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1921 - SPSIS 311.5

Resume of Work of the Code and Cipher Section

1. Division Field Code No . 7 - prepared in ms., proofread, printed.

2. New code - "The General Address and Signature Code" was prepared, mimeographed, and distributed. To be used in abbreviating all addresses and signatures of radio messages handled by radio stations of the Army and certain stations of the Navy. Its use will facilitate traffic. Effective 1 November.

3. Army Field Code: vocabulary and code groups prepared. Ms. in preparation for printing. "It will be a code approximately three times the size of the Division Field Codes" - to be used for tactical field messages between units from Division upward.

4. Training Pamphlet 163 - Elements of Cryptanalysis written and now in press. To be standard text for instruction of signal officers in code and cipher work. Mr. Friedman at that time gave a two week course annually at the Signal School, Camp Vail.

5. Special code for airplane communication with ground stations in fire control and general reconnaissance work prepared. Being tested by units of VIII Corps Area, Hawaiian and Philippine Depts.

6. General method of solving so-called "Double Transposition Cipher", heretofore considered by all experts to be indecipherable, was devised and tested. 15 messages in as many different keys were solved.

7. By direction of Joint Board, a cipher for secret communication between Army and Navy was to be prepared. New cipher devised by W. F. Friedman approved by War and Navy Dept. "It requires only pencil and paper and is considered to be absolutely indecipherable without a knowledge of the key word, even though all the details of operating the cipher may be known to the enemy."

8. Many cipher systems and several cipher machines submitted by inventors examined and all rejected since they did not meet requirements regarding practicability and secrecy "an extremely ingenious electrical cipher machine is now being studied jointly with the Code and Signal Section " of Navy. Friedman directing investigation and Navy providing personnel for detailed work such as preparation of messages, tables, etc. "The results of my studies

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so far seem to indicate that the messages produced by the machine are not nearly as secure as formerly believed by the Navy Department."

9. Study of telegraph alphabets in connection with Gen. Squier's new method of transmitting the alphabet. Aim to see whether certain fundamental changes in symbols will bring telegraph alphabet more in harmony with the requirements and results of modern traffic experience.

10. "Some time has been devoted to the general problem of speeding up the methods of secret communication by the use of telegraph machines to which cipher devices may be applied. This is the coming development in cryptography".

W. F. Friedman
Cryptanalyst, Signal Corps

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