

BRITISH JOINT STAFF MISSION
OFFICES OF THE COMBINED CHIEFS OF STAFF
WASHINGTON

MOST SECRET AND PERSONAL

2d December, 1942.

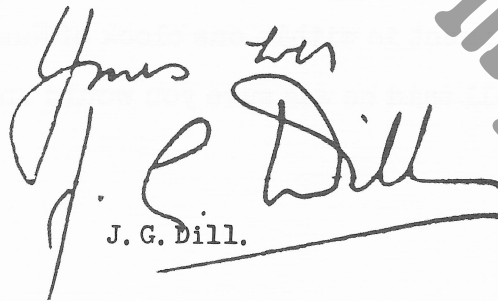
Dear Marshall

This is not a big question but I have to write you about it because I am
told that people concerned are acting on your direct order.

A certain Dr. A. M. Turing, who is our leading authority on scrambling devices, has come over from England in the belief that he would be allowed to visit the Bell Laboratories for consultation on a highly secret telephone "scrambling" device which is being developed there. I understand now that the construction of your scrambling device is well advanced, but it is considered too secret to allow Dr. Turing to look in on it.

General Olmstead knows all about the situation and all I will say is that Dr. Turing is absolutely reliable and is in on every secret we possess about cryptanalyst (I think that is the right word!) devices. I am told that we are working together on these questions in full co-operation.

Can you lift the ban on Dr. Turing?


J. G. Dill.

General G. C. Marshall,
Chief of Staff,
Room 2030,
War Department

WAR DEPARTMENT
OFFICE OF THE CHIEF OF STAFF
WASHINGTON

12 October 1943

MEMORANDUM FOR MR. HOPKINS:

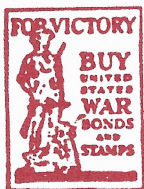
A day or two ago one of our Signal Corps people came in to report that Censorship had recently listened to a commercial telephone conversation between you and the Prime Minister. He added that you had tactfully, but consistently, urged the Prime Minister to be careful of what he said, but that the Prime Minister cited names and places in such a way as to create possible danger for himself and others.

I should hesitate to mention this except that the following information may be useful to you in your effort to maintain security of information. A conversation on the type of equipment which was used is necessarily called to the attention of at least ten, and more generally twenty, people, including the Censorship clerks themselves, the Army and Navy officers to whom Censorship reports, the operators, etc. In addition, this equipment furnishes a very low degree of security, and we know definitely that the enemy can break the system with almost no effort.

We have in the War Department, and are so installing in the Public Health Building, equipment which guarantees almost complete security from the enemy and which will transmit a message from one party to another without the need for - or even the possibility of - having operators or other personnel listen. The London terminal of this equipment is within one block of Number 10 Downing Street.

General Marshall said he was sure you would understand if I pass this information on to you.

McCarthy
McCarthy



Postscript: By World War II, trans-oceanic telephone communication was well-established. Telephony allowed leaders in Washington to talk strategy with their British counterparts and their countrymen on the battlefield in real-time. But with instant communication came the threat of instant interception by the enemy. On the front lines, officers could mitigate this by speaking in prearranged code or employing the use of code-talkers to pass on battle plans in near-extinct tribal languages. For political leaders like President Franklin D. Roosevelt and Prime Minister Winston Churchill, this was less feasible. They were privy to plans, dates, and locations for which only the most senior military personnel could be trusted and needed to be able to speak their mind in absolute security. Of particular concern was keeping the date and place of the joint D-Day invasion secret. The Allies waged an intricate and long-running deception campaign to divert German military resources away from Normandy and the beaches of France. One accidental leak on an open line would risk blowing the whole operation.

The US military addressed this concern by contracting AT&T's Bell Labs in Murray Hill, New Jersey, to develop a secure method for communicating by telephone. The resulting machine, dubbed the SIGSALY, weighed 55 tons per terminal, occupied 2,500 air-conditioned square feet, and required a team of engineers and hours of daily maintenance at each location to keep it operational. Its method of encryption rendered the voice of the speaker mechanical and masked tone. When Churchill and Roosevelt first spoke on the device, Roosevelt had to ask, "Is that you, Winnie?" Still, it provided something that had never before been possible: Secure, encrypted long-distance telephone communication.

When British military leaders were informed of the device, they were skeptical of whether the device could deliver on its security promises. They sent their best codebreaker, legendary mathematician Alan Turing, to Bell Labs to examine the machine's inner workings, and make sure the encryption could not be broken. Sent across an ocean, Turing expected immediate access to the device. Instead, he found himself shut out. The secret of the inner workings of the SIGSALY was guarded almost as strictly as that of the atomic bomb. Only American officers were allowed to operate or examine the machine even in London, and only the highest ranking political and military officials were allowed to make calls on the machine, or even learn of its existence. The secret of the mysterious machine in the basement of Selfridge's department store was not declassified until 1975.

This week's first letter was written by British Field Marshall John Dill, to General George C. Marshall, in protest of the Turing situation. Dill was a good friend of Marshall and Roosevelt, a powerful force in the British military, and the senior liaison between US and British forces in Washington. He is one of the few foreign officers buried in Arlington National Cemetery. Marshall was the Chief of Staff of the Army and one of the highest-ranking officers in the US military. Still, even Marshall struggled to secure Turing access to the machine. Standing in his way was General George Veazy Strong, the commander of the Army Intelligence Corps. Strong was furious at British efforts to spy on their American counterparts rather than going through proper channels and felt the British weren't meeting their obligations as allies of reciprocity in intelligence sharing.

After this letter, Marshall brokered a peace, getting Strong the intelligence-sharing parity he demanded in turn for his granting Turing access to the SIGSALY and its creators. Turing quickly examined the machine's inner workings, verified the SIGSALY's security, and returned to England to continue his work breaking German codes. Marshall's experience mediating between governments would serve him well in later years when he served as Harry S. Truman's Secretary of State and Secretary of War.

This week's second letter (a memorandum) was sent from Frank McCarthy, an aide-de-camp of George Marshall (and future Oscar-winning Hollywood producer), to Harry Hopkins, FDR's chief representative to Churchill and one of his most trusted advisors. Before representing Roosevelt in Europe, Hopkins served in a number of cabinet posts, the last being Secretary of Commerce, implementing Roosevelt's "New Deal" policies. While serving in Roosevelt's cabinet, Hopkins moved into the White House at the President's invitation, living there for more than three years, until his wife finally demanded they find a home of their own. In the memo, McCarthy discusses Churchill's bad telephone habits (later evidence revealed that some of his telephone conversations were most certainly intercepted by German intelligence) and urges Hopkins to convince the Prime Minister to use SIGSALY. Churchill thought highly of Hopkins, referring to him as a "natural leader of men," and made use of the machine for the rest of the war. Other notable SIGSALY callers included Admiral Chester Nimitz, Chief of Naval Operations, and General Henry "Hap" Arnold, aviation pioneer and commander of the Army Air Forces (which became the US Air Force shortly after the war).