
ANTIDOTE

CLANDESTINE WARFARE IN MODERN RUSSIA

by John Lonergan

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This is a fictional novel. Any resemblance to actual persons or corporations is not intended

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DEDICATION

This book is dedicated to Robert Koch and Louis Pasteur, upon whose shoulders modern microbiology stands.

EPIGRAPH

The events depicted here are fiction. *Staph aureus*, however, is becoming ever-more threatening. Gentamycin, the last bastion against *S. aureus* infection, was defeated in 1998 when a young sufferer in Atlanta came down with the first documented case of gentamycin resistance.

Pharmaceutical companies have started to respond to the dangers and opportunities. New antibiotics are being developed. It's about time: the last major generation of antibiotics, discovered from underground fungi, was discovered in the 1950's.

More concerning is the risk of bioterrorism. Small, intelligent, dedicated bands could develop such strains in the future.

FOREWORD

This is a novel about what could happen in the near future. A small and dedicated team of biological terrorists could use new genetic techniques to create “super bacteria” which are resistant to all known antibiotics or treatments. Even without the threat of bioterrorism, bacteria are doing a good job of defeating one class after another as doctors overprescribe the strongest antibiotics to treat even mild infections. Global overuse and bacterial evolution conspire to pose a real threat to all mankind.

CHAPTER ONE

Josef Karashvili woke up at sunrise, as usual. He looked out the window of his two-room cabin to the meadow, trees on the near horizon. Sitting up, he saw the first morning rays hitting the Caucasus mountain peak across the valley, fifteen miles away.

He was hungry. "Food," he said, looking back at Mariana, just waking next to him. Mariana stretched like a cat, mouth broadly open, eyes squinted shut, both arms above her head, pushing on the dark wood bedstead.

"Food yourself," Mariana answered, not unpleasantly. She stretched her toes until they nearly touched the bottom of the bed, turned to Josef, and hit him with a flat hand on his back.

Josef sat on the side of the bed, closed his eyes. He thought about how he had arrived there, what he had done last night. "Home," he thought. "Home at last."

It came to him again: the long trip to the airport outside Kiev, delay for one, then two more hours, as one mechanical problem turned into two, then three. *Air Georgia* was not known for its reliability. Two and a half hours of flight, then landing in Tbilisi, Georgia's capital. His family at the arrival gate, just beyond the mobile ramp. Waved through customs, collecting his bags full of presents for his sisters, his mother, for Mariana. It had been too long since he had last seen them.

Everyone had piled into father's Lada station wagon for the two-hour ride into the Caucasus Mountains, first on a four-lane highway, then a two-lane road which wound up and up. The drove down into two valleys, then up two mountain passes before finally arriving to his valley, to Akhmeta, his home town.

Father drove to the house, disgorging Josef, his sisters, his mother Irina, his luggage, and Mariana. His younger sister, Ilona, could not stop talking about school in Tbilisi, about her new friends, the food, the clothing, the boys, the excitement of living in a big town for the first time.

Josef listened happily, remembering how everything he had done was so new, so impressive, at sixteen.

Katarina, his older sister, said little. She stroked her brother's hair, and said from time to time "Josef, Josef. It's good to have you back."

Josef talked to his mother, his father, his sisters. His eyes, however, stayed on Mariana.

Josef and Mariana ate dinner at Josef's house on the outskirts of Akhmeta. Josef told stories of France, of his colleagues at the lab, of the strange and interesting ways of the Ukraine. His mother smiled and interrupted constantly, asking Josef if he wouldn't eat another pear, if he wouldn't have another tadziki.

Josef regaled in the smells, the chaos, the noise and the warmth of dinner with his family. The air was redolent of Georgian spices: garlic, cilantro, savory, mint, peppers. The dining room looked complex, a jumble of patterns, lace, doilies, statues, bric-a-brac, statues, pictures of Christ and Stalin on the wall. Bottles of water, wine, Takhuna and homemade pear schnapps sat on the table. Josef's father kept refilling his glass while Josef continued with stories about living in France.

Josef got up from the table at midnight, kissed his mother and his father, and said that he had to take Mariana home. He whispered to Katarina "I won't be back until tomorrow morning. Then I want you to tell me how you are getting along." Katarina, enjoying the conspiracy, smiled and agreed. Josef had led Mariana to his family's hunting cabin, high above the village. They got to sleep at four in the morning.

Mariana talked to Josef's back. "I see that the women in France are keeping you fit, Josef."

"They were only a *divertissement*, Mariana," he teased. "I had to come back to Georgia to be with a real woman." Josef turned and slapped Mariana on her backside.

Mariana smiled with her eyes. "I thought that with all the Suzettes and Anne-Maries in France that you would forget your Georgian woman, Josef."

Josef took Mariana's face in both hands and kissed her passionately and long. The sun rose higher before they emerged from the bed.

"Food, woman," Josef teased.

Mariana had packed the Lada's trunk with pears, fresh farmer's cheese, and a local, thick-crust bread. She rummaged around the primitive kitchen, and came up with a kettle to heat water, and some tea. The simple table was set within a few minutes.

Over tea, Josef told her about living in France, about his work in the laboratory, and about his plans.

Josef had studied biology in Tbilisi before being admitted to the University of Kiev to study microbiology. He took top honors for his work on gene expression in *Staph aureus*.

A big, strapping fellow, Josef had made friends easily in Kiev. He played ice hockey in Tbilisi, and continued to do well on the Kiev team before his studies took more and more of his time. Many of his Tbilisi teammates remained friends even after he had moved to Kiev.

In fact, one of his closest friends, Paata Akhmetali, had preceded Josef to Paris. It was while Josef worked at Kiev University that Paata again contacted his old Tbilisi friend. Paata had called Josef one night:

"Josef, it is good to hear your voice again. Working as hard as ever with your little bugs?" Paata had always kidded Josef about how such a big man could find pleasure in working with bacteria.

"Paata, are you still bothering the women in Paris? What's the matter, are the Georgian women too passionate for your liking?"

Josef could imagine Paata hesitating, searching for a sharp reply. "No, just giving the girls here lessons on Georgian passion," Paata laughed.

"Seriously my friend. What keeps you away from your home and loved ones? My sister Katarina asks about you all the time."

"I can't go into it over the phone, my friend. But I'd love to tell you about it in person."

"Why, are you coming back to Georgia, you old dog?"

"No, but my group would be glad to foot the bill to bring you to Paris for a few days."

This took Josef aback. Paris. he'd read about it, had friends who had visited there. Josef had never been out of the ex-Soviet Union, however—not unless you counted a microbiology seminar in Helsinki four years ago. Josef did not count that as a trip outside the empire.

“Paata, what do you mean? Do you know how busy I am here?”

“Yes, Josef. Your professor tells me that you’re invaluable to him.”

Josef was surprised a second time. It’s true that his professor, a Georgian, was known to Paata. But Josef did not know that Paata had been in recent contact with him. Had Akhmetali been checking up on him?

Paata explained to Josef that he was working on an exciting project, something that Josef would find ‘very interesting.’ He urged Josef to put aside his work for a few days, and come visit his old friend in Paris. While Josef wanted to see Paata again, and definitely wanted to visit Paris, he was torn. He didn’t know what group Akhmetali was with now. They had lost touch since finishing their respective Ph.D.’s a couple of years ago.

Josef hesitated. “Paata, let me check with my professor in Kiev. I’ll call you back if I can come.”

Josef checked, and was surprised that his professor was enthusiastic about the trip. “You’ll find their work very interesting,” he told him. Karashvili had not known that his professor was so well-informed about the work Akhmetali’s team had been doing.

Four days later, Josef arrived at Charles de Gaulle Airport on Georgian Airlines. Paata picked him up in a large, old BMW with over 200,000 kilometers of hard driving. It smelled of old leather and too many strong Gauloise cigarettes smoked in too small a space. “This car’s as old as I am,” said Josef, smiling to his friend.

“Not quite. It may look old, but it has a strong engine, and runs like a top,” said Paata. “You never know when the speed can come in handy.”

As they spiraled down the road from the arrivals terminal, Paata said “Josef, my friend. I am so glad you could come. I will tell you right now that I didn’t know if you would come at all.”

“Nor did I, my friend. My professor talked me into it, without really telling me what you are doing here. He said that I’d find it ‘interesting.’ And lucrative,” Josef added.

Paata nodded. “Lucrative? Yes, Josef. But not only that. It gives us a chance to show those *putains* the Russians a thing or two.” For the first time since his arrival, Paata showed real passion as he spat this out. Russians. *Russians*. The Russians had brutally put down a rebellion in the Republic of Georgia in a short but bloody war fought in 2016. Josef was only 15 at the time. He was too young to fight, but Josef had lost an uncle and an older brother to the

Russians in that conflict. Meanwhile, the rest of the world looked on, unable or unwilling to interfere with Russian troops in their own 'back yard.'

Paata drove quickly through early afternoon traffic, south on the *Autoroute* from the airport to the *Boulevard Périphérique*, entering the ring highway around Paris at the *Porte de Clignancourt* and exiting at the southwest of city. He exited to the A13, and continued through the western suburbs of Paris toward Rambouillet and the *Chevreuse*, a network of valleys and forests 15 minutes west of Versailles. Paata continued on the *Route Nationale*, past the rabbit-cage welfare apartment houses, past furniture discount warehouses, service stations, shopping centers and one-star, cheap roadside hotels for the busy provincial salesman on a budget. Paata continued past a rail yard, exited the highway, and crossed a bridge over the tracks.

Once past the rail yard, the road passed through a broad forest. It opened to fields and again, more forests. They continued to Rodon, a small village rising from the fields, five miles from where the forests of the *Chevreuse* began.

Paata drove past the *mairie*, the town hall, a bakery, a 10th Century church, and a few houses. He pulled into a side street, past high stone fences and large metal gates, then right again into a small, dead-end alley. Three houses down, Paata stopped the car, got out and unlocked a large, green metal gate. As Paata pushed the doors open, Josef saw an old, two-story farmhouse surrounded by trees that reached up past the high roof. The white stonework showed that the house was built in the mid-1800's, but had clearly been converted from a barn or a stable to a residence, with a more modern roof, and several large French windows and doors in front. The rich smells of jasmine and roses infused the garden when Paata opened the car door.

"Welcome to our laboratory," Paata said, getting back into the car and driving to the side of the house.

Josef climbed out, took his bag, and strolled to the small front entrance door. He entered directly into a small kitchen.

"Josef, welcome to Tbilisi West!" said a big bushy bear of a man, planting kisses on Josef's cheeks. Yevgeny Gaidar was an old Akhmeta school friend. He was a famous wrestler throughout Georgia, who wrestled in the heavyweight class ever since the age of 15. Josef had lost touch with Yevgeny after graduation. He had moved to Moscow to study, then to Kiev, while he'd heard that Yevgeny had moved to Sochi to study.

“Yevgeny, where have you been? It’s been ages since we were last together in Akhmeta Secondary,” said Josef.

Yevgeny led Josef to the table in the kitchen corner, where an unlabeled bottle of Georgian Takhuna waited, with three shot glasses.

Yevgeny made a show of hoisting the bottle into the air, and showing it to his friend. “Now this is the true Takhuna, not like that stinking branded swill you get in Kiev. My brother’s neighbor made it in his workshed back in Tbilisi, and he only gives it to his friends. Drink up! Drink to your health, our success, and our beloved Georgian Republic!”

Josef looked directly into Yevgeny’s eyes while reaching for the glass, and kept his glance while he drank the clear Georgian drink in one gulp. He held up the empty glass to Yevgeny, then slammed the glass hard on the table at the same instant as his countryman. “To our beloved Georgia!” he said. “May we regain our independence soon,” Josef whispered.

“Come, my friend, let us show you why we have brought you so far to this small hamlet in France.” Yevgeny led Josef and Paata through the kitchen, past a small living area, and to a door that led down a narrow stairway. Josef noticed that the unpainted steps were worn by many years of treading up and down. At the bottom, they came to a small room, barely big enough for the three big men, a table, a simple wooden chair, and a bookcase along one small earthen wall. A single bare light bulb illuminated the space. It smelled of moist earth.

Josef looked disappointed. Yevgeny smiled. With a flourish, he pawed aside the bookcase, which slid along unseen rails to reveal another door behind it. When Yevgeny opened the door, Josef looked beyond to see a white-walled laboratory thirty feet square, easily larger than the entire house above them. A young woman and a bearded man, both wearing white lab coats, and both in their mid-twenties, stood at different benches. The woman looked up briefly from her microscope as the three entered the laboratory.

Josef immediately recognized the type of laboratory it was by the equipment he saw. He surveyed standard lab equipment on the benches, including centrifuges, incubators and hot water baths. In the corners, he spied more exotic instruments: a DNA synthesizer, an automated identification instrument, and an accelerated bacterial culture machine. In one corner he saw a 3D organic synthesizer, and a laser holography detection device. While not everything was state of the art, it was immediately clear to Josef that the laboratory was fully capable of performing top-class microbiology and synthesis work.

“How did you do it, Paata?” Josef asked. “This must have cost you at least, ah... seven hundred thousand dollars, just for the equipment.”

“Much more than that, my friend. Much more. The nature of our work, you see, did not allow us to simply call up OSI and order out of their catalog. We purchased through more...how do I put it? Circuitous routes.” Paata was clearly proud of his laboratory, and equally pleased at Josef’s first impressions.

Josef was curious, but he was already forming an idea of what work his friends were doing in this clandestine lab. All three were born and grew up in the same town. All three had lost uncles, brothers or other family members to continued Russian incursions into Georgian territory. All had chafed at the obvious injustice of Russia’s rule over Georgia since the takeover. Georgia was now referred to as an “associated republic,” ruled by a puppet regime that danced as Moscow pulled the strings. Nominally independent, Georgia was in fact under the thumb of its Russian overlords.

After the quick war was lost, a much longer guerilla action began. Josef’s uncle had been captured by the Russians in a fight near Sukhumi. That had been sixteen years ago. His comrades, the ones that lived, came back to tell Josef’s grandmother that he had been killed in action. Years later, one had told Josef that, in fact, he had been taken alive by a Russian captain and tortured by two days by the GKU. They then gave him to the Abkhazians to kill. His dead body lay outside an Abkhazian military post for a week before his wife and family was allowed to take away his corpse and give him a decent burial.

Josef remembered the night that his father had come to him, sixteen years ago, to tell him of Uncle Yuri’s death. Josef was only fifteen at the time. He could not believe that Yuri, his teacher, his friend, and source of strength in difficult times, was dead. Josef took the news rather stoically at the time, although his father was in tears. “I’ll kill the bastards who did this, father,” Josef said coldly. “I promise you that,” Josef had told him. Josef had never forgotten that promise.

Josef’s older brother had gone a way to join a Georgian guerrilla group in the Caucasus. Josef was not sure how he had died, but he heard that the whole guerrilla troupe had been betrayed to the Russians by a Georgian traitor in their midst. He imagined that the Russian Spetsnaz stole in one night and butchered his brother and the others. Josef had last seen his brother ten years ago.

Since subjugating the Georgian Republic, the hated Russians installed their own people in positions of power within the country. They renationalized Georgian companies, and taxed others out of business. Worse, they imported Tadjiks, Khazaks and other Moslems to positions of power within Josef's country. Josef, like all native Georgians, was a Christian. Georgians had converted early to the Orthodox version of the same faith. They regarded their religion as a key part of who they were. Georgian Christianity defined them, and differentiated them from the Moslem and Christian republics, and Turkey, which surrounded Georgia in three directions.

Josef's Georgian ancestors had fought the central Asian Moslem hordes a thousand years before. Like all good Georgians, Josef had grown up with stories about the atrocities of the Moslems. The fact that Russians had installed non-Christians in leading government positions raised the ire of all who called themselves Georgian patriots. It also inflamed the hatred of native Georgians toward their Russian oppressors.

With only five million citizens, Georgians could not afford to confront their keepers directly. Their enemies in Moscow and the central Asian republics outnumbered them thirty-to-one. Georgians had to pursue more subtle ways to ensure the continued, if limited, republic status. Georgian families sent their best sons to Moscow and Kiev to learn science and commerce. Georgian students were known as hard workers, and for their stubborn insistence on getting what they wanted. Stalin was a Georgian, and all Georgians shared his energy and ruthlessness. Georgians influenced Russian life out of all proportion to their small numbers; they could be seen in science, in government, commerce, and particularly in a thriving underground economy, through the Georgian Mafia.

The Georgian Mafia was known to be one of the best-organized and most ruthless of the several organized criminal associations in the New Russian Empire. Through their groups of thugs, Georgians extracted protection money from cigarette and liquor sales, fruit vendors, restaurants and, in the port cities, from the stevedores' unions. Georgians, aided by their Chechen enforcers, took a piece of every New Ruble earned in many areas of Russian commerce.

Like many crime syndicates, members of the Georgian Mafia were intensely patriotic. They despised Russians, even as they lived off them. Georgian Mafia leaders were a main source of financial support to patriotic Georgian underground groups. Their money, their contacts, provided the resources to support the patriots' struggle against overwhelming odds. Josef's uncle and brother, while not directly associated with the Mafia, carried on the fight with Mafia-

bought weapons. Josef's family and friends regarded the Georgian Mafia as a key bulwark against the Russian hordes.

Josef knew that his friends were associates of the Georgian Mafia. He also knew immediately that this expensive laboratory could only have been funded with Mafia money.

"Show me what you are doing with this laboratory, Paata," Josef said. Paata and Yevgeny spent the next two hours explaining the project to their friend. Josef listened carefully, asking a few questions from time to time, taking some notes. What he heard increased his interest. He found their explanations scientifically intriguing. Moreover, he saw their scheme as a clever way to combat their all-powerful enemies, enemies who surrounded his beloved Georgia from all sides.