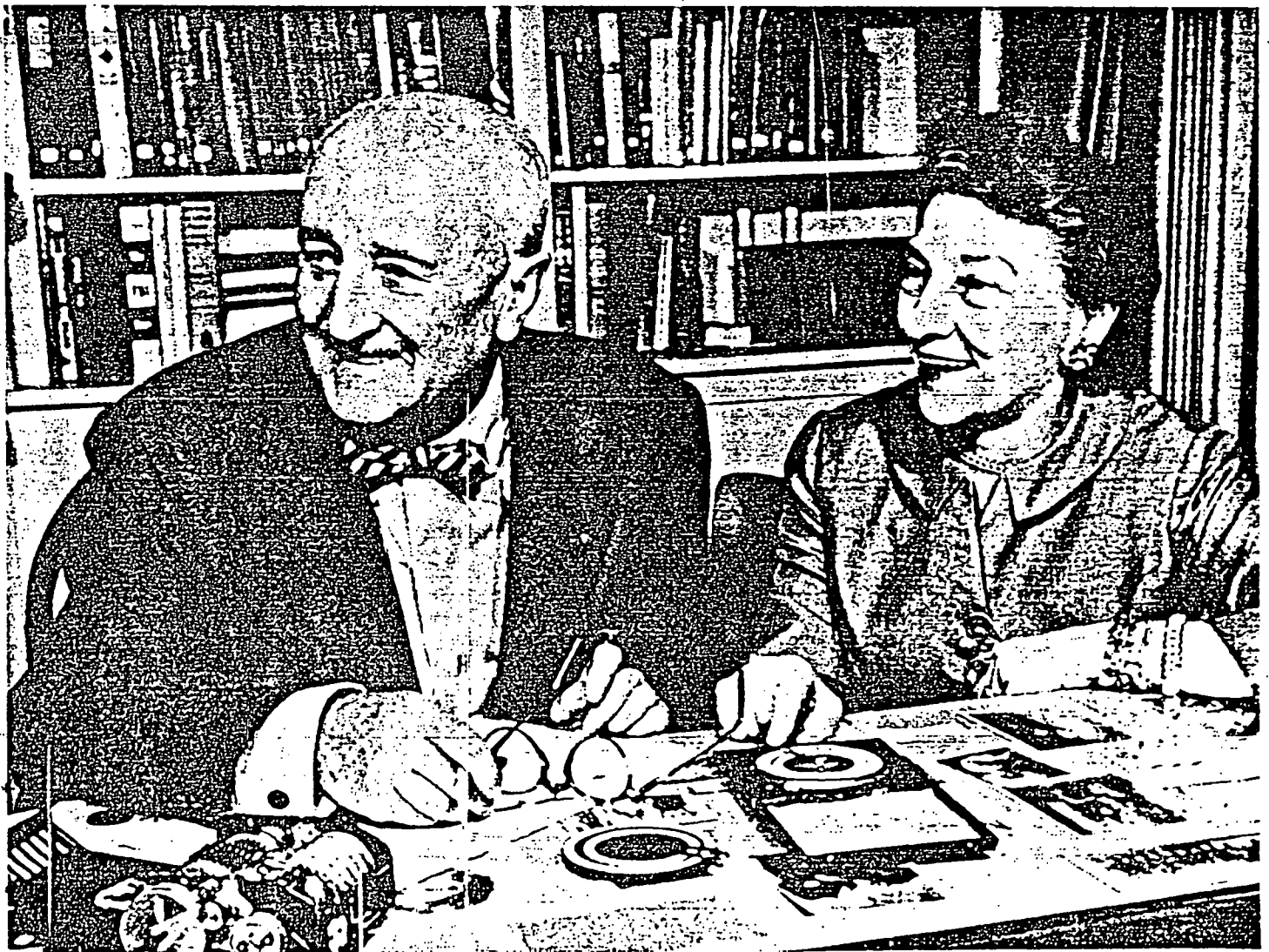


GEORGE C. MARSHALL  
RESEARCH  
LIBRARY  
NEWSLETTER

The  
City  
CC

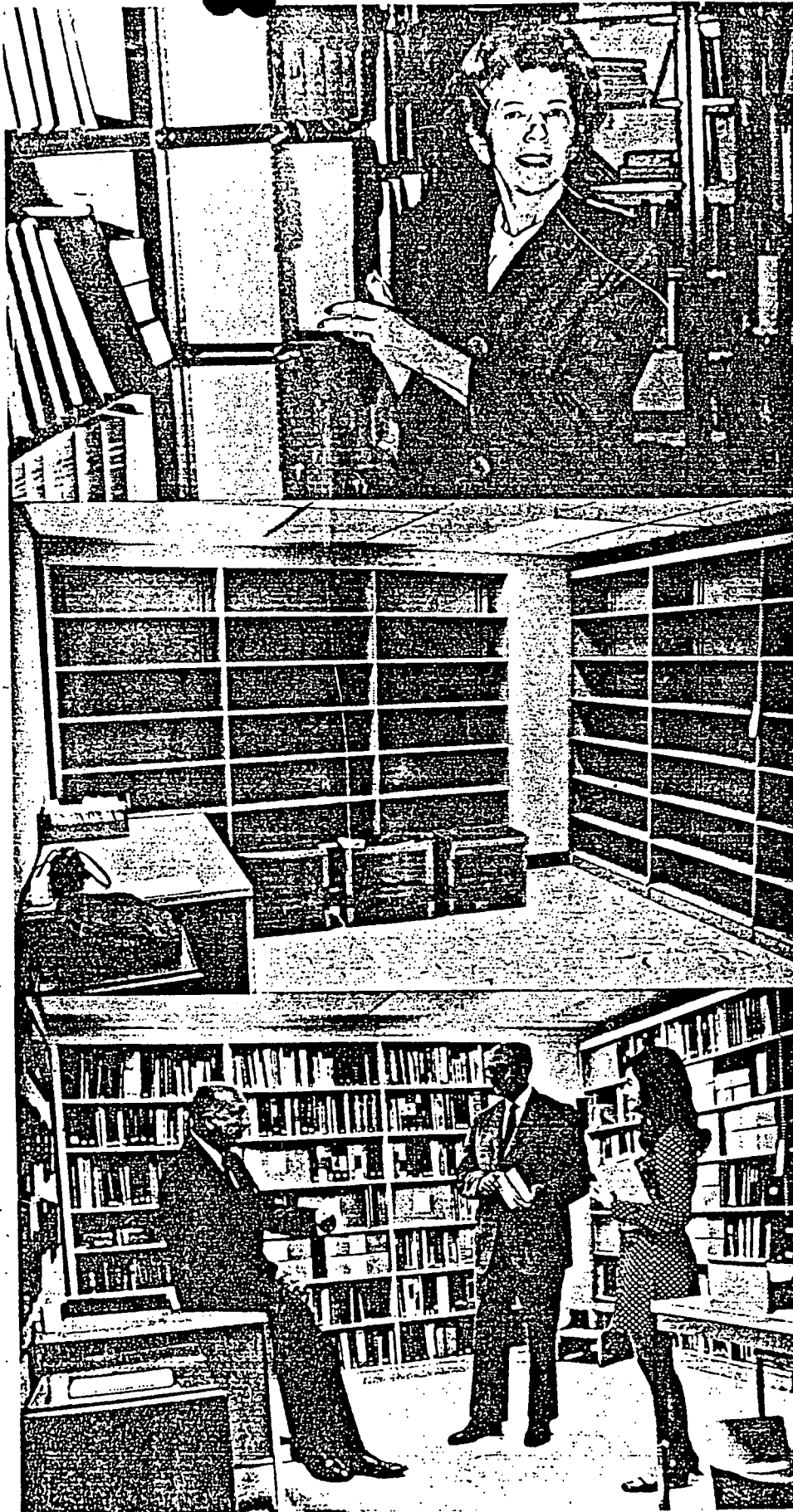
Volume IX, Number 3, Lexington, Virginia / Spring, 1971

# FRIEDMAN CRYPTOLOGIC COLLECTION GIVEN TO MARSHALL LIBRARY



WALLACE BENNETT 1957

Colonel and Mrs. William F. Friedman in the library of their Washington home. In the foreground are some of the unique cryptographic devices in their Collection.



Miss Eugenia Lejeune (top) who died in March, 1971, reviewed the material with the Friedmans to determine the space required for the Collection. In February, 1971, Miss Lejeune equipped a special room (center) to house the Collection. Three months later, Lieutenant General Marshall S. Carter, Foundation President, and Dr. Forrest C. Pogue, Director, examine the Collection with Mrs. Nan Pascal, Library Research Assistant.

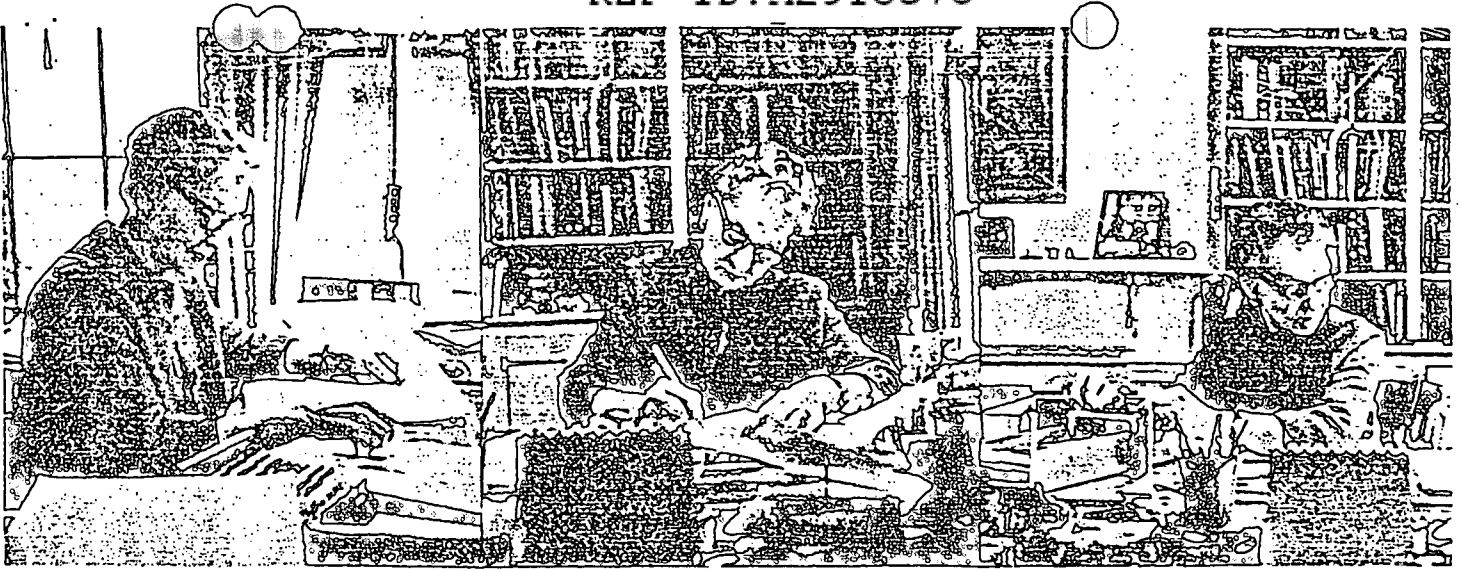
One of the most important and extensive private collections of cryptologic material in the world has been given to the Marshall Library. The gift was made by the late Lieutenant Colonel William F. Friedman, who died in 1969, and Mrs. Friedman, of Washington, D.C. Colonel Friedman and his wife have been widely acclaimed in the field of cryptology since World War I.

The Friedman Collection "will be a tremendous addition to the Library's holdings," stated Lieutenant General Marshall S. Carter, Foundation president and Director of the National Security Agency from 1965 to 1969. "We are deeply indebted to Colonel and Mrs. Friedman for their thoughtfulness in deciding to house this Collection with the papers of the World War II Chief of Staff."

Approximately three thousand items are in the Friedman Collection, now being prepared for the use of researchers in the field. These range from Colonel Friedman's first publications in the cryptographic field in 1916 and papers allied with their assignments for the U.S. Government to books in various languages, pamphlets, technical papers, periodicals, microfilm, slides and newspaper clippings.

For almost half a century Colonel Friedman was regarded as this country's most eminent cryptologist. In Congressional hearings on the Pearl Harbor attack, Mr. Friedman was identified as leader of the group of U.S. Army cryptologists who solved the Japanese diplomatic cipher and built a machine which automatically deciphered these important communications. For his wartime work he was awarded the highest civilian honors given by the government. In 1944 he received the War Department's Commendation for Exceptional Civilian Service; in 1946 the Medal for Merit; and in 1955, the National Security Medal for "distinguished achievements in national intelligence work." In a rare action, the U.S. Congress in 1956 awarded him \$100,000 as partial compensation for the commercial rights of his inventions held secret by the Government. In testimony before Congress, General Marshall said that the work of the organization Colonel Friedman directed "contributed greatly to victory and tremendously to the saving of American lives."

Born in Kishinev, Russia, on September 24, 1891, William Frederick Friedman was brought by his family to Pittsburgh in 1893, where he became a naturalized citizen. After graduating from Cornell University with a degree in genetics, Colonel



Mrs. Friedman continued the work begun by her husband of annotating each item in the Collection, adding invaluable depth to the material.

Friedman served as director of genetics research at Riverbank Laboratories in Geneva, Illinois. While there he met Miss Elizebeth Smith, who became the future Mrs. Friedman. Miss Smith was conducting research on the claim that Sir Francis Bacon had written the works of Shakespeare.

Riverbank was a privately owned facility where research projects were conducted in many areas, including the science of cryptology. The director of Riverbank, Colonel George Fabyan, was interested in the cryptological evidence that Bacon had written the plays of Shakespeare. Mr. Friedman became interested in the controversy and his talents were diverted from genetics to cryptology.

Before war broke out in 1917, Riverbank Laboratories volunteered the services of its unique group of cryptographic personnel, including Mr. and Mrs. Friedman, who trained the first class of Army cryptographers, to the U.S. Government. During World War I, Lieutenant Friedman served in Army intelligence. In 1921 his long government career began with the Signal Corps. He was chief cryptanalyst with the War Department from 1921 to 1947 when he became chief cryptologist for the Department of Defense. In the 1950's he was also a special assistant to the director of the National Security Agency, and from 1955, until his death in 1969, he served as a consultant for the Defense Department.

While her husband was working for the War Department, Mrs. Friedman was employed by the Treasury Department as a code and cipher expert unscrambling those used by rum-runners during Prohibition. Her skills also led to the capture of smugglers and the break up of opium smuggling rings. She was selected to establish cryptographic communica-

tions for the International Monetary Fund, and also served the IMF as a consultant. From 1924 to 1942 she was chief of the Treasury Department's cryptographic section, and a research analyst with the Navy Department from 1942 to 1946.

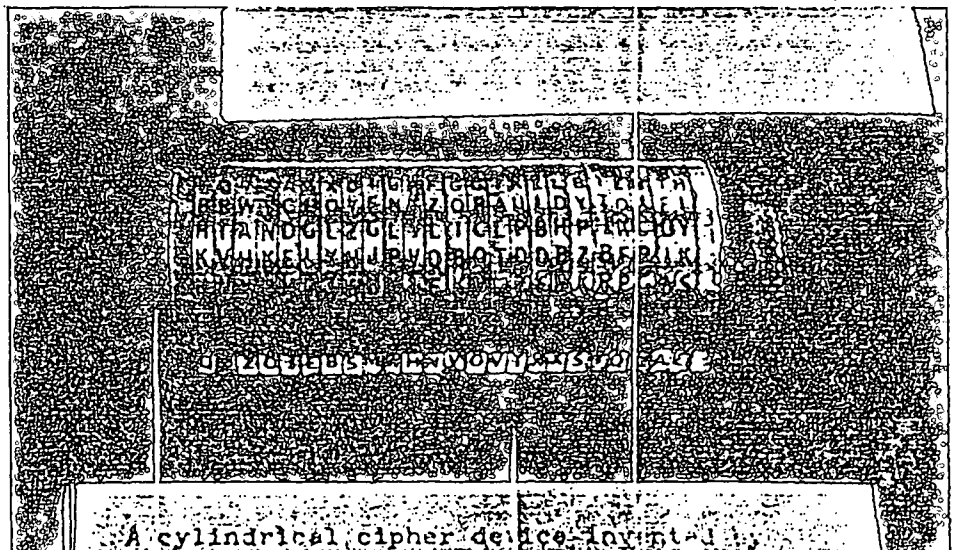
The Friedmans' interests were not limited to their government work. They continued their study of the Bacon-Shakespeare question, and after several years concluded that there exists no proof that the author was other than Shakespeare. Their "The Cryptologist Looks at Shakespeare" was awarded the \$1,000 Folger Shakespeare Library Award in 1955 and was published by the Cambridge University Press as *The Shakespearean Ciphers Examined* in 1957. The next year they won the fifth annual award of the Shakespeare Festival Theatre and Academy. Other works in the area of cryptology in literary works by the Friedmans include "Acrostics, Anagrams and Chaucer" in 1959 and a study of acrostics claimed to have

been found in medieval French poems.

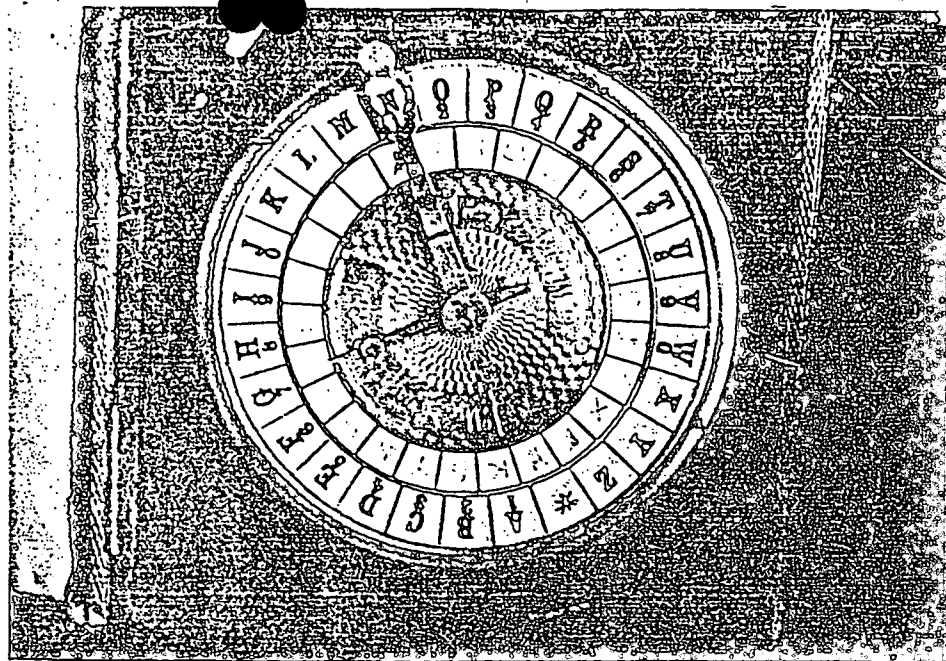
The Friedmans were also interested in archaeology and many archaeological subjects are represented in the Collection. Among these are: the runes of Europe and Scandinavia, Linear A and B of Crete, Stonehenge and Easter Island. The development of Western civilization is studied through the Aztecs, Incas and some North American Indians; however, the largest amount of material is about Mayan culture. Color reproductions of the three remaining Maya codices are in the Collection. There are technical papers on the Mayas as well as highly readable accounts of their daily lives. The archaeological section of the Collection is smaller than the other sections, but its contents have been chosen with care.

In the Friedman Collection there are also several hundred items relating to cryptography, cryptanalysis, secret writing and signalling, radar, telephony and telegraphy.

To supplement the technical side of



A cylindrical device used briefly by the U.S. Signal Corps.



An example of the Wheatstone Cryptogram invented in 1875.

cryptography, the Collection contains fictional works whose plots involve spies and codes as well as popular books on cryptographic games for children and a set of the official publications of the American Cryptogram Association.

The Friedmans also gave the Library valuable code books used by the Union Army during the Civil War and rare books on the subject of cryptography dating from the 1500's.

There is a large amount of material concerning Pearl Harbor and the controversy over who was to blame for the "day of infamy". Colonel Friedman included in the collection everything he could find in print on the Pearl Harbor debate.

Of particular interest also is a copy of the Voynich Manuscript which has been the subject of intense research for some years. Thought by some to be the work of Roger Bacon, the English medieval monk and scientist, the manuscript has never been deciphered. Colonel Friedman and many others have attempted a solution, including the late Father Theodore C. Petersen of Catholic University, Washington. Father Petersen copied the unusual illustrations and text and spent much of his free time working on a solution. He still had not succeeded at the time of his death, but his workbooks and his color copies of the manuscript bequeathed to the Friedman Collection should be valuable to scholars in this field.

The correspondence between the Friedmans and their associates provides valuable background for the Collection. Their broad interests are reflected in the correspondence concerning each of the three main

areas of the Collection: cryptography, literature and archaeology.

In the area of literature the works of James Joyce and Gertrude Stein are prominent. Colonel Friedman believed that the works of the authors composing the "cult of unintelligibility" were really of a cryptographic nature since the authors deliberately attempted to conceal their true meanings. This Collection also includes examples of the personal shorthand codes used by Samuel Pepys, Benjamin Franklin and William Byrd.

Although after years of study, the Friedmans confirmed William Shakespeare's authorship, they have included in the Collection books and essays representative of the other major viewpoints.

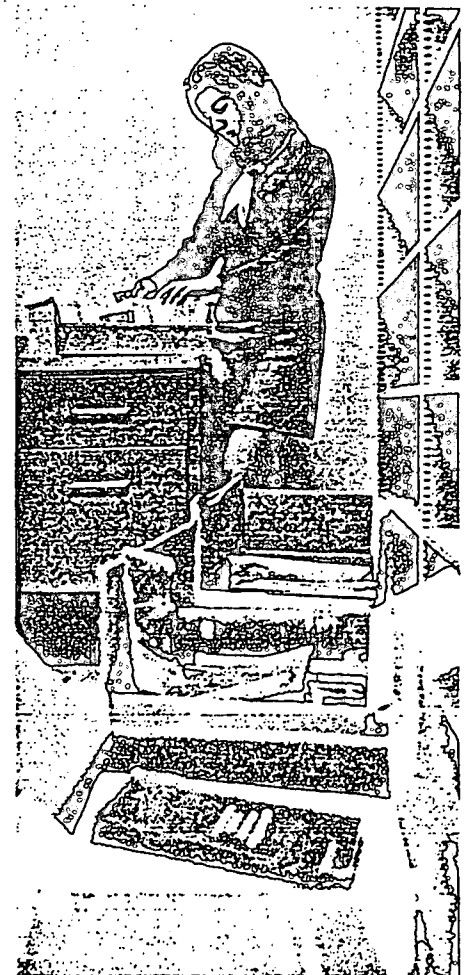
Dr. Forrest C. Pogue, Marshall Library director, said that several years before his death, Colonel Friedman become interested in the work of the George C. Marshall Research Foundation and decided that he wanted his collection to go to the Marshall Library. Initially making contact with Dr. Pogue, he corresponded or talked with General Omar Bradley and General Marshall Carter, Foundation officials, concerning the deposit of the collection at Lexington. At Dr. Pogue's direction, Miss Eugenia Lejeune, archivist-librarian of the Foundation, went carefully through the collection with Colonel and Mrs. Friedman, and then the Director arranged for part-time assistance to the Friedmans in the typing of annotated cards which Colonel Friedman made over a three or four year period. After his death, Mrs. Friedman continued this activity, adding to an already valuable col-

lection. Additional important information.

From 1965, when his first contacts were made with Dr. Pogue, until a short time before his death, Colonel Friedman talked at considerable length with the Director about his cryptographic work. The Colonel also arranged for other valuable papers to be given to the Marshall Library. One of the more interesting was the donation of the diaries for the years 1918-1926 of the inventor, Gilbert S. Vernam, which were given to the Library by Mrs. Ruth V. Nielssen, daughter of the diarist, through the aid of Colonel Friedman and Mr. R. D. Parker, former director of research for the American Telephone and Telegraph Company.

The Marshall Library is extremely fortunate to receive the extensive Friedman Collection. Once the material has been integrated with the Library's holdings, it will become a most important addition to the vast and growing research facilities.

Access to the Collection will be restricted for a period; inquiries should be made in writing to the Director, George C. Marshall Research Library, Drawer 920, Lexington, Virginia 24450. □



Mrs. Pascal organizing the Collection.