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Contribution of Signal Intelligence
Toward Victory in World War II
and Its Relatively Small Cost

1. a. The Hearings held by and the Reports of the Joint Congressional Committee on the Investigation of the Pearl Harbor Attack are replete with references to the nature and value of the large amount of signal intelligence produced by the cryptanalytic services of the Army and the Navy before the attack. The testimony of all the important and high-ranking witnesses lead the Majority to characterize in their report (p. 253) the signal intelligence as "some of the finest intelligence available in our history." An excellent summary statement appears on p. 232 of the same report:

> "The success achieved in reading the Japanese diplomatic codes merits the highest commendation and all witnesses familiar with Magic material throughout the war have testified that it contributed enormously to the defeat of the enemy, greatly shortened the war, and saved many thousands of lives."

b. Perhaps the most valuable testimony as to the value of the signal intelligence produced by the Army and the Navy before and during World War II is found in the letter which General Marshall, Chief of Staff, wrote to Mr. Dewey on 27 September 1944.

c. The present Director of Intelligence, WDGS, who served throughout the war in the Pacific as G-3 on General MacArthur's staff, has recently stated:

> "The information G-2 gave G-3 in the Pacific Theater alone saved us many thousands of lives and shortened the war by no less than two years."

2. Assuming the last statement valid, and with the knowledge that the information to which reference was made consisted almost exclusively of signal intelligence, it follows that the operations and results produced by our signal intelligence agencies shortened the war by no less than two years. A rough calculation may therefore be made as to the monetary value of signal intelligence by comparing the cost of producing that intelligence with the cost of maintaining a fighting army for two years. It will be warranted to select the last two years of the war as a basis for calculation.

3. a. Cash spent for operations of Signal Security Agency, Washington:

FY 1945--$14,840,234
FY 1946-- 9,107,124

Total for both years ---------------$23,947,358

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    b. Estimated cost of pay and allowances for military personnel at Signal Security Agency, Washington:

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FY 1945------------------------------------$ 5,524,626
FY 1946------------------------------------  3,337,494

Total for both years ------------------$ 8,862,120
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    c. Cost of plant, Arlington Hall Station*

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Original real estate ----------------$   650,000
Furnishings with purchase -----------     40,000
New construction --------------------  5,560,000

Total cost --------------------------$ 6,250,000
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*No deduction is made for normal depreciation.

    d. Cost of supplies and services (estimate):

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Requisitions through Supply --------$ 2,500,000
  Branch
Communications service for ---------  2,000,000
  two years
Total cost -------------------------$ 4,500,000
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    e. Estimated cost of overseas operations

For two years at $2,500,000 per year -- $5,000,000

Recapitulation

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a --------------------------------------$23,947,358
b --------------------------------------  8,862,120
c --------------------------------------  6,250,000
d --------------------------------------  4,500,000
e --------------------------------------  5,000,000

Total cost for two years -------------$48,559,478
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4. Since it is difficult to state how much of the COMINT provided overseas commands was produced by the Army and how much by the Navy, it will be assumed that both Services contributed equally in this regard. Also, it is assumed that the cost of operating the Navy COMINT service was approximately the same as that of the Army, that is, approximately $48,559,478. Calling it $50,000,000 for each Service, the total cost was $100,000,000.

5. The total appropriations for the two Services for the FY 1945 and 1946 were as follows:

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Army 1945----------------------------------------$15,435,000,000
Navy 1945----------------------------------------  29,493,000,000
Army 1946----------------------------------------  21,497,000,000
Navy 1946----------------------------------------  23,477,000,000

Total  ------------------------------------------$89,902,000,000
Approximately ----------------------------------- 90,000,000,000

Add for other quasi-military
  functions carried on for
  activities directly connected
  with the war--------------------------------$10,000,000,000

Total  -------------------------------------$100,000,000,000
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6. Ratio of total cost of COMINT Services to total cost of war for two years:

$$\frac{\$100,000,000}{\$100,000,000,000} = \frac{1}{1000}$$

That is, one dollar spent COMINT-wise is worth One thousand spent otherwise.

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In his recently published memoirs, Winston Churchill tersely appraises

the contribution of communication intelligence in these guarded comments

on the battle of Midway, which I quote:

"It is difficult to exaggerate the importance of this memorable American

victory, not only to the United States, but to the whole allied cause.

The American intelligence system was successful in penetrating the

enemy's most closely guarded secrets well in advance of events.

Thus Admiral Nimitz, albeit the weaker, was twice able to concentrate all

the forces he had in sufficient strength at the right time and place.

When the hour struck this proved decisive.

The importance of secrecy and the dire consequences of leakage of information

in war are here proclaimed."

Unquote.

The official narrative of the Joint Combat Intelligence Center, Pacific Ocean Areas, in commenting on this engagement, contains some interesting remarks on the role of radio intelligence in the Pacific war.

"The factors that vitally affected the battle of Midway were many and complex, but it is undoubtedly true that without radio intelligence it would have been impossible to have achieved the concentration of forces and the tactical surprise that made the victory possible.

"In the defensive stages of the war, radio intelligence was not only the most important source of intelligence in the Central Pacific - - it was practically the only source.

"There were very few captured documents or prisoners of war.

"There were no photographs of enemy held positions.

"In the Central Pacific excluding the Solomons and New Britain, spies and coast watchers' reports never supplied any important intelligence."