

THE VALLEY OF THE FOUR CROSSES

by
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Igor Zabelin (b. 1927) is a geographer by profession, specialising in the theory of physical geography. Far from being the armchair scientist type he has explored the remotest areas of the Soviet Union, such as Tuva, Buryatia, Chukotka and Tien Shan, where he collected a wealth of material for his spare-time writing.

He delights in depicting the hard and adventurous life of geographers and pioneers and unravelling the mysteries of lost expeditions – such as he does in his “Valley of the Four Crosses” which is included in this volume.



CHAPTER I

which tells how it all began, why we undertook to investigate this mysterious affair, and what a chrono-scope and chronoscopy are.

The story I am about to tell you began, as scores of other stories do, with a bundle of old papers found in the attic of an old house. Only we did not have to creep, candle in hand, up creaking stairs into a cobwebby attic to get them:

Somebody from the Geology and Geography Department of the U.S.S.R. Academy of Sciences rang me up and asked would my friend Beryozkin and I please call on them any time that day.

We were received by Danilevsky, a middle-aged man with greying temples.

From one of the drawers of his desk he produced two battered notebooks with rust smudges all over the covers, and placed them in front of us.

"There you are," he said. "That is the reason why we asked you to come. Those notebooks were received by the Presidium of the Academy from the Krasnodar Local Lore Museum about six weeks ago. In the covering letter the curator says the notebooks were found in the attic of a derelict house on the city's outskirts. It's nothing short of miracle, their surviving the Civil War and the Nazi occupation...."

"You think they're that old?" I asked.

"There's not the slightest doubt. The local people have established that it's a diary with the first entry made some time before the 1917 Revolution and the last in 1919. It's devilishly hard to make out the writing, but one thing clear at this stage is that it deals with Andrei Zhiltsov's arctic expedition."

"Zhiltsov?" I repeated, surprised. "You mean that expedition which vanished without leaving a trace?"

"Exactly. But read the covering letter...."

The letter told us nothing we didn't already know, except for the author's name: the curator supposed that the diary had belonged to Zaitsman, a member of the expedition. After reading the letter we looked at the notebooks with added curiosity.

"You seem to be warming up to it," Danilevsky, who had been observing us, said. "Now would you two agree to investigate the matter?"

"You mean decipher the notes?"

"I don't know. But that to start with. The Presidium's prepared to give you any help needed."

"But why ask us?"

"Well, there's plenty of good reasons for that, Comrade Verbinin. We're well aware that for years now you've been studying the development of the North from a historical angle and recently published a monograph on the subject. Besides, being an author, you might be interested in this as a mystery story. Finally, the chrono-scope, your joint invention...."

Oh, yes, I thought, of course, the chrono-scope, that's the explanation.

"To be exact," I said to Danilevsky, "it was Comrade Beryozkin who invented the chrono-scope. It just happened that the idea came to both of us at the same time." Here my friend, a man of few words, started to fidget in his chair, which I ignored. "But that's neither here nor there. The trouble is the chrono-scope hasn't yet passed all the necessary tests." Here I turned to Beryozkin for support. "And there's no guarantee it'll live up to our expectations."

"No guarantee," repeated Beryozkin. Squat and broad-shouldered, with a big head, bumpy forehead and massive lower jaw, he rather gave the impression of being a slowcoach—physically and mentally. Nobody would recognise in him at first meeting the brilliant mathematician and inventor that he was.

"As a matter of fact," said Danilevsky, "we're in this case more interested in the lost expedition than in the chrono-scope. But it's entirely up to you two to decide whether you take it on or not."

I replied that we must give the matter further thought, to which Danilevsky agreed and suggested we take the notebooks along to have a closer look at them.

Having wrapped them carefully and put them into my brief case we took our leave.

It seems to me it is time to tell you about the chrono-scope and chronoscopy.

At the time we were asked to investigate the mystery of the lost expedition we had just finished preliminary work on the chrono-scope and were about to test it thoroughly before applying for a patent. Privately we were of course convinced that that apparatus was perfection itself, but when actually offered the opportunity of immediate use we quailed and beat a temporary retreat.... There had been rumours abroad, and even a few sketchy press reports, about the chrono-scope, but, with a few exceptions, everyone treated it as a big hoax. Not that we didn't see the reason: there were only two chronoscopists in the whole world— Beryozkin and myself—and the successes of chronoscopy had been so far negligible.

Strictly speaking, the story which I am telling you had begun before we first saw the battered old notebooks and even before they were found in the attic of a derelict house. It had begun much earlier, on a dark starry night deep in the taiga, when the idea of chronoscopy was first conceived.

Our small party of geographers was travelling in the Eastern Sayans. For two days, from early morning till late afternoon, we had been following a bridle-path in the Irkut valley, doing our routine work of noting terrain, vegetation, etc. On the third day we left the valley and began the climb to the Nukhu Daban Pass (meaning "pass with a hole" in Buryat). We all had heard and read a lot about the famous pass and were rather looking forward to seeing it. The climb was steep and hard, and though the pass was quite negotiable in local opinion, A peculiar sacrificial place we found just below it, at the base of a vertical cliff, convinced us that the herdsmen and hunters who used the pass stood in a certain awe of it. I went across to have a look at the sacrificial offerings, a few coloured ribbons tied to the branches of a larch, strings of glass beads, a handful of copper coins, and even a few one-ruble notes, each rolled up tightly. Hardly any one of these

people, it occurred to me, had really believed that his offerings would help him, but it was a local tradition hallowed by centuries and it persisted. We, no believers in the supernatural, placed a few coppers too and, feeling somehow the happier for it, went on with the hard climb. At last we topped the Nukhu Daban and saw, to the right of the path, a calcareous cliff with a gap in it, a few stumpy larches clinging to its sharp craggy edges. I went closer and, on one of its projections, found an ancient helmet. There was nothing there to suggest who had placed it there and when or why. But what with the famous pass, the sacrificial altar and now the helmet, we were all swept by a romantic mood, and when we descended into the Oka valley and halted for the night everybody was full of talk about the ancient times in general and the history of those parts in particular.

I had carried the helmet with me and, together with Beryozkin, examined it carefully by the light of the camp-fire. It was an amazingly big fit as though it had once crowned the head of a fairytale giant. None of us had a head anywhere near the size. It was fashioned out of eight steel plates riveted together and reinforced at the base by an iron band, and had a narrow peak in front and a ring with a centre tube—apparently for decorative tufts of horsehair or something—on top.

The quiet night, the river murmuring along its stony bed, the cold breath of wind coming from the pass, the sparks flying into the darkness and the waning moon above the mountaintops—all spurred on our imagination until we could quite easily see a powerful Mongol warrior in full battle dress ride along the path and then slump in his saddle, struck dead by a treacherous arrow. And then someone—we could never remember afterwards who it was—expressed his regret that there was no way of seeing for oneself events which had happened ten, a hundred or three hundred years before, of bringing them closer, as it were, like a telescope brings closer to us things that are many thousands and even millions of miles away....

It was then that the word "chrono-scope" was coined, as a joke, by analogy. A telescope brings things closer in space and, well, a chrono-scope would bring them closer in time, make the dim past as clear as the present.

By this time the owner of the helmet was so real in my own

imagination that I said, in dead earnest, "But we've got the device, we've had it a long time."

All looked at me in surprise.

"It's the brain," I explained. "The human brain. Would you deny that it has been remarkably successful in unravelling our past and reviving centuries-old events for us? Haven't we formed a very good idea of our forefathers' everyday life and methods of warfare through our finds of tools and weapons they used? Don't many historical novels and films give us a truthful picture of life in the days gone by?"

"That's hardly to the point," said one of our companions. "Man can imagine conditions on, say, Mars, but that'll never replace the telescope...."

"Nor will any telescope replace the human brain, you see," I said, holding my ground. "If it's a question of providing another aid—"

"Not just another aid," cut in Beryozkin, who, until then, had not opened his mouth. At the time he was a maths undergraduate at Moscow University and love of travel had made him join our expedition as a manual worker. "Not just another aid," he repeated. "Of course, neither a telescope nor the cleverest chrono-scope will ever be capable of thinking, but what a boost man's thinking would get if new, unexpected facts could be discovered! The brain alone can conceive history but a chrono-scope could provide the necessary facts. True enough, all sorts of fantastic notions race in our brains and we people Mars and proclaim tectonic cracks an irrigation system, but only the telescope gives us facts about the true nature of Mars. The way we interpret historical facts is largely conjectural and subjective; if the chrono-scope could bring those facts closer to us undistorted by the historians—"

"Why, that would lead to a revolution in history and in archaeology," I said, unable to contain myself. "Man's prospects of knowledge would become unlimited."

"Oh, stop it," somebody said. "Chrono-scope this, chrono-scope that. What's the use talking about it when you know perfectly well the thing

can never be made."

"Yes it can," Beryozkin said firmly. "Not in the form of a tube with a system of lenses, to be sure, but—"

"But in what form?" I asked, suddenly aware that Beryozkin was in dead earnest and that the idea we had been toying with could be placed on a real, even if as yet incomprehensible to me, basis.

"An electronic machine," said Beryozkin. "Yes, an ordinary electronic machine." After a pause, he added, "Not exactly ordinary, of course, but of the computer type. The kind that can solve the most complex mathematical problems, translate from foreign languages and store in their memories multitudes of different things. Cybernetics is so far advanced one can have a good idea how a chrono-scope would work. Suppose, there is a hole in that helmet. We place the helmet into the machine, which we programme to discover the origin of the hole. Within a few seconds the machine will have considered hundreds, thousands or, perhaps, tens of thousands of possible solutions and chosen the most probable. This last variant is photographed by means of photocells and then projected on to the screen. And then—"

"And then the past would come to life on the screen," I interrupted Beryozkin's daydreaming. "We'd see the Mongol warrior slowly ascending the Nukhu Daban Pass, and his enemy lying in ambush behind some rocks; then we'd see how, without warning, he'd bend his trusty bow and unsaddle the carefree warrior with a death-dealing barbed arrow."

This brought general laughter in which Beryozkin and myself joined—it was really too fantastic for words.

Many years had elapsed since that night and the chrono-scope was there. It is hardly worth while to recall in detail the long and arduous years which the invention had cost us, all our failures and disappointments, the doubts that had sometimes assailed us. That being all a matter of the past and success having crowned our labours, we were apt to regard it all, as is usual in such cases, through rose-tinted spectacles. We had been motivated by a great idea, we wanted to make a device which would open out a window on the distant and near past; a device which, using the scantiest material evidence, would quickly and unerringly piece together a heroic feat or heinous crime, expose the slanderer and rehabilitate the slandered. We did not yet know all the possibilities of our invention; perhaps in time it would help the palaeontologist see with his own eyes long-extinct denizens of the Earth, the archaeologist to study work habits of primitive man,

the historian to restore episodes of the Battle of Borodino or the "Battle of the Nations" at Leipzig....

In short, we had always believed, as we all the more do now, that chronoscopy—the art of seeing the past—has a great future.

However at the time the old notebooks from Krasnodar appeared on our desk, though we were as enthusiastic as ever about our machine, we had no real achievements to boast of. Of course, we were quite happy about the chrono-scope having been able to flash an image of my wife writing after studying an old letter of hers, but that was hardly enough for official recognition.

So, as you will appreciate, Zaitsman's notebooks had arrived just at the right time.

Now that I am writing this story our work is finished, the past has been reconstructed and pictures of it are stored in the "ever green" memory of the machine, to be flashed on to the screen at a moment's notice. I remember in clear detail all the stages of the investigation, the persistence and patience required of us to unravel this puzzle of psychologies in conflict. It is all over now and can be seen in perspective, but I am puzzled by the question: What shall I write about? And don't be surprised. For this can be a story about the way the first chrono-scope was tested. But it can also be a story about the people whom we met on the screen—and not only on the screen. We—Beryozkin and myself—are very fond of the child of our brain, but people with their joys and sorrows are still dearer to us.... So, as the investigation progressed we concentrated less and less on testing the chrono-scope and more and more on solving the mystery of the lost expedition. I think that's what this story will be about—about what we have discovered. And the chrono-scope? Well, there will be something about it too.

CHAPTER II

containing more information about Zhiltsov's expedition and describing the first real test of the chrono-scope and its results.

On leaving the Academy of Sciences we went straight to my rooms as we wanted to consider the matter from all angles before giving our

final decision.

"Well, old man," said Beryozkin, having ensconced himself in his favourite place beside my desk. "There's always that nothing-venture-nothing-have line of argument, of course. But first I'd like to hear all you know about that expedition. I'm not so well versed in the annals of geography, as you know, and taking on something of which you don't know much—"

He didn't finish but I understood his meaning perfectly. I too felt that we could only risk the reputation of our chrono-scope for something which was really important. But I for one had no doubts on that score: if it really was Zhiltsov's expedition it *was* important.

Evening was drawing near, we were both tired after the day's work and I asked my wife to make us some tea. While she busied herself in the kitchen, I took a few books down from a shelf and stacked them neatly on the desk.

"You see," I told Beryozkin, "all we know for certain about this expedition is that it sailed away for the North and disappeared without a trace...."

"Not much," Beryozkin grinned ruefully. "But what about its aim. Don't we know anything about that, or about its leader, Zhiltsov?"

"Yes, we do," I said. "Andrei Zhiltsov was an authority on polar hydrography. He took part in Toll's famous expedition on the *Zarya*—"

"Let's have some order," my friend interrupted me. "I've heard about Toll's expedition, I know that he died, but I was never interested enough to find out the details. And it's details that we want now, if we are to get any leads in the matter."

"Right you are, it's details that count now, and I've just remembered an interesting one. But first about the expedition on the schooner *Zarya*. It was sponsored by the Academy of Sciences for the purpose of surveying the New Siberian Islands and searching for Sannikov Land. Now you will ask what Sannikov Land is?"

"No, I won't," Beryozkin said in a slightly offended tone. "It's a land a hunter, Sannikov, reported early last century north of Kotelny Island. It's been written about ever since and searched for and never found."

"Quite. But as a matter of fact Sannikov was not the only one who saw it. Jergeli, an Evenk, saw it several times and so did Toll. In 1886,

he was making a study of the New Siberian Islands with the polar explorer Bunge, and like Sannikov, he sighted land to the north of Kotelny Island. He believed so implicitly in its existence that he even tried to forecast its geological structure from the shape of the mountains he had seen. He made its discovery the aim of his life. And it was the purpose of the *Zarya* when she put to sea in 1900, bound for the New Siberian Islands. But two years later Toll was dead, together with Seeberg the astronomer and two hunters—Evenk Dyakonov and Yakut Gorokhov. They worked on Bennett Island, where the *Zarya* was to call for them. However the schooner, after two unsuccessful attempts to get through, returned to the mouth of the Lena. Ice conditions were exceptionally bad that year but it is known that hydrographer Zhiltsov insisted they go on trying to reach the island, while Matisen, the ship's captain, decided it was too risky.... It is anybody's guess which of them was right. But the retreat of the *Zarya* cost Toll's party their lives. Zhiltsov wrote later that Toll's death had greatly affected him and that he had resolved to finish what the late explorer had begun. That was the reason for Zhiltsov's expedition. He was instructed to find and survey Sannikov Land, then proceed via the Bering Strait into the Pacific. The expedition began just before the First World War; it set out from Yakutsk—" "And vanished," Beryozkin summed up for me. "That's right—the general opinion being that the whole expedition perished either in the pack ice of the Arctic Ocean or in some remote place on its coast. There have been similar cases. Brusilov's expedition on the *St. Anna*, Rusanov's expedition on the *Hercules*, one of the parties of the De Long expedition after the loss of their ship *Jeannette*—all perished in the same way. But if Zaitsman had survived and lived in Krasnodar in nineteen.... He could hardly have survived alone, that's extremely unlikely."

My wife poured out two glasses of strong, almost black tea for us and sat down out of our way on the sofa. We drank the tea and continued the conversation.

"I think it's highly unlikely that the expedition discovered anything of importance," I went on, "but I do think we are dealing here with an example of bravery. If these people all perished, fighting the superior forces of Nature—or probably not only of Nature—it is our duty to

tell the story of their heroism."

"Why don't you go and open the notebooks? You might not need your chrono-scope after all," my wife put in with a tinge of irony; ever since we had chrono-scoped that letter of hers she had been prejudiced against the machine and was even a bit afraid of it, I thought.

We followed her wise advice and, taking every precaution, turned over the pages, one by one. The notebooks were indeed in a sorry state and the workers of the Krasnodar Local Lore Museum could not be blamed for having gleaned so little out of them. There were two lines of action open for us: either enlist the help of criminologists and try to decipher all that was still decipherable, or place our trust in the chrono-scope. We decided that we might make some use of the first line but would concentrate on the second, as we thought it would save us time and allow us to test the machine. We decided to begin by chronoscoping the last pages of the second notebook. These were in fairly good condition, but the handwriting was unintelligible and faltering as of a man dying. Many lines trailed off and were then resumed, probably when Zaitsman had rested enough to make another effort. It all gave us an impression that Zaitsman, the last ounces of his strength ebbing out of him, strove to commit to paper something very important, something which he felt he had no right to carry with him to the grave. We were convinced that, once deciphered, those pages would tell us the main thing: what happened to the expedition and to its findings, if any.

When we were about to leave for Beryozkin's Institute, I remembered that in one of the books there was a list of the members of Zhiltsov's expedition. I found it quickly and read aloud:

1. Zhiltsov, Leader, Hydrographer
2. Lieut. Cherkeshin, Ship's Captain
3. Mazurin, Astronomer
4. Konoplyov, Ethnographer and Zoologist
5. Desnitsky, Doctor
6. Govorov, First Mate

"That's funny," was all Beryozkin could say. "Zaitsman's not in the list." And he stared at me for an explanation but I was stumped.

"Well, let's not rack our brains over that," I suggested. "The chrono-scope's sure to give us some kind of lead. Come on, let's go to the

Institute."

The machine was installed in Beryozkin's office. As he was programming it I settled in the chair—on tacit agreement Beryozkin handled the knobs—and prepared to look in.

For a few moments, which seemed to us an eternity, the screen remained blank; then it became luminous but there was no image until at last we saw a man under a grey Army greatcoat lying on a heap of straw. He was tossing about as if in a fever and his lips were moving—in a delirium, I thought; clutched in his hand was the very notebook the last pages of which had just been fed into the machine.

A typical Civil War typhus case, I thought and was on the verge of saying as much when, of a sudden, a hollow voice began speaking in the room. It had come so unexpected it fairly made me jump up. For a fleeting moment I was under the Illusion it was the sick man speaking, then I realised that the machine had started deciphering. "Can't leave it unrecorded.... It's a torment.... My conscience.... Everybody must know.... Driven out to die.... We owe our lives..." the metallic voice uttered the words with indifference. "My conscience.... My conscience.... Were we right?... Who can tell?... Can't go on living 'like this.... Were we right?... He saved everybody...." Even as the chrono-scope was carefully uttering the last words—words which concealed some tragedy, some anguished recollection striving desperately for expression—the man on the screen opened the notebook and, with a failing hand, wrote something down in it; then he tucked the book in his breast pocket laboriously and lay immobile, no longer interested in this world's problems. Meanwhile the machine repeated once more, "Were we right?" And then, after a short pause, came suddenly a name: "Cherkeshin." There was a click as the loudspeaker switched off; the image faded away; the chrono-scope could do no more.

For some time we sat on in the darkness. I seemed still to see the emaciated face of that disease- and doubt-ridden man, his tangled greying beard, his matted, once black hair.... I knew it was Zaitsman we had seen. The image might be a far cry from perfect likeness, but having been given all we knew and adding to it what it could learn from the text and the man's handwriting, the machine had chosen out of thousands of variants the one in which we immediately

"recognised" Zaitsman.

But it wasn't so much Zaitsman or even the successful outcome of the test, as the mystery the dying man had tried to communicate, that was uppermost in our minds. The strain having been too great, however, we wanted to relax and the conversation that ensued was rather desultory.

"Who was in Krasnodar in nineteen? Denikin's Whiteguards? What could Zaitsman have been doing there?"

"Pretty well anything," I said, shrugging my shoulders. "Just living, or fighting, or hiding...."

"Of course, we don't know much about him, do we? But suppose he's still alive? He could have lost his notebooks, couldn't he?"

"No, he's dead. That's certain, I'm afraid—or he would've told about the expedition."

Presently we left the Institute and walked home through Moscow's night-stilled streets.

"The machine did a splendid job, though," Beryozkin said in a sudden burst of pride.

"You bet," I said.

When we had already said our good-byes, Beryozkin asked:

"Why did he remember Cherkeshin alone? Perhaps *he* was at the root of all the trouble?"

"Let's try and make some sense of it tomorrow," I replied. "But it does rather seem to me that what really happened to the expedition is more complicated than I'd thought. In any case these last pages have not thrown much light on the matter...."

"Made it more obscure, I should say."

"Tomorrow we'll sit down to it and start deciphering the first notebook. We overplayed our hand, if you ask me. We should follow the chain, link by link."

CHAPTER III

containing an account of what we managed to learn from Zaitsman's notebooks and of new disappointments that awaited us, together with some information of a historical nature, mainly about the contribution of political exiles to Siberian exploration.

As the job of deciphering progressed the pile of cards with lines which we understood typed out on them grew apace. Soon we knew how Zaitsman had joined the expedition, what had happened to Dr. Desnitsky and what the expedition had been doing in Yakutsk.

Came the day when we thought we had done all we could. To our regret, it wasn't very much, for quite a few pages appeared to have been lost. Others were so damaged that even with expert help we had only been able to restore individual words. Still others were full of Zaitsman's reflections which, unfortunately, had no direct bearing on the fate of the expedition and, though not without some interest in themselves, did not help us in the least—apart from giving us an insight into the author's character. From them Zaitsman emerged a typical representative of the old-regime liberal-minded intelligentsia, with a fondness for self-analysis and reflection, and a heightened sense of duty, conscience and the good of his country. He had managed to treat almost every single thing he touched upon in his notes from the angle of some moral problem. In this he had obviously also been guided by his aim: breaking something which was mysterious and—in his view—dreadful to his prospective reader. Still there was a certain sequence of events up to the expedition's arrival in the mouth of the Lena, where the diary broke off. Then came the entry made during Zaitsman's illness and deciphered with the aid of the chrono-scope. In addition, sewn into the first notebook there was a sheet of paper of a different quality, bearing entries different in subject and style, but in the same handwriting, that of Zaitsman. Now we were able to sum up all we knew. Zhiltsov and the other members of the expedition forgathered in Yakutsk in the autumn of 1914 when the First World War had already broken out. In back-of-beyond Yakutsk, of course, war was something very far away, but still the local authorities treated the expedition as an untimely nuisance, and if they did not actually hinder it, neither did they help in the least. It cost Zhiltsov and Cherkeshin no ordinary effort to build a small schooner and obtain the required equipment and stores. They were successful in the end, and, if we were to take Zaitsman's word for it, the credit was mostly Cherkeshin's. For some reason the author of the diary seemed to be very much interested in Cherkeshin, the captain of the schooner,

and treated him as the central figure. Zhiltsov and Cherkeshin were helped a great deal by the political exiles of whom there were many in Yakutsk in those times. Learning about the proposed expedition, quite a few of them volunteered for work at the shipyard, and two of them—Rozanov and Zaitsman—even joined the expedition eventually.

Zhiltsov had obviously remembered the precedent of Toll's expedition where Katin-Yartsev, a political exile from Yakutsk, replaced Dr. Walter, who died in the spring of 1902, and two other exiles—Brusnev, an engineer, and Tsion-Glinsky, a student—were in the relief party led by Wollosovich. They must have made excellent stand-ins and Zhiltsov, we believed, readily supplemented his party by two upright and intelligent men. In his diary Zaitsman devoted a lot of space to himself and Rozanov. We learnt that Zaitsman, a medical undergraduate, had been exiled to Yakutsk for taking part in student disturbances and had been living there for several years. As far as we could see, he had no clear political views, but, being an honest man, he greatly resented the way of life in tsarist Russia and believed in freedom and equality and a happy future for all. Now Sergei Rozanov was of a different make. According to Zaitsman he was a member of the Russian Social-Democratic Labour Party, a professional revolutionary, a man of strong and clear-cut views on life. In his notes Zaitsman never entered into open dispute with Rozanov but took every opportunity to emphasise the man's single-mindedness and implacability. At first we could not understand the reason for this; then we thought he was more interested in Rozanov and Cherkeshin than in any of the others and took pleasure in drawing comparisons and contrasts between them. Possibly, this was only our imagination, for the notes broke off too soon. Rozanov, who was under strict police surveillance, joined the shipwrights building a schooner to be named *Zarya II* in memory of Toll's ship. For some reason Zaltsman never mentioned how Rozanov came to join the expedition. He himself was invited by Zhiltsov to replace the seriously ill Desnitsky and eagerly accepted the invitation.

The expedition sailed from Yakutsk in the spring of 1915 as soon as the Lena was clear of the ice. Not far from the river's mouth they took on board dogs and Yakut hunters who had been to the New Siberian Islands on previous occasions. Then the *Zarya II* passed through the

Bikovsky Channel into the Laptev Sea.

That was all we were able to piece together. Our next step was to lock ourselves in Beryozkin's office and give the chrono-scope a new assignment. Looking forward to more thrills, we peered into the screen but this time the machine refused to illustrate Zaitsman's diary. To be exact, our window on the past did open a crack but not in the way we wanted it to. The entries we were chronoscoping referred to all sorts of events, while all we could see on the screen was a thin man who sat there writing away, his sharp shoulder-blades moving up and down. Hard as Beryozkin tried reprogramming the machine, tinkering with it, humouring it in this way or other—the picture was exactly the same. We kept at it unflinchingly from early morning till late in the afternoon, when finally Beryozkin threw up the sponge.

"Damn the machine," he said, slumping into his chair exhausted. "Still no ruddy good."

"There's no doubt in my mind that these are Zaitsman's notes and that Zaitsman was a member of the expedition," I said. "But they were never a diary. My guess is he wrote them from memory—in Krasnodar."

CHAPTER IV

in which our plan of action is discussed, the chrono-scope surpasses all our expectations and we witness exciting events which prompt us to quick and resolute action; we hear for the first time about the Valley of the Four Crosses.

We gave ourselves two days off to catch up on other business and get some relaxation, but personally I got none, for my mind kept returning to the mysterious affair. When on the third day I let in my friend early in the morning his gloomy face at once told me that he had fared no better.

"What do we do next?" he asked. "I've had enough of this lolling about."

So had I. "Suppose we make inquiries in the Archives?" I said.

"I've been thinking about that too. They might have some document tucked away somewhere, mightn't they?"

Alas, we well knew it was just wishful thinking.

"Well, let's give it a try anyhow," I said, suppressing my strong doubts. "Can't do us any harm."

And so we returned right to where we had started.

"Of course we can always try the chrono-scope," I couldn't help saying somewhat ironically.

"Oh, yes, of course, and get an eyeful of Zaitsman's bony back," Beryozkin replied in the same tone.

We sent our inquiries to all archives in the name of the Academy's Presidium and turned again to the chrono-scope. Any port in storm, you know. Beryozkin had been intent on flying straight to Yakutsk but I talked him out of it. Not before we had received replies to our inquiries, I argued.

In the meantime, just to be doing something, we thought we might as well chrono-scope all the remaining pages—whatever the degree of legibility. Looking through the first notebook we were struck again by the sewn-in sheet, so different from the other pages. All we had been able to make out at previous attempts was a row of figures looking like co-ordinates: $67^{\circ} 21' 03''$ and $177^{\circ} y 17''$. If these were really co-ordinates the place they denoted was in Chukotka, not far from where the Belaya River joins the Anadyr. Zaitsman could have got there if the *Zarya II* met her end off the Chukotka coast. But why did he have to give the place's bearings? And what on earth could be the meaning of what he had scribbled there besides: "Vly fr cr. (here followed the coordinates), n. hp., a. sh. vnts, dry hdn, cbn, NW, 140, rvr, grv., upr. pop., rts!!!"? It looked like a coded message to us and that was as far as we'd gone, for we'd done no chronoscoping on it, being quite certain to see Zaitsman's back again. Well, we were mistaken and our inexperience in the art of chronoscopy was our only excuse. We should have known better than put aside that sheet, which was so different from the rest.

This time Beryozkin suggested we start with it. First we programmed the machine to find how the sheet had been torn off. As soon as the chrono-scope was switched on Zaitsman's likeness was flashed on to the screen from the machine's memory cells; then for a long time nothing happened. The machine seemed to be taking its time about a new assignment. Then hands appeared in a close-up—thin,

soil-stained; they opened a notebook, hesitated a moment, then hastily tore out the very page we were examining, folded it in four, and, as they stuffed it into an inside pocket, Zaitsman was shown in full again. Then the screen went dark.

"Two interesting details there," I observed. "Earth-soiled hands and hasty movements. Zaitsman was burying something and afraid people would catch him at it."

"Let's chrono-scope the scribbling," suggested Beryozkin. "Let's see what our apparatus will make of it."

No sooner had the task been formulated than the reply came. We saw a man, broad-shouldered, thickset, straight-backed, in fact as totally unlike Zaitsman as possible; his face appeared void of any individual features, and yet it impressed us as that of a man likely to be domineering and harsh, if not actually cruel; he was sitting and writing in a notebook exactly like the one we had just seen in Zaitsman's hands. In the complete silence we heard strange words: "The end justifies the means. The decision is final, it only remains to carry it out. And it will be carried out, though I can foresee that not all will follow me...."

Beryozkin reached out and switched off the chrono-scope.

"Something's gone wrong," he explained. "We'll have to repeat it."

He repeated the task and the broad-shouldered harsh-faced individual appeared again. "The decision is final..." again we heard the chrono-scope's metallic voice.

"Well. I'm damned," said Beryozkin. "This beats me."

The metallic voice was saying: "...not all will follow me. But I will stand no nonsense...."

Suddenly the picture blurred and the words became incomprehensible.

Beryozkin disconnected the machine again. "Something is definitely wrong," he said. "Beats me though what could be. Nobody could have been tampering with it behind our back, could they?"

Beryozkin was quite put out. He was about to repeat the task all over again, when I asked him to take the sheet out of the machine.

"What do you want to do with it?" Beryozkin asked, not even caring to disguise his annoyance. "We've been all over it, inch by blessed inch."

But I got my way. I took my time studying the torn page, while Beryozkin fumed and fretted at my side, eager to be going on with it. He had had me nearly convinced when an interesting idea crossed my mind.

"Look," I said, "the machine scans the sheet from top to bottom, doesn't it?"

"Yes."

"Now look, Zaitsman's scribbling's almost as far down as the middle of the page—"

"But there's nothing higher up."

"Yes, there is. Something we can't see but the chrono-scope noticed...."

"You mean invisible ink?"

"I don't know but there is something. Try and specify the task. D'you think you can make the machine concentrate on the invisible text and just skip the rest?"

"I think I can, but are you sure it's worth the effort?"

"It may be."

"So you think it was an overlap, do you?"

He was quite a long time busying himself with the machine, while I was on tenterhooks waiting for him to finish; we were on a hot trail and I fervently hoped the chrono-scope would not let us down.

Finally Beryozkin sat down beside me and for the third time the broad-shouldered harsh-faced man appeared on the screen to the accompaniment of the same words. When the metallic voice said: "I will stand no nonsense," I involuntarily touched Beryozkin's hand but the voice went on undisturbed: "Whoever is against will sign his own death-warrant together with the riff-raff's. I notice some of them seem to forget who they all owe their lives to. I am going to refresh their memories. If only I can pull this off.... I'll never forgive Zhiltsov for taking that man on..."

The voice was silent; the image was gone.

We exchanged looks of smug satisfaction: the chrono-scope had cleared one more obstacle.

"So far so good, old chap, though for the life of me I can't see where that fellow comes in," said Beryozkin. "But never mind. Let the chrono-scope first read and illustrate for us what Zaitsman's got to say

for himself."

What we saw and heard next was still more amazing. In its precise emotionless voice the machine announced: "The Valley of the Four Crosses." After this we expected to see the valley, but the machine seemed to be out of its depth, for after a fleeting image of something vague, Zaitsman appeared on the screen. Even as he began jotting something down in his notebook the voice said: "No hope. Am shaken by events. Diary hidden...." Then Zaitsman strode off in a straight line but we could not make out where he started from or where he was making for. The chrono-scope was silent while greenish waves sped across the screen, the whole giving an impression as if the electronic brain were tackling something for which it had not been equipped. Presently the metallic voice pronounced slowly, as though reluctantly, one word: "Cabin."

"Why, yes, of course!" I exclaimed, "that's what they call their huts up in the North."

But the chrono-scope apparently didn't "know" this, because no picture followed.

Beryozkin now fed in the meaning of the word "cabin", after which the picture of a small flat-roofed hut was flashed on the screen and Zaitsman began his march again—from the hut. "Northwest," the machine was saying, "one hundred and forty," while Zaitsman strode on. We realised that 140 stood for 140 paces. Then the voice said:

"River, grove." At that moment Zaitsman stopped and made another note. Jotting down the figure and the last two words, I thought. A vague picture of a river and then a wood appeared. After a pause the voice said: "Uprooted poplar, roots," and we saw a huge poplar lying on the ground.

"A lot of nonsense," Beryozkin gave his verdict. "The scene's inside the Arctic Circle, deep in the tundra, and here we are, being treated to Ukrainian poplar groves! We'll have to give it one more chance."

"No need to," I said. "The machine's done a marvellously accurate piece of restoration. We now know that Zaitsman hid his diary one hundred and forty paces to the north-west of a cabin, in a grove, under the roots of an upturned poplar!"

"But there are no groves or poplars up there! It's inside Chukotka, man."

"Oh, yes, there are. Any geographer will tell you there are pockets of wood in the valley of the Anadyr and some of the valleys of its tributaries. There is tundra all round the Anadyr basin but in its valleys there are full-scale woods of poplar, Korean willow, larch and birch. And this proves the chrono-scope's read and illustrated the notes correctly."

"It's fantastic," Beryozkin said musingly. "You know I sometimes feel there's no chrono-scope but we've just read or heard all this somewhere or thought it up ourselves.... It's time for quick action though. Danilevsky offered his help. Let's get him to charter us a plane and fly across to Chukotka. O.K.?"

"O.K."

Before flying to Chukotka, however, we sent the page we had chrono-scoped to the experts. After careful analysis they confirmed that apart from the visible writing 'there were very faint traces of another text: the preceding page had been written upon and the words got impressed on the one we had. So the machine's electronic "eyesight" had been keener than ours. The experts succeeded in restoring part of the text and the handwriting that emerged was hard and angular, quite unlike Zaitsman's. The page had been also checked for finger-prints; it was established that besides ours it bore the prints of two more people.

CHAPTER V

in which news arrives from Irkutsk, where the first ever chronoscopy expedition stops over on its way to Chukotka to get more information about Rozanov.

We reported the preliminary results of our work to Danilevsky, who in turn communicated them to the Presidium of the Academy. Our plans met with approval and soon the chronoscopy expedition had an airplane at its disposal. We could have set out there and then but had to postpone the start for close on a month because of the chrono-scope. Now, I don't remember mentioning earlier that the chrono-scope, despite its complexity and phenomenal sensitivity, was not very bulky. In designing it Beryozkin had aimed to make it portable. Of

course none of us could carry it about, but it could be easily transported by plane or lorry. But for use outside the Computer Institute the machine needed some auxiliary equipment. It was installing the equipment in the plane that had caused all the delay.

As it turned out, however, we had no cause to regret it. First, summer had arrived. Second, we had received good news from Irkutsk. A worker of the Irkutsk Museum, an authority on Siberian lore, who had been consulted by the City Archives in connection with the Academy's inquiry about Zhiltsov's expedition, informed us in a private letter that though he knew nothing about the said expedition, the name of Rozanov was well known to him. If the Rozanov he knew—a Bolshevik who had fought for the Soviets against Kolchak—was the same man, we could get more information on him in Irkutsk.

That is why the expedition's airplane, with the chrono-scope mounted aboard, stopped over in Irkutsk.

The man from the Local Lore Museum met us at the airport. There was also a lorry laid on for us by the City Executive Committee: the good people must have thought we'd want to take the chrono-scope along. The man suggested we first go to see Rozanov, sounding as though he were still alive.

"Unfortunately not," he replied when I'd asked for confirmation. "But he's very much alive in the memories of the Siberians."

It was still very early, not yet 6 a.m., when our lorry passed through the quiet tree-lined streets and left the city behind. The highway curved towards the Angara and never left it. Thin clouds completely veiled the sky, while over the dark swift river white mist billowed and wreathed. It seemed to me the Angara was breathing, and her breath, cold and damp, reached us in the back of the lorry. I sat sandwiched between Beryozkin and our guide. None of us felt like talking. The lorry sped past birch woods with a sprinkling of pine in them, past villages stretched along the river, and I remembered that a new reservoir lake was soon to splash in their place. The mist was lifting, revealing the dark outlines of fishing boats on the river. The lorry ran through alternating currents of warm and cold air, but it was getting warmer; the sun was peeping out. Now we could easily see the holts on the left bank of the river and the narrow line of railway track hugging the very water's edge. Suddenly the river, and the road with

it, made a hairpin bend and between two headlands we saw a pallid stretch of water— Lake Baikal.

We stopped at the village of Listvennichnoye and the man from the Museum led us up a steep hillside overgrown with pine and cedar. A well-trodden path brought us to a common grave topped by a tall white obelisk we had seen from afar. Among the many names on the marble plaque we found a name we knew: Sergei Rozanov.

"He was on the Irkutsk Communist Party Committee," said our guide, "one of the men who led the uprising against Kolchak. He was killed in January 1920, not far from Listvennichnoye, on the shore of Baikal."

We bared our heads; the morning breeze played gently with our hair. Baikal lay in front of us, half-concealed in a bluish haze, serene and enormous. A tugboat cast off and headed for the bluish line of horizon. And in the village on the shore, made up of sturdy, indestructible-looking log houses, tiny figures of children were moving along the long street on their way to school.

CHAPTER VI

in which the expedition arrives safely in Chukotka, discovers that in the North there are lots of place names with the word "cross", but, apparently, no Valley of the Four Crosses of which anybody has ever heard; the valley is found nonetheless.

In the City Archives we were shown documents which corroborated everything our guide had told us. Unfortunately they had nothing on Rozanov's earlier life. But at least the information they gave us helped to establish the reliability of Zaitsman's information. So Rozanov, in whatever manner he had joined the expedition, was really a professional revolutionary, a staunch Communist who had the courage of his convictions and met his end fighting for them against the Whiteguards. We had a clear picture of the man now, we'd come to respect and admire him, but we were still in the dark as regards the fate of the expedition.

True, we were no longer surprised by Zaitsman's turning up in Krasnodar, for he was not alone; Rozanov had reached habitable

places too. But what had happened to the rest of them? Had they left any papers? And what was that mystery the dying Zaitsman tried to communicate? These questions were as unanswerable as ever. All our thoughts focused now on the Valley of the Four Crosses.

In three days, by an involved route, we reached Chukotka and touched down at the airfield in the village of Markovo. The locals were eager enough to help but none of them had ever heard of a Valley of the Four Crosses.

"There's the Gulf of the Gross," said the airfield chief, "and the Gross Pass. But no Valley of the Four Crosses—not to my knowledge."

"There's lots of 'crosses' on the Kolyma," the local agronomist remembered from his journeys. "Nizhniye Kresti, (*Krest*—the Russian for "cross".—*Tr.*) Kresti Kolymskiye...."

"No," we said. "Our valley's in the upper reaches of the Belaya River—and there's a log cabin in it."

"Some landmark," a man said. "Plenty of log cabins up here!"

"Yes, there are," we agreed. "But we've got the bearings. We know where to look for the place."

The next morning we began the search. The Polar Aviation plane we'd been given—we couldn't risk ours with the chrono-scope on board—took off and headed due north. At first we flew over the marshy Anadyr plain, criss-crossed by chains of small tundra lakes linked together by tiny creeks; then the country became higher and the plane flew across a narrow range of hills; from the distance the hills looked grey and bare, with occasional green patches of the creeping black alder. Beyond the hilly range lay a different country. Now the plane flew along the valley of the Belaya River. Constantly changing its course the river meandered unhurriedly between low banks skirted by the narrow arboreal belts with a thin piping of shrubbery; beyond stretched the tundra, drab, marshy, with grey blotches of snow in shady places.

The farther north we went, the higher were the hills round the Belaya River, the straighter the valley, the narrower the arboreal belts. Soon we had to climb higher, for the hills gave place to real mountains, also grey and also with green patches of alder; then there were fewer and fewer green patches, then none at all, but more and

more blotches of snow; they lay in the valley and small rivulets ran from under them; trees now only occurred in small clumps that were becoming few and far between. In all this time I only sighted one reindeer-breeders' summer camp—a few peaked yarangs and a deer-pen—and one winter camp, which looked deserted, for not a plume of smoke rose over it.

The navigator told us that we were nearly there.

"Keep your eyes open, Comrade Verbinin," he advised. "You'll not find it easy spotting your crosses," and, as an afterthought, he added, "if any."

The valley was becoming narrower. Ahead of us, on the northern horizon, the towering peaks of the Anadyr mountain range were etched against the clear sky. But what really got me worried was the total absence of terrace woods: Zaitsman's coded message expressly mentioned a wood and an uprooted poplar, and their chrono-scope picture was still fresh in my memory. I sensed my friend's searching glance and looked round; his eyebrows shot up significantly as he pointed to the window. I understood that the sight was worrying him too.

I looked again and realised we were not going to find our valley in that area. Not because I suddenly had my doubts about the accuracy of our bearings, for we'd thought all along they were a rough approximation, but because of the geography of the area. As we progressed the floor of the valley had got higher and higher, so that now the northern winds had the freedom of the place. Poplars just couldn't survive here. From this I gradually came to the conclusion that our valley should be that of one of the Belaya's lesser tributaries, small, hemmed in on all or nearly all sides, well protected from the northern winds by the range, and sporting what well might be Kamchatka's northernmost pocket of wood.

Contrary to popular belief the undoing of arboreal vegetation in the North is not the intense cold. After all, Verkhoyansk and Oimyakon in Siberia, the reputed "coldest spots" of the Northern Hemisphere, with the lowest temperature recorded of almost -70° Centigrade, are thickly-wooded and the trees show no signs of discomfiture. The tundra is treeless because of its 'low summer temperatures and the drying-up of the vegetation. Indeed in the North vegetation frequently

succumbs to drought, standing "knee-high" in the water. Spring winds are particularly injurious:

the trees begin to come to life after their winter coma, the moisture evaporates but there's no feed-back, for the soil is still frozen. And even when the soil has thawed trees can still die of drought because their roots will not take in cold water.

"We're there," said the navigator.

An arctic waste stretched below, with not a sign of life. I shared my idea with the navigator and asked him to bear to the east: as far as could be judged the Anadyr range should be more of a wind-break there.

The plane changed its course and climbed: we couldn't miss the green oasis of wood.

My hunch proved true in about twelve minutes, when from a high altitude we spotted a patch of green in the midst of grey mountain country. Losing height, the machine headed for it and circled over a small valley, dwarfed by the massive slope of the range. A narrow river with a scrap of wood alongside, the dark spot of a log cabin and the white patch of snow near it. But no crosses, until, at long last, we both sighted one—the largest of the four, we decided.

Nobody doubted we had struck *the* valley. Having got its bearings the navigator marked it on the map and we headed back to base.

CHAPTER VII

in which the expedition asks for and gets a helicopter, mounts the chrono-scope aboard it and, after a forced delay, shifts base to the Valley of the Four Crosses, where investigation immediately leads to Interesting finds.

While we had looked for the crosses the airmen had looked for a landing-place and were now quite sure there were none fit to receive our chrono-scope-bearing plane. This was making our task more difficult. Our first plan was to parachute down, make a reconnaissance, then work our way on foot to the nearest settlement. But the airmen with whom we discussed it pooh-poohed the idea and suggested applying for a helicopter. Not at all sure of success, we

radioed Anadyr and got a quick reply that a helicopter was being dispatched.

We spent a few more days remounting the chrono-scope and equipment and were greatly relieved on testing the machine to find it in working order.

When all was set for the flight the rains began. Flabby grey clouds sagged landwards till they nearly reached ground level; visibility approached nil; all flights were stopped. What an utter misery it was to be grounded idle only a few hours away from our ultimate goal, bored to death and cursing our luck, and all the while watching rain ooze out of the clouds, the tundra marshes swell, little rivulets spread into rivers.... The nights were white and round the clock all was uniformly dull and murky. Even the local mosquitoes—big, hairy things—could not survive the boredom of it; at any rate there were none to be seen anywhere.

Then the weather cleared. We took off first thing the following morning and in due time sighted the green oasis.

The machine touched at some distance from the log cabin, just beyond the patch of snow. When the engine was cut and the rotor came to a stop after a final flip, the utter silence of the place surrounded us. Thrilled, we clambered out and looked around. Behind us, sheltering the tiny valley from the searing breath of the Arctic Ocean, reared the monolith of the Anadyr Range; the sky seemed to be resting on its serene, gently-rounded tops. Grey streams of loose shale ran downslope, petrified at our feet into tiny tongues, fluffy silver willows—so small two hands would adequately cover the biggest of them—carpeted the ground, the Lapland willow bloomed, the crowberry stretched its slender green-scaled twigs towards the gloomy sky, the weird, coral-shaped shrubs of the reindeer lichen stuck out here and there and further among the stones lay the wire coils of the stiff black alectoria lichen.

Our way to the log cabin took us across the snow patch. It looked like a pond suddenly frozen over, its waves, only a moment ago careening along, whipped by fresh wind, now dead and rigid.... A few susliks ventured out of their holes and whistled in alarm, seeing us.

The nameless tributary of the Belaya River which had its origin somewhere up the Anadyr Range was fairly wide, though not deep; a

quantity of smooth-backed boulders showed above the water. The log cabin was on the left bank of the river while a poplar grove crowded its right bank.

It was near the log cabin that we saw the crosses: three of them tall and the fourth smallish, of the ordinary churchyard type. Two of the tall ones, standing somewhat apart from the rest, struck us as being very old. As we approached we saw that their black wood had been badly fissured by countless years of exposure and their bases whittled away by ground currents into a state of imminent collapse. No inscriptions could be seen on them—perhaps there had never been any. They towered there as a memorial to all those who had lived, struggled and died in the North.... They must have been erected by the first pioneers who, after paying this tribute to their fallen comrades, had pushed on to be lost in the arctic wastes, as though they had never existed, while the crosses remained standing, their arms spread protectively over the nameless graves.... Then—much later—two more crosses were added. One of them, the taller of the two, still bore the inscription:

Andrei Pavlovich Zhiltsov Russian Polar Expedition 1914-1916

We had been 'looking into the fate of an expedition lost over two score years ago and had certainly never expected to find any of its members still alive. Yet when on the smaller cross we made out with difficulty the name of Mazurin, astronomer, we felt a sharp pang and our hands involuntarily went to our caps.

The old low-roofed cabin seemed to have sunk into the ground. To enter it we had to dig the doorway free; it was obvious the cabin had seen no visitors for a long, long time.

It was a gruesome picture that met our eye: on the floor piled high with torn and cut notebooks lay the remains of a man. We silently went out and, with relief, faced the coldish wind and listened to the murmuring of the river and the rustling of the poplar grove; the world around us looked wholesome and spacious, and it was with a new feeling that we now looked at the homely flowers of the Lapland willow, the scaly twigs of the crowberry, and the fluffy heads of cotton-grass nodding to us from where it grew on waterlogged

ground. After a long pause Beryozkin said:

"Zaitsman started counting the steps from here." His remark jerked 'us all back to reality. We re-entered the cabin and, avoiding as best we could the skeleton still covered in places with shreds of clothing, collected every scrap of paper there was and carried it all to the helicopter together with a badly-rusted hunting knife that the pilot had found near a wall.

CHAPTER VIII

in which tentative opinions about the discovered papers are voiced; Beryozkin and myself, giving in to the crew's requests, show them the chrono-scope in action; the chrono-scope, in giving yet another good account of itself, makes us witness to events that happened over two score years ago.

The pilot admitted that he had made the landing so far from the cabin for fear of damaging some material evidence, as he put it. Now that the reconnaissance had been made, we decided to move camp and chose a site on the edge of the poplar grove. Having pitched the tent and eaten a quick meal we settled down to putting some order in the heap of papers, in which the crew gave us a most willing hand. The scraps of paper were faded and brittle and in perfect disorder, but all our hopes of success were now pinned on them and on the scrawls they carried. Like the majority of modern mankind who are taught to read and write in early childhood, we involuntarily placed greater trust in the written word. And even now, in possession of the world's first chrono-scope, a machine capable of more objective and precise reporting on the past than any chronicle, bound as it is to be coloured by the author's likes and dislikes—even now we waded straight into that heap of paper, forgetting all about the miracle machine. This rashness was to cost us many hours of futile conjecture.

The pilot and navigator, delighted at being allowed to help and each no doubt fancying himself a Sherlock Holmes, took only time off to refer to "the bastard"—as the navigator called him—who had slashed the diaries and scattered them all over the place.

"Whatever brought the goon here?" said the pilot. "Fancy—in a

place where even the Ghukchis never graze their reindeer!"

"Nothing brought him here," said Beryozkin. "My guess is it all happened back in sixteen and is the very same tragic incident Zaitsman was trying to communicate when he was at the point of death. One of them went mad and they had to—"

Beryozkin left the sentence unfinished but we understood. Indeed the disorder in the cabin was such as could only have been produced by one demented.

"After the hell they'd been through," said the navigator, "anything's possible."

And he stopped referring to "the bastard".

Working with old, crumbling manuscripts, however, requires not only ready will but a good deal of experience, of which I happened to have considerably more than Beryozkin and our two willing helpers combined. So, gradually, I made them drop out and sit idle, and being idle, as you will appreciate, is a dull occupation. Perhaps for this reason the thoughts of our two helpers began to wander and, finally, came to the helicopter and, then, to the chrono-scope mounted in it. Then came a polite reminder of the promise we'd made to show them the machine in action as soon' as we arrived.

"I say," the navigator said, gingerly picking up the rusty hunting knife off the ground-sheet;

"S'pposing you ventilate this here object."

Beryozkin's sympathies, for all his respect for the written word, belonged to the chrono-scope and he easily gave in, no doubt spurred on by a desire to show off his brain child.

"Give us a page or two," he asked me. "I'll show the chaps a bit of chronoscopy."

I didn't like the idea, frankly: papers should not be touched until they're in perfect order; so I tried to stall, muttering I might need any one of them any moment at this stage....

The navigator brandished the knife.

"But what about this?"

And Beryozkin fell for it: before we had chrono-scoped nothing but manuscripts and here was a chance to try a different material.

"Come on," he told them. "We'll leave Verbinin to it."

I was particularly interested in Zhiltsov's diaries, parts of which I

discovered after a great deal of sorting out. They were badly damaged, which made me again curse the maniac responsible, but still I was soon making fairly good progress and beginning to hope to be through with the preliminary work in a couple of days.

It was night by my watch but I went on working, happy that Chukotka was in the polar day season just then and what little darkness there was arrived not before midnight. Indeed I was so absorbed by my work that when Beryozkin's shouts came I didn't hear them—they just didn't register.

Beryozkin, with the pilot on his heels, tore into the tent.

"Are you asleep or what?" Beryozkin shouted impatiently. "Didn't you hear us yelling? Come on, quick! Astonishing results!"

In his impatience he tried to drag me outside, but I had covered the papers carefully before letting him do it.

"What's it all about?"

Never stopping to reply, they dragged me to the helicopter where the navigator, who had just jumped out of the machine, shouted to me with his usual impulsiveness:

"That knife's got rusty with blood!" and, after a deep breath, he added softly, "Suicide." Then in a different, admiring tone he said, "Terrific machine! Absolutely first-rate!"

"Was it really ... suicide?" I asked, stopping.

"Yes. I chrono-scoped it three times," said Beryozkin. "Same results."

"Who does the man look like?"

"The image is rather vague—unfortunately. Doesn't look like Zaitsman or that hard faced fellow though...."

"Zaitsman! Zaitsman died in Krasnodar."

Beryozkin made a wry face.

"As though I could have forgotten that! I only meant the screen showed a generalised image."

"Seems as though Zaitsman had really grounds for tormenting himself with his right-or-wrong questions?"

"I don't know," said Beryozkin. "It's all rather vague. And I'm not at all sure when it all happened either."

Presently the episode which had been stored in the machine's memory was played back for my benefit, producing such a weird and

painful impression on me that I am really reluctant to recall it in detail now. Suffice it to say that, according to the chrono-scope, the man had committed suicide in a state of frenzied fury. We couldn't help thinking it must be the same man who had damaged the expedition's diaries. I agreed to have a few of the worst-damaged pages chrono-scoped and the machine bore us out on that; the screen showed a man in a murderous rage wantonly cutting, tearing and throwing about sheets of paper. He was armed with a hunting knife, the one we had just seen him put an end to himself with.

However, there was nothing in the screen to throw light on what had caused that fit of frenzy, what the others had done about it, or, if the man was alone, what had happened to the others; finally, we could not understand why he seemed so set on destroying the documents about the expedition. As I watched the man rush about on the screen, it occurred to me his was a rage born not of strength and conviction, but rather of desperation. At least so it seemed to me at the time.

On the request of the crew we showed them all that the machine's memory contained in connection with the expedition and then summed up all we knew. This is what it all came to:

1. In Yakutsk two political exiles, Rozanov and Zaitsman, joined Zhiltsov's expedition.

2. The expedition set sail and two years later some of its members visited a log cabin in the Valley of the Four Crosses, where two of them, Zhiltsov and Mazurin, died.

3. For some unknown reason the explorers left the documents about the expedition behind in the log cabin when they went away, and a man, presumably a member of the expedition, tried to destroy them before committing suicide.

4. Zaitsman reached Krasnodar, where he died of typhus. Before death he was tormented by pangs of conscience, trying to make up his mind whether they had been right or wrong in doing something, and in his diary he seemed to oppose the political exile Rozanov and the ship's captain Cherkeshin.

5. Rozanov died fighting Kolchak, and was buried in a common grave on the shore of Baikal.

CHAPTER IX

which describes the first stage of the expedition's work on the basis of Zhiltsov's diaries, notes the subtle and detailed characteristics of its members and contains certain reflections about history repeating itself.

We read all that was left of Zhiltsov's diaries with no particular difficulty, rarely needing to use the chrono-scope. They were characterised by a lucid and balanced style, by goodwill towards the other men and almost complete absence of information about the author. That immediately won us over, and, reading Zhiltsov's diaries, we tended to trust his every word. The diaries of the other members of the expedition, which we read later, completed for us the picture of Zhiltsov. He belonged to that splendid school of Russian naval officers, scholars and humanitarians, men of enlarged views, clear-sighted and strong-willed, of which Krusenstern, Lisiansky, Lazarev, Bellingshausen, Kotzebue, Nakhimov, Makarov and Sedov are the more outstanding representatives. His diaries offered no statement of faith, but their general trend, plus the occasional glimpses of his likes and hates they contained, led us to believe that though no revolutionary he was undoubtedly a progressively-minded scientist. His attitude to Rozanov and Cherkeshin furnished additional proof. This triangle of men of different views and personalities became apparent as soon as the expedition left Yakutsk.

A few pages in the diaries somehow stood out from the rest. We called them "defensive", which is perhaps not exactly correct. When the Zarya II was already out of Yakutsk and sailing down the Lena, Zhiltsov wrote in his diary in some detail that he considered the schooner's crew was under strength and one more deck-hand should be signed on somewhere on the way. Indeed a page further we found the laconic entry that S.S. Rozanov had been-taken aboard as a deck-hand. We thought that odd, Zhiltsov recruiting Sailors, because normally it's a captain's job. However, like the fair-minded man he was, Zhiltsov recorded immediately below that Lieut. Cherkeshin had strongly protested against another political exile being taken on board, but that he, Zhiltsov, had overruled that protest.

This episode helped to clarify another point for us. We were already

aware that Rozanov, 'like Zaitsman, had worked as a shipwright in Yakutsk. So if he hadn't joined the expedition there, it was because something had prevented him. We believed now that being, unlike Zaitsman, under strict police surveillance, he had been refused permission to join: the expedition was to sail too close to the American coast. But apparently he had set his mind on going, and Zhiltsov, though obviously aware of the authorities' stand, sympathised with the man enough to take him on on the way, despite Cherkeshin's protest.

On passing from the mouth of the Lena into the Laptev Sea the *Zarya II* headed straight for the New Siberian Islands. The sea was already clear of ice, save for occasional weather-eroded floes which easily shattered under the schooner's bows. After a few days' sailing the *Zarya II* approached Vasilyevsky Island, which lay on the route to the New Siberian Islands. This island was discovered as far back as 1815 by a Yakut, Maxim Lyakhov, who lost his way going across the ice from the mouth of the Lena to Kotelny Island. Apparently Zhiltsov didn't know that in 1912 a Russian hydrographical expedition on the ships *Taimyr* and *Vaigach* had visited the island and made a thorough survey of it. He gave a detailed description of the island in his diary, stating that it was rather small and low-lying and formed of layers of sand and clay and fossil ice, and being steadily frittered away by the sea. Then the *Zarya II* pushed on, towards Kotelny Island, and, taking advantage of the favourable ice conditions, attempted to work her way round the New Siberian Islands from the north. She proved successful where others had failed and penetrated farther north than any ship before. But one day Zhiltsov noticed on the clouds the typical reflection of ice ahead and, indeed, the next day formidable pack ice barred their way. For some time the ship tacked close to the pack's edge, hoping to find leads in the ice, but in the end was forced back and headed for Bennett Island, which was discovered back in the last century by De Long and later served as the last abode for Toll's party.

The *Zarya II* had visited the places where Sannikov Land was supposed to be and found nothing.

There are a few pages in Zhiltsov's diaries about this, very remarkable pages. Although he cited all the arguments against its existence he nonetheless believed the people who had seen Sannikov

Land and for this reason considered that the question was still open. It gave us real pleasure to read an entry in his diary where he stated that he had no more reason to suspect dishonesty in Sannikov, the unlikeliest man to fraud a discovery, than to question Toll's integrity as a scholar. They, like so many other arctic explorers, recorded what they observed and never committed to paper what they didn't; that is what he said, almost word for word.

Beryozkin and myself were greatly interested in the little character sketches the diaries contained; generous, well-intentioned and patently impartial, they gave us an insight into the relationships on board the *Zarya II* and helped us later to find the cause of the tragic events that happened in the Valley of the Four Crosses.

Cherkeshin, the ship's captain, was an experienced sailor and an arctic veteran, a man of intelligence and initiative, but, as Zhiltsov noted with a certain apprehension, an arrogant martinet, a believer in harsh measures, no friend of his subordinates or the Yakuts.

Mazurin, an excellent astronomer, on the contrary was a mild and easily-influenced man. This was his first polar expedition.

Konoplyov, the ethnographer and zoologist, a very keen worker, a good brain and a warm heart, treated all men as good friends and brothers, but was apt, as Zhiltsov added, to be rather sharp when speaking to the captain.

Zaitsman's characteristic tallied with the opinion we had formed after studying his diary; Zhiltsov called him the expedition's "conscience".

Govorov, the first mate, was young, upright and keen on his duties, but had little experience.

It was a pity Zhiltsov had nothing to say about the crew. Nor did he say anything about Rozanov, whose name, however, cropped up later in the diaries.

Soon after the schooner entered the Arctic Ocean Lieutenant Cherkeshin began work on his far-reaching plan. At first things looked normal enough: the captain insisted on strict discipline and punished those responsible for every fault, however small. The crew—and the expedition personnel—worked with a will, but Cherkeshin was not to be satisfied. He insisted on barracks discipline and blind obedience, and this, coupled with his blatant contempt for the inferiors, led to

tension.... It is difficult to predict what the outcome would have been, had the political exile Rozanov not been aboard. He soon had the crew's confidence and when Cherkeshin attempted to introduce corporal punishment he led the crew against the captain.

Rozanov called on Zhiltsov as their Spokesman and presented their demands. Zhiltsov was neither surprised nor outraged: it appeared he had seen through Cherkeshin's design and was not unwilling to bring the matter to a head so as to put an end to it all the quicker. He had known for some time that Cherkeshin, using his authority as captain, wanted to elbow him out of leadership and realised that intimidating the crew—his possible allies—was part of the campaign.

But he wouldn't be caught napping, for he knew the signs: it wasn't the first bid for power over an expedition he had seen in his life.

In 1902 the *Zarya's* captain, Lieutenant Kolomeitsev, attempted the same. They were off the Taimyr coast at the time and Toll, displaying energy and courage, deposed the over-ambitious captain and dispatched him with the mail to the Gulf of Yenisei, entrusting Matisen with his job.

That is how Rozanov and Zhiltsov had become allies. They didn't have to wait for long: a reckless man, Cherkeshin went too far too soon and had both the crew and the members of the expedition against him. His bid for supremacy flopped. Unfortunately with the ship on the high seas, Zhiltsov could not get rid of Cherkeshin. Then the captain admitted his incorrect behaviour and Zhiltsov wrote in his diary that having realised his mistake Cherkeshin would probably not repeat it.

These events also helped us to understand the conflict between Zhiltsov and Cherkeshin over Rozanov; Zhiltsov, foreseeing trouble with Cherkeshin, needed Rozanov as a man with enough grit to stand up to him; while Cherkeshin, bent on the take-over, had a feeling this man might be in his way. It is a credit to the intelligence of both that their conjectures proved to be right.

Soon after these events a reflection of open water was reported on the clouds ahead to the north. Cherkeshin suggested pushing through to the *polynia*. (*Polynias* are patches of unfrozen water amid icees.—*Tr.*) Zhiltsov agreed and the schooner entered the pack and started on her tortuous way. Suddenly the wind changed, the leads widened and

the schooner was steaming ahead, when the wind changed again and the floes began to close in.... There was a brief note in Zhiltsov's diary: "Cherkeshin is the hero of the day; only his skill has saved the expedition a lot of trouble."

As the arctic summer was running out the schooner reached Bennett Island, the largest in the De Long Archipelago, mountainous and uninhabited. Thirteen years before, Toll, having waited in vain for the arrival of his schooner, left the island and started on his last trek across the treacherous November ice. The *Zarya* rotted now, beached in the Tiksi Bay, while her successor—the *Zarya II*—with men aboard eager to take over where Toll had left off, was heaving to off that rocky island.

A party led by Zhiltsov rowed ashore and, splitting in two, began a survey of the island. Konoplyov, Zaitsman and Mazurin went off together, while Zhiltsov took with him Rozanov and two Yakuts, Lyapunov and Mikhailov, to look for the hut built by Toll's party.

The sky had darkened by degrees and it was not until a sudden squall 'lashed his face that Zhiltsov realised that a storm was coming and they ought to hurry back. They turned and headed straight for the landing-spot—Zhiltsov in the lead. They were traversing a small glacier which drained into the sea at a steep angle when a vicious gust of wind flung Zhiltsov down on the ice. His fatal rolling was stopped by a crevasse. It was rather shallow as Rozanov and the Yakuts found when they reached it. Zhiltsov lay motionless on its floor, not answering their shouts. The wind was increasing and it was all they could do to keep from rolling over the edge when they started the rescue operation. Rozanov and Lyapunov lowered the small lithe Mikhailov on a rope down to Zhiltsov. He was alive but too badly hurt to move. Straining every muscle they rescued their leader and between them carried him to where they expected to find the boat. They found it—as well as the other party—but the *Zarya II* was gone: she could not stay close to the rocky shore during a storm.

After a few hours drift-ice appeared. The wind was as strong as ever but the violence of the waves had abated. Nobody was cheered, however, for the ice kept creeping in from the north, building up a barrier between the island and the schooner which was riding it out in the open sea. The men on the island knew they had not a chance in the

world if the *Zarya II* did not get through to them. Toll's party had had warm clothing and food and no invalids, and yet they had all perished. While all *they* had was a small tent in which they now sat round Zhiltsov—thinking whether Cherkeshin would break through or retreat like Matisen had done.

By the fourth day the island was completely icebound and even the horizon showed no reflection of open water anywhere round. Nor was Zhiltsov any better. Zaitsman assured him that his injuries were not fatal but he himself was thinking of suicide, persuaded that this would add to the chances of the others.

After two weeks they were all in a pretty poor shape when a successful reindeer hunt by the Yakuts brought fresh hope. Then they sighted a faint smoke on the horizon: that was the *Zarya II* battling through to the island. Cherkeshin had not let them down. As the schooner couldn't possibly get close inshore they walked across ice to meet her. They were met halfway by their comrades and soon the expedition was in full strength, back on board the schooner. Cherkeshin, haggard-faced, handed over to the first mate and, not listening to the words of gratitude, went below to catch on badly-needed sleep.

"We all owe Cherkeshin our lives—particularly myself," Zhiltsov, now on the way to recovery, wrote in his diary.

CHAPTER X

in which arguments (or and against Sannikov Land are bandied, the notebook hidden by Zaitsman is unearthed and more about Zhiltsov's expedition is discovered.

The weather was changing for the worse. Dry flakes drummed on the taut side of the tent. Outside, the susliks had stopped their whistling, snug in their burrows. Low, flaky clouds sped southwards. A large polar sea-gull appeared from nowhere, circled over the valley, mourning with a plaintive cry the absence of a sea or lake in the vicinity, then soared high and winged away to the south-east. We, too, could have soared high and flown away to the south-east, to Markovo, but we did not. Beryozkin and I thought we ought to do some more

on-the-spot chronoscopy and altogether felt we had made too little and inexperienced use of it. The crew felt differently, overwhelmingly impressed as they were by the rusty knife test. But we were sceptical over that, too.

"Incidentally there's no proof yet that the machine was right in that case," Beryozkin challenged them.

This brought vigorous protests, which only caused the inventor to start listing in tedious detail all the chrono-scope's real and imaginary faults.

I was annoyed at first but then it dawned on me Beryozkin was just tired. The same as I was. For several months we had been following up the expedition, talking of the expedition, thinking of the expedition, day and night. And now that the solution was just round the corner, the strain began to tell. What we really ought to do was forget it all and relax and talk about something quite different, or else go shooting in the mountains. But we just couldn't talk about anything else, and to go shooting would mean disturbing the peace of the very places through which Zhiltsov's expedition had tramped two score years back....

I stepped out of the tent. The furious gusty wind threw hard snow into my face. The poplars groaned under the impact of the gusts, their tops bending down resiliently, each leaf straining to tear off and fly away, but few of them actually succeeding and even those dropping not far away, in the river or on the dry screes where hard flakes of snow were gathering in small drifts. A stray lemming, tiny and brownish, dashed squeaking between my feet and disappeared into a hole. Suddenly I remembered about Zaitsman's notebook which we had completely forgotten in the excitement of the log cabin discoveries. Why should he want to hide it, I thought, when the others all left their diaries in the cabin? I crossed the river to the log cabin, faced to the north-west and, counting my steps, strode into the teeth of the wind. Recrossing the river I entered the poplar wood and on the count one hundred and forty drew level with what was still easily recognizable as a mighty uprooted poplar; wood rots slowly in the North. I stood there, then went back to fetch a spade.

In the tent they were talking about Sannikov Land. The navigator, young in years and new to the North, had ventured the opinion that

Zhiltsov's expedition had found Sannikov Land after all. He so wished it were true! Beryozkin and the pilot tried to laugh him out of it, but he stuck to his guns.

"Why," he was saying as I entered the tent, "half a century ago Zhiltsov believed in people, in their good faith, while you—" and he broke off, choked by the contempt he felt for them.

"Well, ask Verbinin if you don't believe us," Beryozkin said, somewhat hurt. "If it existed it would have been found long ago. Ice-breakers and aircraft have been all over those places—many times. Why, man, it's been specially searched for."

"So Sannikov and all the rest of 'em just lied, did they?"

"Made a mistake," said the pilot. "That's all,

It's happened before in the Arctic." The navigator looked at me appealingly,

"I, too, believe everybody who said he'd seen Sannikov Land," I said. "All of them—Sannikov, and Jergeli, and Toll.

"Think for yourself, why should Sannikov lie? To curry the tsar's favour? Not him. He didn't even report his discoveries to St. Petersburg as that enterprising merchant Ivan Lyakhov did. For which Catherine the Second granted him the honour of naming two islands after him—the Maly and the Bolshoi Lyakhov Islands—together with exclusive rights in mammoth tusks. Or take Jergeli. His wish to get to Sannikov Land was so great that he told Toll he would gladly give his life to be able once to set foot on its soil. No, those were not people likely to lie."

"Sounds nice but hardly convincing," Beryozkin said pointedly. "Whatever you say, you can't see things that don't exist."

"A mirage," said the pilot.

"It was no mirage," I said. "Whether Sannikov Land existed or not, it still could have been seen."

The pilot's answer to this was a snort and even my ally, the navigator, could not help smiling.

"There are two tentative explanations to the Sannikov Land mystery. You remember Zhiltsov mentions Vasilyevsky Island in his diaries?"

"Yes," said the pilot.

"Do you believe that he actually saw it?"

"Of course he did!"

"And yet there's no Vasilyevsky Island—there or anywhere."

"How's that?"

"It just doesn't exist, that's all. Not a single map shows it."

"But surely Zhiltsov couldn't have lied, could he?"

"You think Sannikov could?" the navigator cut in triumphantly.

"The island was reported by the Yakut Mikhail Lyakhov and by the Russian hydrographical expedition on the *Taimyr* and the *Vaigach*, and later seen by Zhiltsov and his people. But the Soviet ship *Chronometer* sent to the island in 1936 for detailed surveying never found it. The island had melted away. In its place they found a sandbank in eight feet of water. And later, in the forties, Semyonovsky Island disappeared in the same way."

"Melted away?" the pilot repeated dubiously.

"You forget that it was built of fossil ice and layers of clay and sand. The Arctic is in the warm spell now, ancient ice melts and whole islands disappear. Well, that's the first explanation of Sannikov Land. And surveys of sea-floor to the north of the New Siberian Islands seem to bear it out."

"What about the second explanation?" asked the navigator.

"It is this. A decade or more ago gigantic icebergs were first discovered in the Arctic Ocean. They drift in ellipses and occasionally appear near the New Siberian Islands."

"But which is the right explanation?" "Both might be. A small island or islands might well have existed to the north of the New Siberian Islands and then melted away. However all who saw Sannikov Land claimed it was mountainous. So I'm inclined to believe it was icebergs they saw—here today and gone tomorrow."

"So Zhiltsov never discovered it," said the navigator and sighed; he didn't like my explanation. "Alas."

I picked up the spade and moved to go. "Where are you going?" asked Beryozkin. "To dig out Zaitsman's notebook." They all filed out after me, but when we reached the half-rotten tree the crew moved to the fore, eager for action, leaving Beryozkin and myself only the task of directing them. While the pilot was carefully removing the turf and the navigator badgering him for a turn with the spade, I wondered whether the notebook was still there and if it was, in what condition. I

had reasons to feel apprehensive too. As is well known, the ground in the whole of Northern Siberia is bound by permafrost, in some places to a depth of several hundred yards. In the brief polar summer only the uppermost layer, the so-called "active layer", comes to life and that is only two feet deep, or six in the valleys of big rivers. This layer is very "active" indeed: it thaws in the summer and gets waterlogged, then in the autumn it freezes from the surface downwards, and the liquid subsoil, compressed by the layer of ice, breaks through and bursts out. I was pretty certain that Zaitsman had buried his notebook within the active layer; even if it was well packed we had next to no hope of finding it in good condition.

I should have preferred my reasoning to prove incorrect: we found the packet but it was in very poor condition. We carried it carefully to the tent and spread out its contents, for what they were worth, to dry.

The next day I went back to Zhiltsov's diaries. His expedition's fate has been the same as that of many another. In the East Siberian Sea the *Zarya II* entered heavy drift-ice, which suddenly, in a matter of a few hours, froze solid. The schooner was icebound and no attempt to break through brought success. A slow drift in an easterly direction began. Then the polar night descended.... It could be gathered from Zhiltsov's diaries that the expedition was well supplied with food, but by mid winter most of the men were showing signs of scurvy. In those days vitamins were virtually not known.

Zhiltsov, still the worse for his fall, was the severest case of scurvy aboard. He stubbornly fought the disease, staying out of doors as much as possible, taking exercise, joining in the unsuccessful seal shoots. Added to scurvy he developed some other illness nobody could diagnose. The last entry in his diary which he dictated was addressed to the Academy of Sciences, followed by a few words of love to his family—words that never reached them.... Zhiltsov knew he was dying; he retained a clear mind and strong will till the last moment. All the other members of the expedition whose diaries we read later agreed in this. All paid their homage to the dying leader, thinking with apprehension of the uncertain future that would face them when he was gone. A day before he died, Zhiltsov summoned the members of the expedition and the captain to his cabin. As he took leave of them he said he was handing his duties over to Lieutenant

Cherkeshin.

"He's the man with the most experience," he explained. "He will see the expedition's work is completed."

Zhiltsov's hand stirred and Cherkeshin, guessing his wish, took the dying man's hand and pressed it lightly.

"The expedition's work will be completed," said Cherkeshin. "I promise you."

Zhiltsov was buried among the ice-hummocks not far from the schooner—not in the Valley of the Four Crosses, as we had thought.

A month later the boatswain died. All the diaries broke off on that tragic note, save for brief entries after a week and a half or so, recording the loss of the schooner, which was crushed by the ice off the coast of Chukotka.

CHAPTER XI

in which human brain accomplishes what no "electronic brain" could ever do, the chrono-scope renders us its last service, while we, after a final summing-up, fly back to Markovo.

We had guessed before that the schooner had been lost because the expedition would hardly have abandoned her of their own accord. Just as we had guessed that, those alive had marched southwards, struck the continent, crossed the Anadyr Range and reached the Valley of the Four Crosses. What we still did not know was the explanation of the I events in that valley, or why Zaitsman kept tormenting himself—till his very death—with the question whether they had been right or wrong. In this the chrono-scope was helpless, nor had the diaries anything to suggest: the men, weary with fighting for their very lives, had no inclination for psycho-analysis....

"You're the only hope that's left us, old man," Beryozkin told me.

"Me?"

"Yes, you. You remember you once told me the difference between the investigator's method of work and the writer's. Something like 'the investigator proceeds from events to characters, while the writer follows the reverse order.'"

We did have a talk once on this subject, I remembered, though in

what connection, escaped me. At the time I had voiced the opinion that the creative process breaks up in two stages. The writer is supreme while he is still endowing his cast with traits of character and facing them with circumstances. But as soon as characters have taken shape and circumstances been faced the writer turns observer, as it were: his cast begin acting independently of him, in accordance with their inner motives; in the writer's imagination they are alive and sovereign. I've been long convinced that literary characters behave in the author's imagination exactly as flesh-and-blood people with similar motives will, when faced with similar circumstances. I mean of course the inner logic of their behaviour, which is their prime mover, after all.

"What are you driving at?" I asked Beryozkin, though I had a shrewd suspicion what it was.

"Start that old creative process of yours, will you," he said. "We know the characters and we know the circumstances. You must try and guess what they did under them. This is a case where no electronic brain can take over from the human.... You remember you claimed on the Sayan Ridge that the human brain is the best chronoscope?"

I said I remembered but remonstrated that the creative process requires inspiration, a certain emotional tuning.

"Well, tune in," Beryozkin demanded with a grin.

A careful analysis of all we knew soon convinced me that the task was not as hard as it seemed at first. It was all adding up into a very likely explanation of the events that followed the loss of the schooner and led to Cherkeshin's banishment. That he had really been banished we learnt from a short note found among the papers, which also gave the motives.

The following is, for what it's worth, my reconstruction of the events.

Crushed by the ice, the schooner went down. The small group of men watched her go, stunned, In face of the enormity of what had happened they momentarily lost their head. And no wonder: neither the expedition members, nor deck-hand Rozanov had any previous experience of travelling across sea-ice. And no aid could be expected from anywhere. Only Cherkeshin, the man with most experience

among them, saw his way ahead; he felt he was the principal character now, the man on whom the lives of the others depended, and that, added to his pride and ambition, bolstered up his own courage. I am sure it was Cherkeshin who found words of encouragement at that moment, who restored hope and fight in the shipwrecked men. And he led them to the distant coast of Chukotka. The men followed him and Cherkeshin grew more and more conscious of his importance and power—tending to forget that discipline was not servility, that only team-work could bring deliverance; everything they achieved he ascribed to himself, which only added to his contempt for them.... Then a new element appeared: while becoming affable to the expedition's personnel and his Chief Officer, he grew still more cavilling with the crew and the Yakuts, abusing and even striking them. Rozanov of course could not let that go unchallenged. But this time he was not supported. The divide-and-rule principle had borne its hateful fruit. The men who had basked in Cherkeshin's favour—Mazurin and Zaitsman among them—kept silence, while the downtrodden, travel-weary crew and Yakuts had no fight left in them. Cherkeshin lost no time in profiting from the situation, considerably adding to their packs and chores. Rozanov saw through Cherkeshin's design of saving some at the expense of others, or, actually, saving himself, for well aware that alone he had no chance of survival, he was ready to sacrifice the crewmen and Yakuts to let the rest last longer. He was particularly harsh towards the Yakuts and that at last gave Rozanov his first reliable ally, the ethnographer Konoplyov. So when once on a march Cherkeshin tried to kick the overburdened Yakuts into a quicker pace, Rozanov and Konoplyov stood up for them. Zaitsman and Mazurin sympathised but hesitated to speak against a man who had saved the lives of all, while Govorov did his best to smooth the conflict over.

But nothing could smooth it over. For the small group of men lost on the ocean of ice was torn, in its small way, by the very same contradictions that were tearing apart their vast revolution-ripe country. Here, too, some were bent on exploiting the others, using both class and racial prejudices. Here, too, protest was ripe. The inequality fostered by Cherkeshin was becoming too irksome. Yet after they had finally struck the continent he was more hell-bent on it

than ever.

Exhausted and hungry, in the severest winter conditions, they crossed the Anadyr Range and came down into a small valley where they found an empty log cabin and two tall crosses that had stood there for innumerable years. The sight of those two crosses must have affected them a great deal, for their strength was running out as well as their food and their chances looked very slim indeed.

Cherkeshin decided they would have a short rest in the log cabin. The very first days were beclouded by the death of Mazurin. He had seemed no weaker than the rest, but one morning he did not wake up. They buried him near the two old crosses and it was then that Rozanov built a cross in tragic memory of Andrei Zhiltsov's polar expedition.

Mazurin's death seemed to have goaded Cherkeshin into action. Two days later he accused the Yakuts Lyapunov and Mikhailov and deck-hand Rozanov of stealing food and demanded their banishment without rations. That meant sending the men to sure death, but Cherkeshin was prepared to sacrifice them for his own survival. And then happened a thing Cherkeshin had never anticipated, blinded as he was by his hatred and contempt for them all: they rose against him in a body again. Quite easily they established that Cherkeshin himself had hidden the food. The man reached for his revolver but was overpowered and tied up before he could use it.

The court of honour sat the same day. Rozanov proposed giving Cherkeshin an equal share of rations and sending him away. Only Zaitsman opposed this. He reminded them of Cherkeshin's services to the expedition, of how he had broken through to Bennett Island, how he led them across the ice to the continent, but Konoplyov and the others were adamant.

In Cherkeshin's presence all the food was divided in equal shares and one given to him. Zaitsman again started appealing to their sense of justice until Rozanov suggested he should go with Cherkeshin. This silenced him. The following day Cherkeshin left the valley.

The chances of the rest were not much better. So Rozanov proposed leaving most of their diaries in the log cabin on the off-chance of somebody finding them and forwarding them to St. Petersburg. They did as he said and went away, and we don't know to this day what happened to them, except for Rozanov and Zaitsman.

As for Cherkeshin, he returned to the log cabin. He had failed in the most searching test of courage—that of solitude. He came back broken, most likely, to say he had been wrong, but found nobody and in a fit of impotent rage slashed and scattered the diaries. The sequel we knew from the chrono-scope.

Such was my reconstruction of the events.

Before flying back to Markovo we decided, without much hope, to chrono-scope the now dry notebook that Zaitsman had once hidden. For a long time the machine showed nothing despite all Beryozkin's efforts. Then a fuzzy figure appeared, in which we thought we recognised the harsh-faced man that we had seen before on the screen.

"Is that really him?" asked Beryozkin.

"I think it is."

After more manipulation with the controls the image became slightly clearer.

"It's Cherkeshin," said Beryozkin. "Ten to one it's him. So Zaitsman hid a notebook which wasn't his. You remember 'the end justifies the means, I will stand no nonsense' and all the rest of it? That was Cherkeshin planning his last bluff. And when the bluff had been called he left his diary with Zaitsman, his only sympathiser. Perhaps he thought Zaitsman stood a better chance of survival. But Zaitsman preferred to hide the diary."

I found Beryozkin's version very convincing. So Zaitsman, who never knew what had happened to Cherkeshin after his banishment, had an uneasy conscience, never sure till his last hour whether they had been right or wrong in thus punishing him. He had lost his diary on the way across the revolution-torn country to Krasnodar, where he decided to record what he remembered for everybody's knowledge....

That day, in the afternoon, our helicopter soared over the Valley of the Four Crosses; the tiny oasis of vegetation amid the arctic waste flitted by for the last time, and we headed for Markovo.

Thus the mystery of the lost polar expedition was solved. The chrono-scope had stood its first test. It had been a great help and we were confident it would be a still greater help in the future.

SF compilation "DESTINATION: AMALTHEIA"

