

0. THE CODE IS BROKEN (TEMPORARILY) - Story
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This 1943 image depicts the interior of "Hut 6" at Bletchley Park where British code-breakers worked on cracking German codes, then intercepting German communications. Hut 6 included the intercept control room (seen here). Image online via the Science and Society Picture Library. Click on the image for a much-better view.

The Enigma's trip to British intelligence at Bletchley Park was not the first time any outsider had examined this top-secret machine. In the early 1930s, the Poles had a head start deciphering the code, before Germany invaded their country.

Violating their own security procedures, the Germans sent an Enigma machine to their delegation in Warsaw. When they realized the mistake had occurred, the Warsaw Germans made urgent inquiries about the package they were expecting.

This, of course, interested Polish Customs who alerted Polish intelligence. For one weekend, Polish code breakers had an opportunity to thoroughly study an Enigma machine - before it was carefully repackaged for Monday morning pickup.

As a result of this examination, three Polish mathematicians (Marian Rejewski, Jerzy Rozycki, and Henryk Zygalski) discovered that the Enigma's keyboard was wired in alphabetical order, not keyboard order. With that discovery in hand, they created a decoder machine, called, La Bomba (because it was cylindrical, like a bomb) which helped the Poles trace Nazi naval, air and land movements.

By 1939, with a German invasion imminent, the Polish government passed their closely guarded secrets to the British and French.

Already using Polish intelligence, Alan Turing and his team at Bletchley Park were in the process of creating their own decoder - called The Turing Bombe - when they received all the data Balme and his team had recovered from U-110. A one-ton machine measuring 7' long, 6'6" high and 2' deep, Turing's bombe was impressive. Two hundred Turing decoding machines were built during the war.

Before they could build a decoder, however, the Bletchley Park team had to figure out how Enigma worked. (The links take you to original documents, including Alan Turing's notes.) Follow this link to Nova's site for great drawings and a straightforward explanation of the Enigma system.

An eccentric genius who dramatically helped his country by saving "millions of lives" during the war, Alan Turing's use of the U-110 information did not give British intelligence an infallible decoding method. The process worked only as long as the Nazis did not change their coding system.

When they DID change their encryption process, three more British sailors risked their lives for additional Enigma data.

See Alignments to State and Common Core standards for this story online at:

<http://www.awesomestories.com/asset/AcademicAlignment/THE-CODE-IS-BROKEN-TEMPORARILY-Enigma-Machine-and-Its-U-boat-Codes>

See Learning Tasks for this story online at:

<http://www.awesomestories.com/asset/AcademicActivities/THE-CODE-IS-BROKEN-TEMPORARILY-Enigma-Machine-and-Its-U-boat-Codes>



Marian Rejewski and His Enigma Discoveries

Image online, courtesy Polish Greatness website.

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Jerzy Rozycki

Image online, courtesy Wikimedia Commons.

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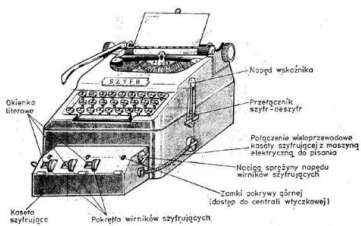


Henryk Zygalski

Image online, courtesy Wikimedia Commons.

In-text image of Bletchely Park Zygalski-sheet demonstration by Toby Oxborrow; license [CC BY-SA 2.0](#)

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Enigma Wiring System

Image online, courtesy Wikimedia Commons.

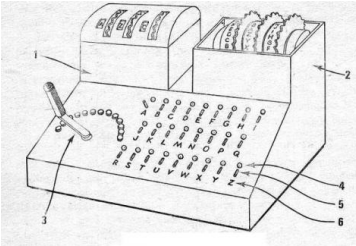
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Enigma Keyboard

Image online, courtesy Wikimedia Commons.

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Drawing of the Enigma Components

Drawing of an Enigma machine, online courtesy UK National Archives.

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Enigma Machine - Turing Bombe Deciphers Code

A visit to Bletchley Park - online, courtesy the totalwit Channel at YouTube.

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