

STEVEN T. USDIN

Engineering Communism

HOW TWO AMERICANS SPIED FOR
STALIN AND FOUNDED THE
SOVIET SILICON VALLEY

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Preface

In September 1990, while in Moscow researching an article on Soviet-American technology transfer, I was introduced to a Russian scientist named Joseph Berg. The American business consultant who arranged our meeting told me Berg had developed an innovative system for producing integrated circuits. In our initial conversation, I asked Berg, a tall, gregarious, and obviously very intelligent man who appeared to be well past seventy, how he came to speak English so well. “Well, we have good schools here,” was his first response. I pointed out that no school could produce such a classic Brooklyn accent. Berg then explained that he had grown up in a neighborhood in Johannesburg with a lot of Americans. Berg’s story didn’t add up, but it was a time, the last months of the Soviet Union, when many people were reinventing themselves.

Although we’d known each other for only an hour, Berg invited me to accompany him to a lunch meeting at a hotel near the Kremlin, where he introduced me to a tall, elegant man, one of the USSR’s foremost rocket engine designers. After lunch, Berg asked me to join him in the back seat of a Volga sedan to visit a place he said few Americans had seen. We traveled north, up Gorky Street to the Leningrad highway toward the airport, then veered off, passed through some villages, and after about forty-five minutes came to a large city, home to over 200,000 people. The car passed Futurist style build-

ings, a movie theater named Elektron, billboards displaying the faces of model workers, and factories with illuminated Communist slogans stuck onto their roofs before stopping near a large statue of Lenin. The statue stood in front of a modern office building with a somewhat mysterious sign, “*Nauchni Tsentri*,” on its roof. It was the “Scientific Center,” Berg told me, the brain center of the Soviet microelectronics and computer industry, and we were in a satellite city called Zelenograd, the Soviet Union’s version of Silicon Valley.

Perhaps out of modesty—or caution—Berg didn’t tell me anything about his role in creating Zelenograd and the Scientific Center. He did describe some of the work being done there, how shiny silicon cylinders were trucked into Zelenograd and sophisticated microelectronic devices, including microchips and computers, were shipped out. Most of the activities taking place at that time in the Center and the other buildings in Zelenograd were strictly classified, and Berg was taking a substantial risk in bringing a foreigner whom he barely knew to the city.

The next weekend I accepted Berg’s invitation to attend a “musical” at his apartment in Leningrad. The event was memorable because of the excellent classical music, lively conversation—and the fact that half of the people who called Berg to confirm the timing of the event said they were staying home when he informed them that an American journalist would be present. They worked in defense plants, Berg told me, and were afraid that socializing with a foreigner would cause trouble. I later learned that when they arrived at work on Monday, several of the people who attended the party had to file a written report with the “first department,” the KGB security office, revealing that they had been in contact with a foreigner. (Although the name of the Soviet intelligence service changed several times from 1917 to 1992, the organization’s mission was constant, and its structure changed little. For the sake of simplicity, in the following pages all these organizations are referred to as the KGB, the Russian abbreviation for Committee for State Security.)

I didn’t learn for several months, until a friend brought a five-year-old article to my attention, that Berg had another identity, that in the United States he was known as Joel Barr, and that he was closely linked with Julius Rosenberg, who had been executed as a Soviet spy.

Although almost half a century separated our births, Joel Barr and I formed a close friendship that endured for the remainder of his life. I stayed with him several times in Leningrad (and St. Petersburg, as it came to be known), and he lived with me for weeks or months at a time in Washington, D.C., becoming a part of my family. Barr and I started work on his autobiography several times, but the project always flew off the rails as he became more interested in fantasizing about how things could and should have been and less concerned

about what really happened. I abandoned the project altogether after receiving news of his death in June 1998. The idea resurfaced about six months later when a surprise package containing over 3,000 pages of the FBI's files on Barr arrived on my doorstep. Then I remembered that in 1995 Barr and I had on a whim walked into FBI headquarters in the J. Edgar Hoover Building to request the files under the Freedom of Information Act.

It took a couple of years for the idea to gel in my mind; finally, in 2002, I started to research this book seriously, traveling to Russia to interview his former co-workers and friends, and to the Czech Republic to visit his relatives and obtain records from the archives of the Communist regime's secret police. The book also includes material from hundreds of hours of interviews and informal discussions with Barr from 1990 to 1998.

Barr's story cannot be told separately from that of Alfred Sarant, the man whom Barr recruited into espionage in New York and who was Barr's senior partner in Leningrad and Moscow as they tried to reshape the face of Soviet technology. This book dwells more on Barr's life simply because I knew him well.

I had three goals when I set out to write *Engineering Communism*. The first was to tell a remarkable story that combines espionage, the Cold War, and tangled dramas of love and betrayal. On the personal level, Barr and Sarant were extraordinary in part because, unlike virtually every other defector from the West to the Soviet Union, they led happy, productive lives there. Many other spies who escaped to the USSR were despised and distrusted by their Soviet counterparts; few adjusted to life in the totalitarian society they had risked their lives for; and quite a few drank themselves to death.

The second task I set for myself was to offer some insight into why the Soviet Union failed to harness its tremendous human talent and abundant natural resources to create technologies comparable to those that blossomed in other developed countries in the second half of the twentieth century. Walking in Zelenograd or talking with Russian scientists and engineers in their seventies and eighties about their space program, I'm always vividly reminded of the tremendous sacrifices of the 1940s, the hopeful idealistic commitment and optimism of the 1960s, and how these hopes were dashed in the dreary 1970s and 1980s. Berg's and Sarant's experiences put these dreams and disappointments into perspective.

The third goal was to explain why Barr became an ardent Communist willing to risk everything to help the Soviet Union. Barr's motivations, similar to those of other Americans of his generation who spied for the Soviet Union, could provide an idea of a mindset that is hard to fathom today, one that was shaped by a world that has vanished.

Barr never explicitly admitted his espionage activities, and as far as I know neither did Sarant. In contrast to his adamant public denials, in private conversations with me Barr simply declined to discuss specific questions about spying. He acknowledged that Julius Rosenberg passed some information to the Soviet Union, but he denied that it included any atomic secrets. Barr did, however, talk about why he, Sarant, and Rosenberg felt a greater loyalty to the Soviet Union than to the United States and why they considered it acceptable to pass on secret information to the USSR. He felt that this loyalty was appropriate because the Soviet Union was the only nation on earth trying to build the communist utopia he fervently believed in, and that it justified passing secret information to the USSR during World War II, when the United States and the USSR were allies in the fight against fascism, and after the war, when he feared the United States would use its monopoly on atomic weapons to destroy the Soviet experiment.

Not only a wealth of circumstantial evidence, but also compelling data from decrypted messages sent by Soviet intelligence operatives—fruits of a U.S. Army operation codenamed “Venona”—and several other sources directly confirm Barr’s and Sarant’s espionage. The memoirs of Alexander Feklisov, a retired KGB officer who says he was Barr’s and Rosenberg’s case officer during World War II, are credible, as are KGB files that were fleetingly unveiled to a historian, Allen Weinstein, and his assistant, Alexander Vassiliev, a former KGB officer.

Barr himself wrote some of the most compelling evidence. These are his notes, scribbled into an address book, describing what can only have been clandestine meetings with a professional intelligence service. The logistical details of these meetings are almost identical with those described by Americans who contemporaneously spied for the KGB.

In the course of researching this book, I ran into individuals in Russia and the United States who tried to convince me either not to write it or to skew it to support their political beliefs. In Russia, some engineers and patriots are infuriated by the notion that two Americans played a catalytic role in creating Soviet microelectronics. They feel this somehow denigrates the skills and accomplishments of the homegrown engineers who labored in the USSR.

In the United States, I encountered historians on the political left who cryptically cautioned me to tread carefully because I was touching “sensitive” topics. It didn’t become apparent to me what this meant until Morton Sobell, the Rosenbergs’ codefendant who spent almost two decades in federal prisons, told me that it was “pointless to uncover and write the truth if it doesn’t serve ‘the cause.’” On the right, I encountered commentators who cited Barr’s case

as vindication of Joseph McCarthy and evidence of widespread treason among American politicians and civil servants.

Despite my affection for Barr, I have attempted to provide an unvarnished version of his and Sarant's lives, and to leave it to others to decide whether they were heroes, villains, idealists, fools, or a combination of all of these. I will, however, address some of the political implications of this book.

The fact is that two Americans founded and briefly led the Soviet microelectronics industry. This doesn't mean that Russians couldn't have done something similar, or even better. It is also impossible to know what would have happened if Barr and Sarant had remained in high positions longer than they did. They imagined that a few more years would have been enough to put the Soviet Union on track to leapfrog ahead of the United States, that the first personal computer would have been created in a suburb of Moscow, not Silicon Valley. They were almost certainly wrong: their achievements were exceptions that stood in sharp contrast to a dysfunctional system that crushed innovation and stifled independent scientific or artistic expression.

The notion that the truth should be skewed or suppressed in order to serve a cause is repugnant and in my view shameful. Some of the individuals who expressed concern about the "sensitivity" of American Communist espionage in general, and the Rosenberg case in particular, cited the excesses of McCarthyism. Enough time has passed, I hope, for students of American history to hold two notions in their heads at the same time: Joseph McCarthy was a demagogic bully who did great damage to his country; the Communist Party of the United States was a subsidiary of the Communist Party of the Soviet Union that actively engaged in and supported espionage. McCarthy ranted about Barr and Sarant, but the only new information about them allegedly uncovered by his "investigations" was false. His contention that their former colleagues at the U.S. Army Signal Corps Laboratories continued to spy for the Soviet Union into the 1950s was incorrect, and it led to the pointless persecution of many innocent people.

Barr's story adds color and depth to the portraits that have been painted of Julius and Ethel Rosenberg. No one who looks at the evidence can seriously doubt that Julius Rosenberg was a source of secret information to the KGB, as well as the recruiter and leader of a remarkably successful espionage ring. Ethel was aware of her husband's espionage and actively supported it—for example, by recruiting her brother to spy on the Manhattan Project.

I have uncovered new details about the significance of the technologies the Rosenberg ring supplied to the USSR. Although there is room for disagreement about the value of the atomic information Rosenberg conveyed to the

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KGB, there can be no doubt that the specifications about radar, the proximity fuse, jet engines, and analog computers that he, Barr, Sarant, Sobell, and their comrades provided were extremely valuable to the USSR, especially during the early years of the Cold War.