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(U) Cryptologic Almanac 50th Anniversary Series

(U) POLYGLOT: The Meredith Gardner Story

(U) The photograph may look "unreal" to today's viewers, but it, like many others taken during World War II at Arlington Hall Station, reflected wartime realities. The picture displays a spacious room with a large number of women sitting around tables, busily employed with their paperwork; in a corner of the room sits one male, wearing a dark suit, the only member of his sex in sight.

(U) Reproduced in many recent books about codebreaking, the photograph shows a frozen moment in the wartime service of Meredith Gardner.

(U) Meredith Gardner, who died on 9 August 2002 at the age of 89 (he was born in 1912 in Okalona, Mississippi), did valuable translation work in World War II, but he is today remembered as the cryptolinguist who changed the history of the nation with his high achievements on a project known by its postwar codename, VENONA.

(U) After the United States entered World War II, the Army and Navy cryptologic services expanded rapidly. In accord with the slogan "Free a man to fight," both services recruited thousands of women, some for uniformed duty, some as civilian employees. The cryptologic services also recruited men who were ineligible for military service. Among those who came to the Army's Arlington Hall was Meredith Gardner.

(U) Gardner could read Spanish, French, Russian, Lithuanian, Sanskrit, and -- most important for Arlington Hall -- had a master's degree in German. While at the University of Texas, he had taken private tutoring in Russian and Hebrew. He taught German and Spanish at the University of Akron for two years until, in 1942, one of the university officials suggested that the Army would be able to use his language skills.

(U) When he made some inquiries, the Army sent him test materials and a short course in cryptanalysis -- this was one method the Army used to recruit for its communications intelligence unit. Gardner received an offer from the Signal Intelligence Service, and reported for duty on June 15, 1942. After working on German materials for some time, Gardner learned of a need for more Japanese linguists, and arranged to attend the language school set up at the SIS's Arlington Hall Station.

(U) When the war ended and he was thinking about studying Chinese, Gardner was invited

to work on the Russian problem. In January 1946 he was assigned to work on what later came to be known as VENONA, and spent most of the next twenty-seven years on one aspect or another of this project.

(U) The VENONA project actually began during World War II and continued into the postwar period. The United States, needing information about Moscow's diplomatic policy that the secretive Soviets would not share even with their wartime ally, began to analyze traffic that was believed to be diplomatic correspondence to and from Moscow.

(U) Analysts at Arlington Hall soon discovered that these Soviet messages were codebook-based, but that codebook values had been superenciphered using a one-time pad -- theoretically unbreakable. However, capitalizing on a Soviet error, the Army cryptanalysts found a way to discover the underlying codebook values for portions of the messages. Once that had been done, cryptolinguists needed to winkle out what those codebook values represented in the Russian language. Finally, they had to translate the Russian text into English.

(U) Meredith Gardner and some colleagues were tasked with these last two stages.

(U) Gardner credits two women, Alice Joys and Marie Meyer, with making the first recoveries of codebook values for the Soviet messages. He himself went on to make some important recoveries and to discover the nature of the messages.

(U) The earliest recoveries were numbers, dates, punctuation, and common words such as prepositions. By late 1946, however, Gardner made a key discovery: the "spell table" used in messages to encrypt proper nouns for which no single codebook entry was available. The third message Gardner "solved" was little more than a list of non-Russian names, but it was startling in its subject matter. The names were a roster of atomic scientists, including many who had worked on the Anglo-American atomic bomb project during World War II.

(U) Gardner's discovery enabled him to make enough recoveries to begin reading some messages. He discovered that the Soviet diplomatic service was not the only communicant using this system; three Soviet espionage organizations were also using it.

(U) Although most messages were incomplete, due both to the inability to cryptanalyze portions of text and the slow process of codebook recovery, Gardner began to issue translations where possible. Until a project codename was assigned (JADE, DRUG, then VENONA), the translations were known simply as the "Gardner material."

(U) In the summer of 1946, with enough recoveries to understand the high importance of the material, Gardner wrote "Special Report #1," which was distributed to seniors at Arlington Hall. This report, including samples of translations, convinced seniors in the

Army Security Agency to proceed with the project and to take it to their seniors.

(U) At the highest levels of the Army, a decision was made to clear some individuals at the FBI for the decrypted espionage messages. This was done, and, in addition to the higher-ups, a working-level liaison officer was selected.

(U) Gardner worked closely with the FBI liaison to Arlington Hall, Robert Lamphere. While VENONA decrypts were an invaluable tool for FBI investigations, this was a two-way street -- FBI information on the progress of some investigations, including copies of relevant documents stolen from U.S. sources, helped Gardner and his colleagues make further recoveries from the original Soviet codebook.

(U) Except for an assignment to GCHQ in 1955, Gardner continued to work at VENONA as a "bookbreaker" for the rest of his career. Over time, he reconstructed the codebook used for the KGB messages and also published a number of formal papers with his analysis of the meaning of passages or the reconstruction of agent covernames.

(U) Gardner understood the importance of his material, but the impact of it first came to him when he passed a newsstand and saw a headline about the arrest of Judith Coplon, a Justice Department employee whose spying first came to light through VENONA decrypts. The execution of Julius and Ethel Rosenberg in June 1953 also affected him deeply, since VENONA messages had provided the first clues about them. Gardner knew that VENONA messages clearly showed Julius's guilt, but indicated that Ethel only "knew" about her husband's secret work. "I thought it a great tragedy, it depressed me greatly," he recalled decades later.

(U) Meredith Gardner retired in the early 1970s. Among other activities in retirement, Gardner would meet on frequent evenings with other retired NSA linguists to translate the Latin classics.

(U) The British author of the controversial memoir *Spycatcher* remembered Meredith Gardner's visit to Great Britain. "He was a quiet, scholarly man, entirely unaware of the awe in which he was held by other cryptanalysts."

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