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The Rosenbergs in 1951: U.S. code breakers picked up a trail leading to them

Cracking a Soviet Cipher

The first clue landed on Robert Lamphere's desk in the counterespionage section at FBI headquarters in the spring of 1948. Just five or six words, it was a decoded fragment of a much longer message sent by radio four years earlier from the Soviet Consulate in New York to KGB headquarters in Moscow. Working from that scrap and others supplied by U.S. cryptanalysts, Lamphere says that the FBI was able to "penetrate and break up network after network of Soviet spies"—including the ring organized by Julius and Ethel Rosenberg, who were convicted of stealing U.S. atomic bomb secrets and executed in 1953. The deciphered messages were never introduced at the Rosenberg trial because the government didn't want the Soviets to know the code had been cracked. U.S. officials still have not declassified the documents, claiming they provide clues to American counterespionage methods—but the full story is now coming out anyway.*

The story begins during World War II, when U.S. intelligence agents recovered the charred remnants of a Soviet code book from a battlefield in Finland. By itself, even a complete code book would have been of little help in deciphering Soviet messages. The Russians, in effect, had encrypted their code by using a system of "additives"—random five-digit groups of numbers that were literally added to the five-digit groups listed in the code book. The additives were listed in a separate set of "onetime pads"—which, as the name suggests, were used once and then destroyed. The result was an

*Lamphere, who now works for the John Hancock Mutual Life Insurance Co. in Boston, has been trying for two years to publish a book about the case—with the intention of laying to rest charges that the Rosenbergs were framed. But the National Security Agency has been trying to persuade him not to divulge the code break. When he heard that NEWSWEEK's David C. Martin was about to disclose it in his new book on the CIA, "Wilderness of Mirrors" (Harper & Row, 236 pages, \$12.50), which is being published this week, Lamphere decided to show his manuscript to NEWSWEEK.

infinite variety of combinations that could be cracked only if cryptanalysts had both the code book and the onetime pad.

U.S. code breakers would have been stymied. But the Soviets had made a blunder. In 1944, they had sent out duplicate sets of additives to both KGB agents and commercial representatives of the Soviet Government Purchasing Commission. Before long, the FBI had obtained a treasure trove of documents stolen from the purchasing commission's New York offices; included in the haul were the plain-text versions of enciphered messages that had previously been intercepted by U.S. authorities. With three parts of the puzzle in their possession—the code-book remnants, the encrypted messages and the plain text of those messages—U.S. cryptanalysts could then figure out the value of the additives.

Approach: The job was a tedious one, and it wasn't until the spring of 1948 that the FBI began to get results. One of the first messages to be deciphered was a 1944 report by a KGB agent in New York that an unnamed Soviet spy had approached a Navy Department employee named Max Elitcher and an engineer named Joel Barr in an effort to get them to start feeding information to the Soviets. The FBI put Elitcher and Barr under investigation, but the bureau learned nothing of interest.

The next year, however, in the summer of 1949, cryptanalysts read another KGB message that turned out to be a verbatim copy of a top-secret report written by British scientist Klaus Fuchs while he was part of the team working on the Manhattan Project at Los Alamos. Interrogated by British authorities, Fuchs confessed that he had been spying for the Russians, and he named Philadelphia chemist Harry Gold as his contact man. In turn, Gold led the FBI to David Greenglass, a U.S. Army machin-

ist who had worked at Los Alamos—and Greenglass fingered his brother-in-law, Julius Rosenberg, as the leader of the spy ring.

Rosenberg denied working for the KGB. But it turned out that he had gone to college with the two men mentioned in the 1944 KGB messages—Elitcher and Barr. Barr had disappeared, but Elitcher admitted that Rosenberg had asked him to spy for the Russians in 1944. Rosenberg conceded that he had visited Elitcher in 1944, but insisted he was only an old school chum. The decoded message supported Elitcher's version by placing a Soviet spy at his house at the same time Rosenberg admitted being there. Similarly, another KGB message supported testimony by Greenglass that Rosenberg had told him that Barr was one of his espionage contacts. The decoded messages didn't prove that Rosenberg was a spy, but they did draw the circumstantial net around him tightly enough to convince U.S. authorities of his guilt.

Rosenberg never knew about the incriminating messages. And the government, with the evidence from Greenglass and others in hand, did not need to introduce the deciphered messages at the trial and did not want the Soviets to know the code had been broken. But it now seems that the KGB had learned of the breach almost immediately. Kim Philby—the British double agent, who currently lives in Moscow—was the British liaison with the CIA and FBI in Washington at the time, and he received copies of deciphered KGB messages. "He used to sit across from me in FBI headquarters and discuss some of the information from this source," says Lamphere. In any case, the Soviet Union changed its entire cipher system in 1948.

'Mole': On the basis of the 1944 and 1945 KGB messages they were able to read, U.S. counterintelligence agents drew a bead not only on Fuchs and the Rosenbergs, but on a number of other spies as well—among them Philby himself and Donald Maclean, who served as second secretary in the British Embassy in Washington in the late 1940s. They also learned from a deciphered 1945 message that the Soviets had a spy in the American delegation to the Yalta Conference; the message gave no hint as to who the "mole" might be, but one member of that delegation was Alger Hiss, who had been accused of espionage.

For all its detail, the disclosure of the 30-year-old code break is not likely to settle the Rosenberg controversy. The questions of whether the Rosenbergs received a fair trial—and whether execution was the appropriate penalty for their crimes—will continue to be debated. But the story of the broken cipher unquestionably strengthens the case against the Rosenbergs—and adds a bit of luster to the reputation of the nation's counterintelligence forces.

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in Washington