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PAVEL BEILIN

*A Story
About One
Big Family*



FOREIGN LANGUAGES PUBLISHING HOUSE

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TRANSLATED BY VIOLET LANSBURY DUTT

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It was in the course of my work of inspection that I came to the Makarov hospital. I came also with the idea at the back of my mind of interesting the hospital doctors in my own plan of scientific work. I wanted to win their sympathy for it and to make a bold attempt to put it into practice with their co-operation. I fully believed that my plan had prospects, and that by carrying it out we would be making our modest contribution to Ivan Petrovich Pavlov's doctrine. I set out on my assignment in the hope that I would find warm-hearted and responsive people at the hospital. I had reason for thinking I would, because I had learned a little beforehand about Pyotr Andreyevich Lagoda, the head doctor, and Raisa Mukhtarovna Takayeva, one of the hospital surgeons.

Raisa Mukhtarovna was a graduate from the Tashkent Medical Institute who, immediately on receiving her degree in 1942, had joined the army and there met Pyotr Andreyevich. At the time he was chief surgeon in a medical battalion. Together they went through the whole of the war.

When the victory salutes boomed over Moscow, Pyotr Andreyevich and his wife were demobilized and went to Tajikistan, which was Raisa Mukhtarovna's home. Together they worked for two years as doctors at the Shuraba

coal mines. While there Raisa Mukhtarovna contracted tropical malaria and this left her in such a weak state that she was advised to make a change of climate. With her husband she moved to the Ukraine and from Kiev they were later sent to work at the Makarov hospital. Pyotr Andreyevich was appointed head doctor and his wife became one of the surgeons.

When we had finished our round of the hospital, which made a good impression on me, Pyotr Andreyevich invited me to his home. The family occupied three large rooms in the hospital building which were so modestly furnished as to seem almost uninhabited. Books lined all the walls of the living-room.

Feodosia Akimovna, the head doctor's mother, was a woman of seventy, small and wrinkled. She was busy at the table. On entering the living-room Pyotr Andreyevich went straight to the table where his wife was already seated. Raisa Mukhtarovna had an Eastern face; her hair was cut short and brushed up. Her cheek-bones were prominent and for this reason, perhaps, she appeared to be smiling even when she was concentrating. Feodosia Akimovna embraced first her son and then Raisa Mukhtarovna, and from the expression on the old woman's face, one could not tell whether she was crying or laughing or both.

As she wiped a plate, the mother noticed a crack in it and was distressed about it. Pyotr Andreyevich observed this and smiled.

"Mama has a bucket and oil-lamp that are over 50 years old. Only once has a new bottom been fitted to the pail. She can't bear a thing in the house to be lost or broken."

Raisa Mukhtarovna threw an arch look in the head doctor's direction.

"Incidentally Pyotr Andreyevich has inherited his mother's carefulness. It is useful to him in his work. He

has also inherited from her his affection for the medical profession."

Pyotr Andreyevich embraced his mother.

"And do you remember, Mama, how you treated me for a chill when I fell through the ice?"

"How could I forget it!" replied his mother.

"Do tell us about it," I pressed. "It should be very interesting."

"It was certainly an excellent remedy," replied Pyotr Andreyevich, speaking for his mother. "First Mama laid buckwheat straw on the stove, then she poured kvass over it, then she stripped me naked, put me on the straw, and covered me up. During the night I became steeped to the bones in kvass vapour, and in the morning I was quite well again. A splendid popular remedy!"

Pyotr Andreyevich told me the sad story of his father. In order to earn a living he had to go several hundred kilometres from his native village to the Kherson Region. On one occasion he took with him Pyotr Andreyevich, then a small boy of eight. It was in the spring-time, in the month of May. During the day-time the sun scorched down, but the lair was still damp and the ground that year had become more than usually soaked with melted snows.

After the long and difficult journey the old man was quite exhausted, so he lay down in a sweat on the damp grass and slept for several hours. When he woke up it was clear that things were not well with him. His eyes were bloodshot, his face livid, his breathing heavy; he felt pain in the chest. Heavily he stood up, staggered like a drunkard and crashed to the ground again. There he lay and without even raising his head he said to the boy, "It seems I have to die here, little son!"

Peasants passing by carried the father to the nearest town and put him in hospital, where he died. Some people sold the father's belongings and with the money bought the orphaned boy a railway ticket to his home.

After dinner we sat and talked for a long time. We

had sufficient time to discuss my plan for joint scientific work.

"What do you think, then? Shall we make the venture?"

Pyotr Andreyevich stood in the middle of the room, weighing the matter. Persistence and stubbornness were written all over this tall, ungainly man with the round face and finely drawn mouth.

"Science is not my strong point. I have never done scientific work. And suppose nothing came of it all?"

"Then you would just get angry and plunge even more enthusiastically into the work. After all, difficulties did not prevent you from building up this really fine hospital."

* * *

By the time I was ready to leave it had begun to rain. The car was parked on the main road about a mile from the hospital. Pyotr Andreyevich handed me his rain-coat and asked nurse Nyusya Bernatovich to see me off: once in the car I was to return it.

Under the pale-blue hood, two very warm, very blue eyes looked out at me from the rosy-cheeked face of this dusky young woman. From time to time she lagged behind me on the narrow, slippery path under the high poplars, then she caught me up by jumping neatly over the muddy puddles.

"What do you think, do we do everything properly?" she asked.

"Better than in other hospitals."

"You've seen many hospitals, then?"

"Many. That's my job."

"So, we're better?" and Nyusya moved closer to me. "And did you speak to my patients at all? Did you see them?"

I had thought that only doctors talked about "my patients." It appeared that nurses, too, say "my patients."

"Whereabouts in the hospital are your patients?"

"Downstairs, on the ground floor, in the big ward. Take Galya Voronko, for example. She's different from what she was; I brought her through. I thought she would die. Her face was blue and her breathing had stopped. Elena Petrovna Danilovia, our ward doctor, was very perturbed, too. Walk down here in the ditch; it's -not so wet, Last year's leaves -are still here."

"Yes, I know you brought Voronko through. The patient is grateful to you," I said. This pleased Nyusya.

"Truly? There, you see!" And Nyusya's eyes shone. She was silent for a moment, then said dreamily but with conviction. "I could do any work. I could be a brigade-leader, a milkmaid, I could serve in ia buffet; they asked me to work in the office at the collective farm. But I love helping people in misfortune. Sick people, for example. It is very pleasant to help people. It is a heart-warming occupation. That's why I took up nursing. Only you have to nurse with a will, so that you always have a smile for the patient, so that he will hold on to life. Once we had a nurse who was very sulky. She used to quarrel for no reason at all. She would grumble. I don't understand people like that. The patient should feel happy with you. Is it hard to train to be a sister? What do you need for that?"

In the car I took off the rain-coat and handed it to Nyusya.

"What do you need for that? A heart just like yours, Nyusya."

Two squeaky wipers smoothed the heavy streams of rain-water off the wind-screen. The black, glistening strip of asphalt melted away into a rainy mist. Broken threads of rain scurried through the shafts of light from the headlights.

I decided I would visit this hospital frequently and not just to inspect it. I would go each week, twice a week, as often as need be. While in the circle of this friendly

doctor's family I had come to understand Why the work went forward so smoothly at the hospital. The people there had been through the hard trials of our century ;and were now putting everything they had into their work.

* * *

That same day I saw Roshchin. He was the Secretary of the Makarov District Committee of the Party. As I crossed the threshold, he was about to leave his office. Evidently a conference had just finished, judging from the untidy arrangement of chairs, the scraps of memoranda and the empty water-jug.

Roshchin was a man of average height, whose face was bronzed by frequent journeys under the burning sun. He had a thick shock of fair hair. I found him busily putting papers away in his desk, locking up drawers ;and tidying pens, ink-wells and pencils. Finally he adjusted the glass which covered his desk, so that the edges were neatly placed.

Roshchin gave me the sort of warm welcome a man gives a friend, for whom he has waited a long time. I told him I had one aim in coming to see him: to report that the hospital I had inspected had impressed me favourably and that there was every reason to be proud of it.

"No more?" said Roshchin, raising his sun-scolded eyebrows.

"No."

"Pretty thin," smiled Roshchin. His face was weather-beaten and open; his eyes were very steady, showing a confident turn of mind; one could easily imagine his face and blue eyes against a background of corn-fields heavy with grain or a blue sun-drenched sky.

When he joined the Communist Party Roshchin was twenty-three and commander of a mortar detachment.

In 1942 he was seriously wounded in the chest and added a yellow stripe to his two red wound stripes; but

he was unable to return to the unit where he had endured all the trials of the first months of war, where he had earned the affection of his men for his courage, sterling honesty and exacting care.

When the war ended he graduated from the School for Higher Party Education. His good qualities, which had revealed themselves during the war, developed strongly while on Party work. He had a fortunate talent for arousing people's enthusiasm, for leading them. When Roshchin took a hand, an enterprise that seemed doomed to failure came to life, and the work went ahead. In just this way the picture of the inexperienced artist comes to life with a single stroke of the master's brush.

He gave his help to people in his own particular way, unobtrusively and, as it were, casually.

I explained to Roshchin why I had so few words to say about the hospital.

"It's already late and you must be tired (after your conference."

"The conference dealt with machines and repairs to machinery; a less important subject, perhaps, than medicine."

After a pause Roshchin suddenly turned the conversation to a subject which, it was clear, he had thought about a good deal.

"I'll say it frankly, doctor: our medicine is lagging behind other branches of science. It is on the level, approximately, of the simple reaper, to use an (agricultural comparison; yet, for a long time now we have been reaping grain with harvester combines."

Roshchin waited a moment to give me time to raise an objection.

"That shows lack of confidence in medicine. Lots of people show it so long as they are well. And what about streptomycin and penicillin?" I said, mentioning the first things to enter my head.

"They belong to the particular," insisted Roshchin. "I know medicine is a difficult business, especially nowadays and in our country. You see, people are now leading better, more rational, happier lives, consequently they want to live longer, live without sickness; and they want to recover more rapidly from illness and, what is more, from every kind of physical weakness. You can't call those empty desires/*

"Steady there!" I said, 'and I could not restrain my surprise. "All this is not on the harvester-combine level At the present stage all this is not realizable."

"And why not?"

"Research institutes are at work, seeking ways...." i said vaguely.

Roshchin interrupted me.

"Research institutes! What about the hospitals? Those like our village hospital which you say is so good?"

. "So far it is staffed with ordinary medical practitioners."

"Yes, practitioners," interjected Roshchin. "New roads in science—and I am quoting Stalin's words for you—are sometimes laid down not by people well known in the scientific world, but by totally unknown people. Michurin <and Tsiolkovsky were practical workers. There is everything here in the village for science. There are people capable of scientific work. All the necessary funds are available. There are animals for experimental work, the collective farms will see to that. This virgin soil has to be turned up. And what virgin soil! An ocean of unawakened forces! Understand me, we have to broaden the scientific front. That is the first thing." His penetrating eyes rested on me as though divining the plan with which I had arrived at the hospital that day.

"You're a scientific worker, a surgeon, an assistant staff member of the Medical Institute, go ahead with this job," he said. "You hold aJl the cards in your hand____"

"And the second point?" I asked with interest.

"The second?"* Roshchin let his thoughts run on for a while. "Perhaps the second is the chief thing. I will not, of course, touch on the technical side of medicine. There I am all at sea. But what I want to say can be seen from the outside. Why is it that by the bedside of the patient, one doctor says one thing and a second—something different? It only confuses the patient. For instance, to take the nearest example, when my child was ill three doctors gave three different diagnoses. What conclusion should be drawn?"

"Obviously, the conclusion is that one should make use of the services of only one doctor," I replied promptly and with conviction.

Roshchin shook his head. His face reflected his annoyance.

"That is not the point."

"Then what is?"

The telephone interrupted our conversation: Roshchin was reminded that supper was waiting for him at home. He invited me to go back with him.

"In order to learn about the fourth diagnosis?"* I queried, making a joke of the invitation.

"Of course not,"* he replied, an ironic twinkle in his eye. "But to rejoice, over a cup of tea, that the new doctor has brought no fresh anxieties."*

We went out into the street. The last patches of ragged clouds had cleared from the sky. On the leaves, raindrops sparkled in the moonlight. The perfume from flower-beds, grass, and bushes, disturbed by the rain, floated on the air in waves of fragrance.

The Secretary's house, with its red-tiled roof and its flowers standing at the open windows, stood next to the site where the new hospital was to stand. So far the site revealed only heaps of bricks, planks, and mounds of turned-up earth.

"This is where the new hospital will stand—seven blocks. A complete palace! The doctors' houses will be down the side turning."

We stood there silently for a moment. Then Roshchin returned to the conversation interrupted in the district committee office.

"What conclusion should be drawn, you ask? It is not a matter of using the services of only one doctor. Doctors do not speak in unison because, so far, doctors have no unified, harmonized medical outlook, no firm basis from which to proceed. That is the crux of the matter. Of course, you've read the issue of *Pravda* which published excerpts from Pavlov's works.... Pavlov's outlook should be yours."

"I don't doubt that for a moment," I said, "but so far we are only dealing in general phrases when the matter concerns the application of Pavlov's ideas into hospital practice. Everyone is talking about the advantage of introducing Pavlov's ideas, of the great importance of it; but how can they be introduced? How can we work on Pavlov lines? It is a simple thing to make declarations. What we need is practical investigation, isn't that so? We need it on a mass, collective scale." Then I added, without revealing my own plans: "The doctors at the Makarov hospital will join in this investigation."

In the brightly lit, simply furnished room, Roshchin's wife gave us a friendly greeting. She was young and slim, with a pleasant face, and she was wearing a house-frock with red buttons and a smooth red collar. The table was covered with a snow-white, embroidered cloth and it had on it cutlery, a cruet and a bread-basket protected with a napkin.

A small boy with round eyes, which observed the world with wonder and were pale-blue like those of his father, was playing on a carpet in the corner, surrounded by numerous toys. He made noises expressing joy and dissatisfaction intermittently, trying with all his might

to stuff a large celluloid toy into his mouth. Judging by his efforts he was clearly determined to swallow it whole.

Meanwhile Roshchin, a towel over his shoulder, emerged from the bathroom, where he had gone to wash his hands. I turned an inquiring eye from the child to the father.

"Just so!" said Roshchin calmly, interpreting my look. "While the doctors argued over the diagnosis, Igor recovered."

* * *

The organism responds to every change in the environment with a complex variety of unconditioned and conditioned reflexes. The link with the outer world is realized through the nervous system.

Diversity of the whole of life, from the simplest to the most complicated organisms, including man, is a long chain of increasingly complicated forms of equilibrium with the environment.

It was Michurin and Pavlov who proved beyond doubt the transforming influence of the environment on the organism. It follows that by altering the environment we can (actively, and in the necessary direction, change the processes taking place in the organism.

The existing hospital environment can cause harm to the patient. This we saw clearly. It has to be transformed, changed, improved. But how? And what should come first?

We had become accustomed to the hospital atmosphere, had become part of it. So, in order to take a look at it in a new light, Pyotr Andreyevich and I walked into it one day, (assuming the role of people crossing its threshold for the first time.

The Hitlerites had burned down the hospital in Miakarov. After the war the hospital had been housed in an old country villa near Kopylov village, about six miles from the town which was the district centre.

It was a dilapidated, architecturally pretentious, two-storeyed wooden house, with curious porches, verandas and turrets, and with large Venetian windows that had tiled gables jutting over them. An old park surrounded the villa and a long avenue of poplars led up to it from the Zhitomir High Road. The villa had once belonged to von Meek, a big railway shareholder.

Without speaking, we halted at the doors of the surgical department. Then we passed along the corridor, looked into the wards, sat by the table of the sister on duty and returned again to the wards. It was surprising how everything now perplexed us. The specific hospital smell, the sight of those patients who were seriously ill, the noise.

Probably it is the patient's hearing that is most seriously affected by the hospital environment. This is a particularly serious matter for those "who remember their environment as a sort of continual round of noise/

"Hearing is the most important of man's sensory organs," wrote A. A. Ukhtomsky, a prominent Russian physiologist. "It is this, in particular, that helps man to become what he is. ... The task of serving as the support and mediator in the great work of organizing speech and conversation" belongs to the hearing.

In hospitals there is a contradiction which at first sight appears to be insuperable: for some it is a place for treatment, for others—a place of work. In the bustle, noise, and commotion of the hospital many patients feel the same as they do at work. "Sisters have time off," joked one patient, "but we work all round the clock."

The noise of the hospital is an unnatural mixture of moans, groans and sighs, and the laughter of nurses and convalescents. We listened to the numerous harsh noises, loudly spoken instructions, conversations, heavy footsteps, doors banging and creaking, utensils clanging, oxygen cylinders hissing, chairs scraping, telephones ringing. And what we heard came as a surprise to us.

The hospital building was stuffed like a sack with harmful, brain-drilling sounds.

Noise in a hospital can influence thought. For example, groaning—The pain of one patient is read on the faces of all the others. Frequently the result is that many patients show an increase in temperature.

"Even after a morphia injection I can't get to sleep because of the noise," complained an elderly patient whose face showed marks of suffering and restlessness.

Noise produces chaotic sensations. We jump at a sudden loud noise. A loud noise or even a loudly spoken word can produce pain in a wound after an operation. Noise causes timidity, insomnia; noise can raise the blood pressure, heighten the pulse. And not only noise, but even an acrid or unpleasant smell harms the patient. For instance, the effect of the smell of singed feathers or formalin on a patient with a damaged skull was to double the pressure inside the skull. On the contrary, pleasant smells lowered the pressure.

One scientist made a study of experimental epilepsy. When a special substance was introduced into a dog, an epileptic fit developed. When a small dose was introduced, no fit occurred. But when in addition, someone spoke aloud or a door banged, then the two together were enough to bring on an immediate attack of convulsions. Noise, in this case, acted as an additional "substance" producing convulsions. May not, then, the same thing occur with a patient: if a toxin is circulating in the blood, then may not noise, all those loud footsteps and groans, increase its influence?

The staff doctors assembled in the common room.

Pyotr Andreyevich stood over by the window pondering deeply over something. Then to the surprise of those present he suddenly said:

"How can we eliminate noise and the smell of medicines in the hospital? One cannot, for example, compel a patient, who is seriously ill, to smile."

The doctors exchanged glances.

"What's up? Aren't you feeling well?" tasked Sidor Mikhailovich Tishchenko, the hospital staff surgeon, with a pretence at grave concern. The head doctor's remarks had indeed come as a surprise.

Tishchenko was a round-shouldered young man with washed-out, pale-blue eyes and a dejected sort of stubbornness in his pursed-up lips. His suits never fitted him; he wore baggy trousers frayed at the edges and bulging at the knees. His wife was considerably older than he was and people inclined to malicious gossip suggested that Tishchenko's untidy appearance was a deliberate manoeuvre on the part of the wife. Who considered that in such a guise he would be less vulnerable to dangerous feminine attentions. He was a painstaking doctor and had an exceptional capacity for work.

Pyotr Andreyevich went on to develop his idea.

"I ask you seriously: can there be quiet in the hospital ... no cries, even though the hospital is a focus of pain?"

"And can pus be made to smell like perfume?" added Elena Petrovna Danilova, without a trace of a smile. She was a therapist, cautious and restrained, but with a sharp tongue.

"Then what we have seen today," continued Pyotr Andreyevich, "can probably not be eliminated. It arises out of the very existence of the hospital. Do we then draw the conclusion that the hospital is a survival of the past, a harmful institution?"

Elena Petrovna shrugged her shoulders.

"I don't see it," she said. "Noise is a sign of life. Quiet only deadens, oppresses, causes depression. It is quiet only in the cemetery. Noise amuses the patients."

"So, they are amused by the cries of their neighbours in pain. I recall that there used to be objections to narcotics on the ground that the patient's cries calmed the surgeon. If the patient cries out, then he is still alive. The viewpoints are rather similar, are they not? What

sort of noise disturbs the patients? The banging and creaking of doors, scraping of chairs, the grinding of our hospital trolley, because of which our patients wake up with thoughts of bomb-shelters?"

Pyotr Andreyevich concluded with his own special brand of good-natured persistence:

"No, you are wrong, Elena Petrovna. It is all because we don't know how to make things quiet in the hospital. Yet quiet would be our first (assistant! Q-u-i-e-t!" Pyotr Andreyevich pronounced the word dreamily, with a sigh. His round face lit up with an enigmatic smile.

When we are tired we long for quiet. Quietness is soothing. Pavlov reminds us: "In the case of almost all sicknesses, medicine is well aware that the first therapeutic measure is tranquillity."

Silence and tranquillity, quietude and order—they are words which almost always go hand in hand. Silence helps one to concentrate. "Silence!" is requested wherever special attention is required. Because of the noises to which we have become accustomed, it is sometimes difficult to sound the patient's chest, to measure the blood pressure, to listen to the soft music of the heart.

We do work of the kind that is imperceptible to ourselves. When we resist noise. We spend energy on it which could, with greater advantage, be used in the direction of our main efforts.

It should be particularly quiet in the operating theatre. Yet how many of our surgeons relieve their nervous tension by raising their voices. The keenest struggle for life goes on in the operating theatre—

So we started the battle for silence and we lost the first round. We made ourselves hoarse telling other people to talk quietly. And we ourselves, in fact, were the worst offenders against quietness.

On one occasion I found two nurses arguing together in incredibly loud voices.

"Drop your voices/" I said indignantly. "You know you have to talk quietly in the hospital."

One of the nurses was Katya Shashenkova. Her face was so round and good-natured that one could never be angry with her.

"But I have such a loud voice," she said. "Even When I talk quietly at home"—and the corners of her smiling mouth quivered with merriment—"even then everyone leaps out of bed. I want to talk softly, (but I can't! Honestly!"

"Whisper then," I replied, hardly able to maintain my forced dry, administrative tone.

That was it! Whispering! I liked the idea of whispering! Some might, of course, whisper loudly, but it would nevertheless be whispering. Whispering—a new quality in the sound of speech. The mother whispers when a child is sleeping or someone is ill in the house. It is then that she moves quietly about the house on tiptoe. If not from mothers, then from whom should doctors learn their arduous and noble work? Who but the mother nurses with such solicitude?

Intimate words are whispered. Caressing words are not spoken in the tone of voice one would use to call across the street. Important secrets are told in whispers. Whatever is whispered (acquires added significance.

When people cherish the memory of a place, they express themselves quietly or by whispering. We drop our voices when we stand in front of a work of art in a museum, or when we are in the home of some prominent person, or in a reading-room.

People raise their voices when they argue, accuse, drive, threaten. But there is no one to accuse in the hospital, no one with whom we should argue.

I shared my thoughts with the other doctors during the five-minute consultation in the morning.

"Then it's agreed, we'll whisper in the hospital?"

"We'll try," said Vera Stepanovna Solista, senior staff

sister, la strong-minded woman, staid and hard-working; and she smiled incredulously. Sister Vena stood out among the other sisters because of her blindingly-white, starched overall. She now raised her brows above wise, crystal-clear eyes in a look of inquiry.

"But won't it be rather ridiculous?" she added, with her usual genial expression.

At first there was whispering only when the doctors were labout. When we had gone, sisters and nurses sighed with relief and resumed their normal voices. There were some who grew tired of whispering.

"It's the very limit, this whispering. We want to talk like other people, not like conspirators."

"You argue in this fiashion because you regard your work as a service to the hospital and riot las a service to the patients," I objected. "You whisper when people are asleep in your own homes, don't you? Then why do you think it is funny and unnecessary when you have to do so in the hospital?"

Gradually whispering won the day. Varya Shevchuk, the sister with the dark brows, light-green eyes and invariably happy expression, related:

"Even at home I talk softly now, I once asked mother to give me my dinner, and she said: 'Why make la secret about it?' It's a caution, I can tell you!"

Sister Viarya had a habit of saying the most ridiculous things with a serious expression las though unaware she was being funny.

Some amusing incidents larose out of this whispering.

There was the occasion when a doctor acquaintance visited us during the winter and made 110 attempt to conceal his surprise.

"Isn't the building properly heated?" he asked. "All your people seem to be hoarse or to have lost their voices."

Whispering altered many things inside the hospital.

When all conversation was in whispers, it became

impossible to bang doors or clump through the ward. Before putting a bucket down, the nurse would measure the distance to the floor as carefully as if the bucket were made of porcelain. We had never before noticed the creaking floor-boards and doors, the scriaping of the chairs when a patient or sister sat up to the table, the squeaky shoes our sisters and nurses wore. Now we noticed everything. Sisters and nurses changed to slippers. Doors were oiled, floor-boards repaired and rubber silencers fixed to the chairs. This last job was done by our stoker, Fedot Koval, a fussy, solicitous man nicknamed the "hospital sun," because he looked after the fires.

Once the little door of the medicine cupboard creaked and sister Varya grimaced with mock horror.

But there was Niadya Novik, the sort of person who did everything she ought to, carried out every instruction and was a capable sister. The trouble with her was that before doing anything at all, she always had to grumble, make a fuss, and offer objections. Now when she tried to behave in this way, everyone fell on her with a zeal out of all proportion to the extent of her misdeed. But an argument carried on in whispers cannot last long. The sure way to stop an argument now was to insist that people talk quietly.

When one whispers to a patient who is agitated or indignant without cause, he quickly calms down and his emotions cease to exaggerate his claims. On the other hand, if the voice is raised, the patient's irritation increases.

Whispering is the key to quietness.

We talked of this every morning during the five-minute consultation. Dr. Tishchenko was criticized more than anyone else. It was not that he was against quietness, by any means. But he considered that everyone should observe silence, except him." Tired of the reproofs and admonitions, he put his objections to Pyotr Andreyevich:

"There is a lot of noise ihere ... all round the quietness. We have much ado about silence."

"But that's better than being .silent about noise.¹"

"This is not a hospital; it's \a conspiracy of silence," insisted Tishchenko.

When the consultation ended we went out to go the round of the wards. All was quiet tin the men's ward, where ten people were seriously ill Pyotr Andreyevich turned to one of the patients, Nikita Kiryukhin.

"Well, Kiryukhin," he said, "it's noisy fin our hospital and they say there's mo peace?"

"You're joking, doctor. It's so quiet that everyone whispers."

"What secrets ihiave they? What's the conspiracy?"

"A conspiracy against our illnesses. They see to it that we get peace and quiet, doctor. A sick man needs quiet like he meeds air. So that those who sleep are not disturbed. These people lare doing ian important job here, savinjg lives. That's why there is silence. You can't be without it in a hospital."

"Just so, that's true," concluded Tishchenko, surprisingly.

We looked at each other significantly.

"Seems to have sunk in," smiled Raisa Mukhtarovna.

"Do you talk out loud or in whispers lamong yourselves?" asked Pyotr Andreyevich.

"It's embarrassing to make a noise when it is so quiet, just as it's awkward to throw down paper or ta cigarette end on a polished parquet floor. There's one drawback, though. My neighbour's a bit deaf. I hiave to shout. Then, there's one of the nurses—I don't know her name—but she can't control her -voice." Kiryukhin frowned sarcastically. "But we know that the iaspen rustles when there's no wind!"

The wards were now transformed: there was concentrated tranquillity and silent elation iaidin.g the struggle against illness. Everybody looked calm and unruffled.

As the sounds inside the hospital diminished, however, we heard the sounds outside all the more clearly: the rustle of the trees, the songs of the birds. And who would not be soothed by these sounds?

There was another astonishing detail: when a new patient entered the hospital and heard people talking softly, he invariably began to tiptoe into the ward. He at once felt respect for the hospital building.

As we left the men's ward, we met the nurse with the frank, igood-natured face Who "rustles when there's ino wind." She was the same nurse Katya whose loud voice at home made people leap out of bed.

Pyotr Andreyevich was about to reprove her, but I crossed over and shook hands with her. Her round face flushed with embarrassment.

"Thanks on behalf of the patients, and thanks from us, too."

To this day no one has jguessed the reason for my unsolicited gratitude.

Pain in the hospital is sometimes concealed beneath the cover of noise. Silence now laid bare the pain. Not a single sound is lost when there is silence. Now we saw pain on all sides.

Sister Viarya, who even at home talks "very quietly," once said:

"Now as soon ias tanyone murmurs I hurry over and ask why they are groaning or sighing. So, you see!"

Once, When listening to the silence as though it was music, Raisa Mukhtarovna said, "The sufferings seem to be retreating of themselves."

But suddenly the world of painlessness which we had won was shattered at la blow. From the men's ward we heard a long drawn-out jgroan that came from the depths of the heart.

It was Petro Savchuk, a collective farmer with a long moustache and a mane of thick black hair. He had spontaneous gangrene and was groaning to combat the ter-

rible pain to the leg. The only relaxation that remained to him was restless dozing, as easily scared away as a night bird.

Shortly afterwards another patient cried out in the dressing room, as if echoing the groan from the men's ward.

We all became anxious; the eyes of sisters and doctors reflected the pain as clearly as if they themselves felt it. There was a rush to the dressing room.

"Whatever's happened?"

Tishchenko was removing a tampon from the wound of a young lad.

We did not reprove the doctor before the patient. We called him aside.

"There was nothing else I could do," said the doctor in justification. His face had lost its customary expression of dejected stubbornness. "The tampon had simply grown to the wound. I soaked it, but the lad was very scared indeed." Tishchenko flung his arms out helplessly and, although his arguments were weighty ones, we nevertheless moved away feeling dissatisfied and distressed.

* * *

How much has already been done to relieve pain! Ether, chloroform, chloroethyl, hexenal and pentathal have been discovered; hundreds of pain-relievers have been found. All the discoveries of medicine which are directed against diseases -are also turned against pain.

The endeavour to rid man of pain is very close to the whole spirit of Russian science. The earliest Russian books on healing mention various herbs and extracts used for "soothing" pain.

In Russia, Pirogov used ether as a narcotic for the first time on the battlefield, after first experimenting with it on himself. "Overtaking Europe, Russia is showing the whole enlightened world," he wrote, "not only the

possibility of using ether on wounded men on the actual battlefield, but also the indisputably beneficial effect of it."

Anrep, a Russian scientist, was the first to discover the local pain-relieving action of cocaine.

Nevertheless, pain still stalks the hospitals. It has not yet surrendered all its positions. It lurks perfidiously in operating theatres, dressing rooms, wards, protected by the imperfect level of our knowledge, by inexperience, and sometimes even by indifference. Pain still exhausts the strength of the sick and weakens the will to live.

It is said that pain is merely a symptom, an alarm signal. Some doctors have asserted that pain is the doctor's best assistant. Pain helps the doctor to make his diagnosis. That is true. But if it is an assistant—then perhaps we should not do away with our assistants or sentinels?

On the other hand pain causes serious destruction in the organism. Pain weakens the patient's struggle against sickness. It undermines the defence mechanism, demoralizes and disturbs the mental processes. Pain disturbs the process of metabolism, causes digestive disturbances, and weakens the heart. Pain is a shock, a cruel experience; it wears down the patient when he most needs to build up strength and hope.

Not pain alone, but fear of pain, is dangerous. It causes the same changes in the organism as pain. The metabolism is disturbed; the glands cease to function. To prove a man guilty of some crime, Indians used to put a handful of rice into his mouth and if, a minute later, he spat the rice out dry, then he was regarded as the criminal. What had happened was that the mouth had dried up out of fear of punishment, the salivary glands had temporarily ceased to function.

When we experience pain or fear, breathing becomes short and the heart beats faster. Experiments have been made in this connection: the prick of a needle caused a man's pulse to increase six beats in one minute, while

expectation of the prick or fear of pain caused an increase of twelve beats.

"To remove pain is a divine art," wrote Hippocrates.

Silence helped us to seek out pain in the hospital. The enemy still lives in our house. We are (accustomed to the idea that pain we are unable to remove is something inevitable. But how are we to remove the pain from injections, from punctures in the wall of the chest, in the spinal diord, from punctures in the knee joints in the case of suppuration or haemorrhage? Must we render them painless by using novocaine? It is labsurd to make one injection painless by using another. An anaesthetic, then? That would be an extravagant way of removing a minor pain.

How can pain be avoided when dressing a wound? How can the pain of spontaneous jgangrene be removed? Narcotics cannot be given all the time: the hospital would become a factory turning out drug-addicts.

Silence helped us to see pain which we had previously regarded ias inevitable. But what came next? How to become extricated from the clinging, prickly embraces of pain?

The hospital without pain, suffering and trying experiences is the hospital of the future, the hospital-health resort. Exactly, a health resort. The patients will not igroan; indeed, why should they not smile? After all, they lare there in order to be put back into the circle of life, to be returned to their work and their homes.

As if to stress how far our daring thoughts had taken us from reality, Pyotr Andreyevidi said:

"From your talk one would think patients never have legs amputated or stomachs cut open. All the pains of this neighbourhood pass into our hospital."

Beyond the hospital grounds we met some young women who were singing is they returned from the fields. Coming level with one *ms* of them asked:

"How is Petro Savchuk? It's hard for us without him; he's our brigade-leader."

They were speaking of the folack-moustached collective farmer with the mane of thick hair, who was suffering from gangrene. His groans still filled my ears.

Sadly Pyotr Andreyevich replied:

"His is a serious illness, gangrene. He doesn't sleep at night because of constant pain."

The girls looked at us as though we were at fault for not having protected such a man from suffering.

That day we spent a long time in the hospital park. The thick tall grass rustled against our legs. The wind blew gustily through the stunted bushes, and the glow of sunset warmed the crowns of the ancient pines. Beyond the collective-farm buildings, noisy tractors were at work along the darkening strip of forest. The wind carried to us the loud roar of their engines, alternately increasing and fading away. Over all hung the vast, boundless dome of the evening sky, fringed along the horizon with clouds picked out in sunset gold.

How strange and absurd was pain in such a world!

Humanism cannot be learned like a trade. It is neither a special profession nor a skilled trade. Our humanism is a requirement of the spirit, the air we breathe. It is our outlook on life, it is our philosophy. Must the heart be taught to beat or the lungs to breathe?

Pain cannot be removed, nor can patients be relieved of suffering, by means of one single method, appliance or mechanism. Our profession is one of the heart. Pain retreats before the united will of the medical body as a whole, before its love of Soviet people. We have begun to regard the cry of the patient as a serious indictment against the doctor.

Surgeons have "measured" pain by the extent of the operation. "Minor" or "major" pains correspond to minor or major operations, according to them. But pain cannot be sorted out like furs or fruits. Some people lose

consciousness from a simple injection; others can silently endure amputation of the leg. Is it worth while removing the "minor" pains? Would that not, perhaps, be indulging the capricious whim of the patient?

Pain cannot be measured by time. One minute of pain seems an eternity.

We have removed the pain from injections. How? Very simply: we use the finest needles to make injections; they are now not even a gnat bite, merely a light touch. Before making the injection ether is rubbed on the skin. Before making any injection requiring a large needle, novocaine is first injected to prevent pain. True, we use one injection in order to render another injection painless. Using a needle as fine as cobweb, we first inject a solution of novocaine and then the thick needle is introduced painlessly. Novocaine is also used with penicillin injections. We no longer introduce large doses of physiological solution under the skin of the thigh. The resulting pain may be so great that, after it has been done, the patient complains more about the ache in the thigh than the pain from his wound.

We tried to prevent all pain: when putting on plaster casts, treating sprains, applying painful dressings.

Here is a special word about painful dressings. Faced with the prospect of this operation, the patient cannot sleep. When he is carried into the dressing room, he goes pale and his forehead breaks out into a cold sweat. Never hurry with a dressing. You should never rush this work. You must not think at all of any other work you have before you. Pain retreats before your patience, before the sagacious calm of the doctor.

"Don't shout, you're not a child or a delicate young lady. Pull yourself together, be a man!"

We try to put the patient to shame because we are causing him pain. We lack patience ourselves, yet demand it of the patient.

Change dressings slowly, carefully. Soak the parts

Where the bandage has stuck to the wound. Allow the patient himself to pull at the bandage: he can best judge, by his own sense of feeling, the tamount of effort required to be miade. If it is necessary, (give him a sleeping draught, even la drug. Pirogov tried ether on a patient when a dressing had to be changed on the thigh, after amputation.

As the patient leaves the dressing room, he will say: "What light fingers you have, doctor." The piatient smiles at you; at such times he turns to you with *la* full heart. His smile brightens the doctor's arduous path.

* * *

The operating theatre is not la centre of pain, but the place where pain is removed. This has become our watchword.

The view has been advanced that local (anaesthesia is better than drugs. Better? This is as true as it is to say that ;it is better to operate for hernia than to remove the tonsils, Both have their good points.

We had heated arguments with Professor Panarin, a man whose views could not be shaken and who was by now sick and tired of being famous. He was a handsome old man with big features and very thin lips. He had a patronizing way of conversing and used graind gestures. He almost inever called people by their names, tand when he did venture to, he confused them; but he addressed them caressingly and condescendingly as "my dear man," "my dear fellow," and so on. Pianiarin was a champion, on principle, of the use of local anaesthesia.

"It is a bad principle," I pointed out.

"My dear fellow, for the patient local anaesthesia is harmless," insisted Panarin, emphasizing each word slowly.

"That is if one successfully removes the pain," I urged.

"And that depends on skill," stressed the professor

arrogantly, raising his index finger, his mind full of his own ability and suggesting that I was professionally inadequate.

"In other words, we should consider that the best pain-remover to use is the one that we have mastered best."

"One can best master with a drug," the professor insisted with annoyance. "All the same, the drug is inferior to local anaesthesia."

"Then local anaesthesia is a principle with you. If it is a principle with you that the patient plays a subordinate, dependent role, it follows that the patient exists for the anaesthesia and not vice versa. 'Let the republic perish but let the law live.' Is that it? In my opinion there should be only one principle: to operate painlessly to the advantage of the patient. That is how I understand it."

"To the advantage of the patient. Your point is correct," interjected the professor. "Let us, however, be consistent: what advantage to the patient is Chloroform or ether? Drugs—they belong to the surgery of the past. Of course, if you want to be called 'retrograde' my dear fellow..."—he would have liked to end his sentence with words of regret, but I interrupted him and burst into a heated tirade.

"Very kind of you to be so concerned about my reputation," I interjected. "I will only add that Pirogov did not record a single death out of his ten thousand drugged patients. And this was when drugs were in their infancy. There are now new drugs and new apparatus! Those who say that success depends not so much on the quality of the drugs as on the hands that use them are quite right. But that is not all. The main thing is this. You talk about the disadvantages of drugs. But you say nothing of the disadvantages of local anaesthesia. Removal of pain with novocaine is not always successful. The patient further is 'present' at his own operation. He hears everything, he is in a state of tension, he worries. No, say what you like,

narcosis is an ideal method of removing pain; only it is a pity that, so far, there exists no ideal drug."

The professor screwed up his cold eyes under the shaggy brows and heaved a sigh. With an expression of weary disillusion on his handsome face and a crooked smile on his thin lips, he said:

"It is difficult to argue with you. You get heated like all people who have no arguments to offer. Scientific argument presupposes a sober mind; a hot temper always arouses distrust. That is just incidentally. So you deny the use of local anaesthesia? Is that so?"

"Not at all; try to understand," I said, very softly indeed, in order to add some conviction to my conclusions. "Understand me. We often demand more from novocaine than it can give, and more from the patient than he is able to endure. That is the point. I am against pain, that's all."

Panarin did not reply at once. As he pondered, he eyed me up and down contemptuously.

"You remind me, my friend, of the surgeon..." and he did not mince his words, imagining that his fame and his grey hairs gave him that right. "Of the surgeon," he continued spitefully, "who does not want to save life at the expense of a damaged limb, but wants to save the damaged limb at the expense of a life. Obviously that is all nonsense. Everything to avoid pain! Hm! I'll tell you a secret." He spoke scornfully, covering his mouth with his hand and whispering the words separately, emphasizing each syllable, "only the dead feel no pain."

"All right, then it appears that pain is a beneficial thing and that the sufferings of the patient are just a trifling detail?"

"I consider operations should be performed under local anaesthesia. After all, surgeons should have principles. See, young fellow?" concluded Panarin, with an air of finality.

I had known Panarin for a long time. I had worked at the institute where he taught surgery. In my opinion

his contemptuous attitude towards pain and the sufferings of patients had their roots, and it is worth while telling about them.

Panarin had, undoubtedly, made his mark in the medical world. He had about two hundred scientific papers to his credit. He was a master of the technique of surgery and although, now that he was old, he had lost his earlier confident movements, his dexterity and natural technical skill were still astonishingly good. Some of his scientific works were of value since they contained many factual findings, but they were spoilt because of the conceptions and erroneous theories he had taken from the doctrine of Rudolf Virchow.¹ His other works were of no special value from any viewpoint.

As a convinced localist, he had lost sight of the human being. It was as though he only saw the local manifestation of the disease and turned the whole of his medical skill against it. This was perhaps all the more so because, superficially, surgery is, as it were, entirely directed against the local manifestation of a disease. To Panarin, therefore, the hospital was a collection of stomiads, kings, kidneys, a heap of hernias, ulcers, etc. He had little concern for the state of the patient's mind. On one occasion, in the presence of young doctors, he had said to a patient, "If you had a swelling on your arm like this one on your head, it would require amputation of the arm." The young doctors were highly indignant. Afterwards, assembled in the study, Panarin said with irritation, "If the patient dies it will be from the swelling and not from what I said. Rhetoricians and philologists cannot understand that."

Panarin used these last words to describe Professor

¹ Rudolf Virchow, a German scientist who held the unscientific view that the organism is the sum of a number of independent parts—cells, tissues, and organs, and that a pathological process in the human being does not depend on conditions of the environment, the psychological state of the patient, and so on.

Sergei Petrovichi Mikhailov, who was his contemporary at the university. Professor Mikhailov was a hearty man, boisterous and full of energy, who loved to speak the truth boldly and did so in a Chaliapin bass voice. He was a brilliant specialist and talented scientist and frequently debated with Panarin, drawing the audience to his own side. Of Panarin, he used to say:

"He is a surgeon with the manner of a horse-doctor! Medicine, however, must become increasingly humane."

Panarin was born in 1875 in the family of a prominent doctor who worked in a clinic. He was awarded a gold medal for his first scientific work, produced when still a student. He had a condescending manner towards his fellow-students. When an epidemic of cholera broke out in 1905, the students dropped their examinations and joined the doctors fighting the epidemic. The decision adopted at their student meeting was: this is no time for diplomas. But Panarin refused to join them. "I shall sit for the examinations and graduate," he said. "I am above the common herd and refuse to submit to the idea of private affairs being decided by a vote of the majority."

After working as an externe for two years at an auxiliary maternity institute and as staff surgeon at a hospital, he went abroad to write his thesis. His interests, practical and theoretical, centred round the origin and treatment of appendicitis. He was very proud of this work which contained an abundance of Virchow postulates. "Appendicitis is a disease of the appendix; what then has the central nervous system to do with it. I would like to see these rhetoricians ridding the patient of appendicitis by influencing the nervous system," he would jibe.

The idea that a disease is a process in which the nervous system invariably plays a part was absolutely foreign to Panarin. "They have proclaimed all operations to be—what, eh?—neuro-surgical operations."

Mikhailov attacked Panarin, growling furiously:

"This appendix of yours ... which you seem to have

made your personal monopoly in science, it is not a state within a state. It is permeated throughout with sensitive nerve apparatuses which link it with the central nervous system. When you remove it, therefore, you affect the nervous system, i.e., the organism as a whole. Understand, finally, that the existence of the organism as a whole is the very function of the nervous system."

Panarin protested angrily, but avoiding serious argument, he joked ponderously:

"I shall cure fractures, for example, with plaster, stretching; you—by verbal influence, tickling the soles of the feet, and similar nerve stimuli. That is black magic, not medicine!"

Mikhailov shrugged his shoulders despairingly.

"Your objections are like those of Darwin's opponents who demanded that he show definitely the species of cabbage from which, in the process of evolution, there arose—elephants. You certainly have the most one-track mind!"

With a sense of growing apprehension Panarin watched medicine steadily proceeding along the road of Pavlov physiology. His own works became valueless. Hurt to the quick, he looked round him and saw how everything that had given meaning to his life was now breaking up, how his scientific theories—the fruits of many years of effort—were crumbling into a heap of rubble.

Professor Mikhailov had his own mistakes. But he possessed the honest courage of the scientist, which made him able to combat relentlessly the erroneous viewpoints he had become used to and to emerge on to the broad road of Pavlov's ideas.

* * *

So we put the question "does it hurt?" not to the surgeons but to the patients, not to those who cause pain, but to those who experience it. That is to say, we

addressed ourselves, as Pavlov loved to say, to "our mistress—reality."

With local anaesthesia, twenty-two per cent of the patients declared that they had experienced some pain, thirty-seven per cent—pain that could be borne, twenty-one per cent—great pain, and twenty per cent—terrible pain. Particularly painful to the patient is resection of the stomach. After this operation, one patient said, "Even if I learned I had cancer, I would never again agree to lie on the operating table."

Patients worry before an operation. Anticipation of pain makes them afraid. Their fate is to be decided. They spend sleepless nights thinking about the future, their relations, their children, their favourite occupations.

What will the next morning bring them? What trials will they have to bear? These fears and (anxieties exhaust the patient and he is brought to the operating theatre already poisoned with the venom of heavy forebodings and doubts.

How can we soothe these anxieties?

The patient's calm confidence in the happy outcome of the operation depends on whether he trusts his surgeon. Soviet medicine inspires great confidence. A student told us after a serious operation:

"I trusted the surgeon and knew that everything would turn out all right. I felt as though I was sitting for an examination: I knew my subject; and knew that I would pass the examination. I was only worried about how I would pass: well or with honours."

What else worries the patient? Let us suppose we have brought him into the operating theatre. The surgeons stand in their masks and rubber aprons, sleeves rolled up. "They look like members of a decontamination squad." "I couldn't even recognize my doctor." "I have seen such people somewhere before—in aprons, sleeves rolled up." "There's a basin under the table to catch the blood!" "The instruments look awful, it is horrible to imagine them

penetrating the body." The patient is fastened to the table and the idea immediately strikes him: "It's so painful that they even bind you." Then the patient is blindfolded.

A certain keenly sensitive, impressionable agronomist related after his operation:

"The operating theatre is a very large, very uninviting, white room, with as much light in it as in the street. Though the air was warm, I seemed to feel cold, perhaps because of all the glass and nickel. In the centre of the theatre stood a table looking very much like a workman's bench: levers, screws, nuts, bolts, mechanical devices. At another table surgeons were operating. I even screwed up my eyes so as not to see. Although I respect my doctor—he is a very kind man—I felt at that moment that the operating theatre was a factory and myself something in the nature of ready-prepared cutlets, some inanimate, manufactured object. When the nurse said, 'Move over on to the table and lie on your back,' I sensed habit and custom in the words. They are repeated thousands of times and so there is no warmth in them."

During the operation the surgeons talk among themselves, and the patient hears their conversation. We frequently forget about this "witness." Yet, he hears everything and interprets everything in his own way. The surgeon says to the sister, "Don't give me 'putrid thread'" and the woman patient thinks that putrefaction will surely set in. The surgeon says, "'paresis' of the intestine" and the patient imagines he has carelessly cut through the intestine. The surgeon says, "Don't give me the blunt scalpels," and the patient at once feels annoyed with the sister: of course, they're not just going to cut her, but to saw her up. The surgeon pours the physiological solution into the wound, and the patient thinks in horror: "A gush of blood!"

' "Parez" in Russian, similar in sound to the word "porez" meaning a cut.

But not all patients are so impressionable. When we select the anaesthetic, we take into account not only the state of the kidneys, but also the patient's particular type of nervous system.

I. P. Pavlov revealed the physiological essence of different temperaments: choleric, melancholic, sanguine, phlegmatic. The excitable type who easily and rapidly produces positive reflexes comes under the choleric temperament; the inhibited type who easily and rapidly produces inhibited reflexes fits into the melancholic temperament; balanced types come under the sanguine and phlegmatic temperaments.

Concerning the melancholic types, Pavlov writes: "For the melancholic type, evidently, each phenomenon of life becomes an inhibiting agent, since he believes in nothing, hopes for nothing, and sees in and expects from everything only that which is bad and dangerous. The choleric type is clearly the determined type, enthusiastic, easily and rapidly stimulated. Striking the happy medium are the sanguine and phlegmatic temperaments, balanced and therefore healthy, stable and truly vital nervous types, no matter how different, even how opposite, the representatives of these types may be in outward appearance. The phlegmatic person is calm, always unruffled, persistent, stubborn, industrious throughout life. The sanguine person is a keen, very productive worker but only when he has much of interest to do, i.e., when there is constant excitement."

The moment the patient comes up against the necessity of undergoing an operation his temperament is revealed. He may be unwilling to agree to an operation although it is obviously inevitable; he may show suspicion regarding our explanations—one can easily see his distrust. Once he has agreed to the operation, he thinks he will surely die. After the operation he expects complications, etc., etc. Is this not the inhibited type "who believes in nothing, hopes for nothing?"

The patient with a balanced nervous system, even when his condition is serious does not despair but firmly maintains his cheerful outlook and hope.

The weak, timid person with "exhausted" nerves can sometimes be recognized by his outward appearance, his way of conversing, his uneasy nervous expressions, his agitated words and thoughts.

The doctor has full knowledge of the structure of the heart. He must also have full knowledge of the sort of heart the patient has.

The operating theatre is not a centre of pain, but the place where pain is removed, we said.

We were about to deal with six operations. Three had to be made on patients suffering from appendicitis.

I reminded Raisa Mukhtarovna:

"Forty-two per cent of the appendicitis patients complained that they felt pain during the operation."

"That seems to me like assault and battery," remarked Raisa Mukhtarovna, drying her hands.

We took up our stand at the table. Oksana Klimenko, a woman of twenty-seven from the poultry farm, was brought in. She was obviously in a state of agitation.

"It will not hurt, don't be alarmed," said Raisa Mukhtarovna.

"Now you've given her your bond, see that it is honoured," I whispered.

Raisa Mukhtarovna began to operate.

Surgeons have different ways of loving their profession. Some love it for its perfect technique. Presumably this applies to Professor Pianarin. Others feel a deeper, broader, wiser warmth towards it. Their love for it is inspired. Their field of vision is not confined to the area to be operated on and the movement of the fingers: their joy is greater than the operating theatre, extending far beyond it, to the collective-farm field to which the patient will return, to the heavy ears of corn he will grow; their

joy mingles with the joy of the family who are delighted to welcome father or mother after the operation.

Surgery is not an end in itself. Surgery is a means, a weapon, say these surgeons.

"See here, Okaana, we'll make an agreement: if you feel the slightest pain, tell me at once!" insisted Raisa Mukhtarovna.

The area to be operated on was anaesthetized with a solution of novocaine, and we waited a little. Novocaine does not anaesthetize at once. We did not rush things.

The patient did not feel the incision. The abdominal cavity was already opened up. Next the intestine had to be extracted. This can be very painful, particularly if the intestine is rigid, packed round with adhesions, or when the appendix is "immured" or situated behind the intestine.

At first Raisa Mukhtarovna flooded the area behind the caecum with a solution of novocaine. The pain-removing liquid barred the route along which painful impulses run to the central nervous system. The patient's intestine was packed round with an "armour" of adhesions. The vermiform appendix had adhered to the posterior wall of the abdomen. All the possibilities from novocaine were now exhausted. What next? Should we continue the operation under a local anaesthetic "on principle," as Pianarin insisted? The pain the local anaesthetic cannot remove may be more harmful than the most dangerous drug.

The operation was interrupted. We put a few cubic centimetres of hexenal into the vein and the patient peacefully fell asleep. Raisa Mukhtarovna rapidly enlarged the incision, extracted the intestine, removed the appendix and all without pain. How much of the patient's strength was saved, how much cruel pain was averted!

A local anaesthetic alone was used for the second patient. The same with the third. There was no pain, not a single groan.

"Did it hurt?" Raisa Mukhtarovna asked each patient immediately after the operation. "Not at all?"

And the reply which came to us confirmed how right we had been.

"Thanks, doctor. It didn't hurt," and there is no longer a trace of alarm in their eyes, nor the pallor of strain in their faces.

Thus, it can be done without pain. Without tears. Without groans. Without alarm in the heart, without unseeing, pain-blinded eyes. If that is true, it is not enough to be master of the technique of local anaesthesia, but to know when to reject this method. It is not right to operate under a local anaesthetic at all costs, to sacrifice the patient to "principles." Pain shrinks before caution; the rough surgeon is like the engine-driver who cannot distinguish the red light.

There is a saying in Kopylov hospital: "When we operate on a patient, we operate on ourselves."

* * *

We have learned to know the patient's thoughts during the long sleepless night before an operation; we know what he goes through when he crosses the threshold of the operating theatre. But the patient still has to be bound to the table, his eyes have to be bandaged. We cannot have a divan instead of the operating table; we cannot hang pictures on the wall of the operating theatre, or put statuettes and vases in the corners; that would be violating the fundamentals of surgery. The surgeon cannot be dressed in fancy frills; his work requires simple attire giving freedom of movement. The instruments cannot be made to resemble pleasant, harmless trifles: they are meant to saw, cut, drill, hammer, perforate.

All that is so. The arrangement can hardly be altered. But something else can be changed: the viewpoint, the way the patient looks at it all.

Two patients, stableman Nikita Fedorenko and Andrei

Kuznetsov, were due for an operation ... but on different days. They were both very (apprehensive and awaited the operation as though it was the day of reckoning. Kuznetsov, the adopted son of the collective-farm chairman, had appendicitis; Fedorenko—a bleeding stomach ulcer.

On the eve of the operation I had a chat with Kuznetsov. He sat beside me and, free of official trappings, we talked without restraint. Replying to my questions he said his father had been killed in the war and his mother hanged by the Hitlerites, that, all the same, at the age of eleven he had had his own back on the invaders, because one night he had slashed the saddle of a fascist.

"You have firmly decided to have the operation? You are sick of this appendicitis?" I asked after a moment's silence.

"I have firmly decided, but it's a bit terrifying."

"Terrifying to part with (appendicitis? It is worse with it than without it."

"I understand that. I can hardly walk for the pain. I had such a bad attack that I lost consciousness. But I see it this way: the illness is hard to bear, the operation will be harder. I'm horribly afraid of pain."

I replied in the tone one uses when one is telling the absolute truth.

"There will be no pain during the operation."

Kuznetsov nodded to show he understood.

"You try to calm everybody."

"Not to calm but to explain. The patients will not lie to you. Ask any of them, they will tell you that you will feel no pain during the operation."

I invited Oksiana Klimenko to join us in my consulting room.

"I didn't realize it was all over, when they finished," said the woman with conviction. •

"Now do you believe me, Kuznetsov?" I waited a little to give him time to recover from his earlier doubts, then asked:

"You don't really know what the operating theatre is like, do you? You've never been in one. It is a large, very clean, bright room with a great deal of glass and nickel. Everything shines, as it should in an operating theatre which is a sacred place for both surgeon and patient. Here life is restored to people. The surgeons are in long overalls and masks. Do you know why they wear masks?"

"So I won't know whom to curse if I don't come through the operation," replied Kuznetsov, with a wry smile accompanying the joke.

"The mask is so that the surgeon will not breathe into the wound. You will be fastened to the operating table, of course."

"Fastened down?"

"Yes, fastened so that you will not, by a casual movement, touch the sterilized overall or sterilized sheet. You might infect the wound with your hand."

Kuznetsov cheered up once he was convinced there would be no pain, and a good-natured, cunning spark twinkled in his eyes:

"A good thing you warned me, otherwise I'd have thought I was being fastened down to prevent me making my escape."

By now Kuznetsov was beginning to get interested in the conversation.

"Tell me, doctor, will I lose a lot of blood?"

"Hardly any blood flows during operations. Special instruments exist for clamping the blood vessels. If you happen to feel something running from the wound, it will not be blood. It will be the novocaine solution, used to anaesthetize the tissues."

We talked for a few more minutes. I explained to him briefly about his illness and about how novocaine works, and then we separated. He thanked me and went cheerfully to his ward. I called in the sister on duty and prescribed a soporific for Kuznetsov to take that night.

He had a good night's sleep. In the morning he was quite rested and went off boldly and without fear to the operating theatre. Once there he felt quite at home because he was familiar with everything. He said himself: "Fasten my larms."

We no longer operate on two tables simultaneously. When a patient enters the operating theatre he sees no signs of blood. The instruments are kept covered up to the moment when the sheet is placed over the patient and he is in this way shut off from the surroundings.

"Did you recognize me, then, in the mask? Did it scare you?"

"No, doctor. I should have been scared if you'd had no miask."

Afterwards, we asked Kuznetsov whether he liked our operating theatre.

"I did," he replied, gently smoothing the blanket with a gesture meaning to show his respect for everything belonging to the hospital. "It is a truly sacred place," he added.

"It is difficult to alter the way things are arranged," I thought, "but the 'attitude towards it can and must be altered."



After this we had a good chat with every patient due to undergo an operation. We called them psycho-prophylactic talks aimed at dispelling anxiety and fear.

Anxiety and fear! In the patients they are connected with questions of life and death. Grief, unpleasantness, fear, terror—these are the fertilizer of disease and its seeds. Biasadow's disease, diabetes, stomach ulcer, all begin with mental disturbances. People with shattered nerves are less able to fight against infectious diseases. Cancer may appear as the consequence of some mental shock. As a result of worrying before an operation, the capacity of the blood to clot is increased in the patient.

Oppel, the great Soviet surgeon, explains that it is this which causes deaths on the operating table that are "inexplicable," "unexpected," and "unjustified."

Academician Bykov, one of Pavlov's pupils, once said: "... Confined within the walls of the Laboratory, the experimentalists did not see the light of truth emanating from life itself. Only now can we speak of the universal importance of the nervous system and, in particular, of its highest development—the brain—in the majority of the diseases of man."

We had removed pain; it had retreated before the united efforts of our entire medical staff: doctors, sisters, and nurses. They had swooped down on pain with all the might of their love of man. We now began to overcome the fears of the patients.

Children are often frightened by the way things are arranged in the operating theatre. A frenzy of unrestrained fear attacks them when they see doctors in masks and surgical instruments. They begin to remember all the stories about wicked monsters. The children cry and try to wriggle out of the arms of nurses and sisters.

We have a little table in our operating theatre with toys on it: clockwork cars, singing-birds, Chinese lanterns. We bring the child to the operating theatre and show him the toys. The child is delighted. Meanwhile we lift him on to the table and fasten him down, "so he won't fall." The child becomes unconscious of his surroundings, he is amused, his face shines with happiness, the Chinese lanterns rustle in his hands. The child accepts all this as part of the treatment. Then, when the day comes for the operation he runs ahead of the nurse into the operating theatre, looking forward to the amusing things waiting for him.



In the men's ward stableman Fedorenko had an argument with Kuznetsov,

"Huh, you! ... Think yours is an illness? It's just a finger-ache ... (appendicitis.... And you're young and I'm already sixty-two, son. For twenty-two years this illness has tortured me. My blood-stream's dried up. I've come here to die, I'm telling you straight. That's a fact."

Kuznetsov tried to soothe his neighbour.

"There's always time enough to die...." He was lying on his elbow, his honest face with its down of moustache, turned towards Fedorenko. "Disease loves timid folk," he added on a note of warning.

The stableman buttoned up his pyjamas and screwed up his eyes, seeming to look far into the distance.

"That I'm scared, that's true. Believe me, I've always been less afraid of the illness than of the cure. Twice I've run away; they brought me to this very operating theatre.... I can't; it's terrible to lie under the knife. Better to die my own natural death."

Kuznetsov ardently pressed home the truth.

"Look here, Nikita Stepanovich, you don't feel any pain during the operation. I thought it would hurt as well...."

Fedorenko gave a contemptuous look at his companion.

"Appendicitis is a trifling illness. Just a little irritation."

With his small face, yellow and wrinkled, his petulant mouth and his drooping shoulders, Fedorenko looked weary and exhausted. He walked slowly, gazing around him, kept close to the walls of the corridors and always sat on the edge of chairs, as though he was only a guest in this world.

Stableman Fedorenko was genuinely afraid of surgeons. So he had been going to the local doctor to get his ulcer cured. The ulcer bled. But that was not all. The doctor felt a small swelling in the stomach, and bearing in mind the age of the patient and the long years he had been suffering, he had grounds for supposing that cancer had set in. There was no more time to be lost.

How could one know what measure of time to use for this change to cancer: the unhurried pages of the calendar or the agitated, pulsating hand of the chronometer.

Kuznetsov told us about his talk with the collective-farm stableman.

There was nothing to prove that Fedorenko would not, at the very last minute and for the third time, refuse to undergo the operation. I had a talk with him, just as I had had with Kuznetsov. "The operating theatre is a large, airy, light room; the doctors have saved many lives there." Fedorenko raised unblinking eyes which looked far into the distance as though through me. Then, evidently pulling himself together, he said with a sigh and a condescending smile:

"You're a good man, doctor."

Fedorenko had been listening to my explanations with suspicion, regarding them as "manoeuvres" on my part.

"You have to talk that way," he concluded.

The patient does not worry in general about the forthcoming operation. He worries about the operation that has been scheduled for the next day, when he thinks he will actually feel the instruments going into his body.

"I understand, doctor, that the operation is necessary; and I have given my consent to it," continued the stableman. "But I won't say any more for the present."

We told Fedorenko that we would begin to prepare him for the operation. His body had to be made stronger. So every day he would have a solution of glucose fed into the vein to "feed up" the heart.

In the morning the doctors went into consultation.

"Patients like this should be operated on without informing them of the day when the operation is to take place."

A plan was drawn up. For three consecutive days we would give Fedorenko glucose in the vein. On the fourth day we would give him hexenal—a narcotic—instead.

The patient would then sleep immediately and peacefully as all people sleep under hexenal. He would be taken asleep to the operating theatre. It all had to be done swiftly so that the patient would not be a minute longer than was necessary under the drug.

We worked out the technical side: the fewest possible movements with the greatest precision. We used new clamps so as to fasten the patient rapidly to the table. We worked out every detail down to the smallest trifle, even how to cover the patient quickly with the sheet.

Everything was done as pre-arranged. After the operation, when the pain can be particularly acute, Fedorenko was given a soporific. He slept through these pains. The next day, when he awoke, he looked round the ward with astonished eyes, finally fixing them on the doctors who had come in to see him, and were smiling at him.

Raisa Mukhtarovna bent over him and said gently:

"There, that's all, and you were afraid of the operation/"

"You will do it today?" his eyes rested on me. "Today?"

"We did it yesterday." I replied.

Fedorenko said nothing. Under the blanket he felt his stomach with the palm of his hand. His face expressed astonishment and pleasure.

"Show me my disease."

They brought him his "disease." It was evident this pleased him as much as it pleases the soldier to see a defeated foe.

Where were the petulant folds round his mouth? His face expressed the tired peace that comes to people after a hard, cruel but successful struggle.

"Thanks," he said, his voice scarcely audible.

* * *

A hospital with no groaning and no suffering. The Makiarov people wrote about it in the medical press.

Perhaps we were wrong about some things. That I admit. But we proved that pain had retreated before our efforts, pain and cruel suffering.

In Kiev I again encountered Professor Ranarin, the supporter of local anaesthesia "on principle." He met me as though he had been busy for several days trying to fix a meeting with me.

"I've read it all! And I know one phrase off by heart." He struck a theatrical pose. "'Waking up after the operation, when all the suffering is over leaving no trace even in his dreams, the patient learns with a joy it is difficult to describe in words, that everything has been done already/ Very nice, very nice indeed! The patient has his leg amputated, his skull trepanned, his stomach opened up and he, according to the miracle-makers from a village hospital, learns of it with joy. The devil take it! All this, my dear fellow, smacks of a malicious joke," he blurted through his thin lips.

"According to you, then, surgery is a gloomy chain of amputations and trepanning? When you say it, trepanning sounds like smashing skulls in a dark side-street under cover of night. Surgeons do not inflict harm, they give help in trouble. People can smile even through pain if it is the pain of curing and not the pain of dying."

The professor listened impatiently to my Objections, looking first at one object, then at another, as though seeking something more worthy of his attention than my arguments. He continued his protest with the look as though I had not said a single word.

"I speak about all this with indignation 'difficult to describe in words,' " said the professor using phraseology from the article in question. "The patient smiles after trepanning. Ha-ha!"

"Yes, smiles."

"What does he smile about? His bad luck? His misfortune?"

"He smiles," I persisted, "at the idea of being rid of

suffering, at the idea of getting well. He smiles because he knows we will not leave him in the lurch, he knows we are always with him."



Sisters and nurses began to cross the park from all ends of the village, arriving at the white hospital building with huge bunches of flowers. Were they holiday-making? Were they welcoming some very dear guests?

We were simply transforming the hospital environment. Quiet in the hospital was the first link in the chain of transformations.

We were now removing the specific smells of the hospital. In the wards there was to be the scent of wild flowers, cornflowers, hairbells, pansies, camomile, Mly-of-the-valley. There they were in bunches on the lockers, window-sills, tables, even on cupboards and dining-tables, reminding the patients of the golden, sun-lit fields, the rolling meadows, the rustle of fragrant grasses, the cool shady forest.

Sisters and nurses gathered flowers on their way to the hospital. This was part of their regular work, as much as caring for the sick. They came carrying flowers as though it was a holiday. It is surely an occasion for holiday-making when people are helped in their struggle for life, when their lives are defended by means of science and the heart. Stableman Fedorenko eyed the flowers on Ms locker.

"Flowers lighten the heart," he said. "I'll tell you straight: I feel I'm holiday-making. It's all so lovely, flowers everywhere. I came to the hospital to die. I'm ashamed to think of it now. There's nothing here for death. Everything is for life. I've finished with gloomy thoughts."

Kuznetsov listened to Fedorenko's new way of talking and winked slyly:

"When a patient gets well we need to celebrate, don't we? That's why there are oceans of flowers. It does the

eyes good to see so much colour. It's Obvious: a chap's getting better, so he rejoices."

* * *

Roshchin, the Secretary of the District Party Committee, followed our work closely. One day he came to inspect the hospital and give us a hand with our work. His white overall contrasted sharply with the bronze tan of his face under the shock of fair hair. As always he seemed to bring with him the blue sky and sunshine, the ripe spring wheat quivering in the wind and the scents of the boundless steppes.

This time Roshchin liked everything about the hospital, and particularly the peaceful, smiling faces of the patients and the sea of brightly-coloured flowers.

We stopped by the bed of the poultry-farm girl, Qksana Klimenko. She looked up from her book and laid it open on her knees. This was her second time in the hospital. The first had been for three weeks, after an attack of appendicitis and some inflammation.

The Party Secretary shook hands with her.

"How do you feel? I expect it's hard to be lying in hospital?"

"I'm getting better now, Comrade Roshchin. This is the second time I've been in hospital."

"And how do you find it this time?"

"I can hardly recognize it here! Everything's so different. I even thought there'd been a change of management, that a new head doctor had been appointed or something."

Roshchin's eyes, under the scorched eyebrows, sparkled with merriment.

"You're quite right. There's been a change of management. Only not in the hospital, but in the whole of our medicine. It is now under the management of Academician Ivan Petrovich Pavlov."

▼ ▼ ▼

"Sleep is a protective, healthy inhibition," Pavlov explains. The cells of the cerebral cortex which receive the impact of frequently repeated stimuli finally arrive at an inhibited state. The cells cease to function. They are switched off in order "to restore their normal composition." If, at the same time, there is no counter-action on the part of other active cortical cells, then the inhibition spreads to them and sleep ensues.

"It is surely a generally recognized truth/' explains Pavlov, "although one which has hitherto remained without scientific explanation, that all persons, particularly those who have no intensive inner life, irresistibly succumb, in the presence of monotonous stimuli, to sleepiness and sleep, however out of place and untimely this may be."

Sleep is the health-endowing gift of nature. Sleep restores the forces.

If we have slept well and soundly, we awake in an excellent frame of mind, our capacity for work is increased. It is enough, however, not to sleep for a night or two for us to feel that our whole body has become weak and our thoughts feeble, dull and despondent.

In the absence of sleep, the cells of the central nervous system which, as Pavlov writes, "have control over all the phenomena which take place in the body," become exhausted and destroyed.

Disease cannot develop without disturbances (in the cerebral cortex. The greatest shocks in the life of the organism arise from the impulses emanating from the cortex. Professor Andreyev writes that "Mechanisms are centred in the brain which ensure health and resist disease."

Is it not clear then that sleep, which protects the cells from destruction, can be used, with the help of the doctor, as a weapon of struggle against diseases.

Sleep protection, wrote Pavlov, is "the normal method of physiological struggle against the disease-creating agent."

Sleep was first used in the treatment of mental diseases and only later to treat diseases of the body. The pages of medical journals and books have been filled with reports about the health-giving power of sleep. Sleep is used to cure ulcerous diseases, gastritis, skin diseases of nervous origin, hypertony, asthma and disturbances of the trophic nerves.

"In conditions of sleep with the help of drugs," reports Professor Polyakov, "a wound heals more rapidly."

Under the influence of sleep, inflammatory processes are cured in a shorter period of time (those, of course, which do not require surgical interference). And for what is surgery used? For wounds and infection. Sleep helps the patient to restore his strength after an operation.

Without quiet there is no sleep. Quiet lulls the patient to sleep. Warm waves of stillness spread throughout the body; breathing is peaceful during sleep.

In order that one may fall asleep, it is necessary to switch off both sound stimuli and those of sight and smell: to draw blinds at the windows, to remove unpleasant smells.

One animal used for experiments slept the clock round when Professor Galkin artificially switched off its sight, hearing, and sense of smell. Botkin, the outstanding Russian doctor and hospital physician, made observations of a woman patient whose only link with the outer world was through one arm, in which perception and muscular sense were maintained. All other senses were deadened. The patient was almost always in a deep sleep and awoke only when the arm was touched.

How much do the words mean: the patient has fallen asleep! In the course of the illness there comes an improvement, a turning point: the patient has fallen asleep—this is surely the beginning of recovery. Sleep is a generous gift from nature which protects us from the shocks of disease. Sleep is our trusty bodyguard.

So, we rejected the old 'hospital regime. We created our own new regime, one we called "protective." Under this regime, to break the sleep of the patients is forbidden. We no longer rouse the patient when the time comes round to give him medicine: what medicine is stronger than sleep! We fixed the length of sleep at night at nine hours, instead of seven. Patients now sleep !for two hours after dinner; this was not previously the case. The signal for bed-time is the lowering of white blinds which produce a soft, pleasant semi-darkness in the wards. Patients sleep at other times, besides those fixed by the regime, if they feel the need. Quiet, the faithful sentinel, watches over their sleep.

The shocks caused by disease, striking on the cortex, tire, wear down, and exhaust the cerebral cells. And the object of sleep is to restore the nerve cells which have become exhausted during activity. Is it necessary, therefore, to prove that the sick should have more sleep than the healthy. They look like people who are worn out and they are, indeed, worn out by pain, anxiety and thoughts of disease. They need rest like every tired person needs it. Why is it then that the sick usually sleep less than healthy people? The usual answer would be: precisely because they are sick. Obviously pain and all other signals destroy the sleep of the sick. The view was once held that sick people sleep badly and convalescents—well. Nature has equipped us with a defence mechanism in the shape of sleep, then why does she not safeguard it for the organism when it has to wage a fierce struggle for life?

We argued it out in this way: not only should the need for sleep be greater in sick, than (in healthy, persons, but the soundness of the sleep should also be greater.

In making their observations of, patients, doctors had always used the hospitals, the very place where sleep was being arbitrarily broken. There was everything in hospitals to prevent sleep: noise, movement, fuss, smells,

the groans of the sick, pain, fears, anxieties. If all that were removed, would patients sleep longer?

We removed everything that was disturbing: we improved the environment by removing noise and smells; we made improvements inside the patient's organism by removing pain and fears. The patients began to get more sleep, the natural protective mechanisms came into full play. Thus, the whole idea was destroyed that sick people cannot sleep for long.

For the first time in the practice of hospitals, we opened a "personal sleep account" for every patient. Now our patients sleep for twelve and thirteen hours each day. A graph of sleep has now appeared on the temperature charts. It helps us to obtain a deeper understanding of the course the illness is taking.

Did sleep alone form the basis of our protective regime? No, the regime also included activities. But of that, later.

... Let me introduce the reader to Kaziarin, one of our patients. He was seriously ill with an ulcer. He was irritable, nervous, and of a bilious disposition, no matter in what company. "Sometimes I even shout at my closest friends and relatives," Kazarin admitted.

For several days before his operation he slept a great deal. He was well rested when the operation was performed and he experienced no pain. After the operation he had frequent long spells of sleep. He put on weight. Now, whenever we see him in the men's ward, he says something like this:

"I did think of going to a health resort after the operation, but I won't now. You see, I'm cured, and I'll tell you something else. I've had a good rest, body and mind. Rest is necessary after an illness. But here you do everything simultaneously—rest and cure."

"You sleep too much; you'll sleep through all the pleasures of life that way," one might say, joking to conceal the reproof, just as others had done.

But the patient would reply:

"I've slept through agony and illness, not through the pleasures of life. And I've slept through them in order to enjoy life now I'm well."

Natasha Vovk was a lively young woman with a sloping forehead and penetrating black eyes. She was our medical statistician and, because she was little, was known as "Pipette." Time and again she had asked to be released from her dull statistics. Her heart, she said, was not made for ink; it was a warm, pulsing heart.

"I'm a sister by training and that's what I want to be," she insisted, complaining to Pyotr Andreyevich that her work bored her.

Somewhat unwillingly she agreed to do what we asked her and make a calculation showing whether, under the new protective regime, the period of time required to cure the patients had become shorter.

She made uninspired calculations for a long time, hidden behind a mountain of note-books and office paraphernalia.

At the end of the day she laid on the table a sheet of paper covered with columns of figures.

"Quite incredible!" declared Pyotr Andreyevich, excitedly. "It's just what I expected though, and now we have real facts in our hands and not just suppositions and guess-work. The time the patients spend in hospital has decreased: for hernia cases—14.2 per cent; injuries—14 per cent; suppurating diseases—9 per cent. We have accelerated the restorative processes in the organism. They inevitably had to accelerate because the patients began to sleep more! Think what this means for us and you, for the people and the State! People will spend fewer days being ill. We have gained these days from disease and have handed them back to life, to work, to creative effort. Natasha, you understand that? And you say statistics are dull."

"All the same I don't want to do calculations all the time. I want to help make people well!"



A very sick, aged woman was lying in the general surgical ward. Her face was puffy and her breathing wheezy and irregular.

When we entered the ward we immediately noticed that a hush fell over the other patients and we felt they were looking at us in silent rebuke. Somehow, when patients who are seriously ill show little sign of improvement, one always feels that not everything has been done for them.

I examined the old woman and gave the sisters some instructions. Then I did the round of the other patients. They had all suddenly begun to complain of pains and dizziness; they were all feeling worse. Clearly the cause was the sick old woman, whose illness had thrown a shadow over the ward.

"The patient must be transferred to another ward," I told the sisters on duty.

"But where to?" asked senior sister Vera, very much concerned.

We had no small separate wards and all the others were occupied.

"Where to? We must think. We must find something. She simply must be moved," I insisted.

There were two children with inflammation of the lungs in the general ward on the ground floor. I suggested transferring them to other wards and putting the sick old woman in their place.

Half an hour later I found the woman had not been moved.

Sister Vera, her eyes cast down, explained incoherently, "The patient is heavy ... it's all the same which ward she's in. Elena Petrovna objects. Ordinary patients are not worse than surgical cases"

I had a long and ardent conversation with Elena Petrovna.

"We have a strict rule: to spare the feelings of the patients, yet you—"

"I am responsible for the patients in my section. I want to protect them from all anxiety," she interjected.

"In my opinion what I proposed should suit everyone," I replied, scarcely able to hide my annoyance. "We shall transfer the Children."

"Why must you move my children? It would be simpler to re-group the patients in the surgical ward!"

"Perhaps you can offer some suggestion; you know our possibilities!"

Elena Petrovna is a young and capable doctor. She is the sort that is recommended for being "exacting towards herself and towards subordinates." She does not easily or suddenly accept what is new. She finds it difficult to reconcile herself to what is not customary. Her road *UQB* through doubts and mistrustful caution; but once she has accepted what is new, she does so firmly and for a long time. Consequently, because it is with such difficulty that she becomes used to what is new, she only relinquishes it again with difficulty and after some mental adjustment. Her stern features, her smoothly-dressed brown hair showing high lights with every slight turn of the head, her habit of dressing in markedly modest clothes, revealed her to be reserved and even a little frigid.

Something serious and painful had happened in Elena Petrovna's life, something that had hardened her. This, perhaps, explained her ever alert scepticism.

She lived in the hospital building with Tanya, her five-year-old daughter, a charming child with sparkling eyes and a little dark smiling face.^t

"Who am I to advise you?" I said. "Find ways and means yourself."

Elena Petrovna's eyes told me that she realized she

was at fault. But she found it hard to admit it and so began one of her arguments "on principle."

"I quite understand you are concerned about the other patients/' she said. "It must be made easier for them. But you are relentlessly crushing the last hope of the old woman. Don't you realize that she will guess why she is being moved out of the ward? Carried out alive, just as though she were dead."

"That will all depend on how you present the matter to her," I replied.

"And what can be said to a sick person like her?" insisted Elena Petrovna, now quite confident of the invincibility of her arguments.

"This is what I would say: 'It is hard for you here, my dear. It's a big ward with lots of people, and it's not restful.- You've begun to feel worse here, haven't you?' (I said all this to Elena Petrovna as though she were the patient. Meanwhile she continued to search in her mind for some objection.) There isn't much light here, and over there you will be on the sunny side. You'll feel better in the new ward.' That is how you have to explain the transfer of the patient to another ward. Incidentally this is not a 'white lie' either. When the condition of a patient deteriorates, it is (always connected with the environment which colours the whole disposition of the patient. That is why we often suggest to out-patients that they should change their place of residence. Sometimes this alone is enough to make an out-patient feel an improvement."

"No doubt," frowned Elena Petrovna sceptically. "The patient enters the first ward a sick man and leaves the sixth ward quite healthy. Is that the idea?"

"I don't care what you say," I continued. "I don't believe you disagree with me."

"Don't you? But if the patient is so bad that she doesn't even hear what you say?"

"In that case she won't notice you are transferring her. Listen, Elena Petrovna! Eight patients are being

made anxious: the image of death is before their eyes. This is hard enough for healthy people like us, but for sick people? And yet you still can't see the point?"

Elemia Petrovna rose and left the room. I still did not know what she intended to do. "A contrary person," I thought with annoyance.

Later, as I left the hospital I heard an admonitory voice coming through the half-open doors of the ward where the sick old woman was lying:

"You see, it is quieter in that ward. You're feeling worse since you came in here; there's not enough light, but there you will be on the sunny side."

I continued on my way. I did not want to embarrass Elena Petrovna. "The sunny side"—the words echoed through my head as I proceeded on my way.

* * *

We derived great pleasure from our stubborn and systematic study of the works of Ivan Petrovich Pavlov. New, undarted horizons spread out before our eyes. The wealth of his genius dazzled us. We read his books avidly and found that every page, every word, threw light on the work we were doing. It was almost as though Pavlov were quite near, in the next room, perhaps, and we could hear his breathing. It seemed as though he might come out to us any minute, his movements lively and rapid, and full of inspiration; that he would walk through the wards with us, into the dressing room, among the patients. It was he who, referring to the results of his life work, told said to us, "I hand on these findings with ardent dreams of a majestic horizon opening wider and wider before our science, and of its deepening influence on the nature and destiny of mankind."

We were all delighted with the results obtained from the application of remedial sleep. These achievements were so obvious that not one of us had any doubts.

* * *

We had begun to make wide use of sleep as a form of treatment. But already from the outset we came up against the unpleasant fact that sleep is brought about by soporifics. These soporifics are not entirely harmless if widely used. The human organism is not indifferent to them. We had obtained the beneficial consequences of sleep in some cases by means of poisoning with soporifics.

Some patients complained of headaches, nausea, sometimes vomiting. They staggered as they walked like drunkards with difficulty keeping their balance. Were they in a cheerful frame of mind? No, what cheerfulness they possessed was forced, out of the medicine-chest: the smile was a sickly one. Furthermore, prolonged sleep brought on by means of drugs has sometimes been known to end in serious complications.

How could we obtain natural sleep? How could the patient be lulled to sleep without soporifics, without narcotics or with the minimum use of such drugs? We could well imagine how beneficial this would be. The very possibility of drug poisoning would be averted and, of course, the salubrious properties of sleep, the whole of its mighty, fabulous power would be revealed to the full.

We arranged special sleep-wards. We made them as soothing and comfortable as possible: painted the walls a soft, peaceful blue; draped the windows with heavy curtains reaching to the floor, padded the doors with leatherette, laid carpets down to muffle the noise of footsteps, put a night-light on the table.

Nikolai Silvestrovich Zarubin, a stout, heavy man with keen eyes and a good-natured sort of cunning, was chief of our hospital administration. When, to his unending stream of administrative worries, we continually added new cares, he fell to grumbling.

"There's no leatherette available. And why more paint again! You've got enough sleep-wards to lull the

whole neighbourhood. Who do you think's going to do the **work**?"

Three days later, after Zarubin had helped us to arrange the wards, he visited the patients.

"Hullo, sleepy-heads! How are you sleeping now? Feeling better?"

One of the patients prodded his stomach and expressed astonishment at the sensation.

"It's las though I'd got a new stomach: it doesn't hurt. And you should see how much I eat," he commented, shrugging his shoulders.

Zarubin went to the common room, sat down at the table, and leaned his cheek on his fist, ruminating:

"I've had tuberculosis. It was terrible. I used to look through the window, like this, and the trees rustled and the sparrows hopped about. But it didn't seem as though I belonged to it all."

"What's made you think of that, Zarubin?" asked Pyotr Andreyevich.

"I understand how la patient feels. I can see the whole idea of that sleep-ward. How well I understand it!"

More arid more duties fell to Zarubin. We wanted to get the patients to sleep by means of conditioned reflexes. From Kiev we had to get light and sound signals for the wards: lamps large and small, buzzers, ventilators, aquaria. Zarubin called it all theatrical props.

This was our plan: the ward was to have a large green lamp hung on the wall, a smaller green Lamp like the magic eye of the radio, and a soft, monotonous buzzer. We would switch them all on as soon as the patients had been given their sleeping pills. The state of drowsiness brought about by soporifics would then be "linked" in the patients' minds with the green light of the big lamp, the monotonous hum of the buzzer and the aquarium illumined by the green light. It would then be enough to switch on these signals and, according to the law of conditioned reflexes, the patient would fall asleep without soporifics.

Pavlov wrote many times about the lulling, soporific effect of monotonous stimulants. Surely, then, the soft monotonous hum of the buzzer is "a long, continuous external agent" which tires that point in the cerebral cortex which grasps sound signals, and this causes inhibition of the cortex or, in other words, sleep. The noise of the ventilator is, too, monotonous. The green lamp sheds a soft "moonlight"; the fish glide lazily in the aquarium; the eyelids droop. The patients called the green lamp the "sleepy lamp." And so we found that all these "signals" themselves act as soporifics.

For two consecutive days we gave the patients soporifics three times a day. When they became drowsy we switched on our signals and they fell (asleep to the sound of the buzzer or the ventilator and by the light of the green lamp. On the third day we gave the patients semolina powders instead of soporifics. Then we switched on the signals. I stood in the ward close to the wall where I would not be noticed and I watched to see whether the patients would fall asleep. The soft green light fell on their faces and the perfect silence in the ward took my imagination far away from the waking day so full of cares. There was nothing but peace and measured breathing. I stood for a few minutes wondering whether they were really asleep. The spring of a bed creaked. Someone sighed, another yawned. Then I heard more regular, deeper breathing. There was a slight snoring. I peered into the green shadows. Each patient was asleep in his own particular pose: one had a hand under his cheek; another was curled up in a ball; a third had tossed the bed-clothes about and finally assumed a comfortable position. But were they properly asleep? I went close to each of them and looked and listened. They seemed asleep. I called each by name. No response! They were asleep and we had found a new soporific—semolina!

Suddenly one of the patients awoke. I switched on the small green lamp and turned out the larger one. A

little green eye gleamed in the darkness as though from very far away, somewhere on the horizon, perhaps. It was like a green-coloured drip hanging in the darkness which would drop just as soon as it had swollen and become heavy. Quietly, so as not to awaken the other patients, I suggested to the wakeful one that he should concentrate his gaze on the little green eye. He looked for only a short time and, growing tired, fell asleep again.

The "stage props" had worked.

We sought for further new methods of lulling the patients to sleep. With the aid of light and sound signals we worked out new sleep-producing reflexes. The conditioned reflex is also excellently produced through time, through the rhythm of the day. Try going to bed after dinner once or twice; you will experience an uncontrollable desire to fall asleep after dinner-time on subsequent days. If you wake each morning at seven o'clock, you will wake at seven o'clock on Sunday, even though you went to bed with the idea of getting up later. Pavlov wrote about this, too. "... A strictly established order in the alternation of waking and sleeping, an established rhythm, can increase the soundness of sleep even without the cells of the cortex being sufficiently exhausted."

We established a strict daily regime. Morning, noon, and night we tucked the patients up for sleep at short intervals, timed to the minute. Everything was prescribed by the hour: time for an airing, time for food, time for medicines.

All people, having a life of experience behind them, have formed their own conditioned reflexes which produce sleep. It was now necessary to make use of them. We had to surround the patients with a protective bank of sleep, so that it would pour into their bodies from all sides, drowning their diseases. Before they went to bed, they could watch the nurses while they deliberately slowly made the beds: smoothing the wrinkled sheets, fluffing up the pillows, turning the mattresses, all in a sort of

slow motion. Nurse Nyusya did all this with extra loving care. She would fluff the first pillow high, then the second; then she would fluff them both again, taking great pride in her skill. She would find a lump in the mattress and remove it with feminine skill; she would unroll the blanket with its tempting, snow-white sheet, and turn back one corner. As she did all this, she would glance from time to time at the patient sitting nearby; she would notice the patient was yawning and that as he lifted his hand or shifted a foot, his movements were dreamily slow. Finally Nurse Nyusya would invite the patient to get into bed; she would cover him up, wish him good-night and move to the next bed, fully confident that the patient was getting sound, health-endowing sleep from her, Nyusya's bountiful hands.

* * *

One day Pyotr Andreyevich and I had to go to Kiev on business. In the evening we went to the theatre and saw "Children of the Sun." There was "rain" in the third act. The whole scene seemed to darken and even the air felt cool and damp. The whole sound effects were astonishingly good. The noise of the rain was soothing and hypnotizing.

Sometimes when I stand at a window and hear the sound of rain my eyes seem glued to the drops running down the pane and a sleepy immobility possesses my body.

The sound of rain has a soporific effect. One is lulled by the monotonous pitter-patter of the raindrops, the rustling of leaves, the sight of bubbles bursting in the puddles, the slantwise fall of the silvery threads of rain, and the musical gurgling in the drain-pipes. A tired person wants to sleep when it rains. When the weather is dull and the sky overcast, When there is no special work to be done, what can one do in such weather? Take

up a book to read and soon let it slip because a pleasant drowsiness has crept into the muscles.

There you have the sleep-producing reflex ready to hand, the one worked out by the whole experience of life. Patients come to us with this reflex already in their possession. It does not have to be inculcated.

I simply could not wait till the end of the act.

"Where iare you off to?" Pyotr Andreyevich whispered, perplexed and trying to detain me.

"It's raining. Don't you understand, rain...." I replied hurriedly, pushing my way past the lannoyed spectators.

"Then take your rain-coat ... here's the cloak-room ticket/" Pyotr Andreyevich admonished me, at a loss.

I went to the back of the stage iand found one of the scene-shifters.

"Would you mind showing me the medhanism used to get the rain effects?"

"With pleasure. For which theatre do you want it?"

"For science," I whispered conspiratorially into the ear of the mechanic.

So this was the rain! A series of shelves higher than a man. They were hollowed out, fitted slantwise, and covered over with cardboard. The shelves were connected with two drawers, one at the top shelf and one at the bottom. Peas were dropped into the top drawer. From there they rolled along the grooved shelves land finally dropped into the lower drawer with ia sound astonishingly like the sound of rain.

As soon las we returned to the hospital we set to work to make a "rain-installation." The best carpenter in Kopylov, a jgrey-headed, taciturn old man known as Uncle Volodya, did the work for us. Together we worked out the designs. Unfortunately I had not taken the necessary measurements land calculations'from the theatre and this complicated matters. Furthermore, we had to send Zarubin to Kiev again, to get cardboard.

"Again to Kiev!" he grouched. "More trolley-buses and trams and shops, and getting shoved about. Now you've thought up rain. It doesn't matter how much I do, there seems to be no less work, only more and more of it."

By the end of the second day we had the "rain" ready. Dried peas were dropped into the top drawer. Pyotr Andreyevich, Raisa Mukhtarovna, Elena Petrovna, Zarubin, and I waited breathlessly while Uncle Volodya opened the thatch. Then we heard the blows of the first big drops. The sound of the "rain" grew louder and louder. This was no rain; it was more like hailstones. For a second the noise diminished, and it was as though a gust of wind had intervened. We half expected a flash of lightning and a peal of thunder to follow.

"But that kind of rain would terrify the patients. It could never lull anyone to sleep. It would wake everyone up, more likely,"¹¹ said Pyotr Andreyevich, very much concerned.

So peas were no good at all with our installation. What else was there?

"Vetch, millet," suggested Uncle Volodya.

"Let's try millet," I suggested.

I went into the park while they were getting the millet. The big summer Sun was setting. The sky was clear and cloudless. Under the trees, in a high invalid perambulator, lay a young tuberculosis patient. The red glow of the sunset masked the pallor of her face.

I walked round the park and returned to the hospital when the millet was ready in the top drawer.

Now the "rain" fell gently and peacefully. It rustled the leaves caressingly, sometimes softly, sometimes a little more loudly. At times one could almost hear single drops falling.

Suddenly Nyusya fled past us, her head awry: "Oh, the poor thing!" she exclaimed.

A moment later she returned, one hand pressed to her breast in an expression of great relief.

"What ia start you jgave me! I had a patient in the park and I thought it was raining. It was awful."

When she rejgained her breath, Nyusya went up to the rain installation and examined it with great curiosity.

* * *

The "rain" sleep-ward in the hospital is our very best. We hiaive fitted it out with electric heaters. All the beds have them. "Warmth in particular makes one want to sleep/" says Pavlov.

The piatiients were put into warm, heated beds; it was like sleeping on a Russian stove.

There were three people in this ward: Semko—ta worker from Kirovograd, suffering from asthma; Petyukh —la brigade-leader from the May First Collective Farm in Kopylov, land our old friend Fedorenko, who asked to sleep for a few days in the rain sleep-ward before being signed off from the hospital.

Semko slept marvellously to the sound of the rain.

"The room's warm, sand I'm lying on the stove, warming my sides, while the rain is pouring down outside. Well, where can you igo in such weather? It's just like real rain."

Petyukh added, "It's las though voices lare muttering labout something, and I'm lying nice and comfortable on the straw in the threshing-barn. The rain and the harvest go together, like brothers."

"With me, it's like this," added Semko. "As soon as the 'rain' starts I seem to see the mud, slush, and cold in the yard, and it's good to be here, warm and cosy."

Each of them (accepted the "rain" and its signals in his own particular way.

But on one occasion, when I was making the round, ia new patient by the name of Mudrak said irritably:

"Can't you switch off that infernal droning. It makes

my ihead go round and I can't get to sleep," and he pointed anigrily to the buzzer.

What could be the meaning of this? The buzzer had lulled all the others, the patients had enjoyed Listening to its measured, drowsy, lullaby humming. And here it was irritating and disturbing Mudrak.

Sister Varya offered a suggestion, her brows wrinkled.

"You see, Mudrak is la chauffeur. He dreams iabout oars every night and he lalways tells me his dreams. The buzzer probably seems like a road signal to him, a wanning: one signal means not to overtake on the road; another—watdh out, there's a child on the road."

Raisa Mukhtarovnia listened attentively to the sister.

"I should say Viarya's right," she agreed. "Bright girl!"

There was another patient, an old postman with a stomach ulcer; he fled like greased lightning from the raiin sleep-ward.

"Forgive me, doctor, but I can't bear it! Your rain makes my old joints ache. I'm old and rheumatically."

All in iall we began to use fiar less soporifics. Professor Andreyev's treatment is used in the clinics. The usual amount for a three weeks' course of sleep treatment is 80 to 85 doses, but we only used 6 to 8 doses. This seems incredible, but it is a fact!

The patients became transformed. This was immediately noticeable. They now woke up in good spirits, their eyes clear and faces relaxed, ias alw.ays after good, healthy, natural sleep. It was felt that they awoke eadi time with a new influx of strength land were lively and talkative. We had no more "inebriates," no more depressed non-sleepers, las the sisters called them, with their pale wax-like faces. The patients were, without doubt, transformed!

When they awoke they eagerly asked for the newspapers, read them aloud, and asked the sisters for the local news. They seemed to be wanting to regain what they bad

lost. "Did anything of interest happen while I was asleep?" was the question on all faces.

Petyukh and Semko put on almost a stone and Mudrtak—fifteen pounds, and all this happened in the fabulously short space of three weeks.

Zarubin told us through bursts of laughter:

"I met a collective-farmer acquaintance of mine yesterday, a fellow called Zaitsev. What a man!... He can't see his own legs, he's so stout. He uses two belts to get round his middle and even then fastens himself up on the last hole. He tried to weigh himself in the warehouse, put all the weights on the scales and, would you believe it, they weren't enough. They had to hang the axe on as well."

"D'you know what the collective farmers say," he concluded with a sly look on his face, "most likely Zaitsev's been under treatment at Lagoda's hospital. They all put on weight there."

* * *

Doctors visiting the Makarov hospital to learn something about its experiment were greatly interested in the "rain" installation; they made drawings of it and took its measurements. Not all of them succeeded in reproducing the device. Frankly speaking, it was not a very perfect product of the human mind. For one thing there was always the difficulty about regulating the "rain"; sometimes we got a downpour, at other times a soft, intermittent sort of drizzle; sometimes the sisters had to give the thing a shake, as one would "shake the mixture before use." When the top drawer emptied, it was quite a job turning the thing over, and then the millet would clatter noisily through the grooves into the drawer at the other end.

We were always dreaming of creating some new, portable sort of apparatus like an egg-timer or some mechanical-

ism with a resonator. Anyone suffering from insomnia could acquire one instead of using sleeping pills.

Doctors in the Donets Basin (have invented a soporific dripper—drips fall slowly in the stillness—one, two, three, rhythmically and monotonously, and the patients fall asleep to the dreary noise. A little windmill has been designed in Dniepropetrovsk, based on a study of popular medicine: (before going to sleep one imagines the wings of the windmill going round and round. The wings circulate throwing (alternate shadows and soft light, the patients become slightly dizzy and sleep seems to come from the wings of the mill. In Borodyanka, decorative fireplaces have been placed in the wards: dreams from the artificial "embers" gently invade the patient's sleep.

We continued our efforts to improve our "rain." Semko, the worker from Kirovograd, suggested putting an axle through the installation. This we did and the sisters no longer have to move the installation over by hand, but "wind" it over with ease.

Semko developed his inventions.

"Let's fix up proper rain, without millet. We can hitch up a sort of water-can in the ward, can't we?"

"It wouldn't do. They'd think the roof was leaking; besides, it would be damp."

"That's true," Semko agreed. "It's better to have the damp the other side of the window."

One day I met one of the patients, a watchman from the collective farm, wandering about in the corridor. He looked worried. He had lain for an hour trying to get to sleep. Finally he had given it up and walked out of the ward.

"You're breaking the rules," I admonished him.

"I can't sleep, doctor."

"How's that?"

The patient stretched, yawned, rubbed his wrinkled, smiling eyes, then said mysteriously and significantly:

"It's come unstuck, your 'rain'."

It was a fact, the "rain" had come "unstuck." The cardboard grooves had cracks in them and the millet poured out on to the floor. Sister Viarya who was responsible for "(administering the sky" sighed with annoyance.

"What a caution!" she said.

I returned home by a quiet side-street, feeling perturbed. Suddenly I heard the trill of a nightingale, coming from a gramophone. The thought struck me that if one can record the song of the nightingale, then undoubtedly it would be possible to record the sound of rain, and then to make several records and play them simultaneously in the sleep wards.

The same day I visited the Broadcasting Committee. The chairman put me in touch with producer Kryzhevsky and one of the sound-operators, Yurovskaya. I outlined my plans to them as best I could.

At first the producer seemed to show little interest. Then I made a special effort to interest him.

"It's a new experiment in medicine, to bring art into the treatment ... the Pavlov trend," I explained vaguely. My passionate desire to get a recording seemed to deprive me of the calm, unruffled, tone of voice which would have given weight to my words. Finally, throwing everything to the winds, I said:

"In exchange for your help, I am ready, should you need me at any time, to put my personal services at your disposal."

Kryzhevsky wiped his glasses, raised them to the light and examined the lenses with one humorous eye screwed up.

"In other words, you are only waiting for me to fall ill," he said.

"No, of course not," I retorted, now quite confused. "I merely wanted to say that I am prepared..."

"... to operate on the stomach or cut out a kidney, should need arise, without bureaucratic formalities and

in exchange for services rendered," said the producer, concluding my sentence in his own style.

Yurovskaya burst out laughing, while I made a feeble attempt to justify myself.

"All right, I agree," said the producer, interrupting me for the second time. "Actually I am more interested in your essential proposition than in the prospect of becoming a hospital patient."

At first we could not obtain a recording of rain. We got either a horrible whistling or hissing or else a noise that was simply unpleasant and expressed nothing. When, after repeated attempts, we obtained something closer to nature, the idea arose of "composing a concerto." First the rain—how does rain begin? A flash of lightning, followed by a distant peal of thunder, then the sound of the first big drops, then a downpour. Water rushing down drain-pipes and resounding in the water-butts below. Someone splashing through puddles under the windows. Then, once the illusion of bad weather had been created, the quiet, steady, drowsy rainfall. The "concerto" would attract the interest of the patient, disturb him a little, and the desire for rest and sleep would become all the stronger. And after rain, flowers smell sweet.

What other sounds soothe and send one to sleep? We made a recording of the sound of a moving train. It began with the whistle, the heavy puffs of the engine, the first knocking of the wheels on the rails. The train moved, the knocking of the wheels accelerated and it soon became so realistic that one could distinctly feel the rocking of the carriage.

We learned how to put people to sleep. But how about waking them? Should we continue to wake patients in the way it has been done every day? It is always unpleasant to be forced to wake up. Man is accustomed to waking himself in the morning; the morning signals its arrival by means of sounds. It is lovely in a village in the early

morning! So we decided to make a recording of early morning sounds in the village.

The morning "music" began with the song of the nightingale. It then developed into a harmonious chorus of birds, just as a Choir sings the chorus of each solo verse. Then a brief lull. Somewhere a cock crowed. A herd of cows passed down the lane. Girls sang as they went to the fields.

We searched for songs in the library of records at the Broadcasting Committee. But they were sung to the accompaniment of an orchestra. Symphony orchestras simply do not accompany girls to the fields. Kryzhevsky was furious. Yurovskaya grew tired of playing over endless songs.

"You know, there's no atmosphere in them," said Kryzhevsky, turning down the lot. "You can tell they are being sung in a studio. You can't feel the broad steppes, the open spaces."

"And how do I get hold of atmosphere?" said Yurovskaya, highly indignant.

"Until we came to the song part, everything was all right. There was no impression at all of it being staged; we had the natural crowing, the moo-ing, the cud-chewing, the pauses, and there was no harsh solidity about it. Everything was good, and now all the songs are bad!"

When we had finally selected a song, we began to search in vain for a way of concluding our morning "concerto." The idea was to conclude with pleasant, lively music. But what kind—a mardh, waltz, snatches from opera? The mardh was turned down out of hand. The same with the waltz. But what about the Spanish idea, with castanets?

"I have it, Moussorgsky's *Dawn Over Moscow*," said Kryzhevsky animatedly. "You see; we need dawn! True, dawn is a bit chilly, but we can warm it up with sunbeams dancing on the hospital walls. You get the idea? Like

this: the first rays of the sun breaking through the curtains——"

The sound recording was made on a magnetophone tape. As soon as it was ready, we acquired a magnetophone of the same kind for the hospital. The apparatus both recorded and played back recordings. We were able now to arrange transmissions to every ward in the hospital: music, lullabies for the children, stories, talks about the hospital protective regime, and so on.

After a telephone conversation with Pyotr Andreyevich, we asked for sister Galya Onishchuk from the operating theatre to be sent to us in Kiev to learn how to make magnetophone recordings.

Sister Galya objected to going to Kiev and resisted the idea to the utmost. Fair-haired Galya was pedantic and precise like all the sisters in the operating theatre; she was also reserved and had a good-humoured spark of stubbornness in her eyes. The only thing she liked was to fulfil her duties assisting at operations. When not doing that, she seemed to be lost and not at all like the sister she was in the operating theatre. She was never very good company and could even be boring. In fact, without the smell of ether, she was for ever bored and restless, and like a fish out of water.

"Why did you have to call me over?" Galya stormed. "You could have got sister Varya. She likes this sort of thing: special assignments and travelling about."

I waited patiently while she let off steam.

"I had to drop everything and come and now there's no one to repair the autoclave; they're doing the painting in the operating theatre without me there. What's your idea?" she demanded, an angry flush spreading over her face.

"Why are you so annoyed, Galya? Surely not because we have given you a responsible job to do? If you were the sort of person who could not be trusted with jobs, would that be better?"

Sister Galya raised her eyebrows imploringly:

"But you know I don't like travelling about."

"I know, but we decided to ask you because the job is a responsible one, the apparatus is expensive and delicate," I explained soothingly. "You work in the operating theatre and that means you understand the meaning of responsibility, otherwise what use would you be in the operating theatre? You understand fine instruments, you're accustomed to precision; these are qualities required for work with this apparatus. Moreover, you'll meet people. I'll introduce you to the producer, the artistes, the sound-operator."

In the Broadcasting Committee sister Galya quickly learned all about recording and reproducing sounds. She would look no one in the eye, but kept her own eyes screwed up as though the light was too bright, and she did nothing but remind me that the bus would leave at five o'clock and again she would not be in time to catch it.

At last the producer and sound-operator [accompanied us to the door.

"Forgive us for taking up so much of your time. But I hope...."

"Are you offering your services again?" interjected Kryzhevsky, with a smile.

"No, I hope," I continued, "that with what you have now equipped us, we shall be more useful at the bedside of the sick. It's true, isn't it, that it is a nice feeling to know that the fruits of one's Labours will add health and strength to people?"

I felt something in his handshake that said more than words could have done.

* * *

The day came When Fedorenko was due to leave the hospital. He had grown strong and looked younger. He no longer crept along by the walls, seeking support. He walked with a firm, steady step, confident and assured.

When Raisa Mukhtarovna and I entered the ward to say good-bye to him, a lively conversation was in progress. An old postman, with his eyes fixed more with pain than pleasure on a bunch of roses set on the bedside table, was discoursing on the brevity of life.

"Now summer is almost over. First the snowdrops, then violets and lilies-of-the-valley; now the roses have bloomed and the dahlias and asters will come next; you hardly have time to look round and summer is over! Another year off your life. It seems only yesterday I was buying size twenty-four boots for my son, and already he's wearing size forty-two." He shuffled across the ward and stood in thought at the door. "Hardly has the door opened, now it has to be closed again," he muttered.

"Life is short for those who haven't done much in life," said Semko, the worker from Kirovograd, drawing the flowers closer to him.

Meanwhile Fedorenko collected up his few possessions and came across towards us.

"I don't know about life being short or long, I only know it's good to be alive," he said with conviction, a smile in his eyes.

It was a pleasure to hear this from Fedorenko who had so recently been weak and jaundiced.

"Come along, Nikita Stepanovich, we'll see you off," I said.

Fedorenko showed some embarrassment.

"Oh, no! There's no need to put yourselves out."

He turned back and shook hands with every patient in the ward and wished them a good recovery. Out in the corridor we stood silently for a moment. Fedorenko's silence was of a special kind, elated and significant, as though he was paying a last tribute to the silence of the hospital.

"I'm keen to get back to work," he said, breaking the silence. "There's a lot to be done on the collective farm just now. We have large stables, the young animals are

coming along and they need a lot of care. My wife came over and told me they are waiting for stableman Fedorenko."

"She mentioned it to me, too," said Raisa Mukhtarovna.

A warm flood of sunlight poured through the broad windows. The intoxicating scent of roses came from two huge bouquets on a table.

"Well, Fedorenko, I wish you all the best of good luck in your work and personal happiness. I wish you it with all my heart," said Raisa Mukhtarovna, smiling warmly.

"Give my regards to your wife," I said.

Fedorenko left us with his heart full to overflowing. We watched him as he went until his strong, energetic figure was concealed from view by the trees of the park.

It has become one of our rules now to see every patient off when his time comes to leave the hospital, just as we did Fedorenko.



The days went by in more searchings and harmonious work. From all parts of the country scientists, professors, and doctors, came to see the hospital and make a study of our experiment. Then one day we made a report about our work at a meeting of the Scientific Council of the Kiev Medical Institute.

After the meeting Pyotr Andreyevich and I, together with a few other colleagues, had a lively conversation down in the vestibule about the new experiment at the Makarov hospital. One lecturer with a wrinkled face and bulging eyes, his cigarette-holder wobbling nervously between his teeth, pointed out:

"One must express oneself scientifically. Phraseology, phraseology! You say: 'Rain lulls to sleep, makes noises on the leaves and grass.' Balderdash."

"How then, according to you, should this idea be expressed," asked Pyotr Andreyevich with interest.

"Quite simply. Acoustical irritation accompanied by active atmospheric phenomena, acting on aural reception."

We looked significantly at each other.

The lecturer continued, his face expressing disdain:

"You understand, otherwise it becomes primitive, literature, poetry!"

"You want to convert life into a herbarium," said Pyotr Andreyevich.

Professor Mikhailov smiled ironically as he supported us:

"Medicine is a most poetic profession. It is the science of life, of the struggle for life. What can be more poetic than that sort of science? We frequently cripple it with Latin, with abstruse words. And is it not true that there are 'scientists' who hide their paucity of thought behind pretentious words? Throw out the words and behind them is a void. So much void that one wonders what it is that keeps the speaker on the surface of the earth."

Professor Panarin came up, moving a chair out of his way and breathing heavily. His eyes flashed angrily.

"I hear you are talking of the outward form, but I would like to say a few words about the essence of the matter. Splendid, very good! The Council has approved the Makarov experiment." He hesitated before pronouncing the last word. "And what have you Makarov people discovered? That quiet is better than noise? I must certainly make a pilgrimage to this medical Mecca."

"I advise you to," roared Professor Mikhailov in his deep bass. "We've been there and we liked the show."

Panarin shuddered theatrically.

"And what sort of a show is it? Comedy. For heaven's sake, curing ulcers with artificial rainfall!"

"On second thoughts, don't go," said Mikhailov. "You won't see what actually exists; you'll only see what you

want to see. Every new idaa affects you like an indiscretion in diet."

A burst of laughter greeted this frank and pointed joke made in a biting, yet good-humoured tone.

As we separated Professor Mikhailov came over to us with a smile of approval.

"Pay no attention," he trumpeted. "His scientific ideals have dimmed with age, as the pain in his back has increased. Meanwhile, you keep going, friends!"

He raised both hands above his head and shook them in an encouraging gesture.

Professor Panarin kept his word and visited the Makarov hospital. He deliberately spoke in a loud voice and, pretending not to hear our replies, asked for them to be repeated more loudly. He met Pyotr Andreyevich with the words:

"Come along now, produce some good surprises!"

We failed, however, to surprise Professor Panarin.

He concealed his hostility behind his customary, airy and affected manner.

"Well, my good fellows, I've had a superficial look at things and the impression I have so far formed is not in your favour. I would like this impression to be dispersed, so I will send my assistant to look more closely into things at your hospital. He will do it all quite conscientiously and objectively, according to the traditions of my clinic. I wish you good health and success."



Professor Panarin had not calmed down. Why was he so up in arms against us? Was it the conservatism of an old man? Of course, the old Viridian medicine was closer and dearer to him; he had helped to build it. He had devoted his early years to it. The laroma of youth was linked with it. He had not the strength to reject it when all he found of value in the world were those works of the

past. And what links had he with the new, Piavlov medicine? Evil tongues said that he could never forgive anyone Who made discoveries. He regarded discoveries as personal attacks and insolent incursions.

On his return to Kiev he immediately dispatched his pupil to Kopylov, since we had imprudently given him our consent. The young man was Alexander Mikhailovich Gridnev. His job was to collect as many as possible of the facts he required, facts which, he supposed, were inevitable in our sort of work.

Gridnev had been unwilling to laccept the job, but the professor was adamant in his choice.

"Who else will go, if not you? I am relying on you."

Gridnev had been friends with Pyotr Andreyevich Lagoda during their student days, iand he was unwilling to spoil their friendship. But, for his own reasons, he did not mention this to Panarin.

When he met Pyotr Andreyevich, Gridnev's manner was restrained.

"Good-day, Pyotr," he siaid with exaggerated politeness. "Here I am... You've created quite ia lot of noise, my friend!"

"I'm truly glad to see you again," replied Pyotr Andreyevich sincerely.

Before the doctor stood a tall, thin man wearing tortoise-shell spectacles: Panarin's favourite pupil iand faithful (follower. He was the same Gridnev whom Pyotr Andreyevich had respected so much for his independence of thought and pedantic precision—qualities which had determined his scientific future. Panarin had immediately picked Gridnev out from among the other students Who haunted the clinics and were passionately fond of surgery. The young student, dazzled by the brilliant surgical technique of his tutor, had forfeited his natural independence of judgement and followed Panarin blindly in everything.

Gridnev hastened to enlighten Pyotr Andreyevich as to the aim of his visit. Since it had become necessary for him to do the job, he would honestly and accurately carry out the instructions of his chief. He went carefully through all the documents, examined the patients, and not so much questioned, as interrogated them. In his manner of conducting his investigations there was much that seemed to be merely vexatious, trivial, fault-finding. Pyotr Andreyevich watched it all silently, though he was sorely tried.

When the "investigations" were ended, Pyotr Andreyevich invited Gridnev to dinner—a tribute to their former friendship.

"It's (good to invite la colleague of my student days."

"I accept with pleasure," replied Gridnev, trying with difficulty to appear at ease. "I'd like to see how you live."

During the meal they talked of everything except the hospital. They recalled the past and talked of old friends. But the conversation flagged because of the cold atmosphere of mutual distrust. After dinner Raisa Mukhtarova placed a large bowl of apples on the table.

"From one of the patients. Help yourself."

"Private practice! How does this fit in with the progressive trend of the hospital?" He pronounced the word "progressive" with irony and venom. "So you accept tributes from the patients?"

Pyotr Andreyevich jerked his head round, surprised. "Tributes?"

"Well, it's a fact, isn't it?"

"It's a fact that a patient gave the apples to us, but—"

Gridnev seemed to derive amusement from the doctor's perplexity.

"Ah, so the patient had the operation in the hospital?"

"Yes, in the hospital."

"Then this is a downright bribe."

'For heaven's sake, why?" implored Ralsia Mukhtarova. Never for a moment had she thought the conversation would drop to such a low level.

"How otherwise?" explained Gridnev. "Free assistance is given in the hospitals. And the State pays you a salary to do the work. What sort of free assistance is it, if you lallow yourselves to take—"

Pyotr Andreyevich interrupted Gridnev.

"We allow ourselves nothing. Your line of conversation is positively revolting."

Gridnev laughed aloud.

"You should say—unpleasant."

"As I see it, the conversation is positively revolting," reiterated Pyotr Andreyevich, gaining control of his temper. He pushed back his plate, unable to eat. Meanwhile Gridnev continued to chew an apple.

"Prove it then. You received tributes from a patient, didn't you? From one of the patients. Perhaps you just borrowed the apples, took them for a day? Because a guest was coming?"

Pyotr Andreyevich pulled nervously on his cigarette. He cast a gloomy glance at Gridnev, who was calmly enjoying this apple. Then he controlled his agitation with an effort.

"Now listen, Gridnev," he said. "You've known me for a long time. Like you, I do not engage in private practice, on principle. I consider it incompatible with the calling of a Soviet doctor. The apples were brought to us by stableman Fedorenko, whose life my wife saved. He came to the hospital to die, you understand? And he left the hospital a healthy man with a strong desire to live. His gift was a token of his heart-felt gratitude. When Raisa tried to refuse the gift, he was very much upset; she hurt his feelings terribly. One would have to be a humbug, an unctuous hypocrite, to damp the feelings of such a grateful patient. That same day he had (been our guest; he sat at this very table."

Even before Pyotr Andreyevich rose from the table, Gridnev felt it was high time (he left).

This episode with Qridnev, the whole behaviour of the man, in conversation with whom a totally harmless subject had suddenly become quite obnoxious, weighed heavily on Pyotr Andreyevich.

"Yes, Gridnev serves Panarin and pretends to be serving science. How very distressing!" he said disiappointed-ly when he told me about the affair.

* * *

We decided that year to spend our holidays touring in the car. We worked out the route land began to make preparations. The devil take the Panarin-Gridnev intrigues! We would fight it all out when we came back.

Raisa Mukhtarovna's health had considerably deteriorated and she was to undergo treatment in a sanatorium. Three years had piassed since she had left Tajikistan because of tropical malaria. She had been feeling well until this summer, when work seemed to ibecome difficult; she always felt limp, she became short of wind and suffered from dizziness land sudden bursts of sweating. Her temperature went up in the evenings and her cheeks were suffused with a high colour.

When we were just about to set off, and the Pobeda was laden with fishing tackle, rifles, maps, tripod and kettle, cooking utensils, dominoes, chess, playing-cards, books, the selected works of Pavlov, etc., Raisa Mukhtarovna planted herself beside Lonya Viasilevsky, our chauffeur, and so confronted us with the accomplished fact, so to speak.

"I'm coming with you," she said.

As we saw it, this was a hurried and imprudent decision. We objected, we tried to persuade her to remain, we did our utmost to bring her to reason. I outlined the terrible consequences for herself of sudh ta trip, but we were unable to get her to (alter her decision.

We had plotted a long and difficult route: starting at Kopylov, we would pass through Kiev, Poltava, Simferopol, and Kerch. There we would cross the Kerch Straits and visit the most picturesque parts of the Caucasus, and from there we would return to Kerch.

On July 10, our Pobeda crossed the boundary of the Miakarov District.

It was a warm, sunny day and the car moved lightly and rapidly over the high road which divided the vast fields of corn stretching away into the steppe. The hot, sun-scalded air quivered over the long strip of asphalt before us, creating a mirage of water on the horizon, a tantalizing coolness.

They were harvesting the grain in the fields we passed. Beyond Kiev lorries were coming up the highway in long rows, carrying newly-harvested grain.

Leaving behind the broad expanses of corn-fields, we drove on through plantations of sun-flowers, their round, bright-yellow heads raised to the sun, through a forest of tall maize, the cobs already ripening, through straight rows of low, flowering potatoes and vast areas of sugar-beet and cabbages. Dotted about in the sun-drenched ocean of colour we saw harvest encampments: tents, awnings, dining-tables, bicycles and motor-bicycles.

We by-passed Piryatin and Lubny and at sunset made a halt on the banks of the River Khorol, some distance from the main road. Here, under a bridge, we found chauffeurs washing down their lorries. We joined a noisy crowd of children bathing in the river. Pyotr Andreyevich stepped gingerly into the water, picking his way over the river-bed.

"Teach me how to swim," he called to the children. Taking their advice, he threw himself into the water, became quite submerged and vanished from sight. The children were horrified. They shouted furiously and waved their arms (about to warn us of the calamity. But

meanwhile, with streaming hair plastered down on 'his round and smiling face, Pyotr Andreyevich appeared at the farther bank.

After bathing we got out the fishing tackle.

Lonya, the chauffeur, was fond of boasting that he could make "fish-soup fit for la king." He waited impatiently for the chance to display his culinary skill.

Lonya was a young fellow of twenty-four; he was ia bit of a daredevil and had a romantic liking for his job. Winter and summer he went about with an open collar. He was so attadhed to his car that he was almost a medhanical part of it, the speedometer, for instance. He had the confidence of youth and a belief that nothing harmful could ever happen to him. Consequently he was inclined to speed on the road. When we tried to remonstrate he said with self-assurance, "I like to give the car all she needs, but I like to take it out of her, as well." Taking it out of her meant racing the car at top speed, of course.

Everyone helped to prepare the supper: Pyotr Andreyevich set up the tripod, I lit the fire, Raisa Mukhtarovna cleaned the fish, carrying out the instructions of the chef who was to produce the "fish-soup fit for laking."

Lonya announced the directions:

"The soup has to be boiled for :an hour and must then simmer for another half-hour."

"That's a pretty kettle of fish—I'm already pining for food," said Pyotr Andreyevich.

The men spent the night under ia haystack in the meadow, with its sweet, intoxicating scents. Riaisa Mukhtarovna slept in the car.

We igazed blissfully into the starry sky, hands folded behind our heads, legs stretched out.

We awoke at dawn. Reluctantly we withdrew our eyes from the horizon with its rosy bank of clouds like a dhain of snow-capped mountains. We drove the car, sprinkled

with precious dew-drops, towards these fairy-tale, dawn-painted mountains.

Beyond Poltava we took the road which brought us first to Simferopol and then to Feodosia. Here Raisa saw the sea for the first time and was as delighted as though she had just discovered it for the whole of mankind.

"I've read good books about the sea, I've seen it in films and pictures, and now at last here it is. I can smell it, it's close enough to touch, I can hear the waves breaking. Can you understand how I feel?"

Flushed from so many impressions, Raisa Mukhtarovna looked like a young girl in her dark, check travelling dress with its white belt and elegant clasp. Her eyes, with their slight cast, looked youthful and bright.

The sea, even when calm, excites an indescribable agitation. Perhaps that is why, of the six thousand pictures Aivazovsky painted, four thousand are pictures of storms at sea.

It was in Feodosia that Aivazovsky lived and worked. We visited his villa, now a museum. It was the most modest of the villas on the former Italian Boulevard. There were pictures on all the walls: sea, sea, and more sea. A foggy morning, storm at sea, among the waves, calm seas, the moonlight path, ships, sailing ships light as sea-gulls. Sea, sea, and more sea.

The pictures seemed like views of the sea seen through the windows of the villa.

That night we slept at a fishing village near Kerch and remained there for three days in a little fisherman's hut on the beach. The hut was so fragile it might have been made of cardboard. Naturally we went out with the fishing smacks. Everything pleased and interested us: the arrangement of the fishing nets, the habits of the fish, the signs and tokens of the fishermen.

Meanwhile I had been keeping a professional eye on Raisa Mukhtarovna. When she started on the journey she had felt rather ill and had a sickly colour and blue rings

under the eyes. Yet only a few days had passed since we left Kopylov and here she was transformed. One could hardly believe she was the same person.

New impressions crowded into our patient's mind with every passing day; yet we had thought she needed mental rest. Instead of observing a strict regime, here she was living the disordered life of *la nomad*. Instead of the hot-house conditions of *la sanatorium*—sunshine, rain, wind, dust, bumpy roads in the car. In spite of everything, she grew stronger. Her carefree laughter and wide-open gaze, which so clearly showed her mental serenity, were more proof of her good health than any clinical thermometer readings or any laboratory formulae.

"How do you feel, Raisa Mukhtarovna?" I asked cautiously, while she sat on the beach, watching a fishing boat glide silently across the path of moonlight.

"Who, me?" asked Raisa, lastounded. "Oh yes, of course. I keep forgetting. I feel very well, indeed. Grand, in fact!"

This was remarkable. Here was an example of a patient being helped, not by peace and quiet, but by a kaleidoscope of impressions, by movement, by the commotion and disorder of the open road. Not by inhibiting, but by stimulating phenomena. This had to be thought over. A patient wants more than just peace and quiet!

We had prolonged the sleep of the patients in the Makarov hospital. By re-arranging the whole hospital environment, we had shown that people who are sick can sleep a great deal, for a period of twelve hours instead of seven. This had developed the natural defence mechanisms of the organism which had previously been relentlessly destroyed in hospitals. How should we now fill the waking hours? With more peace and quiet? It appeared that one could protect the patient, not with sleep alone, but also by means of activity, as in the case of Raisa Mukhtarovna. Boredom and inaction are as much the hand-

maidens of disease, as are worry and (agitation. It followed that during their waking hours patients should be distracted in some way. Games? Work? Music? Journeys? Collecting things? That was it: our protective regime should combine inhibiting and stimulating factors Which would lead to equilibrium. This was now quite clear.

Pyotr Andreyevich sat with his legs crossed in Eastern fashion (he had learned this trick in Tajikistan) and prepared to enter into the conversation.

"Have you thought at all, Raisia, about Why you have begun to feel better? Have you thought (about the mechanism of the curative effect of travelling?"

"I feel so well I don't want to burden myself with thoughts about it," replied Raisa Mukhtarovna with a tranquil smile.

"All the same," insisted Pyotr Andreyevich. "Everything you have seen is unforgettable, isn't that so? Aivazovsky, the fisherfolk, the camp-fires, the nights in the fields, the speed of the car. They have impressed themselves on your imagination."

Raisa looked curiously at her husband.

"Yes, these are all unforgettable impressions,"

"Well then," continued Pyotr Andreyevich, "these unforgettable impressions—how can they be defined more accurately? They are signals of activity which, evidently, have turned out to be stronger than the signals of sickness. And for that reason, they have become dominant, they have suppressed the weaker signals. You understand? Now listen to yet another ponderous formula that has struck me at a time when I should be thinking of words more in tune with this delightful evening, this path of moonlight and the calm, mirror-like sea."

Raisa raised her eyebrows in surprise and -anticipation.

"Well, I'm ready for the ponderous formula."

"If you're ready, then listen. The sphere of our consciousness is occupied with pleasant impressions from the

journey and it is as though there were no room left for baneful information from damaged organs."

Raisa Mukhtarovna thought for a moment, then said:

"That is all very interesting. Very! But isn't there a contradiction? We protect patients from strong sensations, yet it appears they can be cured by them."

"There is no contradiction," I said, breaking into the conversation. "For some sick people strong sensations are a means of bringing about equilibrium. This is where the doctor comes in: here, at the control-desk, are two basic nervous processes: stimulation and inhibition. Correct me if I develop this point too far. The art of the doctor lies in his ability to conduct these two main processes, to guide them, to give them in doses. It is possible to compose thousands of cure combinations from these two processes. For each patient it is necessary to find the correct relation between them and so achieve equilibrium, in other words, health. And the choice of stimulating and inhibiting means is tremendous: operations, physiotherapy, medicines, the influence of the spoken word, travels, music, thousands of means!"

"Operations?" said Raisa Mukhtarovna, surprised. "How can they influence the movement of two nervous processes? They are not impressions obtained during a motor-tour."

"How can they influence it? Isn't the damaged organ which the surgeon decides to cut out an area from which destructive signals bombard the central nervous system? They can give either a preponderance of stimulation or a preponderance of inhibition. By removing the organ, or part of it, we relieve the cortex of a hail of blows striking on the nerve cells, consequently we help to bring about equilibrium between the two basic nervous processes. We have learned to do marvellous operations. We have invented extraordinary apparatuses. The same with medicines. But is it this which specifically distinguishes human medicine? I mean precisely *human* medicine.

Work and speech are what made man. Herein lie the hitherto unexplored land unusual opportunities for the medical profession!"

We had exhausted the subject. Raisa Mukhtarovna and Pyotr Andreyevich slipped off their shoes, went down to the sea, and wandered along the shore, their feet in the warm sea water that seemed diffused with light from the bottom of the sea. Presumably they were now addressing each other in less ponderous language, of a kind that can only be imagined by you and me, dear reader.

I spent the rest of the evening playing draughts with the chauffeur.

Fiar away from our own hospital we had been thinking about our protective regime. Beyond our close horizons there lay methods as yet unknown to us which would fill the patients' waking hours with the pulse of life. It might be music, travels, the countryside which, by some as yet unknown means, we would put at the service of hospital patients. Who could tell!

The days passed as in a fairy-tale, bringing more joys and interests. We took the car on the ferry across the Kerch Straits, then travelled to Sukhumi along the coast road. From Sukhumi we crossed the Suram Pass to Gori, J. V. Stalin's native town. Then we visited Tbilisi, Kazbegi, Nalchik. Roads, roads, and more roads: asphalt, stone, gravel, clinker, high roads, low roads, village roads. Historical monuments, museums. After filling our lungs with the aroma of the sea and the alpine meadows, after tanning our faces bronze in the high mountain sunshine, we again returned to Kerch.

On the road from Kerch to Simferopol we were hailed by ia chauffeur. He was having some trouble with the car standing by the roadside and wanted Lonya to help him. Lonya readily agreed. In a few moments they were both fiddling about under the bonnet of the oar, which was an old one of foreign make.

Meanwhile we had caught sight of the only passenger from the other car. He was standing a little (ahead, on the side of the road, with his back to us, his shoulders hunched up. He was lanky, wore a hat, and was smoking nervously. As we watched him, he threw away his cigarette, turned, and strolled in our direction.

"Gridnev, my old pal! What a surprise!" cried Pyotr Andreyevich suddenly, hurrying forward. The men embraced.

It is just possible that they would hardly have greeted each other, if they met in Kiev or Makarov. But here, several hundred miles away, Pyotr Andreyevich had forgotten about the insult and greeted him joyfully. Smiling happily he looked into Gridnev's long, thin face, at the mobile lips with corners slightly raised, showing humour or perhaps self-reliance and a feeling of superiority. The friendship of earlier days conquered over the bitterness left from their last encounter.

"How do you come to be here? Dropping from the sky like this?"

Gridnev smiled with embarrassment.

"I've got a place in a sanatorium at Feodosia. Nerves a bit knocked about. Y-e-s," and Gridnev shook his head as though weighing the significance of events in general. "What did you think about me after I left Kopylov?"

"Is it worth while recalling all that?" said Pyotr Andreyevich waiving the matter.

"No doubt you thought me a swine! A sycophant or something of the kind. I couldn't find anything wrong at your hospital, so I wanted to get my own back on the private practice business. Well, I won't waste your time: I no longer work with Panarin."

"How's that?"

"Just that. I don't work with him. Our love brought us no happiness and the separation brings no sorrow."

"Don't be a hypocrite, Gridnev. You're fond of Panarin, I know."

Gridnev stood still and his face grew grave. For some reason or other he took off his spectacles and put them into his side pocket.

"Yes, I was attached to him. He is a brilliant surgeon, a virtuoso. His technique attracted me. I'll tell you frankly, I never gave much thought to my chief's philosophy. But one thing surprised me: the fact that with all his brilliant technique Panarin had more deaths and complications to account for than the other surgeons. Can you guess why that was?"

There was a scarcely perceptible smile on Gridnev's face.

"His mental attitude was all wrong," said Pyotr Andreyevich.

"Perfectly true. You're right," said Gridnev. "The organism can forgive the surgeon for a technical mistake, even a fairly big one, but it will never forgive the surgeon for having the wrong attitude. Panarin taught me the technique of performing operations, and I am grateful to him for that."

"All the same, why did you leave him?"

"Well, it was like this: at an important meeting I spoke in your favour. To Panarin this was like thunder out of a clear sky. He asked me to see him and said, 'You're acting like a traitor. You gave me a different opinion about the Makarov experiment.' I replied, 'I had no opinion of my own, nor could I have, before I went and saw the hospital.' 'And now?' he asked me. 'Now I have an opinion and I have made it public.' Panarin went purple. I'd never before seen him like it, you'd think the matter concerned his own life. He shook all over and mumbled incoherently, his voice breaking. 'I know it all. You can't hide the fact from me. Your friendship with that Lagoda means more to you than your principles,' and so on. I could say nothing to that. I parted with the clinic for good and all. That's all there is to it."

There was a pause while Gridnev lit a cigarette. Pyotr Andreyevich was the first to break the silence.

"Just like you, Gridnev. But—"

"I know, you mean I've run away," said Gridnev, reading the thoughts on Pyotr Andreyevich's face. "I don't like stream-lined formulae; it's more than running away—it's cowardice. Why did I take such a decision or, in other words, act like a faint-heart? How can I explain it? Panarin's ideas are out of date: he regarded the stand I took as a stab in the back of my tutor, as betrayal, as downright ingratitude. It was with his help, after all, that I became a surgeon, a candidate of science. It is difficult as yet to convince the old chap that my speech in support of the Makarov experiment, as well as every other attempt to drag him out of the grip of Virchowism, was more a sign of friendship than of treachery. On the sea-shore at Feodosia I shall think over it all again."

Meanwhile the chauffeurs had cured the trouble with the car. Gridnev shook hands with Pyotr Andreyevich and then with us, took his seat in the car that Lonya called the Renault cripple, and drove off. The sun-baked limousine disappeared in clouds of black smoke from the exhaust pipe.

The next day we walked into our hospital, bursting with health, and in our hearts the starry expanses and a huge longing to get back to work.

* * *

It was as though we had been ages away from the hospital and now we expected to hear all the news and happenings. But nothing special had taken place. Ti-shchenko had shouldered all the surgical work. He had done a great deal, willingly and with zeal. Being unaccustomed to working alone and having the whole responsibility of the well-being and lives of the patients, he seemed to have acquired an extra wrinkle on his brow

and an expression like a weather-beaten sea-captain. He told us all about the operations that had been performed and we could find no fault at all with his work.

"There was just the removal of a spleen which had burst, which I hesitated to do. I'd never done an operation of that kind so I hadn't the courage. I called in a surgeon from Kiev."

"That you hadn't the courage is no crime," was Raisa Mukhtarovna's comment. "It is a good thing to know when to be afraid. It shows a sense of responsibility. In surgery it is important."

Elena Petrovna, who had taken Pyotr Andreyevich's place in his absence, told us about the doctors who had visited the hospital, how surprised they had been because our patients hardly ever groan. They already knew in the hospital about the conflict between Panarin and Gridnev and the outcome of it. While we were on holiday there had been no other new developments.

We had noticed that with our protective regime and prolonged sleep, the patients' wounds had begun to heal more rapidly. Now we wanted to verify this scientifically by means of a precise experiment. The question was what form should the experiment take and who should take charge of the work. It was important because if the experiment proved that we were right, then, after an operation, the stitches could be taken out, not on the seventh or eighth day, but on the fifth or even the fourth.

"I wonder who could do the job?"¹ thought Pyotr Andreyevich. "Valentina Ivanovna Chudnovskaya would be willing and could certainly do it meticulously and conscientiously."

The woman in question was elderly and almost sickly pale; she had flashing, deep-set eyes; all her life she had longed to do experimental work. For many years she had worked in the village but had contributed nothing to science. Whenever she visited Kiev, she went to all kinds of lectures at scientific institutions, clinics, and so on. To

her way of thinking, daring ideas and discoveries were always conceived in test-tubes and came out of marvelous apparatuses in clinics and laboratories.

Valentina Ivanovna was a prudent woman, exceedingly polite and super-sensitive. She would cry for nothing: when patients thanked her, when she made a successful diagnosis or, on the contrary, an unsuccessful one. She cried at celebrations, at theatres, at the cinema, over books. She was particularly moved by beautiful things; a luxuriant bouquet of flowers, a flaming sunset or the picturesque countryside on the road to Kiev would quickly bring tears to her eyes.

When we told Valentina Ivanovna of our decision, her face shone with delight. She plunged headlong into the work. For the experiments we used rabbits and an amusing, shaggy dog with a shaggy head, called Tresor. Fedot, who stoked the hospital fires, fixed up some rabbit-hutches in the barn. He also undertook to give any assistance needed in the experimental work.

Zarubin grumbled dismally as usual, "Now you want hay. No matter how much I do, the work doesn't get less. There's always more of it."

Then came the question of getting the rabbits to sleep. If we used drugs, then the result of the experiments would not be applicable to the hospital, for our patients sleep without drugs. How could we make the rabbits sleep longer? We racked our brains to solve this problem.

One evening we met together in Pyotr Andreyevich's home to discuss the plan for our experiments.

We found the doctor sitting on the floor with Tanya, Elena Petrovna's five-year-old daughter, playing "Who gets most?" He was biting his bottom lip and trying hard to get a marble into a hole cut out of cardboard. He did not get up when we came in.

"I've made a note of an idea that struck me. Rabbits can be made to sleep without drugs," he exclaimed.

He pulled his "diary" out of his pocket—a box of cigarettes. He had a habit of writing notes on bits of paper and shoving them into the box. As he frequently went to it for a cigarette, he was constantly reminded of his jottings. Actually the doctor's diary has a great advantage over the usual note-book; one never forgets to look into it. On this occasion, of course, it was our appearance that had reminded Pyotr Andreyevich of the note he had made.

"Now, why do our patients sleep a great deal?" said Pyotr Andreyevich, looking at the piece of paper and arguing to himself. "Pavlov explains it as being the result of the removal of a mass of stimuli. Now how did Professor Galkin go to work? By surgical means he switched off the sight, hearing, and sense of smell of his dogs, and they then slept almost round the clock. No signals from the environment penetrated into their central nervous system. We shall not switch off the sight and hearing, but we shall remove the sight and hearing signals from the environment. If we isolate our animals, I assure you they will sleep."

At last Valentina Ivanovna began her experiments. First she gave the animals an anaesthetic. Without this she would have refused to make the experiments. Then she made a small injury on some rabbits and a dog, and made a note of the time it took for the injuries to heal. She then treated the same animals in the same way, but isolated them from outer signals as Pyotr Andreyevich had suggested. The isolated rabbits and the dog slept splendidly without any sleeping drugs. Valentina Ivanovna excised the wounds at various intervals and studied them histologically, in order to determine how quickly the restorative processes in them developed.

Now, after operations, we are able to remove the stitches on the fourth day.



The external world gives its signals to man through the sight, hearing, and the senses of smell and touch. "This is what we possess in the form of impressions, feelings, and notions of our environment ... with, the exception of written and oral speech. This is the first signal system of reality and is common both to man and animals. But speech constituted our second, special signal system of reality, being signals of the primary signals. It was speech that made us human beings," So wrote Pavlov.

When you stand in front of an apple-tree in the orchard, you see it. This is the signal of reality. Now shut your eyes and listen to someone reading: "The boughs of the apple-tree are bowed almost to the ground under the weight of the heavy, -golden fruits. Washed by the morning dew and bathed in sunlight, the proud tree is a joy to behold!"

Though your eyes are closed you can see the apple-tree. Speech consists of signals of external signals. Speech is an "abstraction" from reality. Pavlov speaks of "inter-human signalization." Our complicated inter-relations with the environment have passed to the second system of signals and become "the most constant and ancient regulator of the living relations of man."

J. V. Stalin writes: "In the history of mankind, spoken language has been one of the forces which helped human beings to emerge from the animal world, unite into communities, develop their faculty of thinking, organize social production, wage a successful struggle against the forces of nature and attain the stage of progress we have today."

The sphere of influence of language is tremendous. "It is almost boundless," said Stalin.

The cerebral cortex is linked with all the systems of the organism, with all its organs. Is there anything surprising therefore in the fact that one can influence these systems and organs with the aid of words?

"Emotional influences can frequently exert an effect

that is many times greater than any physical factor .;. words can cause deep changes in the whole organism." It was Pavlov's pupil, Academician Bykov, who put forward this idea.

Verbal influence can have an effect not only on human behaviour but also on the profound, intimate, biochemical processes in the organism. The psychiatrist Platonov suggested to a man that he was drinking vodka, whereas he had given him mineral water, and the man became intoxicated.

A coin was placed on the skin of the forearm and the subject was told that the coin was red-hot, whereupon a red mark appeared on the skin, followed by a blister exactly as after a burn. By verbal influence it has sometimes been possible to alter, in a favourable direction, the course of such illnesses as tuberculosis of the lungs, ulcers, asthma, and hypertony.

Ancient medicine abounded in "cures" which made doctors the enemies of mankind. The patient had to withstand simultaneously both the illness and the cure. For feverish conditions they prescribed hourly blood-letting, for catarrh of the stomach—100 leeches on the stomach. Paracelsus successfully cured heart diseases by means of heart-shaped leaves, kidney diseases by means of reniform leaves, and diseases of the eye by means of red leaves with black spots.

To what did the patients owe their recovery? Not to the remedies, of course, but to faith in the remedies. Not to the treatment itself, but to faith in the treatment inculcated in them by the spoken suggestion of the doctor.

Pain can be removed by the spoken word. The sensation of pain takes place in the cerebral cortex in a region which is susceptible to the influence of speech. Painless childbirth is now effected widely by speech, by explanation, by educational methods.

The spoken word can inspire, raise the spirits, arouse

joy, remove harmful ideas and produce new, positive, clear, happy thought. The spoken word can pass on to a patient "that strength of spirit," as the Russian doctor Mudrov wrote at the turn of last century, "which conquers bodily ills, depressions and doubts and which then subordinates the illness itself to the will of the patient." The spoken word can calm the despairing patient, can return faith in life to the patient racked by serious illness. On the other hand, the spoken word can overwhelm and crush; it can tear hope from the breast, it can kill.

"The spoken word is the commander of human forces," wrote Mayakovsky. Why do doctors make so little use of it in medicine?

Virchow's medicine is inarticulate medicine. It is the medicine of the cell and not of the human being. Doctors used to spend too little time in the society of the patient; the latter was studied in test-tubes, under the microscope, on the screen of the X-ray apparatus. Doctors cured the illness in the man and not the sick man as a whole. They said very little to the patients; it was diseased kidneys, lungs, hernias, and appendicitis that were lying in the hospitals and one cannot talk to organs and diseases. The doctors cured without words: they injected something, smeared something on, cut something open. It was an insult to the human being.

Nowadays Soviet medicine, in the service of man, used the all-conquering force of the spoken word as an instrument of struggle for the health and happiness of man.

* * *

A woman patient named Kubitskaya was undergoing a cure for ulcers in the "light" sleep-ward. One unerringly recognized from her face, which shone with hospitable solicitude and kindness, that she was a mother.

But when we came to the ward we found her sitting up in bed with tears in her eyes.

"Why the tears?" asked Raisa Mukhtarovna, placing her hand on the woman's shoulder and looking searchingly into her face.

"What's there to smile about? My temperature's up again,"

The temperature chart showed a slight rise in temperature but nothing to be perturbed about. The woman's low spirits were due to the fact that she knew she had a temperature. The temperature itself was not high enough to have affected her. She had seen the red line on her temperature chart which as indisputably and persuasively as anything else in writing had convinced her of some imminent "catastrophe."

Patients have a habit of studying their temperature charts. As often as not they misinterpret the graph in their own muddled and erroneous way. We decided, therefore, to remove the temperature charts from the heads of the beds and to keep them in a separate file.

Kubitskaya had three children at home.

"I've been ill a long time now. Look what's left of me, just skin and bones. I can't eat anything. I'm terribly sorry about my children. I'm sure I'll never recover from this illness. Talking won't help."

The mark of doom was on the woman's face. She had been under treatment more than once before; sometimes there was improvement, at other times the illness got worse, and this had killed all her hopes of recovery.

Gloomy thoughts are the prime assistants of disease. Admission of one's weakness is the beginning of defeat. How could we inspire faith in life? How could we train the patient to want to live?

Hope is natural to man. We had only to learn how to sow the seed of hope. It is as criminal not to offer hope as it is to take away all hope. Does this mean one has to deceive patients?

Medicine is strong. Its arsenal is full of powerful weapons: blood-transfusion, sleep therapy, tissue-grafting, penicillin, streptomycin, various serums, endocrinological preparations, radio-therapy and all the increasing numbers of new up-to-date operations. Having all this, should we deceive patients? Are we so weak that falsehood has to be used as a medicine?

... That evening I visited Kubitskaya again. She complained that she could not sleep.

"You're worrying," I explained to her.

Kubitskaya sighed heavily.

"Yes, all kinds of unpleasant thoughts come into my head."

"Tell me, Kubitskaya," I said after a short pause, "have you ever thought about sleep as a cure, about its power to cure?"

"You're the doctor; you're the one to know all about that."

"But what about you, do you know?"

"When I'm cured I shall know. I shall know what helped me."

There were two other patients in the ward suffering from ulcers. They were already convalescing.

One of them asked me to explain how sleep is helpful.

"When you're tired," I began, "you feel you must rest, so you lie down on the bed and fall asleep. That is how nature protects your organism from being destroyed. Sleep is nature's health-endowing gift. When the marmot hibernates during the winter, it does not suffer from plague, even when injected with a lethal dose of plague germs."

Kubitskaya raised her eyebrows, surprised.

"It doesn't? Do you mean that sleep, then, has such power?"

"It appears so. Scientists have shown that wounds heal more rapidly when a person is made to sleep. And what, after all, is a stomach ulcer? It is also a wound

but with its own peculiarities. The pains go away and the appetite returns when the patient takes a sleep cure. Of course, it doesn't always happen at once, on the spot. When did your pains stop?" I asked, turning to one of the convalescent patients.

"On the third day," she replied immediately.

"Now look here. You all live in the same neighbourhood, so you all know Mudrak, the chauffeur. He had a stomach ulcer too. He got well quickly and put on about a stone in three weeks. If you like I will show you these X-ray photographs. Take this one: you see the black spot here? That's the ulcer. That was taken before the cure. Now have a look at the other photograph. There is no black spot on it. The photograph was taken after the cure, when the ulcer had vanished."

While I talked I looked covertly from time to time at Kubitskaya. She was showing great interest, her brows knitted in concentrated attention.

"I know Mudrak. He always used to look very poorly," she said, a far-away look in her eyes.

"But you wouldn't recognize him now."

The shadow of despair was disappearing from Kubitskaya's face.

"And you think I could get better like that?" she asked. "I shall sleep tall I can, as much as you say! Is it time for sleep now?"

She burst out crying again and put her hands over her eyes in an attitude as though asking to be condoned.

Kubitskaya's convalescing neighbour smiled.

"You're only crying now because you're happy," she said.

Kubitskaya's doubts retreated before the facts with which we surrounded her. She stopped waiting for new attacks of pain and began to notice how the old pains were diminishing.

We helped the patients to become aware of the weapon we gave them to combat their illnesses. This gave

them confidence in the success of the treatment, in their own future. Kubitskaya began to settle down to sleep with a smile, carrying into her sleep the pleasant anticipation of good health and all her hopes for the future.

Disease attacked the body of collective farmer Kravchenko and stole the bright colour from his face and the light from his eyes. Spontaneous gangrene! This meant sleepless nights, pain in the leg; it was like death bit by bit. With spontaneous gangrene the arteries of the leg contract, the spasm narrows and strangles them so that it is difficult for the blood to push through the narrowed blood-vessels; the leg loses its colour. Then the walls of the blood-vessels thicken and the space inside gradually diminishes until there is no space at all. Then the artery ceases to "breathe," there is no longer any pulse in it. And so the leg begins to perish.

"The pain is terrible, I can't bear it," complained Kravchenko. He was doubled up with pain as if tautening his muscles to withstand a blow.

Each patient has his own way of withstanding pain. Each seeks, and finds his own "method" of combating pain. One lets his leg hang down, finding that eases it; another rubs it, kneads or presses it, as though trying to drive out or "strangle" the pain; a third moves his legs rapidly under the bed-clothes as though escaping from the pain by running; a fourth grasps the frame of the bedstead and grips it with all his might; others bury their faces in the pillow as though hiding from the pain. Some groan or shout and so feel "easier," or they bite their underlip or claw themselves to cause a different kind of pain. When British sailors were taken out to be flogged, they used to put a piece of lead into their mouths to bite on. At one time pain was "cured" by pricking the painful part with needles to "slay" the pain, to pierce it, to "kill" it.

Patients have different ways of soothing their pain.

"What do you do, Kravchenko, when the pains are worst?"

"I let the leg hang down, rub it, and walk about the room," replied Kravchenko.

"And that eases it?"

"Certainly."

"And do you know why, Kravchenko?"

"No, I don't."

Kravchenko was now all ears. Why, indeed, was the pain eased when he put his leg down or rubbed it?

"This is why. You get the pain because the blood isn't circulating properly in the leg. The space inside the blood-vessels has become narrower, so less blood flows into the leg. When you put your leg down, the blood in it is 'held up.' You see, the veins swell. The same happens when you rub the leg—the skin goes red, that means additional blood has flowed to that part. Do you understand, Kravchenko?"

"Naturally I understand," said Kravchenko, brightening up.

Pain is registered in the cerebral cortex, a sphere accessible to verbal influence. Consequently it is possible to hamper the sensation of pain. We had now explained to Kravchenko why the pain is eased when he lowers his leg or rubs it. We also offered him new methods to add to his own.

"Here you are, Kravchenko, take this rubber tubing. Draw it lightly round the thigh, you understand why yourself. Quite so, you will be delaying the backward flow of the blood from the leg. See if you notice when the pain eases."

Two or three times we gave Kravchenko the rubber tubing and simultaneously tea with a soporific. The soothing influence of the soporific was firmly linked with the soothing effect obtained from the pressure on the leg, so that later it was enough to put pressure on the leg and the pain would stop.

At first Kravchenko groaned.

"You know, the fact that you are groaning fixes your

mind on the thought that you are in pain, even though everything has been done to ease and suppress the pain. Groaning and crying out only weaken you, when you need all the strength you can muster," we told him.

Previously we used nicotinic acid to treat patients of this kind. What it amounted to was that the sister came in and gave an injection and then she went away. That was called treatment. Nowadays it is all different.

"We are going to inject nicotinic acid," we tell the patient. "We are beginning to inject it now. Do you feel your face growing hot? Look in the mirror; you see your cheeks are flushed. That is the effect of the nicotinic acid. The same thing is happening in your bad leg: the blood has rushed into the open channel of the artery, has warmed the leg and washed out the tissues. That is the whole idea of the treatment."

With Kubitskaya and Kravchenko, the very fact that they consciously believed that they would get well and were full of confidence and hope, gave them added strength to combat their disabilities.

A woman doctor who came to the Kopylov hospital from Uzhgorod looked long and closely at the faces of the patients who were most seriously ill. Then she said:

"What extraordinarily peaceful expressions they have on their faces!"

The peaceful expressions on our patients' faces is the finest reward we could have. The same doctor noticed in the quiet of the hospital that her shoes squeaked insufferably; she slipped them off and walked through the hospital in slippers.



We sought and discovered the most simple explanations for the different treatments offered. We did not take cover behind a wall of Latin. The number of patients who would not struggle for themselves, but merely sought the protection of the doctors, became increasingly smaller.

The desire to have good health increased as soon as the patient became aware of the power of the weapon we put into his hand. Sometimes we sacrificed the accuracy of scientific facts to this task of describing things so that the patient would understand. For instance, penicillin.

"In the animal world some animals destroy others: for instance wolves destroy deer, birds—insects," said Elena Petrovna, beginning an explanation to one of the patients. "It is almost the same in the world of micro-organisms: some micro-organisms destroy others. Mould, for penicillin is a sort of mould, destroys just those microbes which are the cause of your illness."¹

After a talk like this about penicillin, the patients were willing to take penicillin and were hopeful of its effect on them, because they clearly understood the purpose of it.

It was hardly possible to suffer defeat when one was so conscious of the strength of the weapon to hand. The great power of the spoken word became increasingly obvious to us.

Once when Tishchenko had just performed a tissue-grafting operation on the lines discovered by Filatov, the subject was discussed in the common room of how to explain the process of grafting to one of the patients.'

The most important part is not clear even to us," said Tishchenko, puzzled. "The essence of the curative principle, the mechanism of the reaction, is not clear to us."

Pyotr Andreyevich put in his objection, speaking calmly and evenly as he always did:

"But we have a working hypothesis."

"And we don't know the fundamentals," retorted Tishchenko, still worried about it.

¹ This refers to the new method of treating various pathological processes which was first adopted by the outstanding Soviet ophthalmic surgeon, V. I. Filatov, and consisted of grafting on to the patient¹ preserved tissue taken from a dead person.

"That is the difference between the scientist and the architect," interjected Raisa Mukhtarovna. "The architect cannot build the upper storeys until the foundation has been built. It is quite another thing with the scientist. Doctors, for example, are unaware of the causes of many illnesses, yet they can combat them. This is what has to be explained to the patient."

"But if the patient is a hopeless case?" said Tishchenko, standing his ground.

"There is no such thing as a hopeless case," said Pyotr Andreyevich.

"Fine words."

"On the contrary, this is precisely the point of departure from which we proceed."



Our medicine is powerful. We have but to explain its power and its possibilities. What have we to hide from the patients? Is there any need to deceive them? In our country, treatment is untainted by a craving for fees. We treat people on the basis of the achievements of modern science; we do not exploit the ignorance of the sick. Unlike bourgeois doctors, we do not require the patients to have blind faith. Without doubt such doctors would lose materially if the patients were enlightened.

During the war years I was with the Soviet troops in Poland, Germany, and Rumania. There I met bourgeois doctors. The interests of these doctors were not identical with the interests of their patients; the patients seek health, while the doctors need patients. One Austrian doctor, Tandler, admitted to me: "It is against the doctor's material interest for his patients to become healthy."

We talked with a bourgeois doctor in Poland. He smiled to himself as he stirred the sugar in his tea.

"The more patients—the more money!" he said. "Let me be frank: illness is our livelihood. I studied medicine in order to make a living, to keep my family and educate my children. It is ridiculous and irrational to cut off the branch on which one is seated. Our profession is one in which our income is derived from the sick and the weak. That is very convenient, since the weak defend themselves poorly,"

I listened to this "doctor" with my eyes iagog. At first I thought his cynicism was assumed; later I understood that this was the principle of the "doctor." His heart was dead and empty.

I was about to talk on the principles underlying our Soviet medicine, but he interrupted me.

"What have you to boast -about?" he asked. "What proof have you that your medicine is the best in the world? Pasteur was born in France, Koch in Germany, Lister in England."

I agreed that it was true that Pasteur was born in France and Lister in England, but I also reminded him of the names of Pavlov, Sechenov, Mechnikov, Pirogov, B-ekhterev. Then I corrected him: we do not boiast but we are proud.

"Medicine is not Pasteur," I explained. "Medicine is not merely science; medicine is the (attitude of the doctor to the patient. The question therefore is, how science serves the people. What you have is trading: buying and selling. What we have is the desire to help mankind. Tell me, what does Pasteur's science amount to when you are handling it, doctor?"

He did not take offence but merely flung out his hands and raised his eyebrows hopelessly as if to stay: such is the law of life.

The reason I visited this doctor was because I had to put some patients—local people—into the hands of the local doctors; our hospital was transferring to another area.

"There aren't the necessary funds in the town to open a permanent hospital," replied the doctor whom I approached.

The doctor's wife added in distress:

"My husband had an attack of angina pectoris during the night."

The arrival of a patient interrupted the conversation. Her black shawl stressed the pallor in her cheeks. The doctor gave her a coloured box containing medicine.

"This is a good remedy," he persuaded her.

As I left the doctor, he said to me:

"That was the last box. It's profitable! The scoundrels, for popularizing and distributing the medicine they only pay us 10 per cent of the fixed price. Fabulously little! Other manufacturers pay us more for the service."

What do these "doctors" tell their patients about the "mechanisms" of the reaction produced by various healing remedies?

* * *

A most important event had taken place in the family of Pyotr Andreyevich Lagoda—a son was born to Raisa Mukhtarovna.

We flocked to the Lagoda house with huge bouquets of flowers and congratulated them both with all our hearts. Their first child had died. The memory of the child was ever present in the numerous photographs to be seen in albums, on tables, shelves, and walls.

Feodosia Akimovna, Lagoda's mother, had loaded the table with Ukrainian dishes: lightly fried rings of pork sausage-meat with its sharp smell of garlic, strips of pork fat, tempting pyramids of large, brine-soaked Antonovka apples and bright-red salted tomatoes almost bursting through their tight skins and diffusing a delicate scent of spices. Gherkins sliced to look like green leaves were garnishing skilfully prepared herrings, while the butter

in special little dishes greeted us in the form of luxuriant tea-roses, shaped with loving hands.

As he took his seat at the table Tishchenko's customary expression of downcast stubbornness faded, and his lips spread into a smile.

"It's not a table, but a garden and the rule in gardens is not to harm the trees or pick the flowers. It looks as though we shall go away hungry!" he bantered.

"It's all been done on purpose," added Elena Petrovna, jokingly.

The glasses clinked. Toasts were drunk to the addition to the Makarov hospital family.

After supper Pyotr Andreyevich and I went to see the patients. They all congratulated the happy father.

"It's a great and joyful event in any family. May he grow up to be big and strong and wise," said Kubitskaya with feeling.

Pyotr Andreyevich smiled good-naturedly. The simple, heart-felt congratulations of the patients touched him. From his home to the hospital was a matter of simply going upstairs. He lived under the same roof as the patients, just like one of the family.

After wishing them good-night, we went out into the park. The dry yellow leaves rustled under our feet.

In the shadow of the trees which surrounded it like sentinels stood the big house with its curious architecture: the numerous turrets, decorated verandas and porches, Venetian windows and jutting eaves.

For a long time Pyotr Andreyevich looked steadily at the familiar building as though he was seeing it for the first time. He was plunged in thoughts and dreams.

"The hospital without groans, without pain ... do you remember when it was only a daring dream? The hospital—a concentration of pain, the hostel of the sick. Can one have a hospital without groans? Yet our dream is coming true."

The house with the turrets looked like a wonderful

fairy castle, or perhaps even a fortress, in the light of the moon. It was a strong point in the defence line of life.

"I must confess I was nervous when I went to see Roshchin," said Pyotr Andreyevich suddenly. Everything the head doctor had experienced recently had evidently passed through his mind as he stood looking at the hospital, so near and dear to him, surrounded by its park.

"I felt ashamed to be worrying like a schoolboy before an exam. I talked for a long time with the Party Secretary in his study. He told me how he had come to join the Party. It was at the front, near Mtsensk, north of Orel. They were about to enter into a fierce battle for the Mtsensk bridgehead. It was just before going into battle that commander Roshchin had sent in an application to join the Party, in which he wrote: 'I would like to die a Communist.' He told me there was something in common between his state of mind before joining the Party and my own state of mind. It happened at some special and important time in one's life. Then he smiled and said, 'I wrote that I wanted to die a Communist/ but you should use a livelier word, more in keeping with the times: 'I want to live a Communist, to live and struggle.'"

* * *

In our hospital, as everywhere else, when a patient died the doctors assembled for the pathological-anatomical conference. Here the medical record of the patient was read out and a study was made of any errors in diagnosis and treatment; what had been overlooked, what had not been taken into account.

A simple and straightforward idea arose out of this: Why do we hold conferences after the death of the patient and not while he is still alive? One learns from mistakes and the post-mortem conferences help the doctors, but not the patient who is already deceased. One doctor used to be responsible for the fate of a patient, for in-

stance: this was Elena Petrovna's patient, this—Tishchenko's patient, and so on. The dividing line passed between the different departments. Perhaps this method divided our forces. Perhaps this meant artificially putting on to the shoulders of one doctor the whole weight of responsibility for the life of a patient. Yet everyone—doctors, sisters, and nurses—should share the responsibility."

"Seven pairs of eyes would notice something that two eyes might overlook," commented Elena Petrovna on this point.

Ever since then we have held conferences about our living patients and have used the combined efforts of all the doctors in the hospital in the struggle for the life of each patient.



Seryozhia Maslov was brought in unconscious. He was a lovely child of four, with curly hair and greenish eyes and almost no eyebrows at all. He had been playing with some young goats, ran after one of them and fell and hurt his leg. Seryozha limped a bit, but otherwise the fall seemed to have done no damage. The following day, however, there was a sharp rise in temperature and the child became delirious. The mother wrapped the child in a blanket and hurried him to the hospital. He was her only child.

Everything pointed to the child having some infectious disease. But Raisa Mukhtarovna noticed that the left leg was drawn up to the stomach and thrown forward, as though ready to take a long step.

Raisa Mukhtarovna lightly touched the leg and the child roughly pushed her hand away. "Hematogenous osteomyelitis" was the thought that immediately struck us. The disease was difficult to combat in children and carried to the grave one-third of those suffering from it.

The child was tenderly carried into the surgical ward.

Sister Varyia was ready with her note-book waiting for Raisa Mukhtarovnia's instructions.

"Camphor, physiological solution, penicillin. You yourself will do the feeding. We must have someone on permanent duty. Are there any nurses available?"

"Only those on duty."

"Then get nurse Nyusya from her home, land meanwhile—"

"Til keep an eye on him," volunteered an elderly man patient.

Raisa Mukhtarovna moved towards the door and stood there thinking for a moment, then she nodded her head.

"All right. Keep a close eye on the boy."

As she sat writing out the medical report on the boy, her mind wrestled with the problem: some scientists insist on an operation, others oppose it. What should she do about the boy? Soon she again returned to the ward. Good news met her: "The child is talking. He understands everything." Raisa Mukhtarovna sat by the bed.

"Hullo, what's your name?"

"Seryozha."

"Tell me, Seryozha, where does it hurt?"

Seryozha frowned and pulled a face. He seemed to be teasing the doctor.

"Why are you showing off like a little monkey? You look just like a little monkey," said Raisa Mukhtarovna, gently teasing him.

Slowly and a little hurt, pronouncing each word with some difficulty, the child replied:

"No, I am like papa. I'm not like a monkey ... nobody says I am."

There was laughter in the ward.

"Do you find it hard to breathe, Seryozha? Do you breathe through your nose?"

Seryozha touched his nose with his forefinger, which slipped down to the half-open lips.

"The nose takes all the air from my mouth," replied Seryozha, reasoning out his feelings in this funny way.

The little hand at the mouth suddenly dropped, powerless. The eyes misted over. The child had lost consciousness again. The pulse could hardly be felt.

That day Seryozha Maslov was very ill indeed, worse than any other patient in the hospital. We called a conference. Seven doctors surrounded the child's bed. They stood like a white wall defending the child, keeping the enemy away.

Seryozha was lying in the same position: head thrown back with the powerless little hand lying outside the blanket, looking lifeless.

Elena Petrovna sounded the lungs. Pyotr Andreyevich made his observations.

In the common room Raisa Mukhtarovna read out the medical report, then enumerated the instructions for treatment.

"There's only one thing, should we operate? Everything else seems to have been done."

"That's just it, it is not clear," said Tishchenko. "There are no firm instructions on the point in the reference books."

"But has everything been done, except operating?" intervened Pyotr Andreyevich.

"Obviously everything has been done," replied Raisa Mukhtarovna, slightly offended.

"I would suggest we apply cupping glasses. I've an impression that there are signs of congestion of the lungs," suggested Elena Petrovna.

"I would also propose sulphidin," timidly interjected our youngest doctor, Zoya Mikhailiovna Manenkova. She had just finished the Kursk Medical Institute. She was a timid little woman with small, finely-drawn features.

Numerous proposals were made: plenty to drink, vitamins A and C, glucose.

Jointly we built up increasingly strong defences for Seryozha against the disease.

When we separated, Tishchenko said, "We have now exhausted every possibility."

We had all felt the same, like soldiers in action.

In the vestibule was the mother, her face covered with her hands. When Raisa Mukhtarovna approached her, she started, dropped her hand, and asked with a deep sigh:

"Is he no better?"

"We are doing everything possible to save his life," replied Raisa Mukhtarovna.

"Then he is seriously ill?" pressed the mother. "Let me see him."

"Later. Better not just now," replied Raisa Mukhtarovna. She took the woman gently by the elbow and looked closely into her eyes, as though trying to plumb the depths of her grief. "Better not just now."

When Raisa Mukhtarovna returned home, trouble greeted her. Igor, her son, had fallen ill. His eyelids were red, the eyes were watering, and he was coughing. Raisa Mukhtarovna made her own child comfortable and then went upstairs several times during the evening to spend some minutes with Seryozha, each time returning again to her son.

That evening Pyotr Andreyevich and I had to go to Kiev. We had urgent business there. On and off since the morning rain had been falling and ragged clouds, heavy and lowering, were moving across the sky. The clouds floated low, almost touching the trees. Just before we got to Kiev the rain came down in torrents. Muddy, frothy floods gurgled down the drains, huge bubbles burst in the puddles. The heavy rain beat alarmingly against the windows of the car.

We drove in silence. I had the boy before my eyes all the time, and the almost lifeless, hanging little hand.

Suddenly I remembered: "There was something else we could have done: we could have introduced penicillin

directly into the bone, the very centre of the disease! Why had we not thought of it then, at the conference!"

Only recently had penicillin begun to be introduced into the bone. But the first reports of it had been very encouraging.

"We must turn back," I said.

"Most certainly," replied Pyotr Andreyevich.

The rain continued to pelt down. The road became a river. Hardly had we turned off the asphalt road when the car had to stop because of the weight of mud on the wheels. With an effort the car went for another 100 yards or so. One of the back wheels stuck in a pot-hole full of thick mud and the car skidded, but we still managed to keep going. A minute later, however, there was a heavy scraping and screeching under the car. The car stopped and we jumped out and found a long tough piece of root had got caught in the steering gear under the bonnet. It was impossible to continue the journey by car. We walked the rest of the way and finally arrived at the hospital an hour before midnight, covered in mud, our boots weighing a ton, and our suits clinging unpleasantly to our bodies.

"Whatever's happened to you?" asked Raisa Mukhtarovna.

"We can still inject penicillin into the bone," said Pyotr Andreyevich. "We have got some penicillin, haven't we? It occurred to us when we'd almost reached Kiev."

"Our stock of penicillin is finished. I've sent the pharmacy assistant to town for more. We'll only get it tomorrow morning."

"What a nuisance! And how is Seryozha?"

"Pretty bad. There's been no change."

Pyotr Andreyevich went to look at his own son: from time to time the child coughed in his sleep.

"Do you find Igor better?"

"A little. I've been giving him penicillin all the time. My own household supply."

Raisa Mukhtarovna held up the bottle she herself had bought in Kiev. She then moved quietly about the room, went to Igor's bed and smoothed the blankets, then stood for a moment as though listening to the child's breathing.

"Well, let's go," she said, jerkily. "Varya has the syringes ready. We'll get more penicillin in the morning and meanwhile we'll share this; we'll put half of it into Seryozha."

A break in the clouds revealed the pale moon. In the waiting room a woman stood motionless at the open window. In the moonlight, her face seemed to be carved out of marble.

We passed the woman as we went into the ward.

"I couldn't carry bad news to her just now. Could anyone?" said Raisa Mukhtarovna softly.

We fought a hard battle through the night for the child's life.

The child came to in the morning and spoke; we were filled with a great, personal happiness.

Seryozha had become very dear to us, and not Seryozha alone but his mother, Fedorenko the stableman, Kuznetsov, Kubitskaya and Kravchenko, and many, many others. Ours is a very big family, my friends!

That morning the sky was still and clear. The cool air was intoxicatingly fresh after the storm.



A cloud was cast over our happy, interesting, working days. Rumours had reached us that somebody very jaundiced, very exacting and very inclined to find fault, was coming to Kopylov to put us all in our places, to debunk us, to give us a dressing down, and so on. This heartless creature menacingly flaunted her incontestable knowledge: "They don't know what to look for there in Kopylov. They look at what they are shown. But I

shall dig deeper; I shall blow the gold dust from the surface."

On Professor Pamarin, all these rumours had a rejuvenating effect. He seemed to have grown younger. When he met me, he said:

"As a general rule, young fellow, soap bubbles have a habit of bursting."

His eyes seemed to pierce through me and the thought crossed my mind that inside him the spirit of malevolence was keeping pace with the destruction old age was wreaking in his body.

Someone had laid an unkind, cold hand on our young and beautiful dream.

The day came when we encountered this "hand," It took the shape of a flat-chested, pale-faced woman, who crossed the threshold of the hospital, her manner haughty and not a trace of a smile on her face.

"I have come to examine your work. Here are my documents," she said, introducing herself to the doctor on duty.

Valentina Ivanovna handed the guest an overall and invited her into the common room. The visitor's name was Antonina Evlampievna and she was the representative of some official organization.

"I'll just take you along," said Valentina Ivanovna in her usual courteous way.

"It is not necessary, thanks," came the dry reply. "I prefer to see things for myself. I am not fond of guides and, what is more, I don't like having ideas imposed on me. I want my judgement to remain unbiassed and independent."

"Oh, certainly. I understand," Valentina Ivanovna hurried to agree, after the rebuff she had been given. She had not expected her natural offer to be accepted in this manner.

Antonina Evlampievna began to look over the hospital. She could be encountered in the most unexpected

places. She went all round the wards, visited the dressing room and the physio-therapy cabinet, watched how the staff worked. In one of the wards she met Pyotr Andreyevich.

"How can you fail to notice things that are right under your nose!" she declared, after introducing herself. "This on the wall, for instance. Horrible!"

Somewhat alarmed, Pyotr Andreyevich followed the accusing index finger and saw, with some difficulty, a minute dark spot on the wall.

"What is the object?" asked Pyotr Andreyevich, puzzled.

"Something it is inconvenient to name," said the spit-fire of a woman, not without relish. And she left the ward, her lips tightly compressed. Pyotr Andreyevich, who is a huge man, followed in the wake of this tiny fury, as though he were afraid of stepping on her.

"I don't know what you mean by something it is inconvenient to name," he remarked.

"Obviously a bed-bug," replied Antonina Evlampievna in a loud voice.

"Hush," said Pyotr Andreyevich.

"I can understand it is inconvenient to mention it aloud."

"Oh! I don't mean your bug. But it is the custom here to speak in a whisper."

In the next ward they were joined by senior sister Vera in her dazzlingly white overall, and sister Viarya.

Antonina Evlampievna passed her white handkerchief along the edge of the door-frame, then looked to see whether there was any dust on it. She looked into the bedside lockers, felt the mattresses, put her nose to them, observed that the filling in one of the mattresses was worn through, dragged a packet of concealed cigarettes from under the pillow of a patient, and threw a cold and withering glance at her companions every time she came upon a new find.

"Whatever's she looking for?" whispered Varya into the ear of the senior sister.

"Presumably the Pavlov doctrine," replied Vera Stepanovna, bending down to Varya.

"Does she think we hide it under the mattresses? What a caution!" said Varyia, without moving a single muscle of her face.

We all came to a halt at the bedside of an old woman with a face that was wrinkled and yellow, but very pleasant-looking.

"Tell me, patient, how does all this whispering affect you?" exhorted Antonina Evlampievna.

"Ay, what did you say?" asked the old woman, puzzled.

"I said, people don't talk in ordinary voices here," explained the visitor. "They all whisper, don't they? Well, how does this affect you?"

The old woman raised herself in the bed, fiddled about with the plait round her head and smiled blandly.

"How can I explain it, daughter. For thirty years I worked in the fields and served in the house of the landlord. When the master was asleep we were told: 'Hush, he's sleeping.' And now here I often hear the sisters saying, 'Hush, she's sleeping.' Nowadays it means that I, Olyona Fyodorovna, am sleeping. That's all."

After taking lunch on a bench in the park, Antonina Evlampievna put the remains of her provisions in her shopping bag, left it in the common room and again set out on her tour of inspection. This time she visited the kitchen, the stables, the barn, the cowshed, storehouse, laundries.

I met her on her way out of the building and we had a talk.

"Did you like the hospital?"

"What should I say?"

"Just what you think."

"I won't disguise the fact that I didn't like it. How can you call it a hospital? An old building, a ridiculous veranda, totally useless turrets. It is quite unsuited to hospital requirements."

"Oh, that! As for the building, thereby hangs a tale. All these spires, turrets, and what not are a tribute to the spirit of the times. Kopylov was built in the beginning of last century and belonged to von Meek. He died early and his wife, by birth a——"

Antonina Evlampievna remembered.

"Not the one who for so many years corresponded with Chaikovsky, and never once met him! Of course, I know. She was afraid the actual appearance of the composer might destroy the heavenly image she had created in her heart."

I left Antonina Evlampievna in the reception room and could not deny myself the satisfaction of drawing the parallel which came to my mind:

"You also should not have sought a meeting with the real, earthly Makarov hospital."

When I went back inside, I found great excitement in the surgical department. Pyotr Andreyevich seized my arm and dragged me to one of the wards, "Look!"

"I don't see anything."

The doctor's finger shot out in the direction of the wall like the barrel of a revolver.

"Do you see something it is inconvenient to name?"

"You're mad."

"She recognized a bed-bug in that little spot made by the careless brush of the house-decorator. Is that clear to you?"

I was highly indignant.

"It is indecent even to suspect such a thing. What could have made her even think of it. These are not just suspicions but pure hallucinations!"

Hearing noises in the corridor, we left the ward. Two nurses were carrying a patient on a stretcher to the

dressings room. There was not a drop of blood in her face, which was white as a sheet. Following the stretcher came Antonina Evlampieyna with alarm stamped on her face. In the door-way she whispered to me:

"They haven't even washed her. I saw myself; they just changed her clothing,"

"But she has a haemorrhage," I Objected.

Hurriedly Pyotr Andreyevich drew on rubber gloves and issued curt instructions.

"It wouldn't have taken much time," the woman pressed.

"Nevertheless——"

"You mean you justify these methods?"

That evening Antonina Evlampieyna left Miakarov hospital. Valentina Ivanovna saw her off. Vialentinia hid her indignation beneath her customary politeness.

"Happy journey," she said, on parting. "When you have an opportunity, visit us again. We are always pleased to receive guests."

Antonina Evlampieyna no doubt imagined that the staff doctor was being polite in order to soften the bad impression which, as the woman supposed, the Makarov hospital must invariably make on anyone visiting it for the first time.

"Thanks," she replied, with cold restraint.

Sister Vera Stepanovna, who witnessed her departure, was most indignant. Her shining, rustling overall seemed to darken with dissatisfaction.

"How could you be so polite to her!"

"It is part of the work of a staff doctor."

"And did you like being nice to her?"

"With a guest like that one has a double pleasure, when she arrives and when she leaves," explained Valentina Ivanovna quite seriously.

The woman with the haemorrhage was Nadezhda Primachenko. After everything had been done to stop

the haemorrhage, she was put in the maternity ward. The next day the labour pains began.

Primachenko too attended the prenatal clinic regularly. Elena Petrovna, who was a visiting doctor at the clinic, had always urged her not to worry because normal births are painless. But the woman refused to believe it. How could childbirth be painless? Her mother had told her that childbirth was a painful experience. Her sister had given birth in agony; she knew that for a fact, because she had been present at the time. If, as Elena Petrovna said, childbirth was really painless, then why do some women die in childbirth?

However Elena Petrovna continued her efforts to remove the woman's doubts. Calmly and confidently she assured her that there would be no pain.

"How can you say so? Women shout out in pain."

"Yes, they do shout out."

"Then why do they?"

"Out of fear," said Elena Petrovna. The expression on her stern face remained unruffled and calm, as with people who are sure they are speaking the truth. "Did you ever as a child cry out when you were frightened? During pregnancy women are told such terrifying things that it is not surprising they shout out during childbirth. The astonishing thing is that they don't start shouting two months or more before the child is born."

Gradually Nadezhda Primachenko had given in. She surrendered to the persistent, irresistible persuasion of Elena Petrovna, the doctor who had such a good name in the neighbourhood. During these days Primachenko learned a great deal: that birth pangs are not inevitable; that if childbirth proceeds normally and there are no complications, it is the prejudiced opinion that pain is inevitable that plays such a tremendous role in the sensations of pain during childbirth. Pain begins where there is illness. But childbirth is not an illness. There exist tribes where the women have their children without

pain or fear; they knit mittens for their husbands while they are having their children. These are the tribes that live in the north, and when their womenfolk meet other mothers they are surprised to hear them shouting out. These northern women have been brought up in the belief that births are painless.

With us every expectant mother is oppressed with what she has heard about the inevitable difficulty of having children. The people at home talk about the event as though it were some dangerous ordeal. The mother fusses about, friends are nervous, and the husband worries. In such conditions how can the expectant mother remain calm? Books are full of descriptions of the agonies of childbirth; religion has always drummed it into people's heads: "In sorrow thou shalt bring forth children." Yet there are no pains in childbirth; there is only a pain psychosis. Fear is also pain. Primachenko did not know the mechanism of childbirth; she did not understand the course it took. But she learned all about it from Elena Petrovna. She was taught how to behave while the child was being delivered. After learning about the mechanism, she would be able to direct it consciously, using different methods at different times. Her thoughts would be fully occupied with all this. Fear would not break into these thoughts and into the business in which she was vitally concerned.

Elena Petrovna spoke with feeling of the absorbing joy of motherhood and her words struck the note in Primachenko's thoughts and feelings; the woman's heart seemed to open out to find a place for this great maternal happiness. Anticipation of happy motherhood warded off her fears and terrors.

Her time came and with the first contractions, despite everything, she began to feel pain. Did this mean complications? Had the doctor not spoken the truth? The first blows of pain completely demoralized her.

She was silent when we appeared, not a muscle moved on the pale, sweating face. Her fair plait was shaken loose and fell in a heavy loop on the rumpled pillow. Her fingers were white from the strain of gripping the bed. Her eyes seemed to say: "See how I'm suffering, yet I had such faith in what Elena Petrovna told me!"

We had just come from a ward where other women were in labour. Their faces expressed concern mixed with triumphant expectancy. They were tall happy rather than frightened and after seeing them, their faces bright with the imminent joy of motherhood, it was hard and painful to see the sufferings of Primachenko.

"I understand, I understand," said Pyotr Andreyevich, sitting close to her. He took her hand and at the same time felt her pulse.

"Help me. I can't stand any more."

"We are going to operate."

"What operation?" asked Primachenko with a shudder.

"A Caesarean," announced Pyotr Andreyevich. "The child is very large."

"Is it a terrible operation?"

"Not at all terrible. You will be another," said the doctor, saying the words gently but firmly in order to convince her.

Primachenko turned away.

"How can I believe you? I've already once been persuaded."

There was a caress in the doctor's grey eyes as a smile lit up his round face.

"Elena Petrovna told you the truth; normal births are really not painful, but in your case there are complications. There are women lying in the next ward and they are not shouting out; it means they are not suffering pain."

"Doctors are always right, but does that make it easier for the patient?"

"When the doctor makes la mistake, it is much worse for the patient."

"And aren't you mistaken now?" insisted Primachenko dubiously, her -eyes fixed on Pyotr Andreyevioh.

"No, I am not making a mistake," he replied firmly. "Figures do not lie."

* * *

Four nurses carried Primachenko, still groaning, into the operating theatre iand laid her on the table. Accoucheuse Niatasha Levchenko, with all the devices for reviving the infant, took up her stand to the right of the operating table just behind the surgeon. She had placed the stools, covered them with -sterilized sheets, and arranged the bowls with hot and cold water in a convenient position.

"Everything ready?" asked Pyotr Andreyevich.

"Quite ready," replied Levchenko.

"Rubber syringes? Lobelia? Ammonia?" prompted Pyotr Andreyevich.

"Nothing has been forgotten," came the reply.

The operation began. Shall I describe it? Will the critics accuse me of naturalism? I believe my readers iare fond of life, and so I will take the risk of describing it. It would be difficult, otherwise, to understand the soul of the surgeon.

The body of the child appeared whfere the incision had been made. Next it had to be extracted rapidly. Pyotr Andreyevich drew one leg out of the incision, found^the second with, some difficulty, pulled, and the trunk was delivered, but the head, seized firmly by a muscle contraction, remained inside the womb. The first attempt to release the head was unsuccessful. A veil of livid colour covered the little body. The tiny lump of quivering life began slipping from the hands. Long tiresome seconds passed. One movement fnore, energetic but cautious, land the child was before us, a splendid boy. The accoucheuse

immediately took him up and set in motion the whole arsenal of reviving methods.

"Revive him, revive him!" urged Pyotr Andreyevich as he sewed up the mother's wound.

Meanwhile the accoucheuse skilfully and rapidly pressed the little legs to the infant's stomach in order to get it to breathe, used the syringe to suck the liquid from the nose and throat so as to free the respiratory passages, but the infant did not breathe.

Nurse Katya stood rooted to the spot, her hand to her cheek. Suddenly casting off her fear, she moved rapidly towards Levchenko and stood opposite her.

Levchenko curtly issued her command, "Ammonia!"

Katya damped the cotton wool in ammonia and brought it close to the infant's nostrils.

Pyotr Andreyevich listened with anxiety. What was going on behind him? Not a sound, nothing but the sisters fussing and the impatient, agitated exclamations. Could the infant be dead? A shudder passed through him.

"Hurry up, revive him," repeated Pyotr Andreyevich. What would he tell Primachenko when she came to? She had said: "Doctors are always right, but does that make it easier for the patients?"

Artificial respiration did not help, nor did pumping out the liquid, nor did the ammonia. Levchenko took the boy by his legs, held the head downwards and began splashing first hot, then cold water on the body, which lightened in colour and then darkened under the alternate splashes of water. She then put the boy on the stools for barely a second and with lightning speed injected Lobelia. The infant still did not breathe.

The rapid beating of Katya's heart could be seen through her overall.

Again the syringe was used to pump out liquid, again hot and cold water was used, again ammonia was put to the nostrils and artificial respiration resorted to.

There was a sort of shudder, a quiver on the infant's face. Scarcely perceptible wrinkles (appeared round the eyes and the little face puckered as though the infant wanted to cry. Every second there were more and more wrinkles. Suddenly the stomach contracted, the cheeks tightened and the first gurgling, uneven sigh was heard. Then this first signal of life vanished, perhaps never to be repeated.

Levchenko again pressed the head to the chest and the legs to the stomach; by this time she was working feverishly as though clinging to the life that was slipping away.

Pyotr Andreyevich's voice was again heard, urging the women to revive the infant.

In reply, as though responding to the call from the heart of the surgeon, the infant cried out and at once everything seemed to brighten in the operating theatre. The dead, tense silence was broken. There were sparks of light in Katya's eyes. Natasha Levchenko, la concentrated, weary smile on her face, placed a hot water-bottle to the back of the infant and with her customary swift movements swaddled it, took it up in her arms and rocked it gently. Natasha's eyes shone as she looked proudly round at everyone as though she wanted to read on their faces the same joy and delight that filled her own heart.

I was glad for Pyotr Andreyevich and Natasha, who had succeeded in saving the child, for Primachenko who would know the happiness of motherhood. As we turned to go out, Katya stopped us. There were tears in her eyes.

"I want to learn to be a sister, I've finished the 7-class school," she said, nervously winding an odd piece of bandage round her finger.



I had a telephone call the next morning.

"All your enemies will muster now. Yesterday the Makarov hospital was jeered at from the platform of a conference,"

The flat-chested woman with the indomitable face had been most unceremonious in her treatment of us. "What is Pavlov? Where is Pavlov? There can be no question of the Pavlov doctrine if the patients are eaten up by bugs, if newly-arrived patients are not washed, if there are stores of cigarettes under pillows! The Pavlov doctrine is merely a label pinned to the Makarov hospital. It is all verbal trimmings, fine feathers. Let them answer us: is sleep therapy compatible with bugs? If we found no dissatisfied patients, then that was due to the fact that patients are tolerant and do not demand much,"

During the night I was haunted with all kinds of nightmares: about the Pavlov doctrine pinned on to the hospital like butterflies on a card; about bugs, feathers, lumpy fillings in mattresses, verbal trimmings floating in the air. "What, indeed, has all this to do with Pavlov's doctrine?" I was asking myself when I woke up.

The same day Pyotr Andreyevich came to me.

"Just suppose it had been a bug," he said ironically, "and not just a hoax. Suppose it had been some miserable little refugee of a bug with a rucksack on its back, that had found refuge in our building. How pleased he would be to know he had become the cause of the untimely collapse of certain achievements in medicine, that he had earned the right to declare: 'This alone has made life worth while/ '"

We regretted we had not been at the conference.

That evening we were called to the Ministry. Six Ministry officials, Antoninia Evlampievna and the Makarov medical workers sat in soft-leather armchairs in the spacious room.

Roshchin was next to the Minister. With his head bent forward he was talking excitedly to the Minister.

The latter was nodding as if in agreement with him and looking first in our direction and then in the direction of Antonina Evlampievna. Roshchin always put in an appearance whenever a situation arose which landed us in difficulties. Were we indeed to blame for something? Had we made mistakes? Antonina Evlampievna had discovered certain things: cigarettes under the patients' pillows, a lumpy mattress. The building was certainly not suitable for a hospital.

Antonina Evlampievna sat in an armchair looking as enigmatic as a sphynx and with the stamp of imperturbable confidence on her face. The Minister finished his cigarette and stubbed it out. Rising from his chair he turned to Antonina Evlampievna and said in a tone that was unexpectedly sharp, "You have understood nothing of what is being done at the Makarov hospital."

Antonina Evlampievna slowly turned her head in his direction and said indignantly, "What do you mean?"

"You looked for what is to be found in every hospital: petty shortcomings."

"And looked at them through a microscope as though they were micro-organisms," interjected Roshchin.

"I saw horrible things!" said Antonina Evlampievna indignantly.

"You saw it all under a magnifying glass," said the Minister, and then added, "Suppose there actually were all these shortcomings. Tell me, how much time would be required to remove them?"

Antonina Evlampievna thought for a moment.

"How much time?" insisted the Minister.

"How long? A day or two, perhaps," replied the woman with the imperturbable face, with dignity and restraint.

"Perfectly right! Twenty-four hours. And it has taken at least a year, a year of stubborn, creative work, for the Makarov people to produce what they have done. All you noticed was what could be removed in the space

of twenty-four hours, but you didn't want to see what it had taken a year to create. I consider, therefore, that your speech at the conference was, to say the least, out of place."

"Out of place?" -said Antonina Evlampievna, bristling. Her movements had lost their haughty smoothness. "Out of place?"

"More than that, your speech was harmful," added the Minister.

The woman's eyes flashed angrily.

"Criticism and self-criticism are Party weapons, a means of perfecting, a form of assistance," she said.

"All that is true. But was this criticism? Criticism means first and foremost destroying the weeds, but you are destroying the sown crops. To criticize means first and foremost to love. Perhaps you sincerely believe that you are being of assistance. I will not undertake to judge of that: the matter concerns your conscience alone, but to all intents and purposes you are being harmful, you are destroying the young shoots. As for the hospital building, which in truth is not suitable for hospital requirements, this fact which seems outrageous to you, has now acquired special importance for us, for it appears that it is possible, in an unsuitable building of this kind, to achieve advances which are warmly acclaimed by clinics that are housed in grand new buildings."

After the interview with the Minister, Pyotr Andrejevich said to me, "Antonina Evlampievna is not a bad woman. I am heartily sorry for her, for she sincerely believes in her own infallibility. She is what is called an honest carper."

Antonina Evlampievna was balking ahead of us and we could not decide whether her stiff carriage was due to an excess of self-esteem or pure sickness of the heart.

At the corner of the street Roshchin hailed us. We turned to see his sunburnt face wreathed in a smile of greeting that set off his shining row of white teeth. He took each of us by the arm and we proceeded along the street together.

"I think that interview will not be without its uses for us," he said. "It will again fix attention on the shortcomings, if there are any."

We walked on a few paces in silence.

"But that is not the main thing," he continued, releasing one arm in order to gesticulate. "When something new is coming into being, what is old remains strong for some time. That is always the case in nature and in social life. Do you remember who said that? Of course you do—Lenin. It would be a mistake for us entirely to overlook Antonina Evlampievna's speech."

* * *

Seven kilometres away, the new hospital was being built. It was to be on the outskirts of Makarov, on the site where the old one, destroyed by the interventionists, had stood. It would command a magnificent view over endless fields and the hilly banks of the River Zdvizh, which were covered with grand old trees. The walls of the surgical block were only waiting for the roof to go on; the kitchens and boiler-rooms were being built and the foundations of the maternity wing were being laid. There had been no sense at all in re-arranging the Kopylov villa so that it would be more suitable as a hospital. But because at best another year would pass before the new hospital building would be ready, we unanimously decided that we wanted somehow to re-decorate the old hospital, so as not to feel 'ashamed when visitors came, particularly if they were hostile and exacting.

We undertook the repairs on our own responsibility, for we particularly wanted to improve the appearance of our building. We called in decorators from Kiev. Zarubin searched the district for paints, whitewash, nails, boards, drying oil. He went to Kiev frequently and invariably came back tipsy.

"You've been drinking," Pyotr Andreyevich rebuked him.

"How could I help it? I had to drown my sorrow. I couldn't get any white paint."

The next day he returned from Kiev with the whitewash. His eyes were shining and he was cracking jokes and throwing his arms about, but he did not dare to come close up to Pyotr Andreyevich.

"Drunk again!" exclaimed the doctor.

"How could I help it? I've got the white paint, wonderful stuff, dazzles the eyes! I only had a tot of vodka to celebrate." He snapped his fingers, well pleased with himself.

A multitude of questions assailed us. How should the wards be painted, in what shades, with or without stencilling, with or without a stencilled frieze? There were heated arguments and no agreement satisfactory to everyone could be reached concerning the colour and the kind of paint to be bought.

Zarubin suggested green for the walls; sister Vera Stepanovna wanted pastel pink. Pyotr Andreyevich insisted on pale blue—the most peaceful, pleasant sky-blue

"Blue is such a cold colour," said Raisa Mukhtarovna, whose birthplace was sunny Leninabad. "The wards should be in warm tones—pale orange, light coffee colour."

"All rolled into one, isn't it a caution!" Varya Shevchuk wound up, authoritatively, after listening to our suggestions.

We turned down the stencilling and the frieze. That sort of thing is irritating to hospital patients, perhaps

because it reminds them of the ordinary household environment with which their sensations of pain are already linked.

We should not blindly reproduce the comfort of the home. There should be severity in the style of the hospital, but a special kind of severity that pleases the eye and inspires confidence and respect.

It was a different matter with the children's ward. There it is quite in place to reproduce the comfort of the home so that the child, finding itself surrounded by familiar objects, will feel the unseen presence of its mother. For the sick child the mother is the best medicine.

We decided to paint the wards in light colours, but not all of them the same colour. We paid attention to existing conditions: pale blues and greens for the sunny rooms; light orange for the rooms which faced north, to make up for the insufficient sunlight. We painted the corridor in light green, but in their professional zeal the decorators spoilt everything by painting in cocks and hens, thus causing considerable mental discomfort to everyone.

"Cocks in a hospital! What next? All those ridiculous twirly flourishes! Don't you realize this is a hospital, not a barnyard!" remonstrated Pyotr Andreyevich.

It was impossible to paint out the birds, they would show through; they could not be scratched out. It would cost too much and take too long to re-paint the whole corridor, so we gave up the idea. The cocks and hens remained and after two or three weeks we ceased to notice them.

Everyone did something to help decorate the hospital. The nurses assisted where they could; Uncle Volodya, who had made the artificial rain, repaired the doors and window-frames.

But no matter how much we all threw ourselves into the repairs to the old building, each of us carried in his

mind a vision of the graceful outlines of the future hospital. It would have to be a faultless building, a grand harmony of form and content.

We thought about how we would furnish the new hospital. In the children's wards we would have tiled chimney-pieces, each tile depicting some episode from a fairy-tale. We had seen the sort of thing at an exhibition. Instead of flames there would be red ribbons fluttering in a draught of air from a concealed ventilator. Windmills and cottages on spindly legs without windows and doors would be embroidered on the curtains. The wards for tubercular patients would be decorated so that the walls would appear to be a continuation of the park and the flowers outside the hospital. Even though they were in an enclosed room, the patients would feel they were among the outdoor scents, in the fresh, health-giving air outside. In the maternity wing we would hang a huge painting of a father with an infant in his arms, the young mother by his side and a midwife seeing off the happy pair. There was a picture on these lines painted by some artist in Kiev. We certainly had to obtain it.

"And there will be an aquarium and birds in cages in the corridor," continued Raisia Mukhtarovna, drawing on her imagination.

But Fedot Koval dreamed of pigeons. He would build a dove-cot propped up on poles high as a Russian fairy-tale house in the grounds opposite the main wing. The finest of pigeons would roost there: pigeons with proud, curved, quivering necks, jacobin tufted pigeons, strutting fan-tailed pigeons, pigeons with pink down on their sides, rock-dove pigeons, pigeons with fluffy, feathered feet—a host of pigeons of all kinds!

Then the patients' eyes would be glued to the windows and they would watch the pigeons for a long time. They would listen to them cooing, see them rise in a flock into the sky, watch them going to roost in the dove-cot. And the thoughts of the patients would escape from the stifling

embrace of pain and would fly off with the doves into the wide expanses of our Motherland and float over our rich lands.

* * *

As though in reply to our thoughts we received an unexpected letter from L. I. Yurovsky, a Kiev architect. This is what he wrote:

"Dear Comrades,

"I have heard of your researches and achievements in the hospital world and would like to share with you some ideas I have about architecture as an additional healing factor.

"I am a scientific worker at the Academy of Architecture and have been working for many years on hospital building. I have thought a great deal about how to put architecture at the service of the doctor. I chiefly have in mind the sort of architecture connected with internal decoration.

"In your scientific discoveries you convincingly prove the tremendous importance of the psychological factor in the course of treatment. In this sense architecture can do a great deal. Practical collaboration between architect and doctor extends the healing possibilities of the Soviet health service.

"Here (is an incomplete list of questions that should be decided jointly:

"1. Colour scheme for the wards (influence of colour tones and content of decorative style).

"2. Colour scheme for corridors and auxiliary premises (influence of colour through contrasts).

"3. Regulating the amount of sunlight admitted to the wards.

"4. Sound-proof structures, etc.

"I shall be very glad if, as an architect, I can be of use to you in your experimental scientific work,

"I offer my assistance gratuitously, purely because of my interest in your cause and your work and because I wish to further our Soviet science.

"With comradely greetings,

"L. I. Yurovsky."

The letter stirred me so much that the following day I hurried off to see the architect.

I was met at the door by a stooping, smiling man of middle age dressed in a loose-fitting brown suit. I introduced myself. Yurovsky led me to his study. On the desk were blueprints, triangles, celluloid stencils, compasses and a number of carefully sharpened pencils. The walls were lined with cupboards and shelves packed with books. In the spaces between the cupboards and bookshelves hung water-colour paintings of architectural designs: at the entrances to buildings stood shining limousines; on the pavements dark silhouettes of pedestrians were etched in; the shining, mirror-like asphalt reflected gnarled trees and majestic buildings crowned with sculptured groups of figures.

"Please take a seat," invited Yurovsky.

I anticipated an interesting talk.

"I'm glad you've come," the architect began. "In every new undertaking there is an element of risk. Take, for instance, the colour scheme for the wards. A monotonous white is bad. It is cold, formal, and bare. There should be a contrast of colour in every building: the wards one colour, the corridors another, the bath-rooms a third. Another variant is made possible simply by changing the depth of colour: for instance, the wards could be a pale blue, the corridors a darker blue and the bath-rooms bright blue." Yurovsky smiled apologetically as though he sensed that I would offer objections. "I said there was an element of risk in every new undertaking. We try it out and if it is successful, well and good; if not we reject it. That is all. You will ask me why

I suggest such a method of internal colouring: in each new room the patient should encounter something new, something that excites the imagination and takes his mind away from despondent thoughts. You agree?"

"For bath-rooms a dark colour is not good," I objected.

"But why? I painted the bath-rooms a dark orange colour at the Kharkov tractor plant and it was all right, not at all bad."

"The bath-room is the centre of cleanliness and any colour other than white might arouse doubts."

Yurovsky thought for a moment, then picked up a ruler from the desk and rested his chin on it.

"The colour of the walls should caress the eye of the patient," he continued after a pause. "There are gloomy colours, everyone knows them; there are colours that irritate, that shout; there are soft, soothing, warm colours; there are colours that are as soporific and pain-relieving as medicines."

Yurovsky smiled and carefully, as if to avoid breaking the smooth train of his thoughts, placed the ruler down on a blueprint.

"Then there is the ornamental design—you know I am in favour of that sort of thing in hospital wards. True, cavilling orthodox medical men condemn us for such daring ideas. One particular idea struck me when I was at Koktebel in the Crimea. It's an interesting place. The waves cast smooth coloured stones on to the shore: dark pink and blood-red, looking as though you could squeeze juice out of them. The head doctor at the sanatorium there had a large collection of these stones. The patients used to like going out in search of them. It made us forget everything else, even our own complaints. Is that good for patients?"

"Certainly, very good for them."

"There, you see. I am thinking of getting these valuable stones dashed off on the walls. In the form of an

ornamental design if you like. I've already got the idea down on paper. It can even be in the form of pictures, but the great thing is that the patient should find something that is new, unusual, or hidden, in them. How restful to the eye is a good picture! In this way the artist will be working invisibly side by side with the doctor. Is that true?"

The architect's face shone with happy frankness.

"The Makarov people think as you do," I replied. "Only yesterday we were having heated disputes on this very subject."

Everything Yurovsky said touched a chord in me. Of course we would let the architect take part in the work on the internal decorations for the new hospital.

The colour scheme in the wards, the ornamental designs on the walls, the decorations, the pictures, the aquarium, and Fedot's pigeons—all these were elements of the environment. Is it not true that they direct, influence, make their mark on all the processes taking part in our bodies?

The colour of the walls in the wards had to give pleasure. But the day comes when the patient is allowed to get up for the first time; he takes the first cautious and uncertain step, then the second, and the third. Finally he can walk as far as the corridor. These are his first steps to complete health and so the colours in the corridor should shine more brightly and give greater pleasure. How marvellous is this alliance between architects and doctors! Just imagine!

I left the architect with my heart overflowing with happiness: we were creating something new in Makarov and hundreds of people had the same ideas as we had: architects, musicians, producers, film cameramen, collective farmers. They were all gratuitously offering their services.

How very many people were building the Makarov hospital together with us!

After re-decorating the old hospital, the doctors remained longer than usual in the building. The protective regime in the hospital was not immediately restored. There were some who spoke in loud voices, some doors that creaked and were not immediately oiled. Fedot had an additional task to add to the endless trivial jobs which were not directly the duties of the man who stoked the fires; he had to oil the door-hinges. He did it so well that he oiled the door-frames and the doctors, sisters, and nurses "oiled" their clothing.

"So the doctors won't creak in the Makarov hospital," taunted sister Vera Stepanovna.

Fedot smiled apologetically and told everyone he met why he had been so zealous. The victims of his enthusiasm, however, had to line up in a queue for Gialya Onishchuk to remove the oil stains, using ether from the operating theatre.

We had only sufficient funds to decorate the upper floor of the hospital. To have made the lower floor to our liking we would have needed as much money as would have sufficed to build new premises. Knowing this, Elena Petrovna reconciled herself to the position, but she never missed an opportunity of saying that therapy is always pushed into the background.

"Why is it that fortune never smiles on us?"

For a long time there had been no paediatrist in the hospital. Elena Petrovna did the work. I had always found it difficult to imagine her among children: she was so restrained and taut. Yet the sick child reacts sensitively to caresses or coldness and does not take into account a doctor's private life.

I was in for a surprise, however, when I did visit the children's ward. Elena Petrova was sitting by a bed with her back to the door, reading a fairy-tale to one of the children. She did not notice when I entered.

"The old man saw prints of footsteps leading from the little house to the forest..." read Elena Petrovna.

A round-eyed little boy was taking in every word of the story.

"And do you know what prints are?" asked Elena Petrovna.

"They're what's left after a wild animal."

"That's right, but not only after wild animals. When you walk over the snow your foot leaves a print as well."

The small boy thought over it seriously.

"You mean, as if I was walking upside down under the snow?"

Elena Petrovna chuckled. She put her arm round the child and kissed him on the forehead.

"Auntie doctor!" shouted the child, breaking away and stretching towards the window. "Where have the leaves gone to? Who tore them off?"

"The wind."

"And when will they be tied on again?"

"They will grow again themselves in the spring-time."

As she was settling the boy's pillow, Elena Petrovna suddenly caught sight of me and was clearly embarrassed. The expression on my face must have said: "So that's what you are really like!" She seemed a little hurt that an outsider had discovered something in her that she had always so carefully concealed.

"The boy's temperature is up again," she reported in a cold, official tone.

"Pneumonia?"

"Yes."

We went out into the corridor.

"Children are always good company, aren't they?" I said.

"Yes, it is amusing to be with them, but at the same time it is very worrying."



We went up to the common room on the second floor. There we found Anton Vasilyevich Voitenko, a student from the Kiev Medical Institute who made a habit of visiting us. We regarded him as one of us, a member of our band of workers and we had become very attached to him. His wife had also been a doctor, but had died and left an infant on the young father's hands. He was a silent, reserved man, more industrious than the average. He rarely smiled except, perhaps, when retailing some amusing talk he had had with his two-year-old daughter.

On the desk in front of him in the common room lay some lamps, the works of a watch, and reels of wire. We had asked him to fabricate a winking lamp for the sleepward. He had used a wall-clock for the purpose. The pendulum swung one way and switched on the light, then swung back and switched it off.

"You know, Elena Petrovna, the children in our hospital sleep well without sleepwards; they don't need them," he said.

"But in other hospitals sick children sleep very little, less than healthy children," said Elena Petrovna, speaking slowly as though she was thinking out loud.

"Undoubtedly."

"I have made what I think are interesting observations. For children a reflex signal can be made out of almost anything. For example, touching the hand, the tune of one and the same lullaby, a particular word, the appearance of one and the same sister, etc. Children easily fall asleep if someone near them yawns or is sleeping. For them sleep is as contagious as an epidemic."

"My Nadya falls asleep after she has been told to lie on her side and put her hand under her cheek," said Voitenko. "Once she has her hand under her cheek, you can rest assured she will fall asleep."

Elena Petrovna did her best not to notice Voitenko. We all felt this was so. Yet, there was something common

in the experiences they had suffered. We all felt, as we watched them, that they were an excellent match.

"In our hospital children sleep for thirteen and fourteen hours a day," continued Elena Petrovna. "And even during the period when the illness is most acute, they show an increase in weight. This has never been so before. We try to amuse the children with fairy-tales and toys. In fact when the mothers ask what to bring, the children, we reply: 'Apples, of course, but the most important thing of all is toys.' At one time I quite sincerely believed that for people to talk in whispers would have a bad effect on the children. It seemed to me that our whispering would have a deadening effect on the children who naturally have a habit of shouting and making a noise. But I was wrong. Children try to imitate adults. So when we whisper, all they do is to speak softly. Now there is no more unrestrained excitement, which can only heavily tax the store of energy which the child needs in order to fight against the illness. Quietness in the children's ward can well go hand in hand with playfulness, which we fully encourage. This is quite, quite new," concluded Elena Petrovna, and I noticed for the first time a note of supreme pleasure in her voice.

She looked at her watch.

"It's just three. The children have finished their dinners. Let's peep through the crack in the door and watch them going to sleep."

Voitenko rose from the desk.

"Yes, let's go," he said.

We went downstairs and stood at the door. We heard the soft words of a lullaby transmitted by the magnetophone:

*Steep soundly, my pretty one, my little birdie,
Bye, bye, my tiny one, bye...*

Through the half-open doors I saw the same small boy to whom Elena Petrova had recently been reading a fairy-tale. His small fist lay on the pillow close to his head and he seemed to be greeting us. He was breathing evenly and quietly.

What was the boy dreaming (about? Perhaps the spring, which would "tie the leaves to the trees" outside the window.



The sleep-wards quickly filled with patients, many of them from other parts of the country. Among them was Arkady Nestorovich Galin, an electrical engineer from Kiev and a lieutenant-colonel in the army reserve.

He was thin and dark, with a sallow complexion. The dry skin was as tight as a glove over his bony skull. He had the sort of face one sees in people suffering with cancer or tuberculosis.

"I've got to get my nervous system in order, get it unburdened," he said. "It's cluttered up with all kinds of useless sensations."

The man was lively and restless, spoke rapidly and easily and this somewhat dispelled the oppressive feeling one derived from his outward appearance.

"I feel better after I've slept," said Galin. "Evidently nothing but sleep will get me well again. You see, I had a stomach ulcer. They operated *and* at first there was an improvement, but then everything started all over again. I lost all faith in getting well. I could read my doom in the eyes of friends who could not hide their sympathy when they saw I had become a shadow of my former self. Even you looked at me in that way. Well, I smoked incessantly, began to drink; in a word, I gave up making any effort. It didn't seem to me to matter that I was sending myself to the grave. I felt I had nothing to lose. But I finally gave in to the entreaties of my wife. I gave myself a year and I promised to do

everything the doctors told me to. The professor I saw did no more than prescribe the usual things; I had expected more from him. It seemed to me I needed something special to help me over this illness. However, in the usual professorial manner he said the same trite words: 'Diet. Smoking? Yes, but not more than ten cigarettes a day, please.' Actually I could have given up smoking altogether and I almost told him so, but I decided that if my condition didn't improve, then I would use that as my trump card. And believe me I don't just enjoy smoking. I enjoy the simple operation of pressing the cardboard mouthpiece, of unhurriedly striking the match. For me it is part of the necessary equipment when I am thinking or when I am having a heart-to-heart talk. Well, the professor proposed cutting down smoking, cutting out drinks, going on a diet. I repeat, I had every reason in the world for being disillusioned about medicine, but I forced myself to believe unreservedly in the doctor's words. There was some improvement, a very slight improvement. But I am convinced that only sleep will free me of destructive thoughts and experiences. Every nerve in my body taches forrest,"

Ivan Andreyevich Shcherbatyuk lay in the bed next to Galin. He was a man of forty-five, nervous and impressionable, with a red, squarish face. He had spent all his early life in the country but Later had gone to the big, noisy town to work in a warehouse.

Pyotr Andreyevich had received a letter from Shcherbatyuk which had begun with the words: 'The treatment I want is quiet.'

The man put down his neurasthenia to the noises of the town. He registered every sound and responded acutely to each. There were thousands of noises of the kind and they kept him in a state of tensity and alarm. In his early life in the countryside every sound meant something to him. If the cow mooed his reaction was:

ah, she's wandered into the orchard. I'll have to fetch her out. When the cock crowed it meant the weather would change, or it was time to get up. When the wind was boisterous it meant: ah, the windmill is working I must get along to it, or, I must do something to prevent the haystack getting blown about. In the town there are multitudes of noises and iall to no purpose, and this man was experiencing all of them and reacting to all of them_____

Galin and Shcherbatyuk fell asleep in the ward to the rhythmic knocking of trains, and awoke to the sound af the train stopping or to the morning symphony music.

"The train hardly reaches Borodyanko and I'm already asleep," wias Shcherbatyuk's comment.

From early childhood Galin, the engineer, had had a passion for travelling. That wias why we decided to put trim in the "train ward."

Raisa Mukhtarovna was in charge of the patients in this ward, and they jokingly referred to her as the station-master and to sister Varya as the guard on the long distance waggon-lit.

"Well, and how is the traveller -feeling?" asked Riaisa Mukhtarovna, when she made her rounds.

"I'm sleeping marvellously well," came the reply. There was no longer the painful look in his eyes that has been so evident when he entered the hospital.

"Would you let me tell you about my sensations," proposed Galin.

"I'm listening," replied the doctor.

"It seems to me that I have travelled a long way and am getting farther and farther awiai each day. The train has taken me out of my ordinary working and domestic sphere, away from the compassionate eyes of friends. The noise of the outer world does not penetrate through the thickness of these padded doors. The wheels are knocking, the carriage shakes, telegraph poles flash past the windows and I fall asleep—what else does one

do in a long-distance train? Yes, it's a wonderful journey and I call it the journey to health."

"You describe it picturesquely," remarked Raisa Mukhtaroviia.

"It's how I feel. The last stop on the journey is health. After all, the worst thing in the world is to drag out a useless existence. The train stops and I wake up. A band is playing on the platform, the strains from it seem to be filled with sunshine and the tang of the sea. Every time I wake I seem to see the station at Sochi."

"You certainly have an imagination," laughed Raisa Mukhtarovna.

Shcherbatyuk listened closely to Galin's description.

"The morning symphony is better than when the train stops," he said. "The sounds of the country in the early morning have a calm, soothing effect. One breathes freely, the birds sing, the dew's on the grass and the air's fresh. When the cows are lowing I can almost see the dust on the road. I recognize my sister's voice and the voices of her neighbours, when the girls go singing on their way to the fields. When your morning symphony wakes me I lie still listening to all of it and seeing it all. I see the birds hopping from twig to twig. I smell the scent of the flowers. My high blood pressure disappears from me, I refuse to know it. That's how it is! I long ago noticed that when I wake in a good humour, then everything goes well for the rest of the day. No doubt you planned the morning symphony music just to make us happy. It is said that disease is afraid of laughter."

"Yes, we planned it to make you happy, Ivan Andre-yevich," said Raisa Mukhtarovna. She rose slowly from the chair and she seemed to have hit upon some new idea.

"Tell me," she pressed after a short pause. "The current was cut off yesterday and the morning symphony music was not transmitted. What woke you up?"

Shcherbatyuk roused himself.

"Oh yes, it was very curious. It seems incredible, but I woke up as usual to the sound of the morning symphony music. You see, I dreamt it. I heard it in my sleep and it woke me up. Would you believe it!"

Sleep like a master in charge had cleansed the patient's body of all anxiety, had "tidied up" the affairs of the organism. The mechanisms which had been thrown into disorder by coming into conflict with the difficulties of the environment, had now fallen back into position; they had begun to operate harmoniously again. Sleep had thrown out of the consciousness all the turmoil of anxious thoughts and sensations; there remained only the selected seeds—the unswerving will to live.

In the corridor Raisa Mukhtarovna met Pyotr Andreyevich, whose face was positively shining with (pleasure. He was walking with quick, short steps; this overall, which was far too long, was flapping round his legs.

"I've just seen Primachenko," he said. "She's feeling fine and happy. She was nursing the infant that Natasha and I saved. It's a fine bouncing boy! She stopped me as I passed and said, Thank you, doctor, thank you ever so much!" She hugged the infant and couldn't find any more words to say, she was so agitated. I feel so good I could embrace you, Raisa."

Raisa Mukhtarovna had felt the same when she came from Galin and Shcherbatyuk.

* * *

We went on collecting facts. How well Pavlov had written about just that! "Always stand on the basis of facts," always bow to "Mr. Fact." But he exhorted us "not to remain on the surface of facts," not to become "an lardhive of facts." Scientific work is required not in order to have "something on which to hang facts," but in order to "penetrate into the secret of their origin," to find "the laws which govern them."

What a multitude of interesting observations we *had* made in the hospital!

We were giving «sleep treatment to more than 300 people. We had learned how to govern the medianism of sleep; we had made it the obedient tool of the doctor. A whole host of patients had passed before us. Some had slept better, others worse. But they had all slept natural and not the medicinal sleep justly called "dhemically chaining up the patients." Insomnia patients were also rapidly drawn into our sleep regime. Sleep helped the overwhelming majority of the patients. They won the battle against their sufferings.

The knocking of the wheels of the imaginary train was pleasant to the engineer and the warehouseman. For them it was the signal to fall lasleep. But a railway guard came to us for treatment. For him the noise of the train was the signal for the working day. One elderly collective-farm woman was also against the train as a means of getting to sleep.

"Not so long ago I travelled in a train ^hen I went to my sister's funeral. This miakes me feel as though I'm going to bury her .again," she said.

There was the diauffeur who protested against the monotonous hum of the buzzer, the patient suffering from rheumatism who could not stand the sound, of rain. Sick people are not all alike, even when they are suffering from the same illnesses. A special system of laid has to be created for each.

We made some experiments: we put patients in the sleep-ward and from the outset [gave them no soporifics. "They slept perfectly. They slept because there were other people sleeping all round them, because the whole environment invited sleep, because it was called the sleep-ward.

It was very interesting to observe the process of waking up. Awakening shows how one has slept. If the patient woke up in a good humour, it meant he had

enjoyed deep, prolonged sleep. If he woke up with a headache, he had slept badly. After broken, disturbed sleep one wakes up jaded. Then the first contact with real life is spoilt by unpleasant sensations and for some time this affects the attitude of the patient to everything around him. This, as it were, reveals the lurking pain. Shcherbatyuk said that we had planned the morning symphony music to make people happy. On waking, the energy, which is derived from the happiness which fills the mind simultaneously with the cheerful chirruping of the birds, remains with us and [guides and inspires us during all our waking hours.

We spent long evenings in the common room, making estimates of the first fruits of our early researches. We tried to explain the facts, we found answers, and not infrequently we made mistakes. We asked ourselves why Galin in his bed should feel the train shaking when he heard the knocking of the train? Why Shcherbatyuk suddenly quite distinctly smelt the scent of flowers? Why it was that he woke up to the sound of morning music when there were no sounds to awaken him? How many of these "whys" confronted us in an inspiring queue!

Zoya Mikhailovna could always produce a multitude of questions. She showered them on all the doctors. As with all young doctors her attitude to medicine seemed to consist of questions alone.

"Why did the patients not wake up when there was a loud noise, yet the soft twittering of birds woke them up?"

Raisa Mukhtarovna argued it out aloud:

"It concerns what Pavlov calls the 'sentinel.' Isn't that so? The mother does not respond to a loud, even a deafening noise, but she wakes immediately at the slightest sound from her child. For the same reason our patients wake up when they hear the morning music. They have already formed a waking up reflex."



The white overall!

In the mind of everyone the doctor's overall is linked with important living events. From earliest childhood in the home, in the hospital, the pure white of the doctor's overall is before our eyes in moments of trial. Its dazzling whiteness testifies, as it were, to the grandeur of the medical profession, to the purity and infallibility of the medical worker. The white overall is the symbol of our calling in life, of our splendid place on this earth.

How lovely and shining should our white overalls always be!

We made ourselves new overalls: long, almost down to the ground. The women's overalls had a high collar closed at the front and box-pleats and a half-belt. The starched kerchief which readied the shoulders had a soft, silk edging. The high white collar and the silk edge of the kerchief across the brow gave a kind severity and purity to the face.

The patients called the sisters a flock of swans.

Not one of us entered the ward in a crumpled, slovenly overall. Before starting work it was the custom to press the overall and make quite sure that it was in perfect order.

The five minutes before going on duty was the time when the outward appearance of each sister and nurse was inspected. There came the day when Motya Kozlova, the girl from the buffet, came under Pyotr Andreyevich's notice.

"All the others have overalls that are ironed and starched like overalls should be, and they have a silk ribbon edging their kerchiefs. Why haven't you, and whatever's wrong with your overall?"

Motya shrugged her shoulders in surprise.

"I'm married (already, thank goodness, and have a husband. I'm sick of him by now."

Motya always had an answer to suit every occasion. She could throw a sharp word over her shoulder whether

necessary or otherwise. Whatever the instructions, she always stormed in protest yet, as we discovered later, she carried out all instructions to the letter.

There was one professor who visited us, an enthusiastic but rather pathetic figure. He looked over the hospital and, as he went the rounds he gave vent to loud exclamations: "It's marvellous! Epoch-making! The latest word!"

We did not attach much importance to the professor's enthusiasm. All his lectures abounded in loud-sounding phrases such as: "the lung cavity is a powder-magazine," "pleurisy is the consumptive's visiting card." His students always knew exactly in what part of his lectures he would throw in these favourite definitions and even prompted him, so that sometimes it was awkward for him to repeat them and he just smiled in an embarrassed sort of way.

While eagerly listening to the twittering of the birds, the cock-crowing and the horse neighing in our morning symphony music, the professor whispered enthusiastically: "Astounding picture! Magnificent!"

It was here that Motya had to put in her little word, "What's good about horses neighing in the ward, it's not a stable! Of course, there aren't any horses in Kiev because there are so many cars, so a city doctor might find it interesting."

But the first serious talking to that Pyotr Andreyevitch gave Motya took place after the incident with engineer Galin.

Motya was carrying a tray of food when she bumped into Galin and almost knocked him off his feet.

"What's the matter with you, you must be drunk?" Motya let fly at the engineer. "Can't you look where you're going?"

GaMn was astonished and attempted to explain but Motya roughly interrupted him.

"Sleep off your liquor first, then I'll talk to you," and hurried off.

Galin told Pyotr Andreyevich about it;

The head doctor called the girl to his room.

"Sit down, Kozlova." Pyotr Andreyevich pointed to a chair. Motya Kozlova sat on the edge of it. Pyotr Andreyevich did not start the conversation at once, but continued to look over some documents. Motya found the waiting tedious.

"Take a paper and read until I'm ready," said Pyotr Andreyevich.

"But I can come later; I've got some work to do," said the girl. She got up from the chair.

"No, sit down again and read for a bit," insisted the head doctor.

Ten minutes passed before Pyotr Andreyevich closed the file of papers.

"Well, what's in the papers?"

"I've not been reading."

"Wondering all the time why I sent for you?"

"Why should I wonder, you'll tell me yourself."

"Can't you guess?"

The girl raised her eyebrows and turned her eyes away.

"I can't think of anything."

"There's no need to think of something, you have only to cast your mind back."

"But I don't know why you sent for me."

"Let's not play hide-and-seek. We are not satisfied with your attitude to the patients. Galin came here for treatment. He entrusted his health to us; in fact not he, (but the State, entrusted his life to us, just as it has entrusted the lives of other patients. We must justify the confidence put in us. People do their work here honestly, conscientiously."

"And don't I work honestly? Every day I do more

than I have to and I don't complain," protested the girl "I work honestly."

"Look here, Motya. It is true that you work in the hospital, but you should work for the patients. Do you understand what I mean !by working for the patients?" Pyotr Andreyevich deliberately stressed the last few words. "You insulted the engineer; you called a sick man a drunkard; you almost knocked him down. Is that honest? How do you think he'll like taking food from your hands now? His appetite is poor enough without that. In our hospital it is like this: what is good for the patient is honest; what does the patient harm is dishonest. Is that clear?"

"Quite clear," replied the girl curtly.

The next day Motya laid a paper on the head doctor's desk with the request to be released from her work. She mentioned family affairs as being the reason for her request.

"No, I shall not dismiss you from the hospital. If I dismiss you today, you'll get another job tomorrow and will work badly there. And everyone will say you were from this hospital. No, I will not tolerate such a disgrace!. We can only allow conscientious, skilful, good workers to leave our hospital, people like sister Varya Shevchuk, nurse Nyusya Bernatovich, Katya S'hashenkovia, of whom one need not be ashamed. Do you understand?"

Motya Kozlova knitted her brows and continued to look at the floor.

- "I shall leave, all the same," she replied gloomily. Then he rushed out of the common room, slamming the door.

The Party group discussed the behaviour of the girl from the buffet.

"It's just that Motya has a great deal to learn; we must work with her," said Raisa Mukhtarovna. "What, indeed, does she know about her work, except the little that is concerned with handing out food? She regards

her work as a mucky job. She even says that the patients don't eat, but jgulp their food down. Of course, she hardly ever sees the patients except when they are having their meals. And she's sick and tired of it. Motya is brusque land sharp-tongued and so she says everything in an impetuous, insulting kind of way. I once mentioned to her that the girl from the buffet should always have a smiling face and then the piatients would have better appetites. Do you know what she replied? 'A fine thing that would be!' We have not succeeded in getting her to like her work. She never hears a word of praise. That's the way she feels. It iis our job to train her differently."

"Nothing will cure her this side of the grave," said Tishchenko, shrugging his shoulders hopelessly.

"That's not the way to talk," objected Raisa Mukhtarovna.

"Before we can train her, she will have ruined all our nurses."

"Yet, you know, there's something about Motya Kozlova that I like," put in Pyotr Andreyevich with his invariable, good-natured persistence. "I like her frankness, her direct manner, iher truthfulness. One could make a real person out of her. And together we shall do it."

The next time Motya Kozlova caused trouble, a special staff meeting had to be called. The girl confused the dishes when she carded out the meals and one patient, instead of getting his special diet, was given food that he should on no laccount have eaten and ,a very severe attack of pain was the consequence. When Zoya Mikhailovna, the young doctor on duty, reprimanded Motya, 3he replied curtly, "It won't kill him! I didn't do it on purpose!"

"That's about the limit," said Zoya Mikhailovna, outraged. "Your job is a responsible one and it's your duty to keep your eyes open."

This impressed Motya who, for the first time in her life, realized that her job was a responsible one,

After Zoya Mikhailovna had reported the incident to the meeting, Nyusya Bernatovich asked to say a word:

"It's the finest thing in the world to be able to help people. I like our work; it keeps people linked with life. Your work, Motya, is cleaner than the work of a nurse; the food you give the patient is like medicine. If you give the right food, the patient gets better; if you give the wrong food, he gets worse. This is how I see it: if the Chemist gives a patient poison by mistake, then he gets tried in court. We all saw the patient writhing in his bed after you'd given him the wrong food. Our hospital's good reputation is known far and wide, but what do you care? That's what we are all asking you, all of us," Nyusya concluded with a depth of feeling and made a broad sweep with her arm as if to embrace all those present in the room.

Fedot Koval asked to speak and, as always, he brought everything down to peat.

"Take peat, for example. Just tell the meeting, Motya, whether you ever take the little bits. Don't you always rake round to get whole briquettes? And what do you think I can do with the crumpled bits? I can see through a man by the way he goes to get peat."

Motya sat in the front row and said nothing. Her face was burning and her eyes shone brightly. Throughout the meeting she fidgeted with her wedding-ring, first taking it off, then putting it back on her finger. It looked as though any moment she would jump from her seat, say something rash, dash out, and slam the door. But this did not happen. Silently she listened to everyone as though bewitched.

One of the sisters shouted from her seat:

"It's enough that Galin, who is a sensible person, can't bear to look at her. Let her go!"

Tishdienko supported the sister.

"Quite right, let her go! There's no need to dismiss her, she'll leave herself. If she doesn't want to treat

people like human beings, let her leave! Let her know she's not as good as other people. She's of no earthly use!"

Pyotr Andreyevich looked in the direction of the girl: "What has Motya herself to say?"

The girl got up and stood silent for a second, her chin quivering, the corners of her mouth taut. Then suddenly in a soft voice quite unlike her usual tone, she said:

"No, I won't leave!" and sat down on her chair.

The day after the meeting a statement was put on the notice-board:

"For negligent attitude towards her duties, M. Kozlova, the buffet-attendant, is hereby reprimanded.

"P. A. Lagoda, head doctor."

For several days after that Motya went about in a dazed fashion and refused to speak to anyone. She must have spent the time making up her mind.

On one occasion she handed a bent fork to Shcherbatyuk, one of the patients. He asked her to change it and she immediately flared up:

"We haven't got silver forks, only the restaurants have them." But she pulled herself up with a jerk and added, "Just a minute, I'll fetch (another.)"

"You might have started that way," remarked Shcherbatyuk, kindly.

This was the year that the Makarov hospital was given additional funds for the purpose of acquiring additional furnishing equipment. To everyone's surprise, Fedot carried in a crate containing magnificent china services and two hundred sets of silver-plated spoons, forks, and knives. Motya Kozlova was speechless with excitement. Pyotr Andreyevich restrained his joy and issued instructions.

"You will take all that, Motya, and set it out beautifully in the buffet, so that it will shine through the glass cases. Put the soup-tureen in a prominent place and the

plates round it fan-wise. You understand? And we must have our own emblem put on each plate, 'M.H.' for Makarov Hospital."

"M-m," murmured Motya softly, but she could not look the doctor in the face. She turned to Fedot.

"You'd better make me some keys for the cupboard," she said sternly and with pride. "I'll have to have keys now."

The same day there was a downpour in the evening. The driving rain whipped the trees in the park and tore off the yellowing leaves. Everywhere there were rushing torrents. Motya Kozlova looked dubiously out of the windows in the common room.

"However shall I get home?"

"It'll soon clear up," I said. "Wait la bit."

Motya went to the table and turned the leaves of some books.

"Try this one; it's about your kind of work," I said, handing her Pavlov's *Selected Works* and pointing to the eighth lecture. Kozlova read the title and could make nothing of it.

"You're getting at me," she said, smiling.

"Not lat all. Everything written here has a direct bearing on you and your work. Let's try it together, shall we?"

Motya shook her head.

"There's no need to read it. You just tell me about it."

"But why? Pavlov writes very clearly. Here, for example: '... everyone knows that normal, useful eating is eating with an appetite, eating with a sense of enjoyment; any other kind of eating, eating to order, eating because one has to, is regarded as a greater or lesser evil and the instinct of human health arouses the endeavour to remove it. To restore the appetite, therefore, is one of the frequent requests made to the doctor. Accordingly, doctors down the ages and to the present day have in all countries considered it their essential

duty, besides combating the basic ailment, to adopt special measures to restore the appetite/ Now tell me, isn't that all clear?"

"Of course, it's written in Russian, isn't it? But I didn't understand the title 'Medical Empirism.' What does 'empidism' mean?"

Motyia and I stayed in the common room that day until late in the evening. The rain had long ago ceased and the wind had scattered the clouds. Among the misty clouds there appeared the round, impassive face of the moon. The patients were already asleep, but we sat on in the common room, reading Piavlov.

Piavlov writes surprisingly vividly and simply. Why is it that so many scientists use words that are so long and difficult to pronounce?

Motyia Kozlova learned that day that as a rule sick people have poor appetites, that in the sick person "there is la disappearance or distortion of the world of taste sensations," that "rough food is harmful to the sick person," and in order to digest it the organism has to perform work beyond its capacity and its work in the main directions is thereby weakened; that sufferings and fears suppress the appetite—when you are (agitated you do not want to eat—and in such cases food settles like ,a stone in the stomach; that eating, in our ordinary life, is arranged in a special way: friends come together, music is played, there is dheerful conversation round the table; that all the garnishings, lall the tasty dishes taken before the main food, are evidently calculated to awiaken and sharpen the sense of taste, the interest in food, tand an increased desire to partake of food; that beautiful crockery ,and food arranged tastefully on the dishes tarouses the appetite, etc.

Motyia Kozlova listened to it all .with close attention.

"I've noticed that when it is stuffy in the ward or, for example, when one of the patients is dangerously ill, they all leave their food," she said. After a moment or

two she added, "Now I've got a beautiful service. And what else is needed?"

"The most important thing, Motya, is to love your work, to put your heart and soul into it. Yours is a job, Motya, where people will always be grateful to you if you approach them in a good spirit. Raisa Mukhtarovna was right when she advised you to give the patients a smile sometimes. Smile so that they will feel happier. When you are working you should always wear a nice dress with a white collar and a starched frilly apron. And a pretty starched lace cap on your head. A little eau-de-Cologne would not be amiss. Then everyone will smile when you come into the ward. And we shall judge your work by the appetites of the patients. If they don't finish up their food, then you will be partly to blame. Try to look at it that way. And the day no one leaves food on his plate I shall congratulate you publicly, in front of them, all!"

Motya stood up and went to the window.

"There, the storm is over. It's time I went, doctor."



In the early days there was not much love lost between us and the chairman of the Kopylov Collective Farm. The fact of the matter was that the hospital occupied premises which had once been the school, and the collective farmers' children had to go to school in a different village. But there had been no other way out. The fascists had demolished the old hospital and the house at Kopylov was the only building in the Makarov District that could possibly be used as a hospital. However, the friction did not really last long. The following is an incident which helped to bring it to an end.

Comrade Qordieiko was the chairman of the collective farm. He fell ill with high blood pressure and the heavy, exhausting sickness quite knocked him up. He went to a famous Kiev professor for advice.

"You must have a sleep cure. I fear that is the best I can advise. And it means you will have to go into hospital."

Gordienko agreed at once and asked the professor to get him into one.

"I strongly advise you to go to Makarov. Ask the Ministry of Health department to issue you a letter. It is not easy to get into the Makarov hospital, they only treat the collective farmers in Makarov District."

"Where did you stay?" asked the collective farm chairman.

"The Makarov hospital. They use sleep by means of conditioned reflex,"

Gordienko thanked the professor and returned home to Kopylov.

The same day he visited Pyotr Andreyevich Lagoda.

"Good-day, doctor! Help me out! They stay in Kiev that I have high blood pressure. They suggested a number of hospitals but I thought it would be better in our own, at home as it were. The doctors are good, the hospital well known."

From that time business relations with the leading collective farmers definitely improved. Gordienko was soon well again and the prestige of the hospital grew immeasurably in his eyes.

* * *

Many of our postulates concerning the protective regime required to be proved experimentally. The question as to how worry and suffering influence the healing of wounds, for instance.

Our observations had to be put into the usual form for scientific research; there had to be exact diagrams and tables. Pavlov said: "The final triumph of medicine will come only through experiment in the laboratory."

Worry and lalarm are detrimental to the healing of wounds. The wounds of the conquered do inot heal as Well as those of the victors. There were more (amputations and deaths among the wounded in the battle at Salty than among the wounded local inhabitants. Pirogov noticed this. Why was it? The great Russian surgeon replied: "Because the soldier in the hospital (had before his eyes only the sufferings and deaths of his comrades, while the injured local inhabitants were in their homes, surrounded with care and kindness: one held the sick man's head against his breast, another gripped his hand, a third handed him a drink, etc."

Pavlov, replying to Pirogov, gave the final conclusion: "...unremitting, overwhelming siadness iand worry destroy the body, giving every kind of disease access to it."

Writers iand poets, as well as scientists who are capia' ble of observing life, have written about this. Recall the words from *Don Juan*

*'Tis very certain the desire of life
Prolongs it: this is obvious to physicians,
...When patients, neither plagued with friends nor
wife,
Survive through very desperate conditions,
Because they still can hope nor shines the knife
Nor shears of Atropos before their visions—*

All this is so, but these are iall mere observations. What about an experiment? How can it be proved by an experiment in the laboratory? How can it be plotted on a gnaph?

For the experiments we needed rabbits, large numbers of them. We obtained a note (from Gordienko, and Pyotr Andreyevich iand I set out. The man who ran the rabbit farm was a stableman, Ivan "Trofimovich Veryovka. We went to him.

A high wooden fence separated the collective farm from the road, and a row of low stables stood between the farm and the countryside beyond. The hot, red sun had sunk behind the stable roofs, throwing a rosy light over the fields and farmyard, where the shadows grew longer and longer. Turkeys, geese and ducks were waddling about the farmyard.

The stableman and his son were busy brushing down a stallion. Its slender legs, proud bearing, and graceful neck, its shining flanks, were a joy to behold. Quivering, nervous warmth and rebellious vitality emanated from it.

"What a beauty!" said Pyotr Andreyevich, quite forgetting to greet the stableman.

"I see you like him," said the stableman proudly. "I reared him. They call him 'Dream'."

The stableman wiped his hands on some straw and took the note from the farm chairman.

"You want them for the table?"

"No, for science."

"All right, come along and I'll give you them."

Everything was clean in the rabbit-hutches, not a straw on the ground. The right-hand wall was stacked with wire-netted hutches almost to the ceiling.

We stood in the middle of the big barn.

"Well, choose the ones you like," said Veryovka, with a broad sweep of his arm towards the hutches. "For the sake of science, please! Here's a Chinchilla, there's a Vienna blue, and this is an Angora. It has pink eyes. Let's sit down and have a smoke."

The stableman rolled his cigarette and we examined the rabbits. The silvery-blue¹ Chinchilla rose on its hind legs, revealing its lighter-coloured belly. Its nose wriggled as it sniffed the air. No doubt it was making a study of us. Its cherry-brown eyes now burned with a fiery light, now became dull.

"Let's have these," said Pyotr Andreyevich.

"For science, you say?" The stableman licked down his cigarette and stuck it between his lips. "I would be interested to know what you mean exactly."

"What we mean?" I repeated. "It's quite simple. When a person worries, any wounds he may have heal badly. But we have to show this experimentally, with chapter and verse. You understand?"

"I see what you mean. Someone I know has an ulcer on her leg which won't heal. The woman is always fussing about why it doesn't heal up, and the ulcer won't heal just because of her worrying. If she'd forget the ulcer it would clear up at once."

"Well, that's not quite true," said Pyotr Andreyevich. "Now, I've a question for you. We know that people worry, but how about rabbits, do they? We've somehow got to make the rabbits worry."

The stableman thought for a while, inhaled smoke and paused before letting it out.

"That's a serious matter. You've got to make the rabbit very worried indeed, give its nerves no rest at all, worry it till it would positively weep if it were a human being. What sort of unpleasantness can we think of to produce that? Knock it about or starve it?"

"No, that won't do," I objected. "They would say the wounds were not healing because we'd hurt or starved the rabbit."

"And you're quite right. You mean (it should be purely mental worries," said the stableman. "All right, just a minute."

Veryovka jumped up and vanished through the door. Two or three minutes later he returned carrying an enormous, terrified turkey that seemed to be wearing red earrings like savages do. The bird kicked out helplessly with its long, straggly legs. The stableman handed the bird to his son, took all the rabbits by the ears out of one of the hutches except one, then tossed the astonished turkey in with it. The bird fell on its breast, then

stood up, shook its wings and at once assumed a proud mien. From the heights of its superiority it looked down at the rabbit—a miserable little bundle of fur, panting with fright. The turkey went menacingly towards it. The rabbit pressed close to the floor of the hutch. The turkey was still only taking aim and weighing up the situation. Meanwhile the rabbit, crazy with fear, rushed to the opposite corner. The turkey thought this a suitable moment and pecked at the rabbit with its cruel beak.

"When it gets accustomed to the turkey, we can put «a cock in, then later we'll try Sharik, our frisky pup, or perhaps one of the geese. For the rabbit (it would be the same thing as for us to have a tiger in the room," argued the stableman. "Do you agree?"

We took the short cut home, through the vegetable gardens. The sun had sunk below the horizon and like-pink and purple tints glowed in the sky. Across the fields came the cool, musty aroma, of approaching autumn. Ahead of us walked the stableman's lad, carrying the rabbits in a basket.

The first to break the silence was Pyotr Andreyevich.

"If you told me to move to the town where there are clinics and institutes and academies, I wouldn't go. Perhaps you wonder why. Well, there was a time when the country doctor felt he was irretrievably missing something by living in out-of-the-way places. But now that's all nonsense. The dividing line between the practising doctor and the scientific worker is disappearing. Then, previously, people tried to get treatment in a big town, but now you find them coming from the town to the country hospital. That dividing line is also being removed."

We passed the apple orchard and came out on the road. My heart pumped with joy and excitement.

"Just imagine how our medicine would advance if the people in all our country hospitals tried to push science

forward," I said. "We'd have an enormous, nation-wide institute."

How perfectly right Roshdihin had been when, at the outset of our experimental work, he staid we were to broaden the scientific front, Ibrinig the practical medicine of the countryside into its orbit. Here there is an ocean of unawakened forces!

As we crossed the threshold of the hospital we met Raisa Mukhtarovna in a frenzy of joyful excitement.

"You haven't heard? It's supper-time, come quickly." She took each of us by the arm and raced us into the common room.

Hurriedly we scrambled into our overalls and followed her into the second sleep-ward. She told us to take up "observation posts." That very minute Motya Kozlova entered the first ward carrying a tnay. She wore a black dress with \a white collar, ia diaphanous frilly tapron, and a starched lace cape perched prettily on her hair. Raisa Mukhtarovnia had put out the light in the second ward, so Motya could not see us. Bialancing the tray on one hand, she distributed the plates on the slide-tables with the other. To Galin, Shhdierbatyuk, and Gordienko she said:

"Only our cook makes omelettes like this! He knows the secret. Eat upiand a good appetite to you!"

Merry dimples pliyed round Motya's mouth and her white teeth ^hone as her now lively, good-natured face lit up in la broad smile. The Whole room seemed filled with sunshine.

"Just look, she's really smiling," whispered Raisa Mukhtarovna.

* * *

I now spent weeks and months on end in Kopylov. The Medical Institute granted me leave of absence for a period. Our joint work became more land more interesting, our friendship increasingly strong. We lived as one

family and shared our joys and sorrows and all our leisure time.

One Sunday Pyotr Andreyevich and I went to Kodra-Torf for an evening's duck-shooting. The swamp stretched in a broad ribbon along the length of the dense forest. A red-tinted mist rose from the forest as though unseen fires were smoking there. We got into a flat-footed boat and a sturdy Ukrainian lad from Kodra gently pushed off from the bank.

We floated through reeds and past low banks fringed with rushes. The broad leaves of the water-lilies rustled against the bottom of the boat.

We saw no ducks. Only after an hour something rustled among the reeds, there was a frightened quacking, a flapping of wings, and then far away from us a duck flew off over the water. It was too late to take aim.

"You know what Varya would say about this duck-shooting: 'what a caution!'"

Pyotr Andreyevich smiled.

"Isn't it wonderful here, like a fairy-tale."

A strange, primordial silence lay all round. The rushes scarcely made a sound against the boat and only far away could we hear the dull, warning cry of the bittern.

At last fortune smiled on us. A teal flew over in the direction of the forest, cutting bravely through the air, its neck stretched out. Pyotr Andreyevich fired. The teal dropped its head, folded its wings, described a circle, and splashed into the water. We retrieved it. This definitely inspired our young companion, who spat on the palms of his hands and began navigating the boat again.

"Now our luck's changed and we've made a start," he comforted us.

The lad was right. Within a short space of time we had brought down six birds. It is difficult to hit the pochard because its neck and stream-lined head show only as a very thin larrow quivering over the water,

We solemnly presented the trophies to Feodosia Akimovna, the mother of Pyotr Andreyevich. She immediately began to prepare supper, while we went into the hospital to make the night round. We remained for a while with Galin, Gordienko, and Shcherbatyuk and told them about the duck-shooting.

Galin knitted his brows in thought.

"I'm a bit of a hunter myself. I love wild mature! I love it very much!"

"Who doesn't?" said Gordienko. "Beauty affects everyone,"

Shcherbatyuk was always rather inclined to ponder.

"This is a good place you have at Kopylov, whatever you may say. Here you can rest body and soul. I'm already almost well. I don't have headaches and my blood pressure has fallen. Somehow I'm feeling I want something else now. I want to get close to nature, but what sort of nature is there in the hospital? None at all. Beds, bedside tables. I tell you straight, nature can cure just as well as doctors. She has her own medicine—beauty."

Late that night almost all the doctors were to be found in Pyotr Andreyevich's rooms. It was gay and merry and Anton Voitenko had come down from Kiev as he often did on Sundays.

The guests were enthusiastically giving their expert opinions on the merits of wild game. All agreed that it was a waste of time trying for scaup duck and pochard because their flesh was tough and smelt of the swamp. There was much laughter and joking. Elena Petrovna was asked to relate something amusing about her children.

"I'd be glad to," she willingly agreed. "A little while ago the children were looking at magazines which contained reports of the preparations for the Gogol anniversary days. In the evening I went into the ward and one bright little girl asked, 'Auntie doctor, is it true' that we have already been a hundred years without Gogol?"

Voiteoko smiled in his usual kind way. It was clear that he liked listening to Elema Petrovna. As if by tacit agreement, no one ever took the seat beside her. Her neighbour was always Voitenko.



It had been good to listen to Shcherbiatyuk talking about nature. "Nature can cure just as well as doctors. She has her own medicine—beauty."—How astonishingly true!

We forget about pain and sadness when we are close to nature. She has bountifully surrounded us with her gifts. After a visit to the mountains, the sea or the forests, one returns fresh and happy from imbibing their greatness, just as we did during the days of our splendid holiday tour. If only, side by side with the penicillin and camphor in the hospitals, there could be medicine like the sounds of the forest, the rustling of corn, the song of the lark or the scent of wild flowers. Vague, tentative thoughts on these lines had come to us when we were by the sea near Kerch. Gialin was a hunter. For him we would provide treatment near a lake among the reeds that conceal flocks of wild ducks. And I am ready to swear that his ash-grey cheeks would acquire a rosy flush. How could the health-giving wealth of nature be breathed into the hospital building?

We see nature in art. It is heard in music, reflected in the harmony of colours on the artist's canvas, in the cinema, on the stage, in books. When we see a play at the theatre, we become moved: we weep, we laugh, yet it is—all only make-believe. By means of art, it is possible to reproduce the splendid world of nature, and people will be pleased and derive enjoyment from it.

In 1906 Pavlov underwent a serious operation. The day after the operation he asked to have a bowl of water brought to him. He began to rinse his hands, letting the water run through his fingers. He was asked why he did

it, and Pavlov replied, "I am arousing pleasant sensations, the same as those I used to experience when (bathing in the sea. It helps me to overcome the weakness of disease." On the third day he asked for some stocks to be brought to him. He had been growing stocks for several years and was very fond of them. The sight of them took him back to the hours of peaceful happiness when he was well and tending his own flowers.

Flowers and the sea helped Pavlov to resist his ailment.

From this there ripened the actual plan of mobilizing nature for purposes of treatment.

At the film studio I had met producers, composers, film-operators. I had been shown the card-index of sound records. Silent within their thin cardboard folders there lay violent storms, the splash of waves, the howling of the wind in the telegraph wires, the rolling of thunder, the babbling of streams, the song of the nightingale, forest birds calling to each other; in a word, there was everything in nature that makes itself felt by means of sound.

We began to compose "landscapes" out of these sounds. This was the origin of our sea-landscape and two landscapes: one of the fields, the other of the forests.

But sounds from the world of nature were not enough. They had to be linked into some unison. What should be used to link them, words or music?

Sounds from the world of nature are signals of reality, but words are the signals of signals. When they interact, these signals have a tremendous influence on the mind.

The spoken word introduces each of these landscapes, and they are illumined by music or song, as by the sun's rays.

The light has gone out in the ward. Close your eyes! Now imagine to yourself a Boundless expanse of rolling fields. Larks hover high in the blue sky, their song is

a silver shower of ringing notes. The corn rustles softly and grasshoppers chirrup in the roadside grass. A clear voice rings out across the wide expanses and the song floods the soul. It is a song of the countryside, of happiness, of our Motherland! You feel young when you hear it, the body derives strength from it.

At such times the ward is filled with the soft music of the fields. The patients hear the song of the lark, the chirrup of the grasshoppers, the rustling corn.

The sea-scape contained the splash of wavelets on a sandy shore, the cry of the gulls. The melody of the sea fills the ward. There is a man on the cliff; he feels he has wings. The wide, [glittering expanse of sea is spread before him. The sound of the music rises and falls like the waves of the sea. Sick people are always drawn to the sea. It has enough bounteous strength for everyone.

* * *

I was introduced to producer Varnet and film-operator Bekker. Ivan Ivanovich Bekker had a healthy respect for medicine; Varnet's attitude to doctors, however, was sarcastic and even unpleasant.

This did not prevent our concluding a friendly alliance. Together we had to decide this problem of sound landscapes.

Man takes in the surrounding world with all his senses, each phenomenon seems a weighty one to him. If we listen only to sound, then all the rest—scent, shape, colour—takes the form of a dotted line in our minds, just as the dotted lines signify the hidden shapes of the geometrical diagram. But suppose we were to reinforce our sound landscape with shapes that could really be seen? Suppose we painted on the walls pictures of waving corn or of waves (breaking on the shore?)

"Art should serve health." It was Varnet who made this very true statement. "Even animals are treated by

means of medicine and surgery. Art helps man to live to work; it teaches him to love life, it shapes his mind. Why should not the doctor use this weapon? The more so, since Pavlov constantly stresses the inter-relation between mind and body." Here Varnet made a polite gesture in my direction. "All this lyricism on my part is by way of showing my readiness to help the Makarov hospital."

While Varnet had been talking I had been thinking of the talk with Pyotr Andreyevich and Raisa Mukhtarovna in the Crimea, near Kerch, when we had spoken about specific medicine for human beings.

How could the landscape be shown? A heated discussion ensued.

"It's not so much showing, as suggesting," insisted the producer. "Each person sees things in his own way. I like green waves, high as mountains, with huge white horses; another will say he prefers a smooth, turquoise, unruffled sea, or a moonlight path on the ocean. Further, if you were to show one and the same thing for half-an-hour, it would be tedious and tiring. The sea must not be shown, but suggested. Suppose we flashed a brief picture on the screen, then it faded out and only the sound of the sea remained? The stimulus would have been given to each patient and the imagination would do the rest. You may rest assured that each patient would imagine to himself just the kind of sea that is closest to his heart."

Bekker put in an objection.

"That is all very subtle. It would only do for gently nurtured people. There are some landscapes, though, which all people, without exception, love. If something particularly pleasant is to be suggested, then we couldn't manage without the sense of smell."

A smile spread over Bekker's swarthy, mobile face. A multitude of little wrinkles appeared on his forehead, at the corners of his humorous eyes, and mouth. He was extremely erudite in all spheres of medicine. At the film

studios he was always referred to as the doctor. The circumstances surrounding his interest in medicine were shrouded in mystery. He had spent sixteen years of his life searching for some herbs that would make the hair grow. As a film-operator what could have attracted him? He could have had no personal interest in the subject, for he had a magnificent head of hair. Apparently he had devoted himself to the search out of sympathy for people who were bald. Bekker had a wonderful knowledge of the names of medicinal herbs and his library was full of reference books on the subject that dated back to the earliest days.

"I'll tell you something more about smells; it will come in very useful for the Makarov people. Come and see me again tomorrow!"

Varnet had his own opinions concerning all this.

"The good book is one that makes the reader think, that awakens his imagination. You must 'build' landscapes that leave room for fantasy. That kind of medicine I welcome."

"And what kind do you despise?" I asked.

"My medical history is complicated. It's what you, in your language, call anamnesis, isn't it? I have had four operations [already: three on the stomach, one for appendicitis. So you see, in order to undergo treatment you have to have an iron constitution."

We thought this very funny and couldn't help bursting out laughing.

Varnet was a broad-shouldered, strongly-built man and did not at all give the impression of an invalid.

"If they hadn't operated, but had cured me by means of sleep, perhaps I would have avoided all the subsequent unpleasantness. I, too, have read Pavlov. But I can't sleep without soporifics."

"You could, you know."

"I easily fall asleep when there is semi-darkness in the room, when I can see the dim outline of the window,

when shadows from the trees swing backwards and forwards on the wall," said Varnet.

"So it is possible to get you to sleep. But we won't do it, of course, until we've collected the landscape from you."

So our circle of acquaintances widened.



The next day I went to visit Bekker; I was burning with curiosity. I wondered What he could possibly tell me about smells. I found him at his work in a small, dimly-lit room which contained numerous shelves, glass-fronted cupboards, and a number of small models.

"I knew you'd come," said the film-openator, smiling through all his wrinkles. "I've been following the work of the Makarov people for a long time now. A simple thought has struck me: in your sleep-wards you form a conditioned reflex out of the knocking of the train, the little green lamp, the sound of rain, and so on. I suggest forming a reflex out of smells. All people believe that there exist smells that stupefy, that put one to sleep. Smells can easily be linked with sleep, isn't that true?"

Bekker opened the drawer of his desk and took out a number of envelopes containing herbs.

"Before going to sleep, you spray the room with an aromatic solution. With this smell in his nostrils, the patient falls asleep. You will wake him with a different smell. For instance he will fell asleep to the smell of *radix calami* or *materinka* and wake to the smell of mint or worm-wood."

He looked at me with a questioning lift of the eyebrow and an expression of anticipation mixed with a certain slyness.

"You must think I'm a diild of nature, a lover of fields and alpine meadows, I like smells so much. But I'm not, you know. I was born in Kiev, a city with the most subtle, agitating smells. It was there that I came

to love smells. The honey scent of the acacias, the peculiar soent of the maples. In Kirov Street you find yourself in a realm of new smells, in particular the intoxicating scent of the limes, that gets into the blood and streams along the -arteries. Then your lungs are filled with the smells of the Dnieper rushes, the fishes, the rafts, A golden thread seems to link them with the aroma of the forests on the far side of the Dnieper, which lie drowned in a mist of blue and gold. I derive extraordinary pleasure from smells!"

Bekker opened the envelopes and carefully shook out the dried herbs.

"Here is *radix calami*." He broke the white stem, rubbed the ends and sensuously sniffed the subtle aroma. Then he picked up the *materinka*, rubbed the lilac-coloured flower on the palm of his hand, sniffed again, and raised delighted eyes to me.

"This tis the forest!" he said. "I can even see the grass flecked with sunlight! Now just imagine that your patient is recuperating and you give him a little bottle to -have beside him—a solution of melilot or *materinka*. When your former patient is overtired, worried or languid, he will remember the little bottle, take a sniff at it, and fall asleep. Sleep will give him back his strength. How's that?"

"A splendid idea," I said. "Undoubtedly a worth-while suggestion. Thank you."

Thoughts like these were generously presented to us by Soviet people who were eager to help the cause of science.



Because of our various preoccupations, the time passed rapidly. Shoheitetyuk recovered and began to look fresh and strong. He shook hands all round and thanked us warmly when he was finally about to leave. Gordienko, the chairman of the collective farm, was by now trans-

ferred from the sleep-ward to the general ward, and began to take more and more interest in the ordinary requirements of the hospital. He frequently argued with Zarubin. One day he noticed that the rain had come through the ceiling of one of the rooms, so he called him in.

"Get la man in to mend the roof," he said.

"He's putting the roof on at the club," said Zarubin.

"But the club is only being built, and there are sick people here," insisted Gordiemko.

Meanwhile we received a notice ifrom Kiev that nurse Katya had been selected to study to be la sister. Katya beamed with pleasure; she was delighted. But Tishdienko was tannoyed.

"Letting the best murse leave us. What good will it do the hospital that Katya is going to study? No one knows how she'll turn out as a sister, but we all know she's an excellent nurse," he grumbled.

"That's downright egoism," protested Zoya Mikhailovna, who was a staff doctor sand also chairman of the hospital trade-union committee.

Raisa Mukhtarovna put in a word.

"Do you remember the time we would not let Motya Kozlova leave because she didn't work well in the buffet? Well, we are now letting Katya go because she is a good nurse. People have to develop and study, sand I shall be more than pleased if, when Katya has finished the course, she comes back to work with us as a sister."

"She has a sick mother. When Katya [goes away, we must look lafter her a bit," said Zoya Mikhailovrna. "Katya told me that her mother had -said to her on parting, 'It will be hard for me without you, Katya, but never mind. You go and study and make something of yourself.' "

Pyotr Andreyevich and Raisa Mukhtarovma said good-bye to Katya, wished her good luck and success tand then drove off themselves to ,a meeting of the Bureau of the District Party Committee, where a report was to be made about the hospital.

I remained behind. While I was listening to some new magnetophone recordings, sister Varya rushed into the common room in a great state of worry and alarm.

"Galina must be dying! Something's happened to him, I've never in my life seen anything like it!"

Galina was in great pain and had to shift his position every minute. He could not steady the glass in his hand, nor get it to his lips to drink. Nurse Katya stood beside him wiping cold sweat from his brow with a towel.

The other patients in the ward were silent as the grave.

There had been adhesions after Galina's second operation and now, just as we were about to let him leave the hospital, this catastrophe had had to happen. One of the adhesions had caused an acute blockage of the intestine.

Morphine mitigated the unbearable pain. We put him on the operating table.

"We'll come to an agreement, doctor," said Galina. "The operation will proceed on the basis of two strategic principles: I will adhere to Kutuzov's slogan of toleration and restraint; you to Suvorov's—speed and attack."

"The first principle doesn't come into the picture; you're going to sleep. As for the rest, I agree."

Nurse Katya did not move from the operating table.

When it was all over, she helped sister Varya move the patient to the stretcher and covered him gently with a blanket. In the ward she continued to nurse him tirelessly.

Later in the evening Pyotr Andreyevich and Raisa Mukhtarovna returned and we all went in to see Galina.

He was sleeping and nurse Katya came across to us.

"Hush, he's sleeping," she said.

"I thought you'd gone, Katya?" said Pyotr Andreyevich, surprised.

"Galina is my patient," explained the nurse. "I won't trust him now to anyone else. I can go to Kiev later."



The Makarov hospital experiment soon took root elsewhere. Hundreds of medical institutions began to introduce the protective regime, psycho-prophylactics, sleep by conditioned reflex. They included the Podolsk hospital, the Fifth Children's Fever Hospital, the Kaganovich hospital in Kiev, the Poltava, Zhitomir, Drogobych, and Saratov hospitals. Each new hospital improved on our experiment, polished it up, added new details, while the less durable methods perished the first time they were used like moths perish in a flame. What of it if the vacillating shadows of branches on the walls do lull the patients to sleep and give them pleasure? We, however, had proposed apparatus that was too complicated to produce the rhythmically moving shadows; it was a film-projector with a circular film that went round and round. Neither was the buzzer popular, for it quickly went out of order and the melodious humming gave way suddenly to a series of squeaks or a loud noise like thunder. Life accepts that which is useful and necessary and particularly that which is simple.

In some hospitals our experiment suddenly assumed ugly forms. A group of Makarov workers was specially sent to one hospital of the kind, in order to train the doctors in the method of conditioned-reflex treatment.

One sleep-ward was already working in the hospital but what a shocking business it was.

We found in it a "lulling apparatus" of incredible construction standing by the wall in one ward. It stood higher than a man and was crowned with two huge milk churns. Rubber tubes hung down from each of them almost to the floor. A bowl stood beneath them to catch drips of water which fell alternately first from one tube, then from the other. The silence of this sleep-ward was broken by the sounds of falling drips. According to Dr. Knasnoshchekov who invented this apparatus, the patients were expected to fall asleep to the monotonous sound of dripping water.

The apparatus was called the "double-tone stimulus."

The sight of this made Pyotr Andreyevich very despondent. At first he thought the roof was leaking, for pools of water stood round the bowl. The patients themselves looked miserable and some of them were sitting up in bed dismally with their knees hunched up.

"What an irritating set-up. It couldn't possibly soothe anyone. It's not double tone at all. It should be called the double-churning stimulus," said Pyotr Andreyevich trying to make a joke of it.

After the Makarov staff had been over the hospital, a conference was held in the common room. This was a large, comfortably arranged room with doors opening into the laboratory and the library. These doors were open and snatches of talk could be heard. The conference went on until late into the night. The head doctor was a cheerful fellow and gave encouragement to everyone.

"Never mind, the Makarov people will help us!"

"That was our purpose in coming," replied Pyotr Andreyevich.

They touched a little on soporific stimuli. Pyotr Andreyevich criticized the "lulling apparatus," then gave a detailed outline of the Makarov method of conditioned-reflex sleep, based on Pavlov's doctrine. He spoke about the artificial rain, the green lights, the train, heat stimuli and spent some time on the influence of smells.

"Smells are a very strong, soporific agent. People sleep well lying on hay. It is easy to connect the scent of hay with soporific powders. Later the scent of hay alone will have a strong influence. Try that out here! Try smells on your patients as possible soporifics."

A lively argument ensued. Ten minutes later Dr. Krasnoshchekov, who had invented the lulling apparatus, appeared in the door-way leading to the laboratory. He moved forward to the centre of the spacious common room. Clasp and unclasp his hands before him

while his stout figure seemed to quiver, he spluttered with great aplomb:

"You know, comrades, while I was sitting in the laboratory an idea suddenly struck me, with which I think you'll agree. You must admit that my dripping apparatus can be replaced successfully by various smells. The smell of mint, cornflowers, various scent extracts."

There was a titter of amusement all round. Not in the least perturbed, Krasnoshdiekov continued to explain that people could fall asleep under the influence of smells, therefore the patients would accept them as soporifics.

The head doctor interrupted the speaker.

"Excuse me, but Dr. Lagoda has just been talking about the very same thing."

"Indeed? That is very interesting! What a marvelous coincidence! If one and the same thought comes simultaneously to two people, there is all the more reason to consider it correct."

The head doctor turned away and addressed Pyotr Andreyevich.

"Of course we have made mistakes. I understand. But you are surely now convinced that we are introducing your experiment here; whether we are doing it well or badly, we certainly are doing it. Why, therefore, is the regional department complaining about our work? What is our chief mistake?"

"You have taken what lay on the surface, what it was easy to understand: whispering, soporific stimuli, etc. But you are not studying Pavlov. That is why your soporific stimulus does not lull people to sleep but keeps them awake. Your whispering does not soothe, but frightens people. You are building the house without the foundations. Let us now begin together and start with the foundations."

▼ ▼ ▼

A thin, aging man with a tired face and languid movements crossed the threshold of the Makarov hospital,

accompanied by an elderly woman. Zoya Mikhailovna met them in the reception room. The sick man seemed to be carrying a burden beyond his strength and his dull, fixed eyes pleaded dumbly: "Lift this burden off me."

"Cancer," the thought flashed through the doctor's mind. She took the patient into the ward, while the wife remained in the reception room to give certain information. The woman was anxious to give the fullest possible details of all the symptoms and was only afraid lest she should forget something most important upon which, perhaps, depended any improvement in the patient's condition.

"My husband began to get very weak and I stopped him from going to work. He is a rare craftsman, a carpenter. He did carpentry work at home; a cupboard for one, a window-frame for another; a table for someone else. That's how we lived. I'm a nurse in a kindergarten. I've been watching him gradually fading away. He's been shrinking before my very eyes; he's shrivelled up so much he's not a man any more. He's as thin as a rake, the wind blows him down. I've taken him to doctors and some say this, some say that. One famous doctor told me outright: cancer of the throat. When he told me my head swam and I, had to sit down. 'Doctor,' I said, 'wait while I pull myself together. This is a terrible blow.' "

Patiently the doctor let her talk.

The woman wiped the sweat off her face and continued her story.

" 'It's a terrible blow,' I say. 'Such a man as he was, the whole village looked up to him, such a good, quiet man. But is there any hope now, is it too late,' I said. And the doctor said, 'The disease has developed unnoticed, and has taken deep roots.' Now I know a little about medicine because I work with doctors. The human body is not a room. You can open the door and look into a room and see what's inside, a table, a chair. But there is no door to the human body, so that you can open it and look inside.

And I've -always been afraid of this cancer. We knew someone who got a sort of pimple on his lip, like a little clove. I said to my neighbour, 'I work with doctors and know a bit; that little pimple will send out a root,' 'No/ they said, 'it's nothing, it'll get better!' But the man died. And now what's going to happen to my husband? Doctor, my dear, surely it's not the end for him?"

"There is no such thing as a hopeless case; you mustn't lose hope," replied Zoya Mikhailovna, and looked sympathetically at the woman.

The carpenter's name was Pyotr Vasilyevich Orfyonov. All the usual investigations were made and then we met to confer. Zoya Mikhailovna made the report. The cancer had penetrated into the tissues surrounding the oesophagus; cancerous growths could be felt in various parts. It was not possible to save the patient. All that could be done was to try to ease his lot. We could suggest to him a small operation, not to prolong his life, but to prolong the dying process. Someone recalled Herzen, the Russian surgeon, who said that a small operation was needed for a large ulcer, but a large operation for a small ulcer.

When had the cancer started in Orfyonov? Not less than a year previously, perhaps even two years previously. That was clear. The sick man had visited doctors, complained of pain in the chest, and only quite recently had he begun to find it hard to swallow food. When this last menacing sign had appeared, the diagnosis was clear.

Who was to blame for all this? The doctors who overlooked the beginning of the illness? It is difficult to say. But one thing is clear. If cancer is not recognized, then the patient is doomed.

We had a talk with the patient.

"When did you first feel this discomfort in the chest, Pyotr Vasilyevich?"

The patient could not say definitely.

"Perhaps six months ago," was his reply.

"And when did you lose your appetite?"

"About then. What can I say? I used to be much livelier and energetic; the plane used to dance in my hand as I worked; but now I just don't care. I go about and don't recognize myself. Nothing's the same. What sort of illness is this?"

Next we followed up the fresh trail of doctors who had treated Orfyonov. Zoya Mikhailovna spent two days going from one doctor to another. Yes, they all remembered Orfyonov. Yes, they had noticed the loss of appetite, the pain in the chest. But think of the number of illnesses there are that show the same symptoms! They gave the patient what treatment they could, they helped him.

Orfyonov was a very quiet, very meek little man. His wife visited him every day. They would sit for a long time on a seat in the park and she was always fussing over him, turning up the collar of his pyjamas, doing up a button, picking a thread or bit of fluff from his shoulder.

For a long time we carried (about with us the impression left by the death of Orfyonov. Varya wept openly.

"He was so very, very quiet, just asked for a drink of water, said thank you and died with the words on his lips," she said.

* * *

It is a painful thing for a doctor to have to admit that he is powerless to help. The whole idea and aim of our profession is to give assistance to the sick. But we could not save Orfyonov. We had clearly done everything to ease his sufferings. He died thinking of life, he did not believe he would die. But he did die, and our opponents again got to work. Rumours were heard: "And you say there is no such thing as a hopeless case! See, Orfyonov died like people have died before him and will continue to die after him."

But no, we will not on any account reject our view: "There is no such thing as a hopeless case!" This is the point of departure from which we proceed in our work.

We would most certainly have saved Pyotr Vasilyevich had he come to us earlier. It is necessary to learn to recognize the soft fluttering of this creeping cancer, to divine its silent tread. Cancer enters the body without pain, without bloodshed. Frequently cancer "lets go" the pain only when the organism is [already destroyed. This is what dulls the sense of danger in the patient and that of (alertness in the doctor.

There are conditions which the doctors call "pre-cancer": ulcers, scars, erosions, chronic inflammations, etc. We must go out and face this front line of pre-cancer conditions. Prophylactics is the law of Soviet medicine. When a man carries a Child out of a burning house, he is, of course, a hero. But no less deserving of praise is the person who prevents the fire. There are two ways of dealing with the poisonous plants of the swamps: to drag each out separately or to drain the soil.

How can cancer be prevented? The diseases which engender it must be combated. We must not wait for the Orfyonovs to come to us, we must go out to them. Doctors in the Chudnov District of Zhitomir Region did just that. They examined every single person in their district, then carried healing to the district by working on the basis of a plan. They have set a splendid example!

So far there is one means against cancer—surgery. This is like dragging out the poisonous plant. We have now gone out to "drain the soil" on the front line positions.

In his usual way, Tisichchenko offered objections.

"What, go out and press-gang people on the streets, just as though they were deserters from medicine?"

Doctors began to pay special attention to pre-cancer ailments. When they served on collective-farm commissions, When they carried out their work in polyclinics and when they visited patients. They closely looked out for the harbingers, the first signs, of cancer.

Pyotr Andreyevich medically examined large numbers of women. He used to return home late, worn out but firmly convinced he had done what he should.

"Another eight cases of erosion," he would say. "Yes, the women themselves hardly even suspected it."

Zoya Mikhailovna examined her patients with an eye to the possibility of cancer. Ever present in her mind was the picture of quiet, timid Orfyonov, the man we had been unable to save.

A woman came to her one day with an injured finger. She was a collective farmer by the name of Fyokla Ivanovna Storozhuk from Motyzhino village. She was carrying her grand-daughter, a blue-eyed child. She put the child down and showed her finger to the doctor with an apologetic smile.

"It's nothing much, doctor, forgive me for bothering you. I thought it would go away, but it doesn't and it aches all the time. It's difficult with the household work, and it gets in the way when I'm cooking or doing the washing."

"But that's why I'm here, to be bothered," said the doctor, gently.

Zoya Mikhailovna looked at the finger and found one joint fractured. Then she gave the patient a routine overhaul and discovered some lumps as hard as stones.

Here was a woman going calmly through life with a firm step and not realizing she had a disease lurking in her which was a terrible danger.

Zoya Mikhailovna feverishly pressed the patient's hand as though holding her back from the abyss.

"What's your name?" she asked.

"Fyokla Ivanovna."

"Now listen, Fyokla Ivanovna. We must have you in hospital."

"Just for a finger-adie?"

"We must have you in under observation," the doctor insisted, "Promise to come to hospital tomorrow."

The woman was apprehensive and picked up her grandchild as a mother would in the face of sudden danger.

"No, I can't come, I'm busy."

"Are you lafnaid of the hospital?"

"Of course not! I just haven't time." She smoothed down the child's rumpled hair, then added, "Fedorenko the stableman is a relative of mine. You remember he was in hospital last year. He still talks thankfully about how you saved his life. Wherever he goes he praises the hospital. Raisa Mukhtarovna this and Raisa Mukhtarovna that! Just dress my finger and I'll come in again some time for you to see it's all right."

Zoya Mikhailovna was at a loss. Should she tell the woman the truth?

"Your finger will be all right. Don't worry. But there's something more serious wrong with you; you've got a tumour in the breast. It's not malignant, but if measures are not taken, anything might happen."

Fyokla Storozhuk put her hand to her breast and felt the lumps wfaidi were not in the least painful. She thought for a moment.

"All right, if I must, I'll come," she said slowly.

The next day the woman did not come to the hospital. Nor did she come the following day. Zoya Mikhailovna began to worry. In the evening she walked over to Motyzhino, a matter of six kilometres from the hospital. Fyokla Storozhuk was not at home. An old man met the doctor at the door.

"She's gone by bus to the town," he said indifferently.

"Where's she gone? What town?" said the doctor with a break in her voice.

"She's just gone to Kiev to take her grandchild to her mother. She'll be back in a month."

The doctor walked three kilometres from Motyzhino to get to the high road. Among the crowd of people wait-

ing for the bus to Kiev, she saw Fyokla Storozhuk. At her feet was a travelling bag. Zoya Mikhailovna picked up the bag and moved away from the crowd without saying a word. The woman followed her. They sat down on the yellowing [grass by the side of the road.

"If I let you go off now, you'll never forgive me," said the doctor. "Nor will your daughter, nor your grandchildren, nor my colleagues at the hospital. It is my duty to give you this warning, Fyokla Ivanovna. If you were to see a blind-man crossing the road and a car rushing towards him, wouldn't you take him by the arm? Today you can be helped, but no one can say what will happen tomorrow. Please understand me, my dear."

Just then the Kiev bus arrived, its nickel fittings and glass window-panes flashing in the sunlight. The child pulled at her grandmother's sleeve.

"Here it is! Here's the bus!"

The last passenger passed through the doors of the bus. Another second, two ... Fyokla Storozhuk stooped and embraced the little girl.

"That's not our bus, dearie. Ours is a different one. It won't come till tomorrow."

The shades of evening deepened over the deserted road. On the horizon the hospital with its turrets and spires was clearly outlined. It looked like a beautiful castle, or perhaps a fortress.

Fyokla Storozhuk stood up. A vein showed in her temple. She looked towards the distant, fantastic silhouette of the hospital.

* * *

People came to the hospital with pre-cancer ailments. Particularly large was the number of women with erosions. The doctors spent more and more time in commissions and out visiting. We called these "the front line positions,"

•Previously erosions had been treated for months on end in the out-patients' departments. But we put all these patients in hospital beds. On the question as to how to speed up the treatment of erosion, we argued that erosion was an ulcerous process. It can arise from disturbances in the nervous system. If other ulcers could be dealt with by the sleep treatment, then why could this method not be used for erosions?

We began to treat these patients by the method of conditioned-reflex sleep. It was a new method, never tried before. The erosions healed. This was the case even with those which had not yielded to several months of treatment by other means.

Pyotr Andreyevich stopped outside the doors of the women's ward one day and said to me:

"Do you see that new patient near the window? Pale, with bags under her eyes? You can guess what's wrong with her. Come with me."

We went to the end of the corridor.

"She came to us a year ago and I diagnosed erosion," related Pyotr Andreyevich. "We treated her in the usual way. She did not finish her treatment but left the neighbourhood. There was some trouble in the family and she separated from her husband and now, instead of the erosion she has a huge ulcer. In fact she now has everything to favour the onset of cancer: nervous upheaval, unhealed erosion."

"Are you going to operate?"

"There is no other way out."

"There was previously another way out," I said, pointing to the sleep-ward.

"Yes, at one time. We could then have averted this catastrophe."

One after another the women with erosions were cured. There were even some of whom it could be said that they were cured of undeveloped cancer.

And should our opponents, wishing to explode our theory that hopeless cases do not exist, ask us "Is there a method against cancer?" our reply is:

"Yes. Prevent it."



The roar of battle was far behind when, as a heavy reminder of it, la dormant mine left by the enemy suddenly exploded. A flaming column rose to the sky and everything around was enveloped in smoke. Children were playing not far off and so it was that three-year-old Kolya Savchenko was seriously injured.

The father was serving in the air force and Kolya was living with his grandmother in a village called Fasi-vochka. When the misfortune occurred the old woman was at her sister's home several kilometres away. We wired her the same day to come to the hospital.

After the operation Kolya demanded solemnly:

"And now get Granny. I want to talk to her."

How quickly children grow up when something of the kind happens to them! They begin behaving and reasoning like adults."

Towards the end of the second day the grandmother arrived. Kolya was no longer on the danger list.

But I will interrupt my story here to acquaint the reader with a letter the old woman sent to her pilot-son. Afterwards the pilot sent the letter to Raisa Mukhtarovna and thanked her, on his own behalf, with warm, paternal gratitude.

"I'll tell you it all, just as it happened. I suddenly got a telegram that Kolya had been blown up on a mine. Feeling more dead than alive I went to the station. I was crying and couldn't see the road for tears, I was bathed in tears—I don't remember how I ever got to the station. I went by train to Borodyanka and from there went on foot to Kopylov. My legs were shaking so I sat down on a boulder to rest a little. Then I went on, In

my mind I had already buried my grandchild. I hadn't taken proper care. I'm old. Yet at home he's been like a happy little bell, making us all merry, turning us all upside down, keeping us all lively. I got to Kopylov, sat down again for a moment, and cried. I was afraid to ask about the child, I couldn't raise my eyes. A lady-doctor came out to me and staid, 'Why are you crying, Gnanny?' and I simply couldn't answer. When I got my breath a little I said, 'I lam Savchenko's Granny and my son is serving in the air force. Where's the justice on this earth if I, an old woman, go on living and my grandson's dead?' Then the lady-doctor, good luck to her, said to me, 'Cheer up, we've operated on your grandson and everything is all right, arms and legs whole, and your grandson will live.' Who did the operation on him? Whose golden hands? And the lady-doctor said, 'Raisa Mukhtarovna.' I've already found that Raisa Mukhtarovna and kissed her like my own daughter. I've thanked her from the bottom of my heart. And what did she say? 'It's not me you have to thank but the Soviet Government'——"

* * *

The doctors were now concentrating their attention on Galin, Fyokla Storozhuk, and Kolya Savchenko. Galin quickly recovered after his operation. His face lost its former ashen colour, just as though a freshening storm had swept through his body. I removed the ulcer from Fyokla Storozhuk. We showed her the leaden white tumour.

"So that's What death looks like," Whispered the woman.

As for Kolya Savchenko, he had become a general favourite, but he caused the sisters a great deal of trouble. The child's tremendous energy was not in line with his state of health. His grandmother was right and he certainly was like a little bell that rang loudly and incessantly.

We began our morning five minutes' consultation with

reports on the state of the patients who were seriously ill. We closely watched their progress and daily the reports of the staff on duty became clearer and more concise. There were various observations: today Galin had read a little and joked with his bed-fellows. Fyokla Storozhuk had combed her hair and plaited it herself; this was the first sign of an improvement in health.

About this time a young doctor, Lyda Mitrofanovna Shelest, came to work at the hospital in the department for infectious diseases, supervised toy doctor Valentina Ivanovna Ohudnovskaya.

Valentina Ivanovna was directly responsible for thirty-six of the patients and Lydia Mitrofanovna—seven. Very soon Lyda Mitrofanovna quarrelled with Valentina because the latter proposed she should take on a few more patients. A week later it was difficult to establish who was chief in the department. To each of Lyda's Whims Valentina Ivanovna was replying courteously: "please," "excuse me," "I thank you." If Valentina Ivanovna said anything to Lyda then ten hours later everyone knew of it, but already in a monstrously distorted form. One May Lyda went to Pyotr Andreyevich.

"I respect you very much, Pyotr Andreyevich," she said. "You know how much I wanted to work at Makarov, everyone said such fine things about your hospital. You are head doctor and a man with authority. So I cannot pass over certain outrageous facts. At every step Valentina Ivanovna compromises you, spreads all sorts of rumours."

Pyotr Andreyevich interrupted the garrulous Lyda.

"Just a minute, whom did you say Valentina Ivanovna compromises?"

"You, of course, Pyotr Andreyevich!"

"Did you say me?"

"Yes, you."

"I thought you meant she was compromising you. So it's me, and not you? Then why, in heaven's name, should it worry you?"

Lyda was a conceited young woman full of whims, an only child. She had been thoroughly spoilt and protected against difficulties while at home. "But I don't want to," "No, I won't," "You can't make me go," were the words she used on every occasion with frivolous self-assurance.

Lyda glided about languidly which was in keeping with her nature.

Once sister Varya was on duty at the desk in the corridor, plotting the sleep graphs on the temperature charts, when Kolya Savchenko ran up to her. The doors to the common room were open and Kolya had seen Lyda Mitrofanovna there, and also one of the patients. Armed with pincettes Lyda was plucking her eyebrows to give them an elegant shape. Kolya was puzzled.

"What's Auntie doing?" he asked Varya.

The nurse looked in the direction of the common room.

"Plucking out hairs."

"But why does she do it?" persisted the child.

"To make herself beautiful."

Just at that moment the patient came out of the common room. He was as bald as a coot.

Kolya tugged impatiently at Varya's sleeve. His bright-blue eyes were round as saucers.

"They've already plucked that man's hairs out?"

Varya could not restrain her laughter.

"Yes," she said recklessly.

"And now they think he's handsome?"

Varya embraced the child and took him back to the ward.

"Now look here, Kolya, if you don't behave yourself I'm going to tell Granny."

With great difficulty she kept a straight face and then said inconsequently and a little sternly, "Lie down and go to sleep this very minute!"



It happened one evening. We had turned the light out in the wards and switched on the magnetophone. A free song of the steppes sounded through the wards to the accompaniment of warm, inspired music. It was all sudden, unusual, land daring. Music in the hospital! It was a challenge to suffering and pain. The music cut like a sword through the dull, lage-old hospital routine.

"The steppes have burst into my ward," said Galin. "I had the wind on my face and smelt the wild flowers. I felt as though I was going out into the broad expanses of life."

Out in the grounds on her way to the kitchen Motya Kozlova heard the music. She turned back into the hospital, looked round at everyone with astonished eyes and perched herself on the edge of a chair. With her hands clasping her knees she listened till the music ended.

"Like being in the theatre," she murmured, sighing.

"Like real life," s'ister Varya corrected her.

Fyokla Storozhuk shared her impressions with her neighbours in the ward.

"I could see every bit of it. The woods and the tree struck by lightning that stands by the roadside. And the windmill with its two arms that stands on the hill. There was the corn standing high and me on my way home from the woods; just one more turn land there's my village. I saw it all as though it was real!"

"What I pictured was quite different," replied a young girl in the next bed. "I saw the raad into the steppes and our lads going out for the grain; Vasily was singing. He has a voice as clear as a bell; it pulls at the heart-strings."

*In the breeze the tall wheat bends and rustles,
And where it starts or ends no eye can see...*

Fedot Koval and Zarubin were standing at the top of the hospital steps. Zarubin's face positively shone and his eyes were screwed up as if against a strong light.

"That's good stuff, that is!" he said.

When the field "landscape" ended, and the lights were switched on, the doctors went round the wards. The mood of all the patients was somehow different. It was as though they had all just returned from a long walk, as though they had been out in the scented fields among the brightly coloured flowers and the chirruping of grasshoppers. It was as though these bed-ridden people with weak hearts, serious wounds, and shattered nerves had suddenly left their beds and taken a good, sharp walk on the road across the steppes.

Sickness withdraws a man from life; a man that has been working, studying, visiting theatres and clubs, singing and listening to music. In the hospital he is prescribed mixtures and powders; he is given injections, has cupping-glasses put on (him; just as though these remedies alone can return health to a patient. The brain is the master of the body; and surely music is addressed directly to our consciousness. The sick need music just as much as they need penicillin, electrical treatment or a surgical operation.

The Makarov hospital possessed everything: laboratories, X-ray apparatus, electro-cardiograph. We had quartz Lamps and Bakh lamps, sollux, D'Arsonval, ozocerite and paraffin, penicillin and streptomycin, endocrinological preparations and sulphamides. We performed complicated operations, we had the latest instruments and apparatuses for giving anaesthetics, etc. Music, however, had not up to now been part of our medical arsenal.

Music was long ago used as a cure among the people. They arrived at it empirically. In ancient times special curative power was ascribed to the flute and to singing. Pythagoras is said to have slaved a young man from madness by sounds from the flute.

Songs and music accompany us in our work, on the march, in joys and in sorrows. When we listen to music we feel an influx of strength and good spirits; music

releases us from weariness, makes us forget sufferings. The loud tones of brass instruments arouse the militant spirit in a man. It was not for nothing that in old times music was called "divine dynamite" among warriors.

We went from one patient to another and spoke with each; not one of them complained of his pains.

Fedot and Zarubin were still at the top of the steps.

"Well, how did you like the music?" asked Pyotr Andreyevich.

Zarubin smiled and the freckles on his cheeks seemed to dance.

"Just like the circus, or an opera in Kiev!" he said.

"Circus or opera, it's all the same to him," smiled Raisa Mukhtarovna.

Fedot had said nothing. He was busy with his own thoughts. But when we were about to move away, he stopped us.

"Just a minute, I've something to say."

Fedot spoke slowly, beating out the tact with his hand, as though to give weight to his words:

"Take peat, for instance. When I'm loading peat I always sing. It makes it easier. My hands work of themselves. I would have that sort of music going every day in the morning when people are doing their exercises. It would be merrier for them, waving their arms and swinging their legs and doing knees bend together. I know what I'm saying."

There was a serious, concentrated expression on Fedot's face.

That very same evening we selected some tunes for the gymnastics exercises.

* * *

Zarubin was bringing up peat to the hospital for the winter. Each day he drove out thirty kilometres from Kopylov to get peat, or else went to the forest to obtain supplies of wood. Once he did not return till the morning.

There had been a breakdown on the road and he had been forced to spend the night at a village.

He related all this with great display of humour to the head doctor.

"Suddenly something snapped under us and the lorry stopped. Diagnosed the trouble. It was the gear-box. I wasted time getting a spare part from a dhauffeur I know who always has everything. Of course I paid for it out of my own money. We began to fix things up, but it got dark. I was cold and hungry and I wanted a drink. There was nowhere to spend the night and it was cold out there in the steppes; after all, it's autumn now. I knocked at the end cottage and called out, 'Auntie, give me a drink because I'm so hungry that I've nowhere to spend the night.' I slept there and in the morning repaired the lorry and here I am."

"But where's the peat?"

"But I told you about the gear-box."

"That was on the way back; you took the lorry out to fetch peat."

Zarubin coughed into his hand.

"Now look here, Comrade Zarubin," said the doctor, his voice cold and official. "This cannot go on."

Now, Pyotr Andreyevich liked Zarubin. He had worked with us to get the hospital going, he had helped us reach our goal. We thought of all the work on the sleep-wards, how Zartibin had 'called it all "stage-props." It was with a feeling of great bitterness that we had, at Last, to part with Zarubin.

* * *

Not everything went well with us. Pyotr Andreyevich had far too much to do. There was the work on the collective-farm commissions, the anti-cancer clinical work, the frequent journeys to the district centre, the reports he regularly gave on behalf of the Society for the Dissemination of Political and Scientific Knowledge. Raisa

Mukhtarovna was not at all well. The Institute summoned me back to Kiev. Three of our best nurses were not working: Katya Shashenkova had gone to a training course, two others were on the sick list. New people began to join the staff and Lyda Mitrofanovna wove a web of petty intrigues. She always talked loudly in the hospital: "I'm not going to whisper, I have no secrets" was her motto.

Just about then an inspector arrived from the regional health department. There was no one to meet him, we had no doorman. The inspector went right up to the second floor and there encountered Lyda Mitrofanovna shouting at the top of her voice, soundly rating one of the nurses for something or other. The nurse was hotly contradicting her. The nurse had her head tied up in a woollen shawl and her overall was slovenly.

With a certain slyness, the inspector deliberately dropped his voice to a whisper and asked:

"Excuse me, but is it only the visitors and patients here who are advised to speak softly? Of course, I realize that if the visitors began shouting, then the nurses would not hear the doctor's speaking. Is that how it is?"

He then began, with unconcealed curiosity, to look closely at the untidy nurse, showing particular interest in the woollen shawl with the thick fringe.

"I've heard that all the hospitals are copying the type of overall used by the Makarov staff. Now I understand why so many overalls are untidy in other hospitals," He said all this in a mocking whisper.

Sister Varya stood by and bit her lip. She was boiling with anger. She despised Lyda Mitrofanovna with all her heart, but, the circumstances being that they were, she could hardly rebuke her or show her indignation.

Raisa Mukhtarovna and Elena Petrovna were called. While they were being fetched Savchenko's Granny entered the corridor from the grounds. There was still no doorman and no one prevented the old woman from enter-

ing the hospital in her outdoor clothes and muddy boots. She carried a White bundle which she silently rested on a dhair and began to untie. Smilingly she handed the inspector three huge rosy apples, the kind that only grow in the neighbourhood of Kopylov.

"Would you be so good, kind people, las to give my grandson this little gift. Please do it for me."

The inspector took the apples.

"Very well, Granny, I'll let him have them. But you shouldn't enter the hospital in outdoor clothing. Although, perhaps it is allowed here?" he added, turning to Lyda Mitrofanovna.

When Raisa Mukhtarovna and Elena Petrovna arrived on the scene, the inspector reprimanded them.

"This sort of thing can be excused in other people, but not in your exemplary hospital. The staff goes around shouting in loud voices, there is bickering, the nurses are untidy, people enter the hospital in their outdoor clothing. That I did not expect to find here!"

Raisa Mukhtarovna flushed crimson. She tried hard to keep her natural composure.

"We've a lot of new people working in the hospital. They have not yet learned our methods."

"And evidently some don't want to learn them," added Elena Petrovna with a meaning glance at Lyda Mitrofanovna.

As for Lyda, she shrugged her shoulders, assumed an expression of contempt and tripped off, flourishing her stethoscope in a somewhat curious fashion.

"What a caution she is!" said Varya behind her back.

"Let us visit the patients," proposed the inspector. "We can take the boy his [grandmother's gifts."

All was clean, cosy, and quiet in the ward. Some patients were reading, others playing draughts. Some were chatting quietly. Kolya's bed was under the window and the inspector went straight to him. He solemnly laid the three rosy apples on the bedside table.

"A present for you, Kolya, from Granny."

Kolya turned this bright, cunning little face towards the inspector.

"Thank you," he said.

"I hope you like it. And what else would you like to have?"

Kolya wrinkled his forehead and thought for a moment.

"Twenty kopecks," he said.

"Why Should you want money?"

"To buy a 'Pdbeda' car, with the steering-wheel in the middle."

The patients put aside their books and stopped playing draughts. Some of them strolled over and joined the doctors round Kolya. They could not help smiling, while the inspector energetically searched in his pockets, pulled out bits of paper, but could find no small change.

"I haven't got any small change, Kolya."

"You can get change in the shop and come back," suggested Kolya unhesitatingly.

Raisa Mukhtarovna related the story of how Kolya had been injured on a mine.

As the doctors were passing along the corridor from one ward to another, they were stopped by engineer Galin. He was due to leave the hospital that day. He was in very high spirits when he shook hands with doctors and sisters.

"Well, good-bye, my very dear friends," he said. "I'm glad to be going back to work again. The most terrible thing in life is to drag out a useless existence." He found it hard to express in words the fullness of his heart. After a pause he added, "I used to read my doom in the eyes of the doctors. They could never conceal their sympathy. Now it is a pleasure for me to look you in the eyes."

Raisa Mukhtarovna offered her hand to Galin.

"It is a pleasure for us to look into yours. We wish you every success and happiness, Arkady Nestorovich!"

Just then Motya Kozlova came out with the dinner tray. She wanted to go up to Galin, so she placed it on the staff sister's table and approached him, dimpling and smiling with pleasure.

Seeing her, Galin offered his hand to her.

"So long, Motya. Thanks for everything!"

"Good appetite," said the girl unexpectedly. (She had meant to say "Good-bye.") Everyone laughed aloud. Then Motya recollected that Galin had not had his dinner.

"I'm not letting you go till you've eaten your dinner. The idea of it! Have your dinner and then you can go. It's a particularly good one today."

When the inspector was alone with Raisa Mukhtarovna and Elena Petrovna, he said in a friendly tone:

"Mind you put the little things right. Otherwise it's not nice. Give my respects to Pyotr Andreyevich."

Our Party group had a long and stormy session that day. Later there was a general meeting of the hospital staff. Everything was discussed: Zarubin's behaviour, Lyda Mitrofanovna's attitude to the work, and a host of other things. We decided to give the new nurses more training on the spot. Nyusya was to do the work of the doorman temporarily. She at first wanted to refuse.

"Don't refuse, Nyusya! It's so very important to meet the patients as they should be met, and to be able to talk sensibly to the relatives," Pyotr Andreyevich urged her. "Who can do it better than you can? The patient comes here knowing nothing about things, everything is strange, but after he's had a talk with the doorman, he quiets down. It is on the threshold of the hospital that the patient gets his first impression of it. A lot depends on how the patient is welcomed into the hospital."

Nyusya glanced incredulously at Pyotr Andreyevich. She loved her work as a nurse. It was her calling. And now she was to be a doorman! Just to close and open doors! A mechanical job of the kind did not at all suit Nyusya's active, lively nature.

Pyotr Andreyevich went on to persuade her.

"You can't imagine a good medical institution without a doorman, so a doorman must be worth something," he said quietly but persistently. "A doorman has to do something more than just open and close doors. Otherwise we could simply fix a spring on the doors. I know the word 'doorman' embarrasses you."

"I'll die of misery doing that work," protested Nyusya still hesitating. Her eyes pleaded pathetically. "That sort of work is for invalids; there's no responsibility in it; it's work for people who are not strong."

"There you are quite wrong. All the work in a hospital is responsible work. The hospital is like a living organism. If the doorman works badly, the whole hospital service breaks down. The whole organism of the hospital suffers in consequence. All professions in the hospital are important, are respected, have their significance. There is fame not only among doctors and professors, but also among doormen, stablemen, people u'ho sweep the yards and stoke the fires. Is it really so bad to be a famous doorman land a nurse?"

Nyusya agreed, of course, to work as the doorman.

Lyda Mitrofanovna sat through the meeting with a bored expression. She sucked sweets noisily and slowly rolled them round her mouth.

"You should not ibe sucking sweets at the meeting," said Pyotr Andreyevich angrily.

"Each to his own taste; the men smoke, the women suck sweets," said Lyda in a toneless voice.

It was long past midnight when the meeting ended. The exchange of opinion had cleared the air. People had spoken frankly and fully about What they felt.

"Now we can breathe freely again," said Zoya Mikhailovna.

We separated fully determined to correct every one of our mistakes as quickly as possible.

Outside in the grounds it was pouring, Zarubin

stopped me under the lamp. He was unsteady on his legs and his head rolled about. He clumsily removed his cap. I tried to pull him under the trees out of the rain, but he restrained me.

"No, stand here. It's better for the soul here under the rain; see, it's me, blubbering. I've done my bit of drinking, true enough. What of it? Didn't I build this hospital with you? Who fixed the water-pipes? Zarubin! Who repaired the roofs? Zarubin! Who got all the 'stage props' from Kiev? Zarubin! The trolleys, the trams, and all the rushing about. See, all the buttons are torn off my coat. Well, Zarubin's now made a slip, and so that's what you do! I can stand anything, but not to be disgraced like that! Take the notice down off the wall. I can't stand that, take it down! People will come from Kiev and read it.'I'll be shown up in front of everyone."

The rain fell heavier. Trickles of water ran swiftly down from Zarubin's soaking, rumpled hair. He wiped them away with his cap, held tightly in his fist.

"I won't drink any more. Silvestrovich has enough will power for that. Good-bye."

He staggered away into the darkness and for a long time the sound of his heavy, shuffling feet could be heard in the stillness of the night,



The Kiev Medical Institute, through its management and Party organization, made an attempt to get the Makarov experiment introduced into the clinics. When our reports had been discussed the previous year at a session of the Scientific Council, a decision had been adopted favourably appraising the Makarov experiment. But there was talk of a different kind behind the scenes. One vociferous professor, who seemed to regard acoustic effects as the only way of manifesting life, chose phrases like "quiet as the grave," "still as death," "deadly

silence" to describe the quietness at the Makarov hospital. He put everything on an ideological basis.

"Where do you find quiet?," he asked. "In swamps, in petty-bourgeois villas. But in our sturdy age—" and so on.

Another "man of science" was persuasive.

"You see, speaking generally, only people with a chill have to whisper; it is pathological."

The objection was raised that it follows that people in love only reveal their feelings when they have a cold in the head.

It was not enough that the Scientific Council had [given official recognition to the Makarov experiment. The experiment had to be applied on a wide scale. Proof had to be produced of the undeniable usefulness of the new experiment. The decision adopted therefore was that the Makarov experiment should be discussed at an open Party meeting of the Institute.

The Makarov staff were sent official invitations and Pyotr Andreyevich, Raisa Mukhtarovna, Elena Petrovna, Tishchenko, Zoya Mikhailovna, Valentina Ivanovna, and I went to Kiev,

The huge lecture hall of the Gynecological Clinic was soon filled: academicians, professors, assistant-professors, doctors, students, all were there.

We met Professor Panarin here, too. With his walking-stick hung over his arm, he passed proudly into the vestibule in order to chat with people and find out how the land lay. He slowly removed his felt hat and handed it to the cloak-room attendant.

"They say that Pyotr Andreyevich has an influential finger in the pie," he said to a lecturer standing near.

"I don't know about that, but he certainly has a head on his shoulders," retorted a voice behind Panarin. He turned and saw the long face of his former pupil, Gridnev. A humorous smile played at the corners of the young man's mouth. Panarin frowned and ignored the remark.

At the window stood the vociferous professor 5«i lively conversation with a famous obstetrican.

"When the expectant mother arrives at the reception room of the hospital and finds everything quite quiet," the obstetrican was asserting, "her immediate reaction is to think that as there is no shouting and groaning, none of the women are in pain."

"More likely she'd think they'd all died," interjected the vociferous professor and guffawed.

Pamarin was surrounded. The "man of science" who had affirmed that only people with colds talk in whispers was there with the rest. Panarin made some remark and the "man of science" chuckled gleefully and clapped his hands. Pyotr Andreyevich and I were standing a little apart from the group. Professor Mikhailov came up smiling to us. Together we moved over to Professor Panarin's group.

"And how could anyone get to sleep?" he was asking with huge satisfaction. "There was water dripping from a milk-churn into a basin and there were pools of water all over the place. The patient just put his head under the pillow. He had implored them to let him go home. But that was the last thing they would agree to; they said he wasn't well enough. In the end he tried cunning: he began praising the hospital to the skies whenever visitors came. It was a colleague of mine Who told me, a decent chap whose word is beyond all doubt. The patient in question went to him for treatment after he left the Makarov hospital."

We felt that people were beginning to look sarcastically at us.

"All that is true," said Pyotr Andreyevich calmly, "only it didn't take place at the Makarov, but at some other hospital."

The speaker stood his ground.

"That may be, but you will not deny that the Makarov hospital served as the model for this other hospital."

The "man of science" displayed indescribable delight. He turned to Professor Panarin.

"It will need all your authority to put an end to all this outrageous vulgarization."

"It would be well to remember that it is time that will reveal the truth and not anyone's authority," trumpeted Professor Mikhailov in his Chalapin bass.

"Oh, we know you've always believed that the simple process of voting can decide everything," interjected Professor Panarin.

The meeting was about to begin, and we moved into the big lecture hall with its polished, cherry-coloured panelling, its huge gilded lustres and red carpeting down the gangways. On the platform by the green baize-covered table were the Director of the Institute, the Secretary of the Institute Party organization, and our old friend Roshchin from the Makarov District Party Committee. They were conferring while the audience settled in their places.

"Look, there's Roshchin!" exclaimed Raisa Mukhtarovna, pulling at my sleeve. Roshchin must have heard her voice, for he looked in our direction and, when he caught sight of us, a smile spread over his tanned, cheerful face.

In the front row were Professor Panarin, the "man of science" and the vociferous professor. Panarin sat with his chin on the back of his hands which were resting on the curiously-shaped bone handle of his walking-stick. The Makarov representatives sat up in the gallery, squeezed close together. Professor Mikhailov was with us.

"I am not at all sure Panarin will speak today," he said, running his eye over our opponerits.

"Then who will speak?" I inquired.

"I rather think that chap," and he nodded towards the

"man of science." "He's a hot-head and quick-tempered and they'll put him up as a try-out."

"What is Panarin's motive? Is he behaving in this way out of conviction?" asked Pyotr Andreyevich.

"I think not. More likely it is egoism or something like it. For some reason or other he always feels that any credit given to others is stolen from himself."

The members of the presidium took their seats at the long table. The noise in the hall died down. The "man of science" nervously adjusted his tie. Panarin yawned and looked round at the audience from the heights, as it were, of his own superiority.

The Secretary of the Party organization was a lean young man with a lively face full of expression. He opened the meeting. First a general report was given on the Makarov experiment. It outlined those of Pavlov's principles which had formed the basis of the experiment and described the chief points of the protective regime, the psychological preparation of patients prior to undergoing operations, and sleep by means of conditioned reflexes.

A great deal was said about the use of art as an additional aid in the treatment of the sick. The audience listened with interest to the figures presented by the Makarov hospital showing that less time was now required to bring about the recovery of patients from illness and that thousands of days had been wrenched from disease and handed over to creative work, to happiness, to leisure. The number of deaths in the hospital was now less than before.

"The Party discovered for us the wealth of Pavlov's doctrine. This wealth must be used unsparingly for the well-being of our people."

The battle was launched immediately. Inspired by the talk behind the scenes and egged on by the opponents of the Makarov experiment, the "man of science" stood up and began to develop his line of thought with great enthusiasm.

"To me it is a matter of profound regret that I have to spend half my life in sleep. The men of the future will devote themselves to the problem of how to curtail the time spent on sleep and not how to lengthen it. If Soviet people had spent as much time sleeping as the patients do at Makarov, they would never have built socialism,"

There was a burst of loud and excited laughter from Panarin and his friends. Mikhailov boomed out, close to us: "Balderdash! Downright slander!" There were other cries from the hall of "Phrasemongering! Pedant!"

The "man of science" continued.

"I have here an article written by someone in the Makarov hospital. Permit me to quote from it: The peasant smiles and falls asleep to the sound of rain. He, in particular, feels the beneficial effect of the rain/ But suppose it ruins the standing grain? And can you imagine the peasant as a lie-abed? Then, how do their patients wake up? To the crowing of cocks and trilling of nightingales! Nymphs and shepherds—the rural idyll of a past age. It's all like a cheap oleograph. Why, the countryside is industrialized now. Rural life is filled with the sound of the seed-sorters, the harvester-combines, tractors, threshers. What indeed have the Makarov people discovered? Quiet? I could announce, just as easily, that I had invented the telegraph pole."

Professor Mikhailov was the next to speak. His rolling bass had a convincing note *fit* it.

"There's no need to confuse the issue: the Makarov people prolong the sleep of sick people and not the sleep of healthy people. They prolong sleep in order to obtain what the last speaker so passionately desires, namely, prolonged life. What is more, it is true that it is pleasant to sleep to the monotonous sound of rainfall. Personally I like to sleep when it's raining. It is far-better than standing under the open sky with water running down your neck. Then the cocks seem to annoy the last speaker. I know that what I am going to say will be a terrible blow

to him, but you can be quite sure that cocks will continue to insist on crowing even under communism. And as for you," he continued, indicating the "man of science" with a movement of his head, "we'll wake you up to the clanking of iron and hammer blows instead of to the sound of bird song. Or, better still, we'll start up a tractor under your window for the sole purpose of getting a smile from you when you wake."

Zoya Mikhailovna could not restrain herself and burst out laughing. We all turned and looked at her. She covered her face in confusion and only removed her hands when the next speaker was on his feet.

The "man of science" was adjusting his tie. Panadn's face was set in an expression of doubtful dislike, as when a person cannot decide whether he really likes what he is eating. He was evidently in two minds as to whether to speak or not. In the end he rose ponderously from his seat.

"We seem to be abandoning strict scientific discussion of the question in favour of frivolous talk. Where is the material evidence? I want to know where are the proofs? I want it proved that less time is required to cure people precisely because of the introduction of the protective regime and not because of certain aspects of the disease. I regard the Makarov business as an attempt to replace all the achievements of modern medicine—surgery, physiotherapy, curative gymnastics, and so on—by nothing else but sweet sleep. There is more imagination and poetic fantasy than medicine to be found in these people!"

Gridnev rose to his feet. He was clearly very agitated. He appeared to look even taller than usual because the table in front of him hardly reached his knees. He turned to Panarin.

"The Makarov people have indeed made use of healthy imagination. I recall Lenin's words, that it is wrong to consider that only the poet needs imagination. That is a stupid prejudice. Imagination is required even in

mathematics; without imagination it would 'have been impossible to discover the differential and integral calculus. Imagination is a quality of the greatest value. Your rebuke, you see, recoils against yourself."

A great deal had happened since the day the Scientific Council had decided to approve the Makarov experiment. Attempts had been made in some places to try out the Makarov experiment, and it was found that to do so required new efforts. Established practices which for many people had become habits, and the customs, traditions, and conveniences which people were not prepared to relinquish, now had to be broken. There were some people who were determined to discredit the new idea without going to the trouble of trying it out at all. There were others who felt insulted at the idea of a little country hospital 'attempting to teach the clinical establishments. Opponents had rallied on the one hand, and our camp had grown larger and stronger, on the other. The open Party meeting now taking place had become the arena for the conflict between the two sides.

We gave our reply courageously.

"In circumstances of lengthened sleep, wounds definitely heal more rapidly. Valentina Ghudnovskaya has proved this experimentally. The protective regime lengthens the patients' sleep. Why then does it surprise you that the period required to cure patients is now shorter? We know that serious emotional upheavals complicate the course of an illness. This is in line with Pavlov's experiments, with observations made by Pirogov and a whole galaxy of other Russian doctors. The protective regime is one which protects patients against unpleasant experiences. Why then are you perplexed that our patients get well more rapidly? Pain wears people down, and so in the presence of pain wounds do not heal as quickly or as well. The protective regime is protection against pain. Why do you consider this insufficient to accelerate the patients' return to health? Finally, the protective regime is protection not

only through peace and quiet, but also through activity, which carries the patients' minds away from unpleasant thoughts; it is a whole series of efforts to destroy the age-old boredom in hospitals and the compulsory idleness of incapacitation. We return to the patient the full realization of his value as a worker, the happiest and truest realization man can possess. Professor Panarin has suggested that we advocate sleep as an alternative to other methods of treatment. This is quite untrue. What we do is to add the protective regime and conditioned-reflex therapy to everything else that exists in all clinics: to surgery, curative gymnastics, physiotherapy, and the like. The Makarov hospital can take the credit for saving hundreds of lives. We are fighting against sickness and death and the protective regime helps us in this struggle. Let those who oppose us today think over this."

There were many heated arguments that day, and it will be a long time before we forget Roshchin's calm and confident words. He talked about people who use their authority, their position in society, and their erudition in order to oppose and hamper what is new. It may be that what is new is still weak, that it is only now, before our eyes, being put on a scientific basis and acquiring clear outlines; nevertheless it is something new, and it has to be taken into account. He recalled Stalin's words: "Science is called science just because it does not recognize fetishes, just because it does not fear to raise its hand against the obsolete and antiquated, and because it lends an attentive ear to the voice of experience, of practice."

Roshchin also spoke about how the Party teaches us to be particularly careful with all that is new.

"We look at all phenomena from one angle: does it benefit our people or does it harm them? The Makarov experiment benefits us," concluded Roshchin.

After the meeting we tramped the streets of Kiev for a long time. We walked abreast, arm in arm, as we used

to in our student days. We laughed heartily and talked over our impressions.

"It appears he doesn't like cocks!" said Tishchenko caustically. "Poor cock-a-doodles!"

"It must be pretty hard for a wife to live with such an industrialized husband," was Elema Petrovna's crushing remark.

Valentina Ivanovna sighed softly.

"Why be so vicious. He's an elderly man, with children. It's not very kind of you."

We returned to Makarov the same day.

* * *

Pyotr Andreyevich summoned Lyda Mitrofanovna Shelest to the common room.

"I want you to go to the collective-farm commission today. Pay special attention to pre-cancer diseases."

Lyda pulled the feather out of her coquettish hat and twirled it between her fingers.

"Pyotr Andreyevich, my feather's not in the right place. You've got good taste, old thing, won't you advise me where to fix it?"

Pyotr Andreyevich did not find this amusing.

"Then you'll go?" he asked, frowning.

Lyda's face expressed disappointment.

"But it's so cold, and Mamma hasn't sent me my woollen shawl. I'll go as soon as it comes."

Angrily Pyotr Andreyevich pulled at the drawer of his desk. Somehow the key would not fit into the lock. He found it hard to restrain his fury.

"Look for a new job, Dr. Shelest," he said coldly and severely.

"What do you mean?"

"I mean, in another hospital. Though as a matter of fact I don't think they'll stand your attitude to work and to people anywhere else."

For a few seconds Lyda said nothing at all. Then she turned sharply on her heel and went.

"This won't be the end of it!" she threw the words over her shoulder. "Why should I go out and catch pneumonia? I bet you wouldn't let Raisa Mukhtarovna out without la woollen shawl," She slammed the door lafter her.

A minute later the key of the desk slipped easily into the keyhole and turned with a click.

* * *

It was an unusually warm, golden October. The collective farmers had gathered in their harvest of beets and potatoes, and were cropping the late cabbages. The agricultural machinery was being cleaned, polished, <and carefully oiled.

Gardeners were whitewashing the trunks of the fruit-trees, raking together the fallen leaves, and 'burning them for fertilizers. Wreaths of thin, Iblue-grey, sweet-smelling smoke filled the air. Karpo Shovkun was the bee-keeper and he was busy fussing over the winter quarters for the bees, which were making their last flights of the season to the fields where the white clover, burdock, thistle, and dandelion were almost over.

In these surroundings, the doctors were out in the fields giving lectures to the farm brigades: Pyotr Andreyevich on Pavlov, Elema Petrovna on rheumatism, Raisa Mukhtarovna on unconditioned and. conditioned reflexes.

One day Zoya Mikhailovna returned very flushed and excited from one of these lectures in the fields. Strange though it may seem, she had encountered Professor Pamarin there. He had arrived with a group of doctors and gone straight to one of the brigades engaged in harvesting potatoes. He said his fasit was for the purpose of "bringing skilled medical aid closer to the people at their

place of work." An old collective farmer unfastened his collar and asked the professor for advice.

"You see, my machine isn't working properly," said the old man. "It ticks and ticks, then it suddenly stops. Could you write me a prescription, perhaps?"

Professor Panarin took the farmer aside and began to sound him by the side of a haystack. Another doctor took the opportunity of making a photograph of the proceedings.

"You can't imagine how absurd it all was," chuckled Zoya Mikhailovna as she related the story. "There they were like actors doing some medical performance. All they needed to complete the picture were cups, probes, and enemas. We still have armchair scientists with an ugly, simplified idea of Soviet democracy. Getting down to the people, I suppose!" she added ironically.

Pyotr Andreyevich smiled.

"They have to do it to put in their reports."

There was a knock on the door of the common room. The doorman reported that someone insisted on seeing Zoya Mikhailovna. Pyotr Andreyevich gave permission for the visitor to be allowed in.

The messenger came on behalf of Orfyonova, the wife of the meek little carpenter who had died of cancer of the oesophagus with the words "thank you" on his lips. The wife herself had now fallen ill and was asking for Zoya Mikhailovna. No one else would do, it must be Zoya Mikhailovna.

The young doctor was embarrassed at the confidence placed in her. She hurriedly agreed to go, and the messenger left.

"But why me in particular?" puzzled Zoya Mikhailovna.

She turned imploring eyes to me, I offered to go with her.

In the Orfyonov cottage it was cosy and clean. The little cupboards, shelves, and tables were covered with

paper, ornamented at the edges. The floors had been scrubbed till they shone. The old woman lay in a double bed and with (grateful words she welcomed us in.

"I'm so glad you've come, Zoya Mikhailovna. Thank you, my dear. I think I must be dying, it's difficult to breathe."

Zoya Mikhailovna sounded the woman, and I did the Same. We both dagnosed intercostal neuralga and prescribed treatment.

"But why did you specally ask me to come?" inquired Zoya Mikhailovna. "You have an old, experienced doctor living almost next door; he's a good specialist."

"Well, how can I explain? I don't deny he's a good doctor, we all know that. He dagnosed my husband's illness. He told me it was cancer' of the oesophagus and that he would die. And so it turned out. My husband did die. It was that doctor who gave me the news."

"That's the sort of disease it is," said Zoya to justify her colleague.

"Ah yes, but you, you just didn't promise anything," she smiled and a kindly expression filled her eyes. "You only said there is no such thing as a hopeless case, and I felt lighter in my heart because of what you said."

All the way back we talked about Orfyonova's reasoning.

"Which of us is right?" said Zoya Mikhailovna. "The doctor who tells the woman the terrible truth and deprives her of all hope? Or am I right? I simply used our Makarov phrase: there is no such thing as a hopeless case. And yet, when the woman was in trouble herself, it was me she wanted. She didn't want to call in the experienced, 'explicit' doctor who unerringly dagnosed the disease."

Do doctors pronounce the death sentence? When you tell the mother of a patient, or the father, or the wife, that it is necessary to be prepared for anything, even that,

although perfectly unambiguous, sounds less cruel than the words "the patient will die."

Then the question of the good doctor? Who is it that patients refer to as the good doctor?

Doctors themselves have their own standard: medical erudition, clinical thinking, operative technique, and so on. And the patients have theirs: did the doctor help them or did he fail?

Whose is the more exact criterion? With a fine knowledge of medicine and excellent technique, one can still be a poor doctor. Medical knowledge and technique do not make the doctor. What makes the doctor is the matter of knowing how to help the patient with medicine, speech and faith.

It is at the bedside^ of the patient that the doctor is shaped.

"Which doctors would you call good doctors, and why?" We invited all our patients to fill up a form on these lines. This is the sort of thing they wrote:

"He understands my illness; he is attentive, he spent an hour sounding me and never missed anything. When he says something a load seems to drop off me." "He's a good doctor because he cured me." "Friends of mine told me he was a good doctor, and he has kind eyes, and he told me the symptoms of my disease before I said a word myself." "I'm afraid of him; when he presses my stomach I could scream with pain. But the other doctor has feeling in his finger-tips; he hardly touches me, but he finds out the trouble without hurting me."

It was said of one of the Makarov doctors that he "measured the medicine to fit the disease." Measured! What a truly apt expression. To cure at a glance, to give an immediate estimate of the strength of the blow, all this is difficult. A doctor has to be very lucky to be able unerringly to alleviate the patients' suffering with the first method he applies. "We'll prescribe such and such

a medicine. Take such and such a dose. The medicine must be measured to suit the illness."

Sometimes we use the established dose. Doses are the same but people are not alike. The state of health also varies. The patient comes back and says: "Doctor, your medicine did not help." Then you alter the dose. Or you drop one medicine and prescribe another in its place. This is justified by the course the illness takes, and it should help. Let us suppose that the taking of the new medicine coincides with an improvement in the patient's state of health. The new medicine becomes, as it were, linked with the improvement. This medicine becomes the patient's true aid. It is now his medicine, "made to measure" and reliable. Patients carry this medicine about with them; it is their companion and trusty friend.

So we return to the question of what is a good doctor.

Our experiment was born in persistent, day-to-day work.

A number of patients were waiting their turn in the reception room. The character of a person is revealed when he has to wait. Some people must find some occupation: they read the notices and posters on the walls, they sort out unnecessary bits of paper from their pockets. Others sit silent and motionless, plunged in thought. Then there are the people who pace the floor nervously and continually look at the clock. Among them all, it is the patient with an agitated light in his eyes that attracts attention. His movements are tense and restless, his carriage unnatural. These patients are admitted to the doctor immediately, out of their proper turn.

There was a patient just like this in the reception room. It was Karpo Shovkun, the bee-keeper at the Kopylov Collective Farm. He was middle-aged and lean. The colour had faded from his prominent cheek-bones and his grey eyes darted about restlessly. I invited him into the room where Tishchenko was already receiving

surgical patients. Karpo Shovkun told us a long and detailed story about his illness.

"I'm always fussing about my health, so my wife thinks I'm putting it on. One day I came home and said to my wife, 'I'm giddy and I feel as though I'm going to die.' She just said, 'You know, Karpo, you die every day, but it's time for me to go to work.' And I felt as though the sky was under my feet and the house and garden away over my head; it was like a roundabout. Blood came up in my throat, black, and red. They called in Valentina Ivanovna and she, bless her, gave me an injection. They call it calcium. And it made me feel better. When the bleeding stopped I was terribly thirsty. They could have cut my finger off for a mouthful of water from a tap. Later I went to Kiev for treatment; they said it was stomach trouble. The professor said, 'It's summer-time now, so you just go back to the village. You're a bee-keeper and you can cure your illness with honey.' So I did. I went home and took honey and I felt better. A year later, though, I was ill again. I had treatment again, but a year after that down I went again. And here it is, started up again."

Karpo Shovkun showed us his analyses and other tests. The X-ray photograph showed a lowering of the evacuatory function of the stomach. Usually it requires two or three hours for barium meal to be passed from the stomach to the intestine, but in Shovkun's case the process took eighteen hours. The stomach was relaxed, lifeless, atonic.

Many months had passed since the last X-ray photograph had been taken and a new negative had to be obtained. It just happened that on this particular day our X-ray apparatus was out of order. Dr. Tishchenko was a football fan and he had planned to go to a match in Kiev as soon as he had finished his surgery hours. I suggested he should take Shovkun with him to Kiev and there get him X-rayed. Tishchenko readily agreed and they set off.

During the journey the doctor had enthusiastically told Shovkun of his fears about the outcome of the match. The bee-keeper was greatly interested and by the time they arrived in Kiev his pains had gone and he was ready to put off the X-ray till the following day, so that he could go to the stadium.

It was five o'clock in the evening when Tishchenko and Karpo Shovkun presented themselves at the X-ray department, just one hour before the football match would begin. Shovkun swallowed the barium meal and the old Roentgenologist watched the process. Tishchenko was about to leave the room, but the bee-keeper prevented him.

"See here, I'm coming with you to the match," he declared firmly.

At first the Roentgenologist objected. He had to examine the patient again after a short period of time. However, he had to give way and the two set out for the stadium, promising to return two hours later.

This was Karpo Shovkun's first experience of a football match in the city. The new football fan was caught up in the vast crowd of people and swept bodily straight to the stadium gates. Hundreds of cars were parked in the neighbouring side-streets. People had come on foot, by tram, bus, and trolley, on lorries and cars of all makes. Traffic was closed on the main street because of the thousands of people who had overflowed from the pavements on to the road. Two spots burned on Shovkun's cheeks. He was delighted at the sight of the crowds.

"Just like my bees when there's a big swarm," he said.

He was as excited about the game as any regular fan. The doctor afterwards related how time and again Shovkun had seized his arm and shouted out loud and that when the Kiev side kicked a ball straight into the arms of the waiting goal-keeper, Shovkun slapped his thigh in annoyance and muttered, "Now what's to be done!"

The match ended with a score of 3:2 in favour of the Kiev side. Tishchenko and Shovkun were triumphant.

The old Roentgenologist carefully examined the patient through the fluorescent screen.

"I warned you. Why did you have to go to the stadium? I'm not at all surprised now that we're in for some trouble."

Tishchenko was disturbed.

"Why, what's wrong?" he asked.

"Did the patient vomit at all?"

"Not at all."

"Then I can't understand it. Where's the barium meal got to? Ah, just a minute, here it is, completely transferred to the intestines. Extraordinary thing!"

Previously it required eighteen hours for the barium meal to pass from the patient's stomach, but on this occasion the process had taken only two hours. What was the reason? What had helped the process? What had livened the stomach? Surely not the football? So far we had not regarded football matches as a form of medical treatment yet, it appears, there are cases where the bouncing leather football which is watched hypnotically by a thousand excited people and where shouts of delight can sometimes arouse hidden forces in the organism. We often talked over Shovkun's case with other doctors.

In the experiments we had made, a wound in the rabbit had not healed well because of the close proximity of a turkey. Now we found that joy accelerates treatment, joy can help to cure.

We had discovered a whole world of happiness for our patients. The crowing of the cock, the sound of breaking waves, the rustling of grasses and chirruping of crickets—all these were heard inside the hospital walls for the first time. The patients listened to music. We lengthened the sleep which gives release from anxious thoughts. We talk to the patients not about the calamities caused by diseases but about their own early recov-

ery. We have driven pain from the hospital. We have returned the joy of work to the patients. When they are not sleeping or having some kind of treatment, the women embroider or knit. When they leave the hospital, they hand on their work to new patients as though it were a baton in a relay race. Whole wards of women are drawn into this work. The colourful pattern on the linen pleases the patient's eyes.

"While I was embroidering I didn't notice I was ill," said Fyokla Storozhuk. "When I woke I went straight to the needle, the work seemed to be crying out to me to be done. Once I begin embroidering I am working, so I can't be ill. There is no illness."

Zoya Mikhailovna talked about this at one of our meetings. It was she who had saved Fyokla Storozhuk the evening she prevented her from [going off on a journey to Kiev.

Zoya Mikhailovna was developing well in her work as a doctor. Fyokla Storozhuk's case had convinced us of that.

* * *

We sought out new fountains of joy for our patients. There was travel. Pavlov had provided the physiological basis explaining the beneficial influence of travel on the organism of the sick person. Is it possible to make this form of treatment accessible to bed-ridden patients? The reader may smile. Yet the bed-ridden patient can travel over half the world, can see the picturesque banks of the Volga or the Black Sea coast as it appears from the deck of a ship; he can visit Altai and stand among grasses tall enough to conceal a man on horseback; he can travel along the Caucasian mountain roads. It was travelling, surely, that had saved Raisa Mukhtarovna from the distresses of sickness!

The light in the ward is»extinguished. The magic lantern projects a mountain landscape on the wall or a

screen. The voice of the commentator is heard: "You are now at the foot of Kazbek Mountain. This is what Ilya Chavchavadze, a Georgian poet, wrote about the mountain: 'Kazbek can rightly say: the earth serves as my sandals and the sky as covering to my head..' The River Terek cuts its way through the deep gorge.'It weeps like the storm, its tears gush forth in spray,' The commentator tells of the life and habits of the Khevsur people who inhabit these parts. He relates the story leisurely. The patients' interest is pinned on the still outline of Kazibak, on the alpine pastures of its slopes, on the lacy network of paths made by passing flocks, and the tangled tresses of the bushes.

We brought yet another joy to our patients—landscape pictures.

The director of the Kiev Art Institute was kind and attentive when we called. We had brought no money with us to buy pictures. One thing dominated our minds: a passionate desire to give pleasure to our patients. We started the conversation in a round-about way.

"Sick people need art just as much as healthy people. The sight of a picture helps one to rest, to forget life's troubles and, finally, to get well. Have you ever heard of the Makarov hospital?"

The director was a man below the average height, very alert and astonishingly active.

"Certainly I have," he said. He evidently did not want to distress us.

"Well, we came from the Makarov hospital," I announced solemnly, introducing Pyotr Andreyevich and Tishchenko.

Without much difficulty we succeeded in convincing the director that our views about the salubrious influence of pictures were sound. The director properly assessed the transparent hint we made about our modest financial resources. We wanted to see the work of the students. We would not, of course, spoil the pleasure of viewing

the pictures in the exhibition by making claims that were out of place and rude, but should the director wish to help to cure our patients by providing any means open to him, we would be ready to welcome his generous initiative.

The director showered praises on the work of the students. But somehow we could not at first understand him: was lit *his* sincere delight in their young talents or was it his way of convincing us that our wishes could not be met, since the pictures were of national artistic value. Our fears were dispelled completely when, after viewing the exhibition, the director said:

"And now choose any pictures you like. Yours is an interesting experiment. As far as opportunity allows, we shall be glad to take part in it."

The walls of the Makarov hospital are now adorned with the works of students from the Kiev Art Institute.

One of our patients, a teacher, could not take her eyes off the picture called "Round the Camp-Fire."

"You know, that camp-fire really warms me. The fire-light seems real and it flickers naturally on the faces, the leaves, and the grass. You can read the book. The people in the picture are dreaming about something. It makes you want to dream yourself, for it's pleasant to dream in the fire-light. When I look at the picture I seem to be sitting round the camp-fire with the people painted in the picture."

Another patient was delighted with the picture of "Night on the Dnieper."

"See the cliff face and beyond it the darkness like some bottomless abyss. The ripples on the water in the moonlight. It is so still and beautiful. Then the distance beyond the river. The lone light in the fields and nothing else visible. There must be a shepherd near the light land hobbled horses put out to grass. You want to climb up to the cliff top and look down at the river below and listen to the waves splashing against the banks."

Often we helped the patients to "read" the pictures, and so made them more interesting to them.

The Kopylov bee-hives stand in the orchard, across the road from the hospital. I happened to meet Karpo Shovkun there one day.

"Well, how are you keeping, Karpo?"

"So far I'm not complaining. The football matches helped me much more than the honey. I'll tell you what, doctor, this is how I see it. The best cure for me is to keep interested in life. You know, something like this," and he gestured vaguely with his hand, describing intricate circles over his head to explain the "somethin'g." He smiled as he said good-bye and turned off on the path leading to the apary.



The day came for the Makarov district agricultural exhibition. Several dozen light and airy pavilions were built among yellowing maples and acacias on the hill above the River Zdvizh.

They stood in an attractive semi-circle. At the foot of the hill was a long line of tethered horses, looking, in the distance, like a comb with teeth set wide apart.

The arch before the main pavilion was gay with flowers and from the early hours of the morning thousands of people streamed in to see the exhibition.

We all trooped off to join the crowds, leaving behind only the staff on duty at the hospital.

The exhibition contained everything imaginable: pumpkins of all sizes and shades of colour heaped on the ground outside the pavilions. Yellow ones with dark spots, brown ones, some a sort of steel colour. The large lilac-red beets were on show in the pavilion windows side by side with sugar-beets, amber-coloured Kopylov onions unlike any others in the Ukraine, cabbages to marvel at, firm, glowing tomatoes, cucumbers, carrots,

and local varieties of garlic and beans. Sheafs of exceptionally high-standing hemp gave out an intoxicating aroma. Beside it was the flax with here and there a dry, pale-blue flower. There were sacks of wheat in golden, uniform grains.

Yellow Antonovkas, the apples which are almost transparent and have skins that shine like ivory, filled the air of the fruit pavilions with a soft, mellifluous perfume. By the Antonovkas were pyramids of sweet-smelling snow-white Calvilles, dark green Reinettes, and huge, crimson, juicy Apport apples.

Above the clamour of the crowd, the strains of a brass band filled the air and floated over the endless, autumn-tinted fields far away beyond the river.

We met many old friends here.

One small boy slipped his hand into that of Raisa Mukhtarovna. He looked shyly up into her eyes and said hesitatingly: "Mamma doctor," We did not understand, but Raisa Mukhtarovna lifted the child impetuously, held him close and gave him a resounding kiss.

"Don't you recognize him? It's Igor's little brother. Our Seryozha! You know, Igor shared the penicillin with him."

Of course Pyotr Andreyevich remembered.

"Seryozha! And the surname is Maslov, isn't it? It was for him we turned back from Kiev and got soaked to the skin, because we remembered we could introduce penicillin into the bone. How could I forget!"

Elena Petrovna put in her word.

"Yes, he's the one who isn't like a monkey, because he's like his Papa."

A pretty woman wearing a bright kerchief smiled at us from the pavilion. We could hardly recognize her as Seryozha's mother, because we had last seen her in the reception room of the hospital, standing motionless by the window, her face distorted with misery.

"Come and see my pavilion," she called out to us.
"Please do come in."

She shook Elena Mukhtarovna's hand excitedly.

"Try some of our apples. Please do, you'll hurt my feelings if you don't. Look, take these, they are very juicy and have a good flavour. You won't find them anywhere else. Please take some!"

"Wherever do you grow these beauties? What kind are they?" asked Zoya Mikhailovna, delighted.

"We've just begun to grow them on our collective farm. I've had a hand in it," said Maslova modestly. "We got a harvest of seventy tons a hectare this year, which we've never done before. Now we have two more new varieties: 'Autumn Gold' and 'Glory to the Victors'."

"Glory to the Victors," reiterated Pyotr Andreyevich, significantly.

By the poultry pavilions we met Varya Shevchuk, showing great interest in large, snow-white Leghorns and huge white Sussex hens with black speckling on their wings. There was one tremendous cock that we almost believed had once been a sheep or calf and had been turned into a cock by witchcraft.

"That beak could kill a man. You can hardly call it a bird!" said Varya, astounded.

Elena Petrovna offered Varya some apples.

"Aren't they beauties? It's a crime to eat them!"

She nevertheless joined in the crime, which by that time we were all committing, and bit eagerly into the apple. Other people joined our group. There was the poultry woman who had felt no pain when we operated on her during the early days of our experiment. We also met Nikolai Silvestrovich Zarubin. He hailed us noisily and showed no sign that there had ever been friction between us. He was now working as a brigade-leader on the farm and had given up drink.

"It's no man's occupation looking at chickens," he

said reproachfully to Pyotr Andreyevich and me. "You should see the horses on show, come and have a look!"

We moved towards the line of horses, passing the pedigree bulls from the Kopylov livestock farm. What powerful beasts they were, indeed! They were bursting with strength and shining from the careful grooming they had been given; black and white with rings through their nostrils. One of them was called "Molot" (Hammer) and the other "Almaz" (Diamond). Just beyond them were the horses. As we came up a stableman led out a beautiful, full-grown stallion. The horse stepped uneasily and pranced about; its ears were cocked and alert and it had a wild and fiery look in its eye. Mighty strength was reflected in its rebellious body.

"That's Demon," said someone in the crowd.

"And the right name it's got, too! Evil spirit!"

"That fellow Fedorenko is a fine chap. See how well he leads the horse."

"Why, it's our Fedorenko!" cried Pyotr Andreyevich. "You remember, last year? It's hard to believe he came to us to die."

Fedorenko caught sight of us and smiled a greeting as he came closer. The womenfolk fled shrieking in all directions.

"Good-day to you! Your womenfolk have taken fright, but so long as I hold him Demon is quite harmless and wouldn't hurt anyone. Come as close as you like, don't be afraid."

Timidly the women came nearer and Zoya Mikhailovna summoned up enough courage to pat the horse on the neck.

"Isn't he a grand horse? I got a prize for him."

Raisa Mukhtarovna looked kindly at Fedorenko.

"You know, it's hard to recognize you, you're so well and strong now."

A scarlet flower was fixed to Demon's harness, just above one eye.

"I'm especially fond of flowers since I went to hospital. I feel happier when there are flowers about, I do really. See how many there are here at the exhibition, dahlias, hollyhocks, nasturtiums. I can name any flower now."

We very much enjoyed our trip to the exhibition of the fruits of human labour and we felt happy among the people whose lives we had saved and whose sufferings we had alleviated. We felt we had a hand in this raising of harvests and breeding of arch-necked race-horses. We saw the fruits of our own labours in Maslova's quiet happiness, in Seryozha's ringing laughter, in Fedorenko's new strength and confidence.

* * *

The next morning when I was in Kiev, Voitenko, our own "Makarov student," paid me a visit. He was not quite his natural self, silent and restrained, but showed signs of agitation and talked more than usual. Only a few weeks remained to the end of his period at the Institute, where he was highly valued and had studied exceedingly well. He was liked also by his comrades, because he was responsive and always ready to help others in trouble. Voitenko's future seemed to be decided: he would continue at the Institute doing scientific work for the chair of dermatology. The prospect would have pleased any young doctor.

He began by telling me all the latest news from the Institute and, incidentally, that Professor Panarin in a recent lecture had greatly praised the Makarov experiment as being undoubtedly based on Pavlov's doctrine.

"How do you explain such a right-about turn in our direction? What is your own opinion?" asked Anton Vasilyevich.

"One cannot argue against what is self-evident, without running the risk of getting into a stupid situation," I said.

Voitenko exhausted the news from the Institute. Then he came to the real point.

"You'll be surprised, of course, but I've changed my plans. I've turned down the post-graduate work for the chair of dermatology."

"So you've changed your mind?" I said, very pleased. "To tell you the truth I never had much sympathy for your choice. I don't insist on surgery for fear of being accused of partiality, but therapy, obstetrics, and Roentgenology are far more attractive spheres of medicine. What have you chosen then?"

"What have I chosen? The Makarov hospital," the young man blurted out.

"But that's magnificent!" I said excitedly.

Voitenko looked away, his face flushed with embarrassment.

As if by mutual agreement, neither of us had said a word about Elena Petrovna.

"I think I'll take up dermatology later, when I have studied therapy, which is the basis of all medicine," continued Voitenko.

"That's probably very sensible," I agreed. "And particularly so, as we have experienced—"

Voitenko prevented me from continuing.

"The more so since I can do scientific work at Makarov. Will you help me to get appointed to the hospital?"

"With all the pleasure in the world," I replied. "All the advantages are on your side. I'm ready to sit with you in the Ministry for a month, until they realize that we'll only go when they've satisfied our request."

Two days later I brought good news to Kopylov: we have an addition to the family. I took the full responsibility for giving Elena Petrovna greetings from Voitenko, although he had not asked me to do so.

And so life went on in the hospital. Kolya Savchenko was well again. His Granny was fussing over him to get him dressed ready to go home. She thanked us all round

and exhorted her grandson every minute: "Say good-bye to the gentleman," "Say good-bye to launtie," "Shake hands with doctor." And automatically Kolya did everything Granny told him. Meanwhile Raisa Mukhtarovna had taken Igor for a walk in the grounds. In his fur coat and cap Igor looked like a small member of a polar expedition. When Granny and Kolya left the hospital, Raisa Mukhtarovna walked with them to the village. They had to pass the cemetery on the way and there they saw three men eating their lunch, sitting by one of the graves. The sight of them drew forth a weighty, somewhat puzzled remark from Kolya:

"Look, Granny, some men have got out of their graves and they're already able to eat their food."

Raisa Mukhtarovna laughed loudly.

"Kolya, people don't get out of their graves."

Granny Savchenko protested.

"That's not true, Raisa Mukhtarovna. Kolya here rose from the grave, tall thanks to your hands."



Pyotr Andreyevich collected more and more information about the treatment of erosions by sleep through conditioned reflexes. In a number of cases the erosions healed in twelve days. These were already brilliant results.

"Write your dissertation now, immediately. I have no doubt you will make a magnificent job of it. It will win recognition," I insisted.

"What, plunge straight in with a dissertation? A short article would be another matter."

"No, a dissertation. Why, this is the latest word in science."

During the long autumn evenings Pyotr Andreyevich pored over his books. He read through all the literature directly or indirectly relating to the origin, classification, and treatment of erosions. The first notes, diagrams, and tables made their appearance.

Work on the dissertation engrossed Pyotr Andreyevich. It filled all his waking hours. He spent long hours over the microscope in the Kiev laboratories. The pile of case histories grew, each of them with many figures and phrases underlined. The first note-book, the second, and the third were filled up. More and more patients made use of the sleep treatment. New ideas continued to arise on the subject of the origin and treatment of erosions, all of them quite different from the established ideas.

One day Pyotr Andreyevich brought the first microphotographs of his own prepared slides from Kiev.

"This is the original slide I prepared," he explained eagerly. "And here you have it eight days from the onset of the illness. See what extraordinary changes! See the energy of the restorative processes. Who could have thought it possible!"

They certainly were extraordinary changes. And they concerned not only the prepared slides.

I felt exceedingly pleased about it all. I recalled my first visit to the hospital and the talk I had with Roshchin. How far Pyotr Andreyevich, the country doctor, had gone since then; how well he had developed! And not only Pyotr Andreyevich. What about Raisa Mukhtarovna and Elena Petrovna. Where now was Elena Petrovna's scepticism and restraint? The "sunny side," those words she had used to break down her own stubbornness, seemed now to define our work, our thoughts, our feelings. Tishchenko had developed and the expression of bored stubbornness had faded from his face. Then Zoya Mikhailovna, our youngest doctor, who now had the steady, oalm light in her eyes that inspired patients to believe in their doctor; she had grown in strength. And Valentina Ivanovna's dream had come true and her first scientific work had seen the light of day. "I can't believe I wrote," she smiled when she read her own article in a periodical. Tears filled her eyss. "But why are you crying about it?" I said, a little irritated by her weakness. The

elderly woman's reply touched me. "Because I'm so happy to have been able to do something to make life more beautiful; I've now seen my own particle of work."

Nurse Katya Shashenkova came back to the hospital, now a sister. Motya Kozlova and nurse Nyusya continued to love their work with all their hearts. Natasha Vovk, the little statistician with the lively, penetrating black eyes, no longer called her statistics "boring penpushing."

How can I describe »the feelings that filled my heart at that moment? What words can I use?

* * *

It was the work of Natasha Vovk, the statistician, to collect and file our correspondence. She carefully filed our letters from all parts of the Soviet Union. They came from Khabarovsk, Kamchatka, Sakhalin, Tashkent, Rostov, Moscow, Leningrad, Frunze, Chernovtsi, from country districts and industrial centres. Doctors everywhere were interested in the design of the rain installations, the magnetophone recordings, our system of nursing the patients. They also offered their own proposals. All the letters invariably ended with good wishes that were as sincere and moving as they would have been if written by our closest friends. There were other letters, too, from the People's Democracies—Hungary, Bulgaria, and Czechoslovakia. Natasha Vovk kept them in a separate folder bearing the inscription "Foreign Correspondence" written in beautiful handwriting. •

"We want to make use of your experiment and make our hospital a model one. We work in the surgical department of the Kutvaldi hospital in Budapest, very far away from you.

"We are carrying out the first "Five-Year Plan in our country. We can work well only if we make constant use of the experience of Soviet people."

Dr. Vadim Ivanei wrote us from Bulgara:

"The fame of the Makarov hospital has crossed the frontiers of your great Motherland and reached us, in little Bulgara, which is following the example of the Soviet Union and building a new life!

"I am responsible for the gynecological department of the Svishtov hospital. Like you I am a convinced and ardent admirer of great Pavlov.

"I am following your work particularly closely and, as far as I am able, I am introducing the protective regime.

"I heartily wish you success in your creative researches,

"Vadim Ivanei."

While Natasha and I were in the common room writing replies, Raisa Mukhtarovna ran in, her eyes shining and a copy of the *Meditinsky Rabotnik* (Medical Worker) in her hand.

"Just listen to what they are writing!" she cried excitedly. "Listen to this!" She laid the newspaper on the desk, covering all our correspondence, and began to read, her voice vibrating with emotion. "The article's called 'The Pavlov Doctrine in Bulgara.' Here you are, this paragraph! The staffs of prophylactic institutions in Bulgara are seriously studying the innovations at the Makarov hospital. Widely known, for example, is the work of Vadim Ivanei, head of the gynecological department of the Svishtov district hospital. With his staff of doctors working in harmony in their little country hospital, he has begun to make active use of the experiment of the Makarov medical workers."

A flush of enthusiasm spread over Natasha's face. She opened the "Foreign Correspondence" file and showed us the letter from Ivanei in Bulgara.

They are writing about him, about *our* Ivanei!

Raisa Mukhtarovna continued reading from the article.

" 'Pavlov Session in Bulgara. The delegates to the session appealed to the Bulgaran medical world to make a serious study of the new experiment carried out by the Makarov medical workers, as they justly consider it to be the basis for the reorganization on Pavlov lines of all the hospital work in Bulgara.' "

Raisa Mukhtarovna vanished as suddenly as she had appeared, in order to read the article to the other doctors.

That same day a delegation of doctors came to us from Georgia: Valeran Kverenchkhiladze, a surgeon and Doctor of Medicine; Surab Zubadashvili, a therapist; Shota Khetsurani, a surgeon from Svaneta; and Tornik Kertzaya, a paedatrist. I laid aside my correspondence and put myself at their disposal.

First they visited the operating theatre. They stopped by the table of toys. These were "instruments" visiting unknown to the visiting surgeons. The taustere operating theatre seemed filled with happy voices and the laughter of children.

Kverenchkhiladze, broad-boned and of medium height, examined the stereoscope with interest.

"Excellent colour pictures giving the complete illusion of depth and solidity. I can just imagine the pleasure it is to the children." He put the stereoscope down. "Yes, here you have the new surgery," he concluded.

In the corridor we stopped at Motya's buffet. The plates and cutlery were tastefully arranged on tray-cloths of festively coloured paper cut out in lacy designs. Kverenchkhiladze praised Motya's handiwork.

"Now tell me," he then asked, "what personal advantages 'do you get from this whispering? How do you gain by it materially?"

Motya thought for a moment.

"Advantages? Well/they don't break the crockery now. I haven't got a single cracked plate. Once the (nurses and

patients started whispering, they began to be very careful not to bang the plates together or make a noise. They are much more careful with their hands now. And so things just don't get broken."

Our guests talked for a long time with the patients in their wards. They literally hurled questions at them: how many hours a day did they sleep, how sound was their sleep, how did they feel when they woke up, how had they slept at home, were they homesick, had they any pain, did the quietness irritate them, what was their attitude to the "landscapes," what did they do during the hours when they were -not having some form of treatment?

Kertzaya, the tall young paedatrist, reacted immediately and eagerly to everything he saw and heard and was delighted with the cradle song and the peaceful, untroubled sleep of the children.

The patients who were awake were invariably engaged in some occupation: reading, embroidering, knitting, watering the flowers. Some were selecting beads from a whole heap of all colours, shapes, and sizes, matching them up and stringing them. This simple, but engaging occupation (which is something like making collections) held the interest of the patients. Once they started they found it difficult to stop; in this respect it was like cracking nuts. There were others who played draughts, chess, and so on. The greater the hazard and attraction derived from the occupation, the greater its effect as a form of treatment.

In one of the wards we observed the following incident. An elderly patient in blue pyjamas was just returning from a walk round the grounds; he noticed that a patient was asleep in the ward. He stopped just inside the door, looked apprehensively in the direction of the sleeping patient, then proceeded slowly and silently across the ward, lifting his feet well off the floor as though he was stepping over puddles.

Kverenchkhiladze rested his firm chin between thumb and finger while he thought hard for a moment.

"You know," he said finally, "I'm in a quandary. I have to make a report about all this. It is easy enough to report the figures and the method of treatment. But how can I put in words all that we have just seen? This sort of mutual protection among the patients. How can I explain this solicitous concern, this walking about on tiptoe? Is it possible to give a graphic description of the smile of the patient in that corner over there who is selecting beads from the box? Or plot the curve of a gesture showing happiness? We need some other medium for expressing all this. Perhaps novels and books? Or Anthropology? Tables and diagrams alone are not enough. They only succeed in taking the savour out of life."

The visiting doctors were surprised at what they encountered in one of the sleep-wards. Four patients were earnestly and energetically shaking bottles of liquid. This was one of our new "discoveries." Some patients found that after sleeping for a long time their muscles weakened. We easily proved this was true by means of the dynamometer. How could we combat the muscular weakness caused by inactivity? Should we try gymnastic exercises?

It is an interesting detail that a person who for years has been accustomed to physical work derives no real satisfaction from exercises. Exercises lack the visible fruits of toil which follow from real work. When a person makes an effort, he is accustomed to seeing the tangible result of his effort. In this sense, work therapy has its advantages over gymnastic exercises.

We gave each patient a bottle containing vitamins in water. Before taking the vitamins, the patient had to shake the bottle for twenty minutes so that the vitamins would be distributed evenly in the water.

The patients get vitamins, which is very important for them. They also actively assist in their own treatment, because they themselves prepare their medicine; consequently the psychological mechanism is, as it were,

switched on. Time does not drag when they are working. The patients improve the functions of their muscles themselves. The work is pleasant if only because it is work that serves the patient himself, serves to restore his health. And the dynamometers now do not show a decrease in the muscular strength of the patients, but an increase.

In the sleep-wards, the doctors listened to all our compositions: the morning symphony, the landscape music, the knocking of the train, the sound of rainfall, the cradle songs, and psycho-prophylactic talks.

Before our guests departed we had a lively, friendly chat over the supper table. Feodosia Akimovna, the mother of Pyotr Andreyevich, brought in the food and Raisa Mukhtarovna decanted the special wine that made its appearance only on festive occasions.

Raisa Mukhtarovna fussed over the table and saw to our individual wants, thus creating an atmosphere of splendid cordality. She was looking particularly charming and festive in a white silk blouse with a black velvet bow at the neck and a long, evening skirt. Pyotr Andreyevich watched her every movement with delighted affection. He was pleased that his guests felt so free and unrestrained in his home and he correctly ascribed this to his wife's subtly pleasing manner and the charm of her sincere, welcoming smile.

It seemed to me that Kverenchkhiladze, whose eyes shone with a peculiar sort of inner light, was in a state of great emotion. When he began to speak, he immediately arrested our attention.

"I would like to tell you about the thoughts that struck me, an old doctor, while I was going round your (hospital). But allow me first to look back a little. In the old times, When a child had chicken-pox or smallpox in Georgia, efforts were made, as far as means allowed, to make the house look as attractive as possible. Carpets were laid down, bunches of flowers, invariably scarlet, were put into vases, and cradle songs were sung. All this

was done to placate the evil spirits personified in the disease. The evil spirits were called *batonebi*. Simple folk are usually extraordinarily observant. These means of pacifying evil spirits undoubtedly produced some effect. The children recovered sooner and the illness took a lighter form. Nowadays we realize that it was the comfort, cleanliness, flowers, and, finally, the singing, music, and merriment—it was all this that primarily affected the child, encouraged it, pleased it and multiplied its strength to combat the disease. So you see, there are elements here of the transformation of the environment, the influence on the psychology of the child, training the child to see the bright side of life. In the light of the Pavlov doctrine, the curative power of these measures is now clear to us. But it was the wisdom of the maternal heart that brought people to this understanding. You have understood the curative power of songs and have added them to your arsenal of medicine.

Kertzaya leaned against the back of his armchair and sighed dreamily.

"Songs can help to cure any illness," he said.

There was a momentary lull in the conversation.

"That's very true, heaven knows!" said Pyotr Andreyevich. "There was a time when laboratories, apparatuses, instruments, optics, the whole technique, formed a barrier between us and the patients. We need the technical side, of course, but it has to be of a kind that does not deaden, but enriches medicine."

Valeran Kverenchkhiladze concluded with emotion:

"You are doing great work, my friends!" Then he paused for a moment. "I now understand the main thing. In your hospital the patient is like the sick child in its mother's home—the most important person."



Very soon after this we received a letter from Academician M. M. Bykov, Chairman of the Pavlov Commit-

tee on Physiology. We were invited to the Sixth Session of the Pavlov Committee in order to give a report on the Makarov experiment.

Following this, Professor Sozontov and Doctor Gabaryan arrived to make a study of the practical side of our work in order, later, to deliver co-reports at the Sixth Session.

We now had to pass a serious test and, to tell the truth, we were very worried. My hand constantly went to my pocket for cigarettes.

Vasily Vasilyevich Ivanenko, Chief of the Regional Public Health Department and an Honoured Doctor of the Republic, led our delegation. Pyotr Andreyevich, Raisa Mukhtarovna, and I accompanied him to Moscow.

Ivanenko was a jolly, humorous fellow who loved life and was well in tune with it. On the journey he gave us a wonderful picture of the future that lay before the Makarov(hospital).

"We'll adorn the new hospital wings like a bride on her wedding day. Curtains of silk. I'll even let you have the carved oak furniture from my study—you've seen it at my office."

We held a "Pavlov session" in the railway carriage. Jokingly we put the very worst complexion on our own speeches. Ivanenko played the role of chairman of the session. Choking with laughter he turned to me, the supposed speaker: "We will call upon..." I had scarcely opened my mouth when the "chairman" announced that my time was up. He then frowned and interjected peremptorily:

"Absurd! Sit down! What proposals could there possibly be?"

Pyotr Andreyevich raised his hand, cleared his throat and pronounced the ruthless sentence:

"The expenses of the trip to Moscow to be deducted from the salaries of the Makarov workers, since the money spent has brought no benefits to the State."

It was late in the evening when we stopped all this fooling and, with our thoughts on what lay before us, we went to bed.

For a long time I could not sleep. Through the carriage window restless shadows from the trees came and went; the reflected light from the carriage slid along the ground by the side of the train. The wheels knocked rhythmically. "It does not appear to be so easy to sleep to the sound of the train" was the thought that passed through my mind.

Pyotr Andreyevich tossed restlessly on the opposite bunk.

We did not doubt the justness of our cause. Our doubts were of quite another nature: would we be able, with the necessary scientific thoroughness, to provide the basis for all our researches and achievements. Might the isolated mistakes we had possibly made be of too serious a nature? Were the rebukes we had heard during the period of our struggle perhaps justified in some degree? Tomorrow we would stand before the Pavlov Committee, before the pupils of the great physiologist who valued facts above all else. But we were taking facts with us to Moscow. The period of time required to cure patients had been reduced 27 per cent at our hospital; the death rate had been halved. The same was the case at other hospitals where our protective regime had been introduced.

In the distance the outlines of Moscow loomed through the soft, rosy mist of dawn. Standing guard, as it were, over the city were the new, tall buildings. The soft early morning light picked out the roofs, innumerable windows, and the sides of the Kremlin towers crowned with ruby stars.

Moscow! We climbed the marble steps of the Academy of Sciences. We felt we were entering one of the country's many (headquarters of science. Here in the Pavlov headquarters the operational plans of action, the directions for the main blow against infection and industrial dis-

eases were being mapped out. Tomorrow, perhaps, the Pavlov Committee would become the "Council for Longevity" or the "Council for the Development of Living Forces." For Soviet science is flourishing as never before! And soon, it may well be, scientists will be removing the greatest of all injustices, the inequality in the span of life which allows the tiresome, supercilious raven, for instance, to live three times as long as a man.

"Everything in the report from the Makarov hospital is correct," said Professor Sozontov, beginning his co-report.

The Pavlov Committee approved the Makarov experiment. "The new regime which they call 'protective treatment' is based on Pavlov physiology." Approval was also given to the method we used for conditioned-reflex sleep and the psychological preparation of patients prior to operations. The session recommended that our experiment be made known to all medical institutions throughout the country.

After the session, Vasily Vasilyevich Ivanenko shook hands - and congratulated us.

"And now for the journey home. You have great and interesting work before you, my friends!"

We rejoiced over our triumph.

With eyes shining, we jostled our way through the crowd of people to the nearest post office. There, jointly, we registered the beating of our hearts in a briefly-worded telegram which Roshchin was reading just one hour later.



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