

SRH-035

HISTORY
OF THE
SPECIAL BRANCH,
MIS, WAR DEPARTMENT
1942 - 1944

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by Director, NSA/Chief, CSS

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History of the Special Branch. MIS

I. Introduction.

When the United States entered World War II, it had made a haphazard beginning in the field of signal intelligence. In certain phases of the work--notably the solution of Japanese diplomatic systems--brilliant successes had been scored. But in comparison with the situation at the war's end, exploitation of the field as a whole was in the most elementary stages. Intercept facilities were extremely limited; arrangements for transmitting material from the point of intercept to the cryptanalytic center were hit or miss; cryptanalysis had been carried on successfully only in certain narrow fields, and--at least in the Army--methods of getting intelligence from the traffic short of reading it were undeveloped; there was a critical shortage of translators; there were neither sufficient personnel nor adequate procedures for studying and checking the translated product to squeeze out of it all useful intelligence obtainable; the method of presenting the derived intelligence to the responsible authorities in Washington was ineffective; and there was no arrangement for getting such intelligence to commanders in the field promptly and in a manner which would ensure security.

More important, because of a division of functions (which had developed Topsy-fashion) between various governmental departments, and a further division--at least within the War Department--between those responsible for intercept, cryptanalysis and translation (the Signal Corps) and those responsible for evaluating, integrating and disseminating

the translated product (G-2),* there was no person or organization having a clear understanding of the entire field, of its tremendous potentialities, and of where the existing deficiencies lay and what could and should be done to overcome them.

That there were important deficiencies, however, was sensed by high authority in the War Department. As a result, a unit which later became Special Branch, MIS, was established to study the problem from the War Department's point of view and to devise methods of exploiting the signal intelligence field to the maximum. The history of Special Branch is to a large extent a record of the Branch's efforts to carry out that mission, its successes and its failures. In addition, it is a record of the development of personnel policies and intelligence methods which were later to be applied throughout MIS in tackling the intelligence job as a whole.

II. Origin, Early Organization and Activities through June 1943.

A. Background: On 7 December 1941 there was no overall directive assigning responsibility among the various government departments in the signal intelligence field. Within the armed services, by tacit or express agreement, responsibility for the interception, analysis,

*G-2 was authorized to establish general policies for the Signal Corps in the signal intelligence field but had no way of taking part in the day-to-day operating problems, or in the decisions which really determined what circuits were to be monitored, what traffic was to be sent to the cryptanalytic center first, what systems were to be attacked first, and how translation priorities were to be arranged. Furthermore, G-2 was not in a position even to inform itself adequately on these problems.

solution and translation of coded communications had been divided as follows: military traffic--Army; naval traffic--Navy; diplomatic traffic--Army and Navy; "clandestine" traffic--Coast Guard. Other government agencies were also taking an interest in the field, including the Federal Bureau of Investigation (which was or claimed to be working with "clandestine" traffic in the Western Hemisphere and was also interested in other kinds of traffic), the Federal Communications Commission and the predecessor of the Office of Strategic Services.

As for the results being obtained from the foregoing activities, the Army Signal Corps was producing no military traffic; the Navy either was producing or was seen to produce some naval traffic, and was conducting fairly extensive traffic analysis of naval communications (i.e., derivation of intelligence short of reading the traffic); and the Army and Navy were turning out a considerable amount of diplomatic traffic (about 300 items per week), with the Army doing most of the work.** The Coast Guard was producing some clandestine traffic. What the other government agencies were turning out, if anything, is not known.

*No precise definition of "clandestine" traffic was ever arrived at. The term was generally understood to include traffic of "undercover" agencies such as the German Abwehr and KGB, which normally passed over non-commercial circuits.

**The Army Signal Corps had made the major contribution in the diplomatic field, namely, the solution of the top-level Japanese diplomatic system.

Of the total translated product turned out by the armed services, the diplomatic traffic was being furnished in full to the War, Navy and State Departments; and the clandestine traffic was being furnished in full to the War and Navy Departments, and at least in part to the State Department and the Federal Bureau of Investigation. Such naval traffic as existed was available in full only to the Navy Department. (The Navy was, however, furnishing to the War Department, for use only on a high level, intelligence summaries prepared on the basis of the naval traffic.) The responsibility for bringing important items from any of the traffic to the attention of the President was being carried by the Navy.

The translated messages available to the War Department consisted, therefore, only of the diplomatic and clandestine traffic. The responsibility for bringing important items in those categories to the attention of the Secretary of War and the top officers of the Army was vested in the Chief of the Far Eastern Section, MIS. The method of handling the material was as follows:

Each day's batch of messages was examined by the Chief of the Far Eastern Section. Those considered not important were put aside for burning; those that were thought important were circulated to the Secretary of War, the Chief of Staff, the Assistant Chief of Staff, GPD, and the Assistant Chief of Staff, G-2. One copy of each circulated item was put into a locked file; the other copies were burned after they had been returned

by the readers. No personnel were assigned to a continuous study of the material; hence very little could be done to put any of it together in connected form, or to correlate it with information from other sources.

The chief of the Far Eastern Section, MIS, having as such a full-time job and limited personnel, could do no more with the messages than carry the important facts in his head. Furthermore, he was able to spend virtually no time checking back with the Signal Corps to determine the accuracy of decryptions and translations; to make sure that Signal Corps decisions as to priorities in interception, transmission from the point of intercept to the cryptanalytic agency, cryptanalysis and translation were being made with full appreciation of intelligence needs; and to assist the Signal Corps by providing information from other sources which would be of help in attacking cryptanalytic problems.

B. Origin of Special Branch: When the sudden attack on Pearl Harbor occurred, it became apparent that the event had been foreshadowed in the Japanese diplomatic traffic in 1941. The Secretary of War then concluded that the traffic had not been given sufficiently close attention, and that some agency should be set up to deal with the material in a more thorough-going fashion than previously had been thought necessary. The Secretary decided that the job ought to be undertaken by a lawyer having a special type of competence and training, such as may be acquired in the handling and presentation of large cases involving complicated facts.

After consulting with the Assistant Secretary about possible candidates, the Secretary decided to offer the assignment to Mr. (now Colonel) Alfred McCormack, then a partner in a prominent New York law firm and one of the outstanding leaders of the New York bar. Mr. McCormack agreed to undertake the job, and took office as a Special Assistant to the Secretary on 19 January 1942.

The Secretary's instructions to Mr. McCormack were, briefly, to study the problem and determine what had to be done in order to expand signal intelligence operations to meet the requirements of the war, and to make sure that all possible useful intelligence was derived from that source. The Secretary emphasized the need for close and continuous study of information derived from the traffic and for piecing such information together in connected form.

Shortly after Mr. McCormack started work, there was set up in the Far Eastern Branch of NIS a section which was to follow the diplomatic material and report intelligence derived therefrom. The Section started the practice of producing a daily summary of the messages, in lieu of circulating the messages themselves. The method of reporting was, however, simply to take what looked interesting on its face and to pass it along in paraphrased form, without any attempt to check or evaluate the information or to integrate it with information from other sources.

Meanwhile Mr. McCormack proceeded with his investigation on a broad basis, looking into intercept and cryptanalytic problems, digging

through the back material and following the current material, and considering methods of producing useful intelligence from the messages and reporting it effectively. At the end of some two months, he had arrived at several fundamental decisions: first, that there was a very large job to be done all along the line; second, that a major effort should be made to expand and improve the operations of the Signal Corps in the radio intelligence field; third, that the whole radio intelligence process, from the intercept operation down through the issuance of a finished intelligence report, presented so many interrelated priority problems that it could be carried out more effectively if considered as an intelligence operation throughout and placed under the operational control of G-2; fourth, that the individual messages arriving at G-2 were far from finished intelligence, and that to exploit the source properly it was necessary to consider the individual messages together with related messages and all available information from other sources, to run down clues appearing in the messages in order to dig out information which was not apparent on first reading, to check back on obscure points with the Signal Corps, to determine then whether the item added anything of real significance, and to report any significant intelligence derived from the message in clear, simple English and in a manner which would bring out its significance, together with any necessary evaluation; and finally, that the intelligence job on the messages could be done effectively only by imaginative persons of absolutely first-class ability and

suitable training, and not simply by any reserve officer or college graduates who happened to be available.

In investigating the intercept and cryptanalytic problem, Mr. McCormack came in contact with Colonel (now Brigadier General) Carter E. Clarke. Colonel Clarke and Mr. McCormack thoroughly discussed all aspects of the problem, and from that to the present their views to the A.C. of So, 0-2, who found himself in agreement. The upshot was that the MIS section then in charge of the signal intelligence material was made the Special Service Branch (soon renamed the Special Branch), with Colonel Clarke as its Chief; shortly thereafter Mr. McCormack was commissioned with the rank of Colonel, and became Deputy Chief of the Branch.

C. Organization and activities of Special Branch through 1943: For the first few months after the organization of Special Branch, Colonel Clarke concentrated on pushing the expansion of Signal Corps activities, on setting up a workable system of priorities, and on the many technical problems that were encountered. He was largely instrumental in inducing the Signal Corps to take a much broader approach to the signal intelligence problem, involving the acquisition and development of a large new headquarters station and important additional intercept stations, and the acquisition and training of additional personnel in numbers reasonably adapted to wartime requirements. Meanwhile Colonel McCormack concentrated on recruiting a suitable staff for the Branch and on the problems involved

in getting intelligence out of the material, devising methods of checking, evaluating and reporting it and of keeping track of it by suitable files and indexes.

By May 1942 a few well-qualified officers and civilians had been assembled and enough work had been done on the traffic to permit a tentative decision as to how the Branch should be organized, and how many persons would be needed within the reasonably foreseeable future to do the job properly.

Of the various possible methods of organizing the Branch, the following was tentatively decided upon:

a. Headquarters. The task of formulating overall policy and administering the Branch should be handled by a small headquarters section consisting of the Chief and Deputy Chief, an executive officer, and suitable assistants.

b. Area sections. The "research" job on the traffic (i.e., studying and keeping track of it, collecting related information from other sources, checking back with the Signal Corps, and doing the spade work on spot reports and long-term studies) should be divided by fairly broad geographic areas. Sections composed of one or more officers or comparable civilians plus clerical assistants should be assigned to follow all the traffic relating to a particular area, and--where sufficient personnel was available--the work should be broken down within the area by subject. There

the traffic bore on a subject related to more than one area, the traffic on that subject should be assigned to the area section in the best position to handle it. (The principal reasons for the foregoing arrangement were that (1) the traffic covered all parts of the world and a great variety of subjects, with new subjects appearing quite frequently; and (2) the subjects appearing in the traffic were in most cases readily divisible by broad geographic areas, whereas in many cases they were not readily divisible from one another.)

c. Reports section. A small reports section should be established to scan all incoming traffic, assign it to area sections, initiate reports and studies to be drafted by the area sections, and check, edit and produce such reports.

It was realized that the foregoing arrangements left a number of functions unprovided for, but the thought was to keep the Branch flexible and to solve the outstanding problems as more personnel became available and more experience was acquired.

As for the number of persons needed to carry out the Branch's mission, an estimate was made of the personnel who would be required in

the near future in the light of (a) the volume of back and current material to be analyzed, (b) the increase in material to be expected as a result of expanded Signal Corps activities, and (c) the fact that it would obviously take a considerable length of time to train personnel to handle the material. The estimate, embodied in a recommendation to the Chief of Staff submitted on 27 May 1942, called for a staff of 59 officers and 85 civilians. On the assumption that that recommendation would be approved, and that as a result there would be some increase in the overall MIB allotment, MIB assigned to the Branch from its outstanding allotment a T/O of 25 officers and 47 civilians, to be increased to 59 officers and 85 civilians on and after 1 September 1942.

Then began a long, time-consuming and wearisome struggle to build a staff adequate to carry out the Branch's mission. One difficulty (although—as it turned out—not a controlling one) was the fact that for over a year G-2 could not get unqualified approval of the T/O it had recommended. (On 7 June 1942 the recommended allotment to the Branch of 59 officers and 85 civilians was approved in principle, but with the proviso that the overall MIB allotment would not be increased.) An additional problem was created by orders arbitrarily limiting the number of officers to be kept on duty in the Military District of Washington, one result of which was to reduce for a time the already inadequate Branch allotment of 25 officers.

Much more serious were the difficulties of getting qualified persons to fill out the authorized T/O. Requirements of ability and training were

set and maintained at the highest level and the security problems inherent in signal intelligence work made it necessary to establish the most exacting loyalty standards. Surveys of the available officers then in the Army produced almost no qualified prospects. There was no official machinery by which the Branch could take on qualified enlisted men. (A few top-flight men were located in the enlisted ranks and brought in by an informal arrangement with the Counter Intelligence Corps, which at that time was in a position to bring in enlisted men.) The Army Specialist Corps failed to attract worthwhile people, and was soon abandoned. The only recourse, therefore, was to commission people directly from civilian life or to offer them a sufficiently attractive civilian position. Efforts to get personnel in those ways, however, ran into a succession of War Department orders and directives severely restricting the commissioning of men directly from civilian life and freezing the hiring of civilian personnel.

In the case of civilian prospects, the problem was further complicated by the unintelligent and uncooperative attitude of the Civil Service Commission (which at no time during the war was able to understand the principal standard being used in selecting personnel, i.e., ability, and whose artificial standards and negative approach to every problem did more to delay—and in some cases prevent—the acquisition of qualified civilian personnel than did any other one factor).

By the end of July, the Branch had succeeded in assembling only 20 officers, 1 enlisted man and 18 civilians. By the following March,

despite continuous efforts to get relief from the various restrictive orders and to find qualified people who could be obtained notwithstanding those orders, the total had risen to only 28 officers and 55 civilians. Nevertheless, the general level of competence in the Branch was of a very high order. The majority of the officers and comparable civilians had been drawn from among the ablest young members of the legal profession. The remainder had come from various walks of life where people with imagination, outstanding intellectual powers and familiarity with research techniques were to be found. Among the latter group were university professors, a theological student, a newspaper editor and an assistant curator of an art museum.

Meanwhile the organization had crystallized to some extent and certain new functions had been assumed. The basic organization, consisting of a small headquarters, a "research" group divided by broad geographical areas, and a small reports section, had been continued. As of March 1943 other sections had been added, as follows:

a. File and Index Sections: To maintain central files of the mounting volume of traffic, a separate section had been established. In addition, a small section was attempting to maintain a central index of the more important material. (The Branch was never able to staff the index section properly, and the problem was later solved by decentralizing the indexing operation and giving the responsibility to the various research sections.)

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b. Biographical Section: At an early date it had been discovered that the traffic contained a considerable amount of biographical information not available from other sources, and that a large amount of biographical information from other sources was needed by the research sections in order to understand the traffic completely. No government agency had built up a complete and workable central index of biographical information, and NIS had not even attempted to bring together in one place such biographical information as was at its disposal. For that reason Special Branch at an early date set up a separate section to record all biographical information obtained from the traffic, and also to keep track of as much information of that nature from other sources as it could handle with the available personnel.

c. Cryptographic Control Section: Because the problems involved in analyzing foreign communications and those encountered in maintaining the security of our own cryptographic systems were closely related, the job of assigning and distributing cryptographic systems to G-2 representatives throughout the world, and of instructing them in the use of those systems, had been given to Special Branch. To carry out that function a Cryptographic Control Section had been established.

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d. Communications Facilities Section: Also because it was a related field, Special Branch had been given the job of formulating policies and plans for G-2 in connection with developments in radio, television, facsimile, wire communications, radar, and radio and radar jamming. To handle that assignment a Communications Facilities Section had been established.

e. Special Assignments: At an early date it had become obvious that Special Branch would have to detail officers to perform certain liaison functions. Because of security considerations, the traffic was not made generally available throughout NIS, and Special Branch had the job of passing on to other branches, in more or less disguised form, information from the traffic which would be of use to them. One officer was detailed on a full-time basis to maintain liaison with the other branches. Much of the diplomatic material was of prime concern to the State Department, and it was important both for the research sections of the Branch and for the Signal Corps to obtain certain kinds of information which was available only in the State Department. Accordingly, an officer was detailed on a full-time basis to maintain contact with the State Department. Of all the liaison functions the most important was that of maintaining direct contact with the Signal Corps. To do that job adequately, a considerable number of officers would have been required, but with the available personnel the Branch was able to assign only one officer to the task.

TOP SECRET-ULTRA

While the Branch was developing as described above, it was at the same time making a certain amount of headway with its mission. By March 1943 the general situation in the signal intelligence field, as it affected the War Department, was as follows:

a. Some progress had been made in clarifying the responsibilities of the various government departments with respect to signal intelligence. A presidential memorandum of provided that all activities in the cryptanalytic field were to be centralized in the War and Navy Departments and the Federal Bureau of Investigation, and that all other government agencies were to discontinue such activities. Meanwhile, on 30 June the War and Navy Departments and the Federal Bureau of Investigation had arrived at an agreement as to their respective responsibilities for cryptanalytic activities. The Army assumed responsibility for the entire diplomatic field, ending the rather awkward arrangement under which the Army and Navy were maintaining separate staffs to do the same kind of work. Military traffic was expressly assigned to the Army and naval traffic to the Navy. The clandestine field was assigned jointly to the Coast Guard and Federal Bureau of Investigation.

The thorough exploitation of commercial traffic was over carried out during the war, principally because the production of intelligence from the diplomatic traffic could alone prove to be a more profitable source of intelligence--especially for the attention of the available personnel.

b. The expansion of Signal Corps activities had begun to pay dividends.

There were also indications that a break might be made into one or more Japanese Army systems; and the Signal Corps had started working on traffic analysis with respect to Japanese Army communications.

g. The research sections of the Special Branch had found out a good deal about handling the traffic from the intelligence point of view. They had learned how easy it was for errors to creep into a message between the time when the author sat down to draft it and the time when the Signal Corps had intercepted, solved and translated it. They had learned how easy it was to draw incorrect inferences when working with fragmentary material. And in many cases they had become familiar with personal idiosyncrasies of the authors of the messages which materially affected the evaluation process. Finally, they had confirmed Col. McCormack's early opinion that, if the traffic were to be fully exploited, it was necessary to bring together all related information available from other sources, and had developed procedures for getting and keeping track of information from other sources on subjects which were likely to appear in the traffic.

d. Considerable progress had been made toward the effective reporting of the intelligence derived from the traffic. The established medium was the "Magic Summary" (later called the "Diplomatic Summary"), a carefully prepared daily publication carrying all the important spot intelligence to be gleaned from each day's batch of messages, together with any necessary background and evaluation, and also the conclusions arrived at from long-range studies of the traffic. The regular readers of the Summary included the top officials in the War Department who formerly had been forced to wade through the messages themselves (the Secretary of War, the Chief of Staff, the Assistant Chief of Staff, OPD, and the Assistant Chief of Staff, G-2); in addition, at the Navy's request a copy was going to the Secretary of the Navy, and at the State Department's request copies were going to the Secretary of State, and to the Assistant Secretary of State who followed signal intelligence.

e. Solid contributions to the intelligence picture had been made in a number of fields. A catalogue of all the intelligence produced will not be attempted, but a few examples may be briefly noted. One of the earliest outstanding successes came in July 1942. At that time, when almost everyone expected Japan to attack Russia, and just after MIS went on record as predicting such an attack at an early date, the Special Branch

concluded from careful study of the diplomatic material that Japan had no intention of attacking Russia, and wanted to keep out of war with her northern neighbor at all costs. (As an indication of the advantages of studying the material in detail, it is worth noting that, when the individual messages which led Special Branch to its conclusion were shown to officers who had not been following the material closely, their reaction was that the messages must be some kind of "plant" devised by a wily oriental mind and that they were to be disregarded.)

Other contributions included the following: (i) Just after the African invasion, the best intelligence about the attitude and intentions of the Spanish Government came from the diplomatic material. (ii) The same source yielded the most accurate and dependable intelligence about the relations between the Japanese Government and its Axis partners and about trade and blockade-running between Axis Europe and the Far East. (iii) From the diplomatic and clandestine traffic in and out of South America, intelligence was produced about

Axis subversive activities, which was of the greatest importance in the handling of the whole South American situation by the United States Government. (iv) Principally on the basis of bits of evidence painstakingly pieced together from the diplomatic material, a beginning was made in

developing intelligence about Japan's economic plans and activities in the Far East, a subject on which almost no other current information was obtainable.

D. Developments from April through June 1943: The period from April through June 1943 was a particularly important one, because it was during that time that the Army finally acquired the full benefit of British experience in the signal intelligence field. Before then, there had been some exchange of cryptanalytic information between the Signal Corps and its British counterpart, but there had been no regular exchange of material for intelligence purposes nor a full understanding of how the British handled the production and dissemination of signal intelligence. In April 1943 Colonel McCormack, accompanied by Colonel Telford Taylor of MIS and Mr. Friedman of the Signal Corps, went to England and made a two months' survey of British signal intelligence operations. That trip produced a great many important results, among which were the following:

a. MIS for the first time became fully aware of the amazing successes achieved by the British in exploiting German military traffic. It was also ascertained that, while much of the intelligence derived from that source was of primary interest to field commanders (who were getting it whether they were British or U.S. officers), much of it was also of interest to the top authorities in the War Department and to researchers

in MIS, and that arrangements for serving the latter customers were wholly inadequate. As described in more detail below, arrangements were ultimately made for participation by U.S. personnel in the British operation on German military traffic, both at the cryptanalytic and intelligence levels, and the translated traffic was made available to Special Branch in Washington and thoroughly processed there from the intelligence point of view.

b.

The British regularly searched for "Reserved Series" into which they would place to be seen by the U.S. representative, and that he be released to him only on the understanding that they never retreated from that position and maintained their position.

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d. It was learned that the British had developed security principles and methods well beyond the point that had been reached in the U.S. Army. For one thing, the British had firmly established the principle that, regardless of temporary advantage, no affirmative action visible to the enemy should be taken on signal intelligence unless information to the same effect could be obtained from

other sources. Another principle was that channels for handling and disseminating signal intelligence must be clearly defined, thoroughly understood by all concerned, and never departed from under any circumstances. Finally, the British had set up an elaborate system for disseminating signal intelligence to field commanders who needed it. Under that system, special officers were attached to the staffs of the commanders, were given special channels for communicating directly with the signal intelligence center, received over those channels all signal intelligence of interest to the commanders they served, and were made responsible for passing signal intelligence to the appropriate authorities and insuring that it was properly used. Those principles and methods were later adopted by the U.S. Army, one important result being the establishment of MIS Special Security Representatives and Special Security Officers on the staffs of theater commanders to receive, pass on, and insure the proper use of signal intelligence. Apart from the improvement in security achieved, it was only through the adoption of such principles and methods that the U.S. Army was able to get full access to the results of the British signal intelligence operations; and adherence to those principles and methods had a great deal to do with persuading the U.S. Navy to make available in full the traffic turned out by it.

g. Finally, it was recognized by both U.S. and British representatives that exploitation of the Japanese military traffic was of prime importance to the prosecution of the war in the Far East. From what was learned in England about the scope of the effort on German military traffic, Special Branch became convinced that a much bigger operation would have to be done on the Japanese military traffic if results were to be obtained; that view was pushed, with results indicated in some detail below. The groundwork was also laid for Anglo-American division of labor with respect to the Japanese military traffic.

Apart from the development of relations with the British, the period April-June 1943 was marked by a notable increase in the amount of intelligence produced by Special Branch. The increase resulted in part from the greater volume and variety of traffic being turned out by the Signal Corps, and in part from improved procedures and greater experience within the Branch. The important intelligence produced during that period included (a) a number of items showing clearly that Germany and Italy intended to fight on to the last in Tunisia rather than to attempt to withdraw, (b) a first-hand account of how Japan proposed to fight the war from then on, indicating clearly that she had no intention of launching any large-scale offensive in the near future, (c)

that central had instructed Admiral Hasegawa to send the French outposts

at Hanoi and (d) that the Japanese had decided to

(e) the fact that the Japanese intended to build a railroad across the Kra Isthmus, (f) an appreciation of the drive by certain Japanese authorities, notably Shigemitsu and Aoki, to revamp Japan's policy in China with the hope of settling the "China Incident" by conciliation, and (g),

III. Organization and Activities July 1943-June 1944.

A. Changes in organization: During the summer and fall of 1943 several developments occurred which led to important changes in the organization of the Branch. For one thing, the Signal Corps finally broke into the Japanese military traffic. That traffic presented so many new problems that a separate section, known as "B Section", was set up to handle it. As already stated, the Special Branch also started receiving German military traffic turned out by the British, and another section, called "C Section", was established to handle that material. In addition, the Branch began setting up, directly under Branch headquarters, the system of MIS Special Security Representatives and Officers to serve field commanders. Meanwhile, the part of the Branch which had been working with the diplomatic and clandestine material was designated as "A Section" and continued to carry on its previous functions.

There follows a discussion of the activities of Sections A, B and C, and of the Special Security Representatives and Officers, up to the time when MIS was reorganized in June 1944.

B. Activities of A Section: From July 1943 on, the traffic handled by A Section continued to increase, both in terms of types, circuits and systems covered, and in terms of total volume. Much of the increase was the result of expanded activities of the Signal Corps

and Coast Guard;

in addition, some naval attaché traffic having a "diplomatic" flavor began to come in from the Navy (the story of the Branch's relations with the Navy is told in some detail later on);

By June 1944, the total number of fully translated messages coming into A Section (including a few plain-text items) was averaging some 1,425 per week,

In addition, the Signal Corps was summarizing each week roughly 900 messages which it did not consider worth translating in full, and the summaries were being processed in A Section.

The research staff of A Section was drawn upon to some extent to build up staffs for sections B and C, but additional personnel were brought in and trained. The net result was a small increase in the number of researchers working directly on the diplomatic, clandestine and commercial traffic.

These developments all had their effect on the intelligence output of the Section. The volume of spot intelligence items being turned out increased considerably. Among such items were: reports of personal interviews with Hitler and Mussolini in which the Axis leaders made statements of great significance about how they intended to prosecute the war, whether they were prepared to make peace with one or another of the Allied

powers, etc.; detailed eyewitness reports by military experts on the state of German defenses in western Europe; equally detailed reports about the damage caused by Allied air attacks in Europe and the Far East; and first-hand intelligence on political matters such as the whereabouts and activities of Spain's Blue Division,

Apart from such spot intelligence, the Section was tracing each major development in a variety of continuing stories such as the evolution of Japanese-Russian relations, Axis blockade-running and attempts at air liaison between Europe and the Far East, the constantly shifting political and economic picture in Indo-China and Thailand, the plans and activities of the Indian and Burmese puppet governments, German-Japanese relations, Spanish cooperation with the Axis in espionage, smuggling, etc., Japanese efforts to make peace with Chungking, and the Vichy Government's plans, activities and relations with the various Axis countries.

Finally, an increasing number of long-range "studies" were being produced. Intelligence developed from such studies included (a) an accurate picture of the circumstances attending Mussolini's downfall and Germany's intention to try to reinstate him, (b) the fact that Japanese budgets for future military expenditures in Thailand and Indo-China were important evidence of Japanese military intentions in these areas, (c) the fact that the Japanese in the fall of 1943 were carrying out heavy movements of troops and supplies overland through Indo-China and Thailand to

reinforce the Burma front, (d) the fact that by October 1943 the reports about Germany's much advertised retaliatory weapons were showing a remarkable consistency in predicting that long-range rockets were to be used, (e)

(f);

and (g) fairly comprehensive analyses of various aspects of Japan's war economy, covering such subjects as rice, pig iron, aluminum, rail transport on the continent, etc.

Not all long-range studies of the traffic produced affirmative results, but in some cases they were nevertheless of use in a negative way. A noteworthy example was an incident which occurred in the fall of 1943. At that time there was a flood of Axis traffic discussing at length certain plans for sabotage and a major uprising by a revolutionary organization in India. An officer in another service who had had little experience in handling the traffic became seriously alarmed by the tenor of the messages, and prepared a memorandum on the subject which ultimately reached the White House. The President was about to bring the matter to the attention of the British Prime Minister, but asked first for G-2's evaluation of the messages. Section A of the Special Branch had been studying the material for some time, and had concluded that in all probability the supposed subversive plot was not authentic. It therefore recommended that the problem should not be taken too seriously until inquiry had been made of British intelligence. Inquiry was made, and it was learned that the whole affair was the product of some

British hocus-pocus, and that no action was required, or even desirable.

In addition to the foregoing developments in the production of intelligence by Section A, important progress had been made in disseminating the intelligence produced to those who needed it. By June 1944 the list of readers of the Magic Summary had been expanded to include the President and his Chief of Staff, the Commander-in-Chief of the U.S. Fleet and several of his immediate subordinates, the Commanding General of the Army Air Forces and several of his immediate subordinates, the British representative on the Combined Chiefs of Staff, and several British officials in the Foreign Office and elsewhere. The Summary was also being pouched in whole or in part to Special Security Representatives in each of the theaters engaged in the Japanese war, for the use of the theater commander and other authorized recipients. Finally, where time was a factor, items were being cabled to Special Security Representatives for Dissemination to the appropriate authorities.

C. Activities of B Section: When the United States entered the war, no Japanese Army cryptographic systems were being read and no experience with high level Japanese Army communications had been accumulated. After the war began the Assistant Chief of Staff, G-2 placed Japanese high level military systems in the first priority for work of the Signal Security Agency. In the spring of 1942, an expansion program of the Signal Security Agency provided personnel for the work, and the development of intercept facilities was largely directed toward obtaining the necessary coverage of traffic. As soon as Japanese traffic became available in sufficient volume and there was sufficient experience to classify it

according to systems, research work was commenced, and by the spring of 1943 substantial progress had been made. In March of that year the Wireless Experimental Center at New Delhi, made the first break into the Japanese Army high level system (the water transport code). This initial success issued in a period lasting until the end of the war, during which Allied cryptanalytic organizations continuously had some degree of success with one or more of the high level Japanese Army systems.

1. Origin and Early Organization of B Section

The first fragmentary decoded and translated messages in the Water Transport System became available early in June 1943. The Chief of the Branch designated an officer who had previously been engaged upon the diplomatic material to begin study of the new Army material and to establish an organization for producing intelligence from it. Shortly thereafter the staff was augmented by the assignment of one officer and two civilian assistants to initiate work upon Japanese shipping and one officer to initiate a study of the use of traffic analysis. A period of several weeks of intensive study of the material which was then becoming available led to several fundamental conclusions about the methods of handling the material and the organization which would be required. Chief among those conclusions were:

a. While the new material involved many problems similar to those which had been encountered in dealing with the diplomatic material, it raised a host of new problems which required development of completely new techniques. Although the diplomatic material

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often involved great difficulties of translation and resulting possibilities of error, it could normally be expected that the full text of each diplomatic message would be available and that the diplomatic messages, if readable at all, would be readable within a short time after their date of transmission. The different cryptographic methods used by the Japanese Army eliminated both of these factors in the case of the Japanese Army material. The material was extremely fragmentary and, because of the Japanese method of breaking each message into several parts, it was usually the case that only one or a few parts of the message, lacking in context, would be available. In addition, even that part of the text which was available would normally be incomplete, because parts of the texts would not be completely readable. Both of these factors multiplied tremendously the difficulties of translation and the possibilities of erroneous interpretation. Further, it was reasonably clear that the Japanese Army messages would be readable currently only under exceptional circumstances where the basic codebook as well as the enciphering materials had been captured. Current intelligence would therefore have to be produced by projection from material which was weeks or months old.

b. The readable messages would consist chiefly of a multitude of individual orders and reports of movements of individual ships and units. Only comparatively rarely would an Army message contain any broad summary of plans or report of movements or

production of commodities. It would therefore be necessary to produce intelligence by an extremely long and detailed process of recording isolated bits of information and finally compiling the entire collection to permit a sound conclusion. Intelligence thus produced would consist chiefly of conclusions drawn from extremely technical material, difficult of exposition.

c. The Army systems presented the probability that, highly operational information would become available in Washington which would be of direct value to the operational commands. Therefore system had to be established for secure and rapid dissemination to those commands.

d. In the initial stages the Army material offered the hope of deriving sound and timely intelligence on two subjects on which the diplomatic material had been most scanty, namely, the Japanese armed forces and Japanese shipping.

e. Much of the intelligence to be derived from the Army material would have to be obtained not from the texts of the intercepted messages but from an analysis of the significance of many technical phenomena. Traffic analysis, i.e., the study of traffic patterns and all other traffic phenomena, by methods short of cryptanalysis, constituted potentially a very important source of intelligence about the locations and movements of Japanese units.

a study of many technical aspects of the Japanese communications which were not literal texts. For example, changes in the ciphering

2. Personnel

Because of the extremely voluminous and detailed recording, analysis, correlation and checking that was required to derive intelligence from the Army material, it was obvious that large numbers of personnel would be required and, since processing of the information required the greatest ability and discrimination at every stage, extremely high level ability on the part of personnel throughout the organization would be essential. As noted above, a very small cadre for the activation of the section had been obtained from the other parts of Special Branch. The demands for the processing of diplomatic material seriously limited the degree to which this process could be carried further, and recruiting and training of personnel from the beginning became necessary. Because of the danger to security which experience had shown to be caused by turnover of civilian personnel, it was decided that the section should be staffed entirely with military personnel. The difficulties which had been encountered in obtaining qualified male officers, because of many restrictions, such as that barring officers under 28

from Washington, led to a decision to obtain both WAC officers and WAC enlisted women in order to cope with the rapidly growing volume of material.

In July 1943, a request was made for an allotment to the Special Branch of a total of 55 WAC officers and 22 WAC enlisted women to handle the water transport system. Permission to recruit such personnel was obtained late in August but actual recruiting was delayed because the permission was qualified by the condition that it should not increase the total allotment of MIS. In addition, great difficulty was encountered in the actual recruiting.

Difficulties encountered included a refusal to permit WACs to be drawn from assigned positions so that it was necessary to recruit them solely from training centers, serious difficulties in finding qualified officers and enlisted women, and the normal delays involved in procuring the necessary orders. Illustrative of the difficulty of finding qualified personnel was a recruiting trip made to Fort Oglethorpe by two officers of the section, where almost a thousand officer cards were examined, over a hundred candidates were interviewed and only 14 officers were chosen for assignment to the work. By November, however, 11 WAC officers had joined the section and by the end of the year approximately 15 enlisted women had been obtained.

Long before January 1944 it had become evident that the potential volume of intelligence to be derived from Japanese military traffic could be derived only by employing a very large number of

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personnel of the highest caliber. On 3 January 1944 an allotment of 280 officers (of which at least 100 were to be male officers) and 120 WAC enlisted women were requested for the work on the Japanese Army material. Authorization for the requested increase of officers was granted on 29 February, while a separate survey was initiated to determine the number of enlisted women which might be obtained. Although the authorization included permission to obtain an over-strength, subsequent restrictions on increasing the strength of MIS, as well as upon bringing young officers in Washington, handicapped the recruitment program so seriously that the strength of the section never even remotely approached the authorized figure. By 1 June 1944 the Section had attained a strength of 79 officers (including 10 in training for overseas assignment), 65 enlisted women and 3 civilians.

3. Changes in Organization

The effort of the small initial staff of B section was divided among three principal activities, namely:

- a. Study of material relating to the Japanese ground forces, conducted initially by one officer.
- b. Study of information about Japanese shipping, conducted initially by one officer and two civilian assistants.
- c. Development of the field of traffic analysis, conducted initially by one officer.

From the beginning it was decided that the section should be organized along functional lines with expansion to be carried out as

personnel could be acquired. The Japanese Army material covered almost every phase of Japanese war effort in so far as the Japanese Army was connected with it and it was therefore necessary to plan a gradual expansion of activities which would lead to the exploitation of the material for intelligence in all phases. The development of new activities was also influenced to a material degree by cryptanalytic progress, since the solution of the new cryptographic system might open up an entirely new field of information. The principal changes in organization which occurred from July 1943 to June 1944 were:

- a. Radical expansion of the group dealing with Japanese shipping, described more fully below.
- b. Radical expansion of the activities dealing with the Japanese Army Ground Forces.
- c. Expansion of the activities dealing with traffic analysis.
- d. The establishment and expansion of a new group dealing with the Japanese Air Forces, which eventually took over the primary responsibility for air intelligence within MHS.
- e. The establishment of an Information Control Unit to maintain records which would permit thorough exploitation of technical cryptanalytic and signal communications phenomena as a source of intelligence.

f. Establishment of a Theater Communications Unit, responsible for the physical handling of communications to field commands.

g. Establishment of a staff to maintain relations with Signal Security Agency and the cryptanalytic agency of the Navy.

h. Establishment of a staff to produce a daily report of Army Ultra intelligence to be distributed to the Chief of Staff and other interested officials.

4. Cryptanalytic Developments

The increase in intelligence derived from the Japanese military systems came as a result of (a) cryptanalytic progress, which increased the available raw material, and (b) radical expansion and development of techniques for obtaining intelligence from that material. The first material to become available was from the water transport system which was used by the Japanese Army for communications regarding the movements of ships under its control. After the initial break into the system, continuing progress in solving it improved the quality and increased the quantity of the basic raw material.

In August 1943 the address code, which was used for enciphering the addressee in all systems, was solved. That solution made available a large volume of intercepted addresses which in turn gave the designation of a unit and the place at which it was addressed. In December 1943 and January 1944 some progress was made in the solution of the chief administrative code of the Japanese Army, which contained a wealth of information about the plans and dispositions of the Japanese

of the Japanese forces, as well as additional information about Japanese shipping and Japanese oil production. In February 1944 translations of Japanese Navy messages became available to the Section on a regular basis. This traffic contained considerable information concerning Japanese merchant shipping. In the main, the shipping information derived from Navy Ultra supplemented the Army material, supplying schedules of ship movements and other valuable shipping data not available from the Army traffic. Also in February the main administrative code and part of the then current enciphering materials were captured, making available a tremendous volume of messages dealing with virtually every field of activity in the Japanese Army. In the spring of 1944, solution of one of the main Japanese air systems began and provided a greatly increased number of messages dealing with the Japanese Army air units, including strength and service reports and plane movements.

Though cryptanalytic success in these various systems varied throughout the war, and although there were often long periods of time when one or more of the systems were unsolved, at least one system was readable at any particular point of time. Furthermore, the development of improved techniques of deriving intelligence even from extremely fragmentary material produced a fair continuity of intelligence throughout the entire period.

5. Japanese Shipping

Since the first available material was in the cryptographic system dealing with ship movements, early emphasis was placed upon development of intelligence about the Japanese shipping situation. This field of intelligence was particularly important because little was known about the overall situation of the Japanese Merchant Marine. Initial efforts were devoted to building up the extremely detailed and lengthy records which would be required to obtain an overall picture of Japanese shipping from the many fragmentary bits of information which were being received.

Over a period of several months two sets of records were built up, namely: (a) a detailed record of each ship, giving its movements and every other piece of information about its activity, and (b) a record of each Japanese port, recording all shipping activity in that port. These records were to constitute throughout the entire war the two basic sources from which estimates of the Japanese shipping situation and many other studies were to be obtained. By June 1944 a number of long-range studies had been completed or were well under way. Among these were:

a. An exhaustive compilation of sinkings of Japanese ships, based upon all available information but primarily upon Ultra, which constituted the most complete and reliable record of sinkings produced up to that time.

b. Detailed charts of the activity of Japanese ports, produced monthly and delivered to operational commands as well as to interested War Department, British and Navy agencies.

c. Studies of activities in Japanese ports leading to conclusions as to which ports which were most active and which were vulnerable to submarine or air attack.

d. Compilation of a complete list of active Japanese tankers, permitting for the first time an approach to the problem of the ability of the Japanese to transport oil supplies.

e. Compilation of a list of all existing Japanese ships, which was later to furnish the basis for estimates of the total shipping available to the Japanese.

In addition to the long-range studies, the constant processing of shipping messages led to many important items of spot intelligence. From time to time cryptanalytic progress was such that messages scheduling the movement of Japanese ships became available in advance of the actual movement. Schedules of ship movements, when thus obtained, were promptly transmitted to the appropriate operational commands (arrangements, described below, had been established for the prompt transmission of Ultra intelligence to the operational commands) and operational action was often taken. Examples are successful attacks upon three substantial convoys entering Newak or Hollandia and the outstanding case of the attack upon the so-called "Take" Convoy. That convoy, consisting of nine merchant vessels and about 12 escorts, sailed from China the latter part of April 1944, carrying over 12,000 troops of the 32nd Division and over 8,000 troops of the 35th Division, together with equipment and military supplies. A careful analysis of both Army and Navy messages furnished the identity of the ships, details about the troops and cargo loaded on each ship and the scheduled noon

positions between the Philippines and Halmahera, as well as subsequent changes made in the course of the schedule. All that information was forwarded promptly to the appropriate operational commands. In submarine attacks four ships of the convoy were sunk, resulting in the loss of about 4,000 troops and a serious demolition of the effectiveness of both divisions. Since one of those divisions was scheduled to go to northwest New Guinea, the result was directly to reduce the forces which were encountered by subsequent Allied attacks in that area.

6. Traffic Analysis

Signal Security Agency began to provide G-2 with daily traffic analysis reports on 19 November 1942. The daily reports consisted of inferences as to troop, ship and aircraft movements, based upon the fluctuation of the volume of traffic handled in the most active Japanese radio centers. It was not, however, until the establishment of B Section that a full time officer in MIS could be assigned responsibility for the evaluation of those reports.

The assigned officer conducted a very thorough study of the methods used by Signal Security Agency in its traffic analysis work and at the same time acquired a thorough knowledge and training in order of battle. Although success was achieved in one instance in establishing a traffic pattern leading to reliable conclusions about convoy sailings, it was determined that as a general rule traffic analysis could rarely be used successfully for that purpose.

By study of the traffic phenomena in the light of order of battle, however, a new concept of methods to be used was developed. In the first

place, emphasis was given to studying the significance of individual radio contacts rather than the gross volume of radio contacts from any particular station. Secondly, activity was directed primarily toward revealing the location and movements of unit headquarters rather than troop, ship and aircraft movements. This newly developed concept resulted in a considerable expansion of the needs for information from Signal Security Agency to include most of the items which ultimately proved useful, namely, a record of individual contacts, a record of multiple address messages, a record of rerouted or forwarded messages and occurrence of code names as suffixes to place names.

On 15 November 1943 a request was made for an IBM record showing every individual radio contact between Japanese radio stations. Although the suggestion initially encountered opposition at Signal Security Agency, it was eventually agreed upon by all parties concerned, and weekly and monthly IBM tabulations were made available, showing the place of origin, the place of destination, the cryptographic system and the number of messages intercepted. The first of those reports covered the period from 20-29 February 1944. From that time on, those reports furnished the primary basis for all traffic analysis work leading to conclusions about the movements and locations of Japanese units.

First use of traffic analysis to support order of battle conclusions in conjunction with other information--namely, a few fragmentary message addresses and some Chinese G-2 reports--was made

in September 1943 when it was concluded that the 15th Division was moving from China to Burma. From that time on traffic analysis became an increasingly important contributor to intelligence about the location and movements of major Japanese units. In almost every case it either corroborated or furnished the first evidence of the establishment of a new headquarters or movement of a Japanese division. In the period February-April 1944, when the Army administrative system was being read on a current basis for the first time, knowledge of both the content of the messages and the Japanese order of battle was developed on an extensive basis, and for the first time an adequate background was built up to identify the ground force units associated with distinctive traffic patterns. While traffic analysis was henceforth a particularly significant source of order of battle intelligence, it was used as an aid to order of battle intelligence within the section, and was not, as a general rule, disseminated as a subject apart.

In February 1944 an officer was assigned to the Traffic Analysis Unit to begin work upon the Japanese Army Air Force. By June 1944, the use of traffic analysis for producing intelligence about Army air units was still in the stage of development, but a considerable background had been established so that after that date traffic analysis became an increasingly important contributor. In May an additional officer was assigned to the unit and undertook to build up a detailed record of contacts between locations overseas and the home depot locations in Japan from which the Japanese units had been recruited. Since Japanese units in the field continually

communicated with their place of recruitment, this device furnished one of the most fruitful and reliable means of determining unit locations from traffic analysis.

To summarize, by 1 June 1944, traffic analysis was producing a regular stream of ground order of battle intelligence; with the exception of one traffic pattern, exploitation of traffic analysis for ship movement intelligence had proved impracticable, and the use of traffic analysis for intelligence about air units was still in the development stage but promised great future progress.

7. Ground Order of Battle

Study of the Army material for ground order of battle intelligence began immediately after the material began to be available. Some intelligence was derived almost immediately; it consisted of verified locations for the number of smaller units of the Japanese Army which had not previously been known from other sources. The primary job for several months, however, was to develop (a) background information about the significance of many technical characteristics of the material and (6) methods of evaluating it and of recording and deriving reliable intelligence from it. The first discovery of a movement of a Japanese division was made in September 1943 when, by an analysis of fragmentary material, it was determined that the 15th Japanese Infantry Division was moving from China to Southeast Asia. Thereafter, a steady stream of intelligence about the movements, locations and strengths of Japanese Army units was produced by the section and furnished to the appropriate authorities. Long before the end of the period under discussion the

Army Ultra material had become the primary source of up-to-date intelligence about Japanese Army dispositions and strengths.

When the Army Ultra material first became available, the Pacific Unit of the Order of Battle Branch was the agency of MIS which was designated to deal with order of battle intelligence. As such it conducted the exchange of comments with other headquarters, took "official action" in regard to order of battle developments and made the MIS strength estimates for the various areas. Although the Ultra material rapidly became the chief source of current order of battle intelligence, these official responsibilities were never transferred from the Order of Battle Branch. Accordingly, a procedure had to be developed whereby conclusions or summaries of evidence about various phases of order of battle could be passed on in camouflaged form to the Pacific Unit, Order of Battle Branch. An arrangement was worked out whereby Section B conducted the research and cabled the Ultra intelligence to the field commands, adding comments containing background information and discussing the significance of technical aspects of the material. The conclusions reached by B Section about the locations of units were passed to Pacific Unit, Order of Battle Branch in such form as not to reveal the source. The Pacific Unit, Order of Battle Branch, furnished comments on the strategic significance of the information, made the necessary changes in strength estimates, and was, until publication of the Japanese Army Supplement (later called the Far East Summary) began in February 1944, the agency which informed the A. C. of S., G-2 about major developments.

The development of intelligence from the Army material revolutionized the field of order of battle intelligence. Until that time the chief sources had been captured documents, prisoner of war reports and combat identifications. Valuable though these were, they seldom furnished current information about any Japanese dispositions or movements except in actual combat areas. After the development of the Army Ultra material every movement of a Japanese division was discovered either while it was still in transit or very shortly after it reached its final destination. The Ultra material also furnished many other important items of spot intelligence about Japanese forces. The following are examples:

a. The movement of four Japanese divisions into Burma in preparation for the drive into India, which began in March 1944, was discovered far in advance of the beginning of that attack and a number of indications that an attack was pending were obtained.

b. The Japanese plan for an attack on the Torokina perimeter (Bougainville), including the exact scheduled D-Day, was learned in advance, and U.S. forces were so prepared for the attack that it was crushed with serious losses to the Japanese.

c. The movement of two divisions into the Marianas prior to the U.S. attack was discovered.

d. The complete Japanese plan for an attack on the Aitape perimeter (New Guinea) was discovered more than a month in advance and the attack was completely smashed.

e. Before the U.S. landing at Hollandia, analysis of traffic and of fragmentary messages showed that no Japanese division had been moved into the area and that it was defended only by service troops.

f. Study of Ultra material resulted in an estimate of strength of Biak Island of 7,000, as contrasted with the lower figure of 3,000 which was made by the agency not handling the Ultra material; the higher estimate was verified by the actual combat identifications.

g. At fairly frequent intervals the location of virtually every Japanese division and higher headquarters outside Japan and Manchuria was verified.

In addition to items of spot intelligence, the section had begun to produce long-range studies. In April and May of 1944, the first editions of a book on Japanese major units was produced, containing a very detailed compilation of available intelligence about major ground units, code names and numbers and the home code numbers and designations of all Japanese Army units.

8. Japanese Air Order of Battle

In December 1943 Signal Security Agency began for the first time to produce a significant volume of Ultra material on the Japanese Army Air Force. B Section assigned an officer to develop the exploitation and dissemination of that intelligence. In the following three months the volume of information grew rapidly, and an air unit was built up

within the section consisting primarily of rated Air Force officers and officers trained in the Army Air Force Air Intelligence School.

By the end of March 1944 the Ultra information had become the primary source of intelligence on the Japanese Army Air Force. The Ultra information made available strength and serviceability reports and many other types of information which permitted the keeping of a detailed order of battle and the making of strength estimates on the basis of known dispositions and strengths of units. The function of making weekly estimates of Japanese air strength was accordingly transferred from the Air Unit, G-2, to B Section of Special Branch, and on 7 April 1944 the MIS Weekly estimate of Japanese air strength was prepared for the first time by B Section.

During the same period B Section established direct collaboration in the air field with F-22 of the U.S. Navy, the agency in the Navy which handled Navy Ultra and which produced the estimates of the strength of the Japanese Navy Air Force. Constant consultation and collaboration was initiated, leading eventually to the production of a joint estimate of Japanese air strength and a full exchange of Ultra intelligence about the Japanese Army and Navy Air Forces. At the same time, techniques of estimating Japanese air strengths were discussed in detail and generally agreed upon with both the Air Ministry and the Air Command, Southeast Asia. The exchange of opinion and intelligence thus initiated continued throughout the war.

By June 1944, the Air Unit of B Section was in full-scale operation, although additional personnel was still needed and was later to be acquired. Important items of intelligence produced included:

- a. Weekly estimates of Japanese Army air strength, both overall and by areas.
- b. A study of the Japanese Army air training system.
- c. The first editions of "Japanese Army Air Units", a comprehensive encyclopedia of all known facts about the Japanese Army Air Force.
- d. A constant stream of cables to field commands furnishing spot intelligence.

9. Japanese Petroleum Studies

The Ultra material contained various types of reports of the activities of the Japanese in producing oil in the Netherland East Indies and the shipping schedules for transporting it to Japan. The material was extremely difficult to deal with since it involved solution of proformas and the tedious compilation of many individual reports of small producing units. An intensive study of all the available material from both the Army and the Navy sources was undertaken, and in March a preliminary report produced figures on Japanese oil production which differed substantially from the estimates made by the Enemy Oil Committee. Continuation of the work led to the production of a complete report shortly after the reorganization (in June 1944) which gave a fairly complete picture of the Japanese oil situation and again contained substantial points of difference from the estimates previously made by Enemy Oil Committee which were based upon pre-Pearl Harbor information.

The oil studies showed that one of the most important phases affecting the Japanese oil situation was the availability and efficient utilization of tankers. Accordingly, along with the study of oil production, a study of the Japanese tanker situation was made and resulted in an estimate of the available Japanese tankers which in turn furnished a more accurate estimate of the Japanese oil potential.

10. Methods of Dissemination

As noted above, the rapid development of the Army Ultra material made available for the first time in the war a large volume of operational intelligence about the Japanese forces. Such intelligence was of great importance to the operational field commands for strategic planning and in many cases for direct operational action. At the same time, experience had demonstrated that such intelligence could not be transmitted through normal channels and that it must be restricted to those who had absolute need of it.

A system for the transmission of Ultra intelligence to field commands was devised, the principal features of which were:

a. The attachment of Special Security Officers to each command to receive the intelligence, such officers to be the sole recipients of the intelligence and to be responsible for delivering it to the responsible commanders.

b. The establishment of direct and special communication channels between Washington and the operational commands whereby Ultra intelligence could be transmitted rapidly and directly.

Approval for the plan was obtained in the fall of 1943, and by the end of the year Special Security Officers had been attached to the three major U.S. commands in the Pacific. Similar communication channels were established to the British headquarters. Thereafter, a constantly growing volume of cables containing Ultra intelligence were transmitted directly to the field commands concerned. By 1 June 1944, 555 cables had been sent to the various commands, many of them containing important items of intelligence which resulted directly in operational action.

In the initial stages of the development of the material, the volume of major items of intelligence was comparatively small and no formal and regular report to higher authorities was made. From time to time the more important items of intelligence were included in the Military and Naval Supplement to the "Magic" Summary. By February 1944, the volume of intelligence produced had increased to such an extent that a regular means of reporting it to high officials was found necessary. Publication of a "Japanese Army Supplement" to the "Magic" Summary was begun, and that publication henceforth constituted the chief medium for reporting the Army Ultra information to higher officials of the Army and Navy. Distributed originally to the Chief of Staff and other high officials within the War Department, the Supplement was later distributed to the President, the Chief of Naval Operations and the major U.S. and British commanders in the field.

At about the same time, the Japanese Naval Supplement was begun as a means of reporting to the officials of the Army the more important

developments in connection with the Japanese Navy which were revealed by the Japanese Navy Ultra material. The publication continued throughout the war as the chief means of reporting that intelligence.

11. Conclusions

During its comparatively short period of existence B. Section brought about revolutionary changes in the intelligence about the Japanese armed forces, the Japanese shipping situation and a number of related subjects. It developed most of the fundamental techniques for deriving intelligence from the material which were used throughout the rest of the war. By the time of its reorganization under the general MIS reorganization in June 1944, certain lessons had been learned and certain shortcomings had been discovered. Chief among the conclusions reached were the following:

a. In order that the Army material should produce the maximum of pertinent intelligence the process of interception, cryptanalysis and translation must be directed by the intelligence personnel who were responsible for producing the final intelligence. Certain preliminary steps toward furnishing this guidance had been taken but they had largely become unsuccessful because the element of operational control was lacking.

b. Direct communication and consultation of the speediest possible type must be made possible between the intelligence officers on the one hand and the cryptanalysts and translators on the other. Only by direct working together could serious errors be avoided and the maximum of intelligence obtained.

c. The intelligence officers dealing with the Ultra material must be acquainted with U.S. operational plans. The huge volume of material, most of it fragmentary, made it beyond the realm of possibility that every item of intelligence could be studied and transmitted with equal speed and thoroughness. The direction of intercept and cryptanalytic as well as intelligence activity toward any particular target was a process of weeks or months which had to be planned far in advance. Only through a knowledge of U.S. operational plans, well in advance, could that process be carried out so as to furnish the needed intelligence. Subsequent history was to demonstrate this proposition again and again and to show that extremely valuable intelligence was obtained and forwarded to field commands when sufficient advance notice of an operation was available. It was also to show that, when advance notice was not given, very valuable intelligence was liable not to be made available to the command concerned.

d. The Ultra material could not be processed in vacuum. Although it had obviously become the primary source of intelligence about the Japanese, its most efficient exploitation depended upon its combination with all other available information. At the same time, it was equally clear that the Ultra material required processing by specially trained personnel, devoting their entire attention to the job and utilizing other information as an adjunct to their primary task.

D. Activities of C Section: Early in July 1943, upon his return from England, Colonel McCormack assigned two officers of Special Branch to study and report German military traffic. They formed "Bunker Hill"--which later became C Section of Special Branch--and began publishing bits of German traffic in a "Military and Naval Supplement" to the daily "Magic Summary".

In the beginning, the only intercept material received from the British consisted of (a) a daily "Sunset" summarizing significant order of battle information, (b) a weekly "Sunset" on German Air Force developments and (c) selected items from Sicherheitsdienst traffic.

The difficulties involved in producing finished intelligence reports from the "Sunsets" were considerable. The "Sunset" items were condensed notes on important intercepts, some of which were so cryptic that their significance often could not be appreciated fully. None of the individual German military messages were forwarded to Washington at first. However, a visit to London by one of the two members of "Bunker Hill" in August resulted in a flow via cable of selected raw traffic in addition to the "Sunset" items. C Section was further handicapped in that it possessed little pertinent background material on European order of battle, and that for security reasons its personnel were limited in seeking information and assistance from the Order of Battle Branch of MIS. Also, since no MIS unit had much experience in handling order of battle data on the German Air Force, a great deal of time had to be spent in studying

the air Ultra information before any of it could be analyzed intelligently or any of the Air Ministry estimates properly evaluated. To prepare a two or three-page intelligence report based on the "Sunsets" alone often required twenty man-hours of research.

Progress in recruiting personnel and in enlarging the scope of the Military and Naval Supplement was slow. Early in September 1943, G Section comprised no more than three officers and two civilian assistants. With the temporary assignment of a few additional officers, however, the personnel of the section were soon able to apportion the work and to begin some specializing. For instance, one researcher-writer was assigned to ground order of battle in each of the Mediterranean, Balkan and Russian theaters. Arrangements were made toward the end of September for the British to send over by pouch a considerable assortment of daily intercepts, which were invaluable in educating the staff and supplying background data. Work was begun on indexing the current traffic, both under units and commands and under general headings such as shipping and supplies. Running stories were produced for the Supplement on several German operations, notably the reconquest of Cos and Leros.

A start was also made on extracting information on Russian order of battle from the diplomatic traffic received from the Soviet Union.

In the main, however, during this early period the work of the C Section was uneven and its function uncertain. The Section had no responsibility for maintaining continuous order of battle data and the daily burden of reporting prevented thorough study or correlation of the non-Ultra intelligence. There was insufficient personnel and facilities for adequate analysis and reporting of even the small amount of intercept material then being received. Also, the section was handicapped by having to train personnel who were transferred abroad to work with the British as fast as they became familiar enough with the intercept material to be useful writers. (As of 1 May 1945 a total of 17 Special Security Officers who had been trained in C Section were on duty in the European theater.)

Beginning in October 1943, selected personnel from European order of battle were brought into C Section to attend daily conferences on the progress of Allied Armies on each front. These people were given a plausible, but not the real, story as to the source of C Section's information. This daily consultation gave the section a means for partial exploitation of the larger order of battle and personality files maintained by the Order of Battle Branch and to some degree facilitated the expansion of the section's files. Later, in the spring of 1944, the European Order of Battle personnel were brought into the "picture" completely.

Beginning in November 1943 the individual intercepts were cabled to Washington in greatly increased volume, with deliveries being made to Special Branch by courier two or three times per day. That

increase in material enabled the section markedly to expand its reporting and research. A parallel increase in personnel followed:

a. The Section gradually recruited a few full-time indexers to maintain its order of battle card file. That file supplied most of the background information used in articles in the Supplement and it remained in continuous use until V-E Day.

b. A full-time editor was obtained in November, and a second editor in March. Thereafter the two alternated in editing (1) the main body of the Supplement and (2) the "TABS", of which as many as three or four a day were produced during the spring of 1944.

c. A good many more researcher-writers were added. By 6 June 1944 the Section numbered thirty-five and there were at least two persons assigned to the research and reporting of Ultra military intelligence concerning each of the following categories: Italy, Western Europe, the Balkans, the Eastern Front, Central Europe, the German Air Force, and Russian order of battle.

d. A draftsman was obtained to expedite the previously haphazard production of maps, charts and graphs for the Summary.

With the strengthening of the staff came a gradual bettering of the quality and scope of the section's editorial product. Prior to and during the Anzio landing in January 1944, the Supplement carried detailed reports of German order of battle and day-by-day estimates of the expected German build-up against the beachhead. C Section personnel maintained for the Italian Front, and prior to D-Day, for the incipient

French Front, order of battle maps on the disposition of the Axis Forces which were presented daily to the A. C. of S., G-2. That presentation generally followed the regular morning presentation by the Chiefs of the MIS theater branches and was intended to superimpose on their treatment of the situation the latest corrections or additions which the Ultra source provided. Articles were published on the plans afoot to expand the Parachute Army, the GAF ground divisions and the Waffen-SS.

A definitive study was produced on the Russian and the German conduct of the 1944 Crimea campaign. Perhaps the most memorable event in the history of C Section was the publication, about ten days before Normandy D-Day, of the complete German order of battle in the invasion area, together with Rundstedt's assessment of the probable date, place and plan of the Allied attack.

Conclusions

C Section had the task of turning German military traffic into reliable, useful intelligence and of summarizing that intelligence in concise and readable reports. The experience of the section up to 6 June 1944 demonstrated that a relatively small number of competent personnel could do that job. But there were subsidiary tasks, such as maintaining up-to-date order of battle maps and studying Ultra

logistical data, which the Section was not equipped to do and as to which its responsibility was not clear. Nor could personnel be adequately trained for overseas duty as SSO's. However, the most serious drawback to the effective operation of the Section was that for security reasons (a) its researcher-writers could not freely consult MIS personnel or sources outside Special Branch and (b) the Military & Naval Supplement did not reach the chiefs of the theater branches who spoke as G-2 authorities and who most needed the Ultra information.

IV. Situation as of June 1944.

By June 1944 the personnel roster of Special Branch was as follows:

Officers	- 140 (including 53 WACS)
EM	- 25
EW	- 76
Civilians	- <u>142</u>
Total	382

The earlier discussion indicates in general how the Branch was organized and what it had accomplished. To give a fair picture of the situation as of that date, however, certain failures and defects in organization should be indicated. The principal ones were as follows:

a. As indicated above, G-2 had been unable to establish effective day-to-day control over the signal intelligence operations of the Signal Corps in such matters as what circuits were to be monitored, what traffic was to be sent to the crypt-analytic center first, what systems were to be attacked first,

and how translation priorities were to be arranged; furthermore, for much-needed liaison between G-2 and the Signal Corps it was possible, because of personnel considerations, to provide only one officer. Such guidance in priorities of operations as could be given the Signal Corps was contained in a few general directives which were either so broad as to be of little usefulness, or so detailed as to become soon outdated by the changing course of events.

The lack of effective operational control over the signal intelligence facilities had a number of adverse results: (1) It was later discovered that as intercept facilities were increased, Signal Corps priority practices tended to assign those facilities to already well-covered circuits at the expense of circuits carrying less high grade, but nevertheless valuable, diplomatic material, or at the expense of searching for new circuits capable of opening up new channels of intelligence. (As one example, later in the war, when G-2 began to originate decisions on signal intelligence operations, the monitoring of a number of transmitters in Southeast Asia, Malaya, and South China was dropped, thus freeing intercept facilities which soon uncovered a heavy volume of diplomatic, military, commercial and government traffic in the Japanese Home Islands, Korea, Manchuria and North China bearing directly on the Japanese war effort.) (ii) A similar tendency was apparent in the emphasis given to the cryptanalysis of high-level systems to the exclusion of medium and low level systems.

(Despite MIS recommendations that a high priority be given to the solution of a medium level system believed to be used by the Chief Japanese control organization for other than Army or Navy shipping, for a number of reasons the project met with considerable delay. When, at the insistence of MIS, the system was broken a few months before the end of the war, it was found to contain detailed data on ship movements and cargoes and, had it been available earlier, it would have been of great value in reconstructing the Japanese shipping position as a whole.) (iii) Translation operations were frequently carried on without reference to the entire bulk of the traffic, and with a consequent failure to meet intelligence needs which were obvious to persons in G-2. (Later in the war, when MIS representatives worked in daily close contact with the Signal Corps, they were able to follow the scanning of deciphered messages prior to translation in such a way as to avoid delay in the final processing of important messages, and to make possible the laying aside of unimportant messages.)

b. The division of labor in Special Branch according to types of traffic had produced certain advantages of concentration but it had also led to a lack of complete processing of the material in a number of fields. For example, both the Army material, which was handled by B. Section, and the diplomatic material, which was handled by A. Section, contained information about various Japanese commodities. Because a complete coordination between the two sections had never been obtained, this

material had not been adequately exploited by June 1944. On the other hand, the material on Japanese shipping and on the Japanese armed forces which had been concentrated in B Section regardless of the type of traffic had been most thoroughly exploited.

c. Particularly glaring, from an organizational point of view, however, was the situation which had arisen by June 1944 within MIS, in which Special Branch, with a strength of 382, was equipped to do a large part of the whole intelligence operation, using all sources, while the remainder of MIS (numbering 356), organized along somewhat parallel lines, was trying to carry out the same mission with generally mediocre personnel and no direct access to signal intelligence material. It was the anomaly of that situation, more than any other factor, which brought about the reorganization of MIS.

With the June 1944 reorganization Special Branch as such disappeared, and its various sections were absorbed to form a more homogeneous organization within G-2.

