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Adolf Tolkachev: The Billion Dollar Spy

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At 6 p.m. on a cold, dark Moscow evening on January 12, 1977, Robert Fulton, the CIA station chief in the Soviet capital, was filling up his car. The gas station was a small pavilion on Ulitsa Krasina. As Fulton was about to climb back into his car, a man approached him, and spoke in English. “Are you American?” the man asked. “I would like to talk to you.” Fulton said it would be difficult to talk then and there, and so the man left a small packet on his front seat and quickly slipped away into the night.

This approach was the start of a phenomenally successful espionage operation. The man was Adolf Tolkachev, a specialist in airborne radar who worked deep inside the Soviet military establishment.

At first, the CIA ignored his approaches, fearing a KGB trap. In my book “The Billion Dollar Spy,” I describe the debate between the Moscow Station and headquarters over whether Tolkachev was genuine, or a dangle. At the time, Stansfield Turner, the CIA director, was unsettled by unexplained events in Moscow, including the discovery of U.S. agents and a mysterious fire in the embassy. Turner ordered a complete stand-down of espionage operations until the problems could be fixed. After a period of hesitation, Turner finally approved a resumption of espionage operations in Moscow in 1978. The CIA concluded Tolkachev was for real, and sent him instructions for how to communicate using dead drops and secret writing.

However, Tolkachev preferred not to use impersonal methods. He wanted to look his case officer in the eye. What would become six years of personal contacts with Tolkachev started on a frigid New Year’s Day, 1979. In his first meeting with CIA officer John Guilsher, Tolkachev passed materials to the United States literally under the nose of the KGB. Most of the 21 meetings with the CIA through early 1985 were held within three miles of the front entrance of the KGB headquarters.

What drove Tolkachev to become such a highly-productive agent for the United States? The answer reaches back to the years before World War II.

When German bombers attacked Moscow on July 21, 1941, Tolkachev was just 14 years old. The city was largely constructed out of wood, and the German planes dropped 104 tons of high explosive and forty-six thousand incendiary bombs, killing 130 persons, the first in a wave of aerial bombings that

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would go on until the following April. The Soviet capital was defended by over six hundred large searchlights and eight hundred anti-aircraft guns but only primitive radars.

Radar was a new technology, and the success of the German bombing campaign showed how the Soviet Union desperately needed improved radar. The goal became the focus of Tolkachev's education and career. He went to a vocational school, the equivalent of a high school, where he studied electronics, finishing in 1948, and then to the Kharkov Polytechnic Institute in the Ukraine, completing his studies in 1954 in the radio-technical department, chiefly about radar. Upon returning to Moscow, he was assigned to a military research facility, the Scientific Research Institute for Radio Engineering, known by its Russian acronym, NIIR. It was later given an additional name, Phazotron Scientific Design Association, or simply Phazotron. It had been the first manufacturing facility for radar in the Soviet Union, and in the 1950s, the facility expanded into research and development of military radars, which grew in sophistication from simple sighting devices to complex aviation and weapons guidance systems. It was the only place Tolkachev had ever worked.

In 1957, he married Natalia Ivanovna Kuzmina, who worked in the antenna department at the institute. Natasha was 22 years old, he was 30. Natasha had suffered greatly. In Stalin's Moscow in the late 1930s, her mother had worked in the Soviet ministry overseeing the timber industry, and was a Communist Party member. On Sept. 17, 1937, the secret police showed up at the apartment. Natasha's mother was arrested and taken away. Her mother was accused of being a subversive and was shot. Her father, editor of a party newspaper for workers in light industry, was frightened. Refusing to testify against his wife, he fled to a friend's apartment, was arrested a week later, and was sent to the gulag. At that time, Natasha was only two years old. Her parents just disappeared one night and she grew up in an orphanage. After the war, her father came back from the camps, and told her the full story of the horrors. He died not long after.

Natasha held strong feelings. She managed to stay out of trouble, but those who worked with her knew of her bitterness. She read the banned writer Boris Pasternak and the poet Osip Mandelstam. When Alexander Solzhenitsyn's novel "One Day in the Life of Ivan Denisovich" was published in 1962 in *Novy Mir*, a literary journal, she was the first in the family to devour it. Later, when possession of Solzhenitsyn's unpublished works was considered more dangerous, she was unafraid to pass around copies in samizdat. She was, in the words of a supervisor, "unable to be insincere."

Her long ordeal and her deep antipathy to the Soviet party-state became Tolkachev's, too. They were angry about what happened to her parents, but by 1957, the year they wed, life seemed to be improving. Young people felt a certain optimism in the 1950s—these were the years after the war, after Stalin's death, the time of great promise, known as *The Thaw*. They hoped for an end to the sacrifices of the past, and there was a hint of more openness.

In 1965, Tolkachev and his wife had a son, Oleg, their only child.

But by the late 1960s, Tolkachev grew disenchanted with the system around him. He knew the story of the cruel repression of Natasha's parents. On top of that, hopes for the thaw came to crashing end—especially with the Soviet invasion of Czechoslovakia in 1968, crushing the Prague Spring. At one point during the events, workers in Natasha's office were asked to raise hands to vote support for the Soviet invasion. Natasha was gutsy. She was the only one in her office to dare raise her hand, "no."

Tolkachev didn't act on his disenchantment right away. His young son was growing up and Tolkachev didn't want to do anything that could hurt his family. He didn't want his son to lose his parents, like Natasha had.

But in the mid-1970s, he was deeply influenced by two men who spoke out against the Soviet system: Andrei Sakharov, who was a scientist and, like Tolkachev, held a top-secret security clearance, and Solzhenitsyn. In January 1974, Solzhenitsyn was arrested and deported from the Soviet Union. In 1975, Sakharov received the Nobel Peace Prize but was prohibited from leaving the country to receive it.

These events left a deep and lasting impression on Tolkachev. When he later recounted his disenchantment to explain his actions to the CIA, he identified 1974 and 1975 as a turning point. After years of waiting, he decided to act. "I can only say that a significant role in this was played by Solzhenitsyn and Sakharov, even though I don't know them and have only read Solzhenitsyn's works that appeared in *Novy Mir*," he wrote in a letter to the CIA.

Gradually, in meetings and letters, the CIA learned more about Tolkachev's motivations. Tolkachev stood apart from other agents; he did not belong to the Communist Party or serve in the military or the security agencies. He was a loner, but with a steely determination.

"Some inner worm started to torment me," he said. "Something had to be done."

Tolkachev's expression of dissent began modestly, by writing short protest leaflets. He told the CIA he briefly considered sending the leaflets in the mail. "But later," he added, "having thought it out properly, I understood that this was a useless undertaking. To establish contact with the dissident circles that have contact with the foreign journalists seemed senseless to me due to the nature of my work." He had a top secret clearance. "Because of the slightest suspicion, I will be totally isolated or liquidated for safety."

Tolkachev decided that he would have to find other ways to damage the system. In September 1976, he heard the news that a Soviet pilot had defected to Japan in a MiG-25. When the Soviet authorities ordered Phazotron to redesign the radar for the MiG-25, Tolkachev had a dawning realization: his greatest weapon against the Soviet Union was not some dissident pamphlets, but right in his desk drawer, the top secret blueprints and reports that were the most closely held secrets of Soviet military research. He could seriously injure the system by betrayal—turning these vital plans over to the "main adversary," the United States.

Tolkachev told the CIA he had never even considered selling secrets, say, to China. "And how about America, maybe it has bewitched me and I am madly in love with it?" he wrote. "I have never seen your country with my own eyes, and to love it unseen, I do not have enough fantasy nor romanticism. However, based on some facts, I got the impression, that I would prefer to live in America. It is for this very reason that I decided to offer you my collaboration."

Guilsher, his first CIA case officer, asked Tolkachev at their initial meeting about his motives. In reply, Tolkachev declared, "I am a dissident at heart." He didn't explain right there, but over time, Tolkachev came to trust Guilsher, and in letters and meetings, the CIA learned Tolkachev didn't spy because he loved America. Rather, Tolkachev spied out of anger and resentment, at the past and the present. He felt the Soviet system was not fulfilling even the most basic job of providing for society. He told the CIA in a letter that he felt Soviet politics, literature and philosophy had been "enmeshed for a long time in such an impassable, hypocritical demagoguery" and "ideological empty talk" that he ignored it all.

Tolkachev was deputy director of a laboratory in an important Soviet defense industry facility. By Soviet standards, he had a good salary and a comfortable apartment in an elite high-rise. But he was driven by antipathy toward the system. Tolkachev told the CIA over and over again, he was bound and determined to do as much damage as possible in the shortest possible time to the Soviet Union. He originally

proposed to spy for 12 years in seven stages, but much of what he intended to acquire was accomplished in the six years he was an agent.

After he had been caught and executed, his wife Natasha said he did it “for freedom in our country,” a remarkable motive for a man who had never lived or even visited a free country.

Throughout the six years of the operation, the CIA paid Tolkachev handsomely, usually in stacks of rubles. Dollars were also deposited for Tolkachev in an escrow account, which amounted to almost \$2 million at the end of the operation. Tolkachev asked for money as a sign of respect for the risks he was taking, but in shortage-plagued Moscow, there was little he could buy with the cash. He also asked for Western rock music for his son, as well as quality drafting equipment—ink, pens, erasers—for his son’s architectural studies. Tolkachev also requested books from the West, and medicine for his wife. He also demanded a suicide pill from the CIA, and received it. Tolkachev appreciated all the gifts and money, but they were not his central motivation.

The nature of the positive intelligence received from Tolkachev—complex diagrams, specifications, blueprints, and circuit boards from airborne radars and the disclosure of Soviet military research and development plans stretching a decade into the future—was extraordinary. I interviewed two U.S. intelligence and military experts who examined Tolkachev’s documents over several years, and they said they never found a single page contaminated with disinformation, after much cross-checking. CIA operational cables declassified to me show that only two years into an operation that eventually lasted for six years, the U.S. Air Force estimated that Tolkachev had saved the United States \$2 billion in research and development costs. Tolkachev offered a vital look at Soviet R&D plans a decade into the future, allowing U.S. planners to develop countermeasures for existing and planned radars and weapons systems.

In essence, Tolkachev revealed the adversary’s intentions and capabilities, the core of the CIA’s mission in intelligence collection. For the leadership of the United States, it was vitally important to know Soviet priorities in military research and development, as well as capabilities—what they could do and could not do. For decades, there were holes and misjudgments in U.S. intelligence on Soviet intentions and capabilities. But when it came to air defenses, Soviet tactical fighters, interceptors, radars, avionics, and guidance systems that would confront Americans in any hot war, Tolkachev’s material was invaluable. One of his most important contributions was to clarify for the United States that the Soviet Union was years behind in developing the technology for look-down, shoot-down radar, allowing warplanes to see targets at low altitude moving against the background of the earth. Tolkachev provided the United States with renewed confidence in U.S. weapons systems that cost billions of dollars and took years to develop, such as the terrain-hugging, strategic cruise missile, which was flight-tested and deployed in the years of Tolkachev’s espionage.

Tolkachev also passed to the United States a library of top secret documents about the design and capability of radars deployed on Soviet fighters and interceptors, including the MiG-23 fighter, the MiG-25 high-altitude interceptor, the MiG-31 interceptor, and the MiG-29 and Su-27 multi-role fighters. In particular, Tolkachev compromised several versions of the SAPFIR and ZASLON radars. Tolkachev also carted away Soviet secrets on surface-to-air missiles and the sensitive Soviet project called SHTORA, or “window blind,” which was designed to conceal surface-to-air missiles from the radars of target aircraft.

In another intelligence windfall, Tolkachev was the first to alert the United States that the Soviet Union was starting to develop an advanced airborne warning and control system, or AWACS, a flying radar station. Once Tolkachev pointed it out, U.S. spy satellites confirmed it, a good illustration of how different kinds of intelligence collection can work together. The Tolkachev documents also revealed to

the United States that the MiG-31 fighter carried an air-to-air data link that would allow it to function as a mini-AWACS on its own, sharing radar information with other fighters. Previous attempts to break such a data link and “read” it had proven almost impossible for the United States. But now, with Tolkachev’s documents identifying what each bit of information meant, the link could be cracked open, an incredible breakthrough. The United States could intercept Soviet AWACS signals, to detect—and deceive—the pilots who depended on them.

