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Cryptologic Almanac 50th Anniversary Series

Dorothy Toplitzky Blum: A Pioneer Computer Scientist

(U) Considered one of the most outstanding women of her time in the federal government, Dorothy Toplitzky Blum significantly changed the way NSA did cryptanalysis. As a technical expert, she was a pioneer in the use of computers to manipulate and automatically process data. Later, as a manager, she showed a great deal of empathy for her subordinates and worked to enhance the careers of everyone in her organization, no matter how junior. Those who recall Dottie Blum usually mention her sincere interest in people even before her technical gifts.

(U) Blum was born in New York City in 1924. After earning a bachelor's degree from Brooklyn College, she joined the Army's wartime cryptologic organization in 1944. She remained in the codebreaking business after the war, moving to the Armed Forces Security Agency and then to NSA as the U.S. cryptologic organization evolved.

(S) NSA in the 1950s had already made a significant investment in machines to assist in data analysis. By this time, Blum's professional interests had expanded from traditional cryptanalysis into adapting computer technology for cryptanalytic applications. During the 1950s, she was a member of the organization that was tasked to "keep abreast of the latest advances in the field of computing," both in hardware and software. She also was responsible for recommending the application of these technologies to COMINT. Blum significantly contributed to this goal.

(S) She was involved with the development of what we would now call special- purpose devices, ███ She was aware of the computer language FORTRAN at least three years before it became publicly available in 1957. She was one of the pioneers in writing computer software at NSA and during the mid-1950s led the effort to recruit Agency employees to learn how to program cryptanalytic techniques.

(U) Blum continued in the computer science field for the rest of her career at NSA, significantly shaping the architecture of computer systems and automation of processes at the Agency. She was appointed chief of C7, the Computer Operations Organization, in

1972 and at that time was the only woman in the entire C7 management chain. Blum successfully worked to resolve a myriad of formal complaints and issues brought by frustrated employees and to advance their careers. In 1977, she became chief of T4, the Plans and Project Development Organization in the Telecommunications and Computer Services Organization, a position she held until her death from cancer in October 1980. Throughout her years in management, Blum was well known for her "sincere, personal interest in people and ... for the astute and effective career guidance and counseling she gave many Agency employees."

(U) Dorothy Blum was also a leader in the WIN organization, at the time called Women In NSA, holding the office of member-at-large and serving as a member of the Legal Defense Committee. In 1983, WIN established the Dorothy T. Blum Award for excellence in employee personal and professional development in her honor.

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