finesse.

One day I happened to be talking about Eichfeld to a prominent agriculturalist, a big, tall, bearded man with an almost visibly high opinion of himself. I did not get his name. In a manner peculiar to this type, he murmured something indistinguishable down his nose as he introduced himself to me. But somebody observed with a smile: "He looks a regular Semikratov." And under this name he has remained in my memory ever since: Semikratov.

"This fellow Eichfeld," Semikratov announced, "ought to have a monument erected to him. For sheer zeal. . . ."

A pause ensued.

"And altogether, so far as I can make out, this much belauded Kola Peninsula of yours is far better adapted for hunting than for agriculture."

Again a pause.

"Our grandfathers, you know, grew rye with great success in the Kursk gubernia."

After the third pause Semikratov, smirking in his own peculiar manner, i.e., with one cheek and one eye, said:

"If you should happen to see Eichfeld again, ask him one thing, will you?"

"What's that?"

"Ask him why it is that the person to have success on the Khibini soil happens to be a man called Eichfeld, and not Ivanov or Petrov."

"And what is your opinion?"

"My opinion," answered Semikratov severely, "is that the home of the Ivanovs is not Khibini but Kursk."

I did not answer at once, and my silence must have put heart into Semikratov, for he smirked again, adding:

"I dare say you won't ask him, though. Your courage will fail you."

Then I got mad, and began telling Semikratov about how I had visited the "Industria" State Farm the year before, together with the correspondent of a German newspaper, Herr J.

This is a good-sized farm, more than 2,500 acres in extent, not very far from Eichfeld's polar station. The whole farm is founded on Eichfeld's experiments. It plays an indispensable part in supplying the Kola Peninsula with fresh vegetables and milk. It keeps the whole 40,000 population of Kirovsk supplied with vegetables autumn, winter and even during part of the spring.

Well, the gist of my story was as follows:-

Herr J. and I drove off to the state farm from Kirovsk in a small and very rickety car belonging to the trust. I gathered from his conversation that Herr J. considered himself to be the first foreign journalist who had visited this spot, and intended to astound his readers with this fact. He was a very plump, red-faced gentleman with a

bald head and a short, fleshy, hook-shaped nose. In the little car he constantly bounced up and knocked his head against the roof, so he sat hunched up with his head thrust down between his shoulders and strongly reminded one of a rumpled bird in a cage. . . Arrived at the state farm, we went to see the manager Gladyshev, and Herr J., in a manner quite unexpected for one of such corpulent frame, made a graceful bow. He took off his fur cap and said:

"I am the first foreign correspondent, and if it does not inconvenience you, I would very much like to obtain

some nourishment."

"He doesn't see the joke," Herr J. probably thought to himself when he saw the manager's uncomprehending look.

"Does he want to eat right away?" was written on Gladyshev's face,

Then Herr J. hastened to add:

"Journalistic nourishment. . . . Material, I mean."

Herr J. was conducted over the hot-houses and fields of the farm. The rye growing on open marshy soil at a latitude of 67° North seemed like a miracle of the twentieth century! Gladyshev, who was a tall man, stepped in among the rye, and the ears reached right up to his shoulder.

But though Herr J. smiled politely, and though he respectfully inclined his bald head, he was obviously a little distracted. His interest seemed to lie elsewhere. Perhaps he was on the search for some "bolshevik atrocities."

On reaching the cowsheds, however, he brightened up, especially when the manager began enumerating the various breeds of cows on the farm.

"And have you cows of the German race?" Herr J. hastened to enquire.

"Not race but breed," answered the manager. "Yes, we have German ones too."

"Ach, so. . . . And the Germans—do they. . . ." He hesitated. "Which race survives here best of all?"

"Well, they all survive. But the Kholmogorsk and Eastern Finnish breeds suit us better than the others."

Herr J. did not ask any more questions. He again lost interest on hearing that the "German race," contrary to all the theories of his teacher, Herr Goebbels, was not distinguished by any special northern qualities.

I had expected this story to produce any effect rather than the one it actually did produce. To my great astonishment, Semikratov burst into guffaws of laughter.

"That's a good one! So he didn't ask any more questions, eh?"

"Not one."

"My word! An amusing fellow. Ha, ha! Talked about the German race, did he?"

"Yes, he asked: 'And have you cows of the German race?'"

"Ha, ha! And the manager told him breeds? Good for him!" After this the usual pause in the conversation did not fail to ensue.

Semikratov fell silent, smiled to himself—then suddenly grew serious.

"I believe," he said, "you had me in mind when you told that story about Herr J.?"

"God forbid!"

"All right, you can't fool me."

In bidding me farewell, Semikratov repeated with delicious obstinacy:

"And as regards what I was saying, I hope you won't forget to ask Eichfeld, all the same."

With that we parted.

Though Semikratov's question had really been answered long ago, and though I knew quite well that people with the most various names were working on the Khibini soil together with Eichfeld—Onokhin, Gerasimov, Khrennikov, Veselovsky, Somov, Jacobson, Vopiyashina, Neklyudov, Mironov—and that thousands and tens of thousands of other people with Russian, German, Caucasian and Jewish names were working on the Kola Peninsula, at Chukotka, Indigirka and elsewhere in the North, I honestly delivered my message to its destination.

And at the same time Semikratov's question involuntarily turned one's thoughts once again to the personality of Eichfeld himself and to those methods which he employed to make the Khibini soil fertile. It must be said that Eichfeld combined in himself not only knowledge and pertinacity, but also a certain cunning.

As an example, let me quote the following episode.

One of those who were attracted by Eichfeld's work was the young Khibini doctor, Noah Gdalevich Bloch, who was killed in a motor car accident in 1933.

As the reader can divine from the doctor's surname, first name and patronymic, he was not a German nor an Esthonian nor a Russian, but a member of a nationality which, through centuries of historic circumstance, has not been in close contact with the soil, let alone the soil of the North.

However, Noah Gdalevich Bloch, just like Johann Hansovich Eichfeld, proved a true son of his age. Aided by some others in the hospital where he worked, he cleared a small patch of stones and started gardening.

attaining quite successful crops of cabbages, turnips, potatoes, cole-rabi,\* etc.

Bloch was an incorrigible dreamer, and he loved to give rein to his imagination in picturing the days when his patients would regale themselves on grapes from the hospital hot-houses. He was very funny at depicting how the patient would hold a grape bunch between two fingers and pluck off the grapes with his lips. His black eyes gleamed so slyly and his lips moved in such a tantalizingly funny way that he always sent everyone into fits of laughter.

At one time there was a slight hitch in the hospital garden, due to lack of manure. And since Bloch had acquired the habit of sharing all his horticultural joys and sorrows with his teacher Eichfeld, he went to him to ask his advice.

Eichfeld looked at him queerly and asked:

"Aren't there any animals on the building site?"

"Yes. Why?"

"Then there must be dung, mustn't there?"

"Well, of course there is, but you just try asking them to cart their muck over to my garden. They'd send me to the devil's grandmother."

"Serve you right too!" chuckled Eichfeld. "Do you drink tea, doctor?"

"Yes. Why?"

"Well, and do you drink vodka too?" continued Eichfeld tauntingly.

"I do."

\* This vegetable, little known as yet in the U.S.S.R., has recently been introduced from western countries. It bears some resemblance, on the one hand, to the Ukrainian beetroot, and on the other hand, because of its numerous offshoots, to the octopus. Cole-rabi is remarkable for its high vitamin content, rivalling the lemon in this respect. In fact, Dr. Bloch tried to persuade everyone that it "beats all these mangy citrus fruits hollow for vitamin content." However, he may have been exaggerating.—Author's Note.

"Anyone might think you drank nothing but tea, the way you talk. Like a novice during Lent! Why ask them? No need to ask. If I were a doctor, they'd pretty soon be asking me, and not I them. Understand—or don't you understand yet?"

"No, I don't yet."

"What's up with you, doctor. Unsheathe your rusty weapon. Fine 'em for insanitary conditions."

"Oh, what a blockhead I am! Why didn't I guess at

once?"

"Go around the whole building site—doesn't matter whether you've a right to or not, and threaten them with fines for insanitary conditions."

"Oh, what a fool I was! Now everyone will take fright

and get rid of the dirt as quick as they can."

"Well, and there's no need to tell you where it's to

be carted, I suppose?"

"That's plain enough. Let them empty it on to my garden, sixteen kilometres away. By your leave, gentlemen. One hundred rubles fine! By your leave."

And the doctor merrily began showing how a railway

inspector clicks his pincers.

#### 8

"Well, did you bring the flowers to your sweetheart?" asks Eichfeld as he meets me. I patiently serve as target for his witticisms.

"Your flowers," I tell him, "were the centre of a

curious episode."

Late spring is here. The earth is soaked in water and wet snow. Hairy goats are skipping through the gaps in the crooked fences. The children are chucking the last snowballs with red, chilblained hands. The sun has gone in again, and the sky is overcast with heavy stormclouds, but on all sides you can see the cheerful

yellow of fresh shavings, the carpenters are busy on the new station building, and the thick glass roofs of the hot-houses, which seem to be growing right out of the ground, gleam with a quiet shine.

Last year I visited the station in autumn. The Imandra was not yet frozen over. I crossed the lake in a motor boat, and, after reaching the nameless headland, tramped for a long way over the marshland, resilient as a spring mattress. The ripening rye was turning yellow. The ears of vetch, with their brushy fringes, stood up stiff and straight as ramrods. The "crickets" kept up a chirruping clatter. This lyrical name had been given by the workers to the five-horsepower automatic milling machines. Many-coloured flower beds surrounded the dwelling houses of the station.

That autumn Eichfeld and his assistant, Julia Jacobson, had given me, as a farewell present, a big bunch of asters, white stock, snapdragons, pansies, and even sweet-scented tobacco. I asked them to twine into the bunch a few ears of rye and wheat, experiments on which were only just starting at that time.

I left, pressing the precious bouquet to my breast, and at Apatite Station, changed into the little train which is jokingly called the "Black Arrow" and which takes passengers on to Kirovsk (then still called Khibinogorsk). A blizzard was rising in the mountains. Many folk from the South were going on the "Black Arrow" to start work up here for the first time. They sat hunched up in the corners, drawing their winter coats closer around them—not so much from the cold (for it was hot and stuffy in the carriage) as from seeing a snow storm raging so early in the year.

But what was their surprise when they saw a man enter the carriage covered with snow, with a big bunch of flowers in his hand. Flakes of wet snow were splashing against the carriage windows, and the passengers, just like little Agnia, all started exclaiming:

"Oh, glory be! Asters!"

"Pansies, mummy! Look, pansies!"

"Uncle! Give us a flower!" called a little boy in a deep, hoarse voice.

"And the wheat? Why, the wheat can't be from these parts, surely."

The man with the bouquet was asked just about a thousand questions on where the flowers came from. He had to part with half of them on the spot. The little boy pulled out an ear of rye and slid it down his sleeve. He gave a deep, gurgling laugh as he listened to the prickly rye sliding over his bare skin down to the shoulder.

I congratulated Eichfeld on the effect produced by the snow-strewn bunch of flowers on the passengers from the South, who had been scared by the stories they had heard about the horrors of the North. However loud the blizzard might howl outside, the bunch of flowers instantly upset all the old ideas and showed people that life—strong and splendid—is flourishing today at very high northern latitudes!

That evening I was sitting in Eichfeld's new flat and looking over his photograph album. The lake outside was swathed in mist. The silhouettes of the fishing boats showed dimly, heeled over and frozen into the ice fringe of the lake edge. It was so dusky in the room, you might have thought the mist from the lake had penetrated here. . . Eichfeld's blonde wife was here too, and his "little gramophone," as he had nicknamed his son Roald. The latter categorically refused to go to bed, and in answer to the pointed question "Isn't it someone's bed-time?" mumbled something from which his experienced parents were able to conclude that Roald

was suggesting the cat Tomka go to bed instead. Roald's other friend, the Eskimo dog Bilka, lay growling beneath the table—a red-haired dog with stern, intelligent eyes, who made an abrupt movement each time his master and mistress were "threatened with danger". . . . Sated with photographs, I proceeded to fulfil the "mission" with which Semikratov had entrusted me.

"Charmed, I'm sure," said Eichfeld drily, when I had finished. "I think I told you once already how the sailors of the Baltic Fleet flogged and shot the rebels in 1905. 'You're in the right,' they said to those that complained. 'Take down your trousers'. . . . In Poland · I was once working on a big estate belonging to a princess, a very eminent personage indeed. Someone in her family-or she herself, I can't remember which-had been one of Alexander II's mistresses. Altogether, a high and mighty old lady! When provincial governors came round on business, her servants would open the door and tell them: 'You are mistaken. The bailiff doesn't live here.' The sons of this princess had had the pretty girls for a hundred versts around. She had a magnificent garden with solid walls of roses, and spent a hundred thousand gold rubles a year on its upkeep! And close by whole villages were living in hunger and filth. . . . You see, I've learnt to divide up people not according to their names but by other signs. . . . As for this agriculturalist of yours, he must have had a job formerly in the land settlement department of the Murmansk Railway. He once said that no one could work on the Khibini soil. . . . And now he says that it's possible to work on it, but only for people with names like Eichfeld. Oh, I've had plenty of trouble with those gentlemen in my time!"

I also paid a visit to Anna Stepanovna. Eichfeld says

that she, like certain peoples of the U.S.S.R. and like certain plants that have been engrafted on the Khibini soil, is accomplishing an evolution of centuries in the course of a few years.

Her little house stands on a hillock beside the lake. I found her out in the snow, bareheaded and greatly upset. She was addressing a lean woman in a torn shawl, with a bunch of small children clustering around her.

"Why, Liza, you've turned into a regular Lapp. Why ever don't you give your cottage a wash, the place isn't fit for those kids to live in. . . . How often have I told her to have a clean up. 'I'll give it a wash at Easter time'-that's what she said. And now five Easters have passed, and the cottage isn't washed yet. I tell her she ought to train her boys to work. My sons are always going off fishing on the lake. We've got to help the skipper along too, haven't we? That's only right, isn't it? One time I said to Liza's boy Mishka: 'Go off to the lake, Mishka,' I told him, 'maybe you'll catch some nice burbots.' So off he went, and sure enough he caught some. . . . I must say I like a bit of fishing myself. All the men here laugh when they see me starting off in the boat. They think it's absurd for a woman to go fishing. Let them think what they like. Regular Lapps they've turned into up here."

The woman in the torn shawl listened to all this submissively. Then Anna Stepanovna brought her out a saucepan full of potatoes, and invited me into the house. . . . Though from outside there was nothing to distinguish it from any other dwelling in Khibini, its interior was strongly reminiscent of a cabin on board ship. Everything gleamed and glittered as though it had been scrubbed and polished—the bedsteads, the cupboard, the table, the portrait frames, the samovar, the

pile of plates on the dresser. One could see that Anna Stepanovna wanted to keep her house in order. And one could see, too, that she was teaching her neighbours the art of good housekeeping. . . . She showed me a photo of her second husband. The skipper had a sunburnt face, clear, open eyes, firm lips, and a beard growing in a fringe beneath his chin, Norwegian style. I told Anna Stepanovna without flattery that I liked her husband. She blushed.

"He's a splendid chap."

Then we began talking about Eichfeld.

"Just think: what was there here before? Nothing but stumps and roots. Johann Hansovich really deserves great praise for his work. He's given his whole life to it. To be sure, I've lent a hand myself."

Anna Stepanovna told me how she had drained the marshland, carried the stones off it and manured it, how she had extirpated the "burying beetle" and how she had hacked out frozen potatoes with an axe. . . .

"Where were you born, Anna Stepanovna?"

"Where was I born? Vologda."

"Why, aren't you from these parts?"

"No, I'm from Vologda."

So Anna Stepanovna, notwithstanding all her "partiality for the Khibini soil," was also not a native here. Once again I recalled Semikratov and his argument about the "home of the Ivanovs."

"Home," to him was the village or, at best, the district beyond whose bounds the rebellious muzhik of old was not allowed to venture.

Semikratov's home was bounded by the parish turnpike, but Anna Stepanovna's stretched from sea to sea.

This sketch had already been written and was about to go to press, when Eichfeld was summoned to Moscow, to a session of the Presidium of the Central Executive Committee, to receive the Order of Lenin. Several other Soviet scientists, who, like Eichfeld, had made great advances in the problem of the fertility of soil, were also present there. The hall before the opening of the meeting was filled with the subdued buzz of hundreds of collective farmers. Eichfeld leaned over to his neighbour, Academician Lysenko, and whispered in his ear:

"You know, I was very lonely for a long time, in the North and in the scientific world, but I always

wanted to become a collective farmer."

Lysenko understood and smiled, nodding his head. Then Eichfeld took out a few card-index slips from his brief-case and began jotting down notes for his speech.

A few days ago I was talking with Eichfeld. While talking, he pulled out his handkerchief, and the cardindex slips came tumbling out with it and were scattered over the floor. They were all crumpled up, having evidently been thrust away into his pocket at the moment when he was called upon to speak. I gathered them up, and for a long time tried to persuade him to let me read them. At last Eichfeld yielded—to my "professional curiosity," as he put it.

The terse, dry, laconic notes would not have divulged very much to anyone who had not been up north, at Eichfeld's polar station. The words "collective group of workers" occurred much more frequently than the occasional "I." Among other things, it was noted that the government, by awarding Eichfeld the Order of Lenin, was honouring the whole group of workers at the station, and that the latter regarded the order "not only as a decoration for what had already been done," but as a "mandate for new ventures."

The bare figure "40,000" must evidently be taken to

refer to the number of allotment gardens on which experiments were now being conducted.

Eichfeld had also meant to tell a little about himself, about how he had long besieged the doors of institutes and universities, and how they had only opened to him in 1918; how he had battled against the inertia of the ancient earth and against the tenacious, ingrained conceptions of people regarding the sterility of the northern soil. Many times Eichfeld had been beaten, crushed by these people, till at last he found support among those who were beginning to change the face of the whole country, and not of the North alone.

Let me quote just a few more jottings from these notes, made by Eichfeld at the session of the C.E.C.:—

"Five years ago on reindeer—now on electric trains."

It should be explained that the northern branch of the Kirovsk (former Murmansk) Railway has now been electrified.

"Kirov's visit to the Khibini mountains."

"Man, the smith of nature."

"The reshaping of human society and of nature is the most profound philosophical poetry of our socialist age."

"How well-known plants develop new forms. A century in five years."

When Eichfeld was called upon to speak at the meeting, he did not manage to say very much, but perhaps, after all, it was the main thing.

"I am glad," said he, "to be working at a station where plants change in five or six years instead of a hundred. This happens in a country where the period from 1917 to 1936 represents, not nineteen years, but whole centuries."

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