



A Visit to America's National Cryptologic Museum

From VOA Learning English, this is EXPLORATIONS in Special English. I'm Jeri Watson.

And I'm Jim Tedder. Today we visit a small museum in the American state of Maryland. It is called the National Cryptologic Museum. There you will find information that was once secret.

The National Cryptologic Museum is on Fort George G. Meade, a military base near Washington, DC. It tells the story of cryptology and the men and women who have worked in this unusual profession.

The word cryptology comes from the Greek "kryptos logos." It means "hidden word." Cryptology is writing or communicating in ways designed to hide the meaning of your words.

The museum has many examples of equipment that was once used to make information secret. It also has equipment that was developed to read secret messages. The method of hiding exact meanings is called coding. People have used secret codes throughout history to protect important information.

The National Cryptologic Museum celebrated 60 years of cryptologic excellence in 2012. One event there marked the sixtieth anniversary of the National Security Agency. Two former NSA workers shared their memories of operating a code machine called Sigaba.

Many skills are needed to send and translate secret messages. The first and most important skill is knowing how to keep a secret. Helen Niebouar worked in Washington during World War Two and for the United States military in Japan after the war.

“The officers in charge of the code rooms would remind us constantly to keep our mouth shut. Don’t even mention one thing about where a message came from and certainly nothing it said. And they’d say, ‘Now when you have a top secret clearance that is what it means, top secret. Keep your mouth shut.’ So we got reminded a lot.”

The Sigaba machine made plain information a secret language to those who lacked the equipment to understand it. The one that Helen Niebouar operated was a complex device. The National Cryptologic Museum displays both early and modern tools that have been used in secret communications.

One display at the museum explains American attempts to read Japanese military information during World War Two. Japan’s Navy used special machines to change its written information into secret codes. This coded information was then sent by radio to navy ships and military bases. The information included secret military plans and orders.

The leaders of the Japanese Navy believed no one could read or understand the secret codes. They were wrong. Americans were working very hard to learn the Japanese code. The United States urgently needed to break the code to learn what Japan was planning.

In 1940, an American woman named Genevieve Grotjan found some information being repeated in Japanese coded messages. At the time, she was a civilian working for the government in Washington, DC. Her discovery helped the United States understand secret Japanese diplomatic messages.

After the United States understood the code, it was possible to study

messages from the Japanese ambassador to Germany and to his supervisors in Japan.

Understanding these messages helped the United States prepare for a possible war in the Pacific with Japan. Yet, the United States was surprised by the Japanese attack on Pearl Harbor, Hawaii. The Japanese military did not send coded military information to the country’s diplomats. Military messages used different codes.

After the attack on Pearl Harbor, an American Naval officer named Joseph Rochefort struggled to understand the Japanese navy code. He worked on the American base at Pearl Harbor. It was early in 1942. The American naval commander in the Pacific Ocean was Chester Nimitz. His forces were much smaller than the Japanese Naval forces. And the Japanese had been winning many victories.

Joseph Rochefort had worked for several months to read the secret Japanese Naval code called JN-25. If he could understand enough of the code, he would be able to give Admiral Nimitz very valuable information. The admiral could use this information to plan for battle. By the early part of the year, Mr. Rochefort and the men who worked with him could read a little less than 20 percent of the Japanese JN-25 code.

From the beginning of 1942, the Japanese code discussed a place called “AF.” Joseph Rochefort felt the Japanese were planning an important battle aimed at “AF.” But where was “AF”? After several weeks, he and other naval experts told Admiral Nimitz that their best idea was that the “AF” in the Japanese code was the American-held island of Midway. Admiral Nimitz said he must have more information to prepare for such an attack.

The Navy experts decided to trick Japan. They told the American military force on Midway to broadcast a false message. The message would say the island was having problems with its water-processing equipment. The message asked that fresh water be sent to the island immediately. This message was not sent in code.

Several days later, a Japanese radio broadcast in the JN-25 code said that “AF” had little water.

Joseph Rochefort had the evidence he needed. “AF” was now known to be the island of Midway. He also told Admiral Nimitz the Japanese would attack Midway on June third.

The admiral secretly moved his small force to an area near Midway and waited for the Japanese Navy. The battle that followed was a huge American victory. Experts now say the Battle of Midway was the beginning of the American victory in the Pacific. That victory was possible because Joseph Rochefort learned to read enough of the Japanese code to discover the meaning of the letters "AF."

One American code has never been broken. Perhaps it never will. It was used in the Pacific during World War Two. For many years the government would not discuss this secret code. Listen for a moment to this very unusual code. Then you may understand why the Japanese military forces were never able to understand any of it.

The code is in the voice of a Native American. The man you just heard is singing a simple song in the Navajo language. Very few people outside the Navajo nation are able to speak any of their very difficult language.

At the beginning of World War Two, the United States Marine Corps asked members of the Navajo tribe to train as Code Talkers.

The Cryptologic Museum says the Marine Corps Code Talkers could take a sentence in English and change it into their language in about 20 seconds. A code machine needed about 30 minutes to do the same work.

The Navajo Code Talkers took part in every battle the Marines entered in the Pacific during World War Two. The Japanese were very skilled at breaking codes. But they were never able to understand any of what they called "The Marine Code."

Eight members of the Choctaw tribe were the first code talkers. They worked in teams during World War One using their native language that was unknown in Europe. A Choctaw would translate a message in English into his native language and send it by radio. Another Choctaw would receive the message and change it back to English.

The Cryptologic Museum has many pieces of mechanical and electric equipment used to change words into code. It also has almost as many examples of machines used to try to change code back into useful words.

Perhaps the most famous is a World War Two German code machine called the Enigma. The word "enigma" means a puzzle or a problem that is difficult to solve.

The German military used the Enigma machine to communicate orders and

plans. The United States, Britain, and the government of Poland cooperated in learning to read information sent by the Enigma. It took thousands of people and cost millions of dollars to read the Enigma information. However, the time, effort and money resulted in a quicker end to the war against Nazi Germany.

The National Cryptologic Museum belongs to the National Security Agency. One of the agency’s many jobs is cryptography for the United States government. The work of the NSA is not open to the public. However, the museum tells the stories of the men and women who worked for the NSA long after their work is no longer secret.

Each part of the museum shows the value of this secret, difficult and demanding work. Visitors say it is very interesting and fun to see equipment and read documents that were once very important and very, very secret.

<http://learningenglish.voanews.com/content/transcript/1633904.html>