Dangerous Occupation

Zhores Medvedev

In November 2010, a volume of memoirs was published in Moscow to mark the 85th birthdays of Roy and Zhores Medvedev. The cover is shown on the facing page. The Medvedev twins have lived through, and sought to explain, some of the most tumultuous developments of modern times. Here, in the first of two parts from this anniversary volume, Zhores recalls how, in 1943, he was called up to fight, was wounded at the front, and later, after some recuperation, began his pursuit of a lifelong career in science.

My family first encountered the war in Rostov-on-Don when I was 15-years-old. Within three months the German army had captured Taganrog, only a hundred kilometres from Rostov. Abandoning everything, we left for Tbilisi, the city where I was born. When the summons arrived from the military recruitment office, with the order to report with my possessions and documents on 1st February 1943, I was still studying in the tenth grade and had only recently turned seventeen. The war was already changing, with the Soviet army liberating the North Caucuses, and drawing nearer to Krasnodar. The army was in urgent need of reinforcements and to this end the period of conscription was shifted; the lower limit by one year and the upper by two years. Young recruits were sent to Kutaisi for training. Here, on the outskirts of the city, was the territory of the reserve regiment, where accelerated military training in shooting, throwing hand-grenades, *plastun* crawling [flat on the ground for scouting purposes], using a bayonet, pistol-whipping and handling an entrenching tool took place. I was assigned to our conscription's first infantry company, who were sent to the field at the end of April. The military echelon advanced from Kutaisi to Krasnodar through Baku and the recently liberated North Caucuses. Local residents at the train stations would bring us milk and bread, sometimes lard as well. From Krasnodar we arrived in cars to the Krymskaya *stanitsa* [Cossack village] on the Taman Peninsular. This *stanitsa* was liberated only a week earlier during battles to breach the 'blue line' of the German army that was protecting the outskirts of

Novorossiysk and Kerch. The landing force was deployed by sea, not far from Novorossiysk, which pushed the Germans back and created a bridgehead: this was the famous *Malaya Zemlya*. According to the plan of the command – which was explained to us after we were conscripted to the 169th infantry regiment – our regiment was to be part of the force used to break through the second boundary of the 'blue line', and liberate the Kievskaya *stanitsa*. Powerful technology, including Katusha rocket launchers, had been assembled to support the infantry (mostly artillery), with no less than two hundred barrels along each kilometre of the front. Infantry units, upon breaking through the German defence, were to take the next frontier 'on the shoulders of the retreating enemy', by order of the command. The German army had many fortified sites on the outskirts of Novorossiysk.

Military operations on the Taman Peninsular are almost unheard of in western literature on the history of the war, but the concentration of troops here was no less than on other fronts. The 17th regular German army, which had sixteen infantry divisions – two armoured and four separate regiments – was deployed on the front line, stretching for just less than a hundred kilometres. From the Crimea, the German army was protected by more than a thousand aeroplanes, amounting to almost as many troops and as much equipment as there had been in the army of Field Marshall Paulus at Stalingrad. There were three armies on the Soviet side of the Taman Peninsular, consisting of twenty-one divisions and five independent brigades. Thirty kilometres ahead of the 56th army, which was commanded by General Grechko, stood five divisions of the German army in a deep defensive line. The breaching of the German defences was relatively quick following air strikes and a vigorous artillery barrage. Barbed wire fencing was scattered along the sides. Soldiers walked in several rows through the German trenches. Holding our rifles with fixed bayonets at the ready, we ran, mostly over the corpses of German soldiers. Anti-personnel mines were the main problem on approaches to the trenches; they were everywhere, with no less than a thousand on each kilometre of the front line. We approached the German trenches in rows, one after the other. Whoever was in front often trod on a mine …

Beyond the German positions was a very hilly steppe. The green gardens of Kievskaya *stanitsa* were already visible in the distance. But ahead of this, another multi-layered German defence line, complete with barbed wire and minefields, had been built earlier. Our regiment wasn't able to take the enemy in its stride since the enemy didn't retreat, and instead fired their machine guns. We took cover and started to dig. I was

lucky as there was a crater nearby caused by a bomb, which I quickly turned into a deep trench. It started going dark. In the darkness the company's horse-drawn field kitchen arrived, bringing bread, tobacco, sugar and bottles of vodka. During combat every soldier relied on his famous 'hundred grams from the People's Commissar'. Mess tins were filled with hot food. Millet porridge with American tinned meat. But only a small queue lined up for the company kitchen. In the woods earlier that day, before the start of the breach, there were 150 riflemen in the company commanded by Captain Petrov. It had been at full-strength. By evening on the first day of fighting thirty men remained in the ranks. After food, ammunition was brought to us. I took a box of cartridges and six grenades. The other soldiers also stocked up for a long time.

The following day the Germans suddenly launched a counter-attack. Their generals knew that sparse units in disordered individual trenches stood opposite their lines. It is difficult to manage this kind of defence as every soldier acts individually. The main counter-strike was aimed at a nearby regiment. We were further up, they were below, around 400-500 metres from our positions. About twenty German tanks were seen crawling away in the distance with small figurines of soldiers behind them. A second lieutenant came running from the regiment staff and gave the order to 'support neighbours with fire'. After that he did not return to the staff dug-out, but jumped down into my trench. I had enough room for two. Aiming fire on fleeing German soldiers at such a distance was impossible. But I was shooting in the direction of the tanks, quickly changing clip for clip. I had a lot of cartridges. The second lieutenant all of a sudden asked me to let him shoot, so I gave him the rifle and sat down to rest. He leaned out, took aim, but did not manage to fire. There was some sort of gurgling sound and my neighbour started sliding down. He was dead; a bullet had pierced his neck. Before standing up I got my helmet stuck on my bayonet. Ding! The helmet was pierced right through. Soviet helmets were too thin. They defended us only from fragments of mines and grenades. Somewhere near our positions a German sniper held us in his sights.

The counter-attacks were repelled. Individual trenches did not give room for manoeuvre, but nobody ran from them in the open steppe. We needed to fight until the end. Every soldier there had a lot of cartridges and grenades. Three German tanks remained on the battlefield. At night the soldiers of a neighbouring regiment were taken to the rear, having been replaced by a reserve battalion. Many were carried away on stretchers.

Over the next few days the German sniper increased the number of our losses. Individual trenches severely limited the opportunities for active

defence. Olya – a young female signaller providing telephone communication between the company commander and the battalion commander – was killed by mortar fire during the next attempt to restore the faulty wire, which stretched across the ground to the rear defences. They appointed me as a signaller. The first two missions – to restore communications – I carried out in darkness. It was relatively safe. Taking the telephone cable under my arm and the coil of insulation tape in my hands, I had to go to the rear defences. Having found the gaps in the wire, it was necessary to smooth out the ends, join them up and insulate them with the tape. On the whole line for a kilometre up to the battalion dug-out there could have been five or six gaps. On 31st May, after the early morning air bombardment which damaged the telephone wires again, Popov ordered me to quickly restore communications. Seizing the wire and dropping low, I ran to the rear defences. The first gap was around twenty metres from our positions and I hurriedly re-connected it. But, leaping into the next run, I felt a heavy blow on my right foot which was already elevated above the ground. I fell and quickly began to crawl back, understanding I was wounded. In the company medical trench two nurses dressed the open wound which had almost stopped bleeding. The blood only started flowing again when I crawled to my trench. I bandaged my leg, but wasn't able to stop the bleeding. What happened next I can't remember. I only regained consciousness the following morning after a blood transfusion in the field hospital. Casualties were only removed from their positions at night.

Biology, medicine or agronomics?

In January 1944 I came to Moscow from Rostov-on-Don with the intention of entering the faculty of biology at MGU (Moscow State University). Students were not accepted in the winter, but I had no other way out. In December 1943 the bones in my foot, fragmented by a bullet on the Taman Peninsular, had healed well enough to permit me to replace my crutches with a walking stick. Following the injury I visited three military hospitals, first in Krasnodar, after that in Baku and then in Tbilisi, my hometown. There was so large a flow of casualties from the Taman front in summer 1943 that all the hospitals in Transcaucasia were overcrowded. To suddenly find myself in Tbilisi was a great stroke of luck. My mother knew nothing of my fate for almost three months. My brother, Roy, was on military service as a non-combatant. As a soldier discharged with a disability, I now had the right to return to Rostov, which had been liberated in the spring of 1943. Decrees had been enacted which granted returnees

to liberated cities the right to accommodation.

Rostov-on-Don, which was twice occupied in autumn 1941 and summer 1942, had endured heavy bombing. But the five-floor house at 78 Pushkin Street, where our two-roomed flat was, had not been damaged. The flat belonged to our aunt, Nadya, and our grandmother. We came to them after the arrest of our father, Aleksandr Romanovich, a professor of the military academy, in August 1938. He was convicted as a 'Bukharinist' and died, in March 1941, in one of the camps in the Magadan oblast. Father was a very strong man and he physically toughened both my brother and I from early childhood. But he did not survive his job in the copper mines of Kolyma. There were now three families living together in our apartment in Rostov; they had been resettled from destroyed houses. It made no sense to plead for its return. Things that belonged to us were no longer there. Our father's large book collection, which we valued the most, had disappeared. Having not left the city, my great aunt, a well-known dentist in Rostov with her own office on the main Budennii Prospect, was executed together with her husband as part of the liquidation of all Rostov's Jews by the Germans. The second occupation of Rostov occurred from 24th July 1942, but as early as 11th-12th August, all the Jews remaining in the city – around 15,000 people, including children – were executed at the Zmievskaya gorge outside the city.

We tried to persuade our aunt to leave but she didn't want to abandon everything, placing hopes instead on her Russian surname 'Sakharova', and on the need for good dentists under any regime. She had no children of her own. An officer of the Gestapo moved into her splendid apartment during the occupation. Some other families also lived there now. I spent about a week in Rostov. I was given shelter by the mother of my friend from school, Kostya Ragozin, who had been fighting somewhere in Belarus. His father 'went missing' in summer 1942 on the outskirts of Stalingrad. There was nothing for me to do in the city, so I went to the train station to go to Moscow. At that time every passenger train had a carriage 'for the wounded', in which, dressed in a soldier's overcoat, it was possible to travel without tickets. The carriage was very crowded. There was still no direct connection between Rostov and Moscow and the train passed through the ruins of Stalingrad. I only turned up in Moscow six days later. On the road at the stations there were special canteens for discharged soldiers returning from hospitals. A quarter of the passengers in the carriage were serious cases, quite often with amputated legs – orderlies or nurses accompanying them.

The dean of the faculty of biology cordially welcomed me and was

prepared to enrol me to commence studies in October. At the time disabled veterans were accepted into higher education institutions under special conditions and without entrance examinations. There were very few male students. But the university, having only recently re-opened since the evacuation to Kazan, still had no students' hostels. They had the same problems in the medical institute with student halls. My erudition in the problems of medicine obviously surprised the director of the institute (based on the books of Mechnikov, Paul de Kruif and Bogomolets, which I had read in Rostov). He was prepared to accept me as a student immediately, but only in the faculty of hygiene. 'You skipped human anatomy. Without that there's nothing you can do in the faculty of medicine. You'll have to wait until autumn.'

I had lived in Moscow for five days, spending my nights at either the Kazansky or Leningradsky rail terminals. Under the rationing system it was only possible to buy food at train stations in the separate halls for servicemen and those discharged from the army. Here and there were also canteens for the wounded. Hundreds of thousands of disabled veterans, discharged from hospitals, travelled across the country, without the possibility of returning home. The authorities simply did not know what to do with them, and rail terminals became communal living areas for these people. Their hometowns and villages were badly, and often completely, ruined or not yet liberated. In January 1944 the Crimea and Odessa were still occupied by the German army; the fight for the city of Krivoi Rog was ongoing. At the same time the German armies surrounding Leningrad suffered a crushing defeat. All of Belarus, the Baltic countries and Moldova had yet to be liberated.

I arrived at the Petrovsko-Razumovskoe platform at the Moscow North suburb on the commuter train from the Leningradsky rail terminal. Sprawled out over a large area were the beautiful academic buildings, halls of residence, experimental fields, ponds and woods of the Moscow Agricultural Academy, named after K.A. Timiryazev. The dean of the faculty of agronomy, Professor Nikolai Aleksandrovich Maisuryan, turned out to be my compatriot; he was born and graduated from university in Tbilisi. I was again invited to apply to become a student in the autumn. Before the start of the new academic year I was also offered work and residence. The work was simple but dangerous, washing white quartz sand with hydrochloric acid to clear all the mineral salts from it. You had to put on a gas mask in the basement where the wash tanks were. This sand, having been cleaned with both hydrochloric acid and distilled water, was then used by the ton in agro-chemical and physiological experiments with

different combinations of fertilisers. In spring, as a worker at the experiment station, I was offered two hundred square metres of a ploughed field at the Otradnoe experimental farm. In October, when I finally became a student, two large sacks of potatoes lay under my bed in the room I shared with three other students.

Trofim Denisovich Lysenko

My interests in the problems of ageing arose when I was 15 or 16 years old. In the winter of 1942 I sat for hours in the Tbilisi public library summarising A.V. Nagornii's monograph, 'The problem of ageing and longevity', published in Kharkov in 1940 with a total circulation of 400 copies. In the agricultural academy were the departments of zoology, botany, chemistry and physical chemistry, physiology and biochemistry. The fact that this applied to plants and animals rather than humans did not matter. Plants and animals grow old, too, albeit unequally. Weismann's theory on the mortality of soma and the immortality of germ plasma explains the necessity of ageing of the body for animals logically enough. But plants obviously do not have the germ lines separate from soma. They were capable of unlimited vegetative reproduction. It was possible to get a new plant from somatic cells. Plants were reproduced by tubers, grafts and root sprays. The growing point of the stem, consisting of rapidly dividing vegetative cells which formed leaves unexpectedly in spring, summer or, in warmer regions, autumn, and sometimes even throughout the year, suddenly began to form a flower with a full set of male and female reproductive organs. The first theory I developed tried to explain this problem. I assumed that in the growing points of plants there are, potentially, also stem or germ cells amongst somatic cells. Somatic cells, reducing their cell division because of ageing, gradually become mixed up with embryonic stem cells and the growing point does not begin to form leaves, but rather a flower with sexual organs. Sometimes this deceleration of cell division in somatic programmed cells can be caused by cold temperature, as in winter plants. My theory on this embellishes the theory of the developmental stages of plants, which made Trofim Lysenko famous back in 1929, when, for the first time in practice, he was able to bring winter wheat to reproduction during the spring sowing, having kept sprouted grain for two weeks under melting snow. I committed my theory to a five-page manuscript in calligraphic handwriting and sent a copy, in April 1945, to Academician Lysenko, president of the Lenin All-Union Academy of Agricultural Sciences (LAAAS). I passed another copy on to the head of the department of botany at our academy (TAA), Professor Petr

Mikhailovich Zhukovsky, whose lectures for us as first year students were most enjoyable. Two weeks later I received a reply in an envelope from LAAAS. The letter from Lysenko was short: 'Dear Zhores Aleksandrovich! Your ideas seem interesting to me. Drop by if you're in Moscow. Academician, T.D. Lysenko'.

The Lenin Academy, on Bolshoi Kharitonyevskoi Lane in the centre of Moscow, occupied the ancient palace of the Yupusov princes. A plaque on one side of the entrance informed that it was a monument of seventeenth-century architecture, protected by the state. Around thirty people were already sitting in the spacious reception room in front of the doors to the president's office. The secretary and assistant greeted the new arrivals, asking their reasons for visiting. I showed the assistant my letter. Lysenko began receiving guests at 11 o'clock. We were told that the academician did not accept guests in turn, but everyone at once. He started to talk at first with an agronomist who had come from Siberia. We were able to sit in the office and could ask questions and make comments. Quite often, as we were told, people come to the academician with exactly the same problems. There are no restrictions on entry. Interesting thoughts often come to the academician during the course of these conversations.

At precisely 11 o'clock visitors began to enter the president's large office. Lysenko was already sitting behind his huge desk. He had entered through a separate door. Offices of important Soviet administrators always consisted of two rooms: one large for receptions, and a second 'personal' room with a sofa-bed for relaxing, a sideboard and lavatory. Lysenko's table was full of agricultural products; a few small sheaves of wheat and rye, big potatoes and corns on the cob. The large wheat sheaves, brought from all over the country, stood near the walls next to the writing table. Chairs for the visitors took up positions along the side walls. Bookcases, which are always found in the offices of deans, directors and professors, were not visible. 'Take a seat', Lysenko called to us in a surprisingly loud but very hoarse voice. 'I will speak with the agronomist from the Omsk oblast [he called out the surname]. He has a question concerning the sowing of winter wheat crops.' In 1943-44 the sowing of winter wheat crops in the harvest field by Lysenko's method – that is, on untreated rather than ploughed fields – was the main topic of discussion in agricultural circles. In 1942 the German army offensive on the North Caucuses and Stalingrad only started at the end of July, when the harvesting of winter wheat had already been completed. A large amount of grain was rescued in Transcaucasia and across the Volga, but the sowing of winter wheat for the harvest in 1943 could not be carried out anywhere. Winter wheat was not

sown in Siberia as the region was too cold. Lysenko had proposed to sow winter wheat in the Omsk and Novosibirsk oblasts in unploughed fields. According to his theory, which there was no time to check, the death of shoots in winter is not caused by frost, but from the formation of ice crystals and the compression and movement of the freezing loose earth, tearing the nodes of cereal grass and roots under the ground. On dense, unploughed land there would be no such gaps and shoots would not be lost. If the nodes remained intact, plants would regenerate their lateral buds and all their shoots in the spring. The stubble remaining from the harvested crops preserves the snow better, protecting the soil. In August-September 1942 in the Chelyabinsk, Novosibirsk and Omsk oblasts hundreds of thousands of hectares were sown on the harvest fields. The results were contradictory. Some collective farms had harvests; on others the crops were lost. The agronomist from Siberia was one of those for whom the harvest suffered. They mustered: how many have sown? The debate started. Those seated along the wall actively took part. At around one o'clock the waitresses entered the office with trays, serving the seated visitors strong tea in glasses with silver glass-holders and big sandwiches with red caviar and salmon. It was a pleasant surprise. By 3 o'clock the reception had ended – Lysenko said he was expected in the Kremlin for a conference. I did not get to discuss my theory, but I returned to the student halls fully satisfied.

Petr Mikhailovich Zhukovsky

Professor Zhukovsky was one of the most popular and influential teachers in our academy. He was an academician of LAAAS, laureate of the State Stalin Prize, and the author of what was considered to be the best botany textbook. He collected thousands of samples of cultivated plants during expeditions to Asia Minor, Syria and Mesopotamia, wrote the book *Agricultural Turkey*, and discovered a new species in the Caucuses – a previously unknown wheat, unique in its high immunity to fungal diseases. This species of wheat, named by Zhukovsky as *Tritium Timopheev Zhuk* (in honour of his teacher, Timofeev), was used for hybridisation by wheat breeders in many countries to strengthen the immunity of their output.

Zhukovsky did not need to respond to my letter. Botany was one of the main first year subjects and our study group came to the department of botany in block 17 every week for practical work. Out of twenty group members I was the only male and Zhukovsky already knew me. After a regular seminar I was told that Petr Mikhailovich was waiting for me in his office. Zhukovsky greeted me cordially, warm-heartedly even. The

laboratory assistant brought us tea and cheese sandwiches. Zhukovsky praised my writing and style: 'Your manuscript is written in good scientific language'. He asked me a little about myself. 'My son, Alesha, is now at the front too, already in Germany. I hope he is ok.' (At that time, at the end of April, fighting was going on in Berlin). 'Let's test your theory together. We have a laboratory of embryology and cell biology in our department. We'll give you a good microscope. But you need to learn a lot …' The following day I went to the laboratory. It was managed by Anaida Iosifovna Atabekova, an experienced cell biologist and lecturer. As it turned out, she was the wife of the dean, Maisuryan, and was also born in Tbilisi.

Two weeks later the war ended. Zhukovsky's son, Aleksei, survived and I met him the following year. My friend from Rostov, Kostya Ragozin, was killed during the street battles in Berlin. I learned of this from his mother when I visited the city again in 1946.

To be continued.

Translated by Andrew Ramsbottom with additional editing by Sarah O'Malley.

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Select Bibliography

Zhores Medvedev has a long list of works to his name. They have been translated into many languages. Those published in English include:

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