William Friedman Dies; Broke Japanese Code

William F. Friedman, 79, one of the world's leading experts on secret codes, died yesterday at his home, 310 2nd St. SE, after a long illness.

A retired Army lieutenant colonel, he was the leader of the task force which cracked the Japanese "Purple Code" shortly before the United States entered World War II. His part in breaking that and other codes was credited by experts with saving millions of American lives by shortening the war.

Col. Friedman was born in Kishinev, Russia, and moved to the United States with his family when he was 2. He grew up in Pittsburgh and was graduated from Cornell University in 1914.

Assistant at Cornell

From 1913 to 1919 he was an assistant in the Cornell department of genetics.

Also during that time he was a field assistant with the Carnegie Institute experimental evolution station.

From 1915 to 1918 he was director of the department of genetics at Riverbank Laboratories in Geneva, Ill. It was there that he developed his interest in codes.

He served in Army intelligence during World War I. In 1921 he was asked to return to duty to help with code work for six months. However, he remained in service until 1931.

Col. Friedman was chief cryptanalyst with the old War Department from 1931 to 1937, chief of the Signal Intelligence Service from 1938 to 1940 and director of communications research with the Army Security Agency from 1940 to 1945. He was also chief of the technical division of the Armed Forces Security Agency in the late 1940s and later served as chief technical consultant.

In the 1950s he also was a special assistant to the director of the National Security Agency and since 1956 had been a cryptologic consultant with the Defense Department.

WILLIAM F. FRIEDMAN

Col. Friedman became interested in codes after he met a young woman, Elizabeth Smith, who had been employed to try to find out whether Francis Bacon had written Shakespeare's plays as some critics had contended.

They were married in 1917. During World War I he deciphered a code which the British government had claimed was sound and planned to adopt. However, Col. Friedman, with little difficulty, solved the opening line given to him: "This cipher is absolutely decipherable.

After the Navy had uncovered the Japanese code, Col. Friedman served as the Signal Intelligence Service's principal cryptanalyst, concentrating strictly on solving the code. He worked with a staff of 19 for about two years before making a major breakthrough in reconstructing the Japanese "Purple Code" machine.

In September, 1940, the first fully intelligible, ungarbled text of Japanese was recovered by the Americans from the reconstructed machine.

The cracking of the code, which was used by the Japanese for transmission of secret diplomatic messages, has been called "the most remarkable episode in the history of American cryptography." After the code was broken, Col. Friedman collapsed under the stress and was hospitalized for several months.

One of the few men to receive both the Medal for Merit and the National Security Medal, Col. Friedman also received the War Department Commendation for Exceptional Civilian Service. In 1956 he was awarded $100,000 by Congress for his inventions in military cryptography.

Because of the highly secret nature of his inventions they could not be patented.

Col. Friedman and his wife finished a book on the Bacon-Shakespeare theory which won the $1,000 Pol Roger Library contest for literature in 1955. It was published in 1957 as "The Shakespearean Cipher Examined."

Mrs. Friedman, continuing her work in crytography, was selected to establish the system of secret communications for the International Monetary Fund. She also was a consultant to the IMF and for many years was in charge of cryptography for the Treasury Department.

"It's My Duty"

Although he had officially retired, Col. Friedman continued as a consultant. "Why retire?" he said. "What should anyone retire to? I'm able to walk and to talk and to sit and stand and think, and as long as the department can use me, I think it's my duty as a citizen to stay on the job."

Besides his wife, he leaves a son, John B., of Boston; a daughter, Mrs. Barbara Atchison, who is traveling in Europe; a sister, Mrs. Elizabeth Schien, of Long Island, N.Y.; a brother, Max, of Wilkes-Barre, Pa., and four grandchildren.

Services will be at 11 a.m. Wednesday in the Ft. Myer Chapel, with burial in Arlington Cemetery.

The family requests that expressions of sympathy be in the form of contributions to the Heart Association.