Annotated Bibliography

Primary Sources

80-G-21187 North Atlantic Convoy, 1942. Naval History and Heritage Command.
    Accessed February 13, 2024.
    https://www.history.navy.mil/our-collections/photography/numerical-list-of-images/
    nara-series/80-g/80-G-20000/80-g-21187-north-atlantic-convoy--1942.html.

    This is a photo taken on July 28th, 1942. I used this image on my website in
    association with the Battle of the Atlantic.

Borchert, Erich. *Frankreich, Guderian, "Enigma."* December 7, 2016. *Wikimedia
    Commons*.
    https://commons.wikimedia.org/wiki/File:Bundesarchiv_Bild_101I-769-0229-10A,
    _Frankreich,_Guderian,_%22Enigma%22.jpg.

    This is a photograph taken in France which features German general Heinz
    Guderian and an Enigma machine being operated by radio operators. This
    source is useful to me as it shows the Enigma itself, as well as its use, which I
    display in my website. Note: The title of this photograph translates to "France,
    Guderian, 'Enigma.'"

Elliott, and Fry. *Alan Turing. National Portrait Gallery*. Accessed February 13, 2024.
    https://www.npg.org.uk/collections/search/portrait/mw165875/Alan-Turing.

    This is a portrait of Alan Turing which was made in March 1951. I used this photo
    on my website in association with Alan Turing.

Good, Jack, Donald Michie, and Geoffery Timms. *Wartime photo of Colossus 10*.
    October 16, 2016. *Wikimedia Commons*.
    https://commons.wikimedia.org/wiki/File:Wartime_photo_of_Colossus_10.png.

    This is a photo of a Colossus machine which was taken in 1945. This document
    is sourced from the UK Public Record Office, however, the original is not
    digitized, therefore, I used a copy from Wikimedia Commons. I used this photo
    on my website in association with the Colossus machine.

Knox, Alfred Dillwyn, Peter Frank, George Twinn, William Gordon Welchman, Alan
    Mathison Turing, and John Robert Fisher Jeffreys. "Report on Enigma
    Decipherment, 1 November 1939." In *National Archives HW 14/2*, by Andrew

Hodges. Alan Turing: Primary Sources, 1939.
www.turing.org.uk/sources/nov39.html.

This is a transcription of a document which provides information on the current status of the cryptographic operations. In particular it highlights requests for resources and modifications to the bombe machine. This source is important to me as it added more information on the timeline of the bombe's development.

Navy WAVE working on US Navy Cryptanalytic Bombe. *National Air and Space Museum*. Accessed February 23, 2024.
https://airandspace.si.edu/multimedia-gallery/10926282827780993955576865793 35784379262103ojpg.

This is a photo of a US Navy WAVE (Women Accepted for Volunteer Emergency Services) working on a US Navy Cryptanalytic Bombe. This photo is courtesy of the National Cryptologic Museum. I used it in my website in association with the section on WAVES.

Rejewski, Marian. *Rejewski's original sketch of the Bomba*. *Crypto Museum*. Accessed April 2, 2024. https://www.cryptomuseum.com/crypto/bombe/.

This is the original sketch of the Bomba, created by Marian Rejewski himself in 1979. I used this image in connection to the Bomba section in my website.

Standing amidst a large crowd, Adolf Hitler gives the Nazi salute during a Reichsparteitag (Reich Party Day) rally. March 27, 2007. *United States Holocaust Memorial Museum*. https://collections.ushmm.org/search/catalog/pa1155956.

This is a photo of Adolf Hitler in circa. 1927 - 1929. I used this photo on my website regarding historical context that is important in understanding what led up to my topic.

Turing, Alan Mathison, Alan Mathison Turing, William Gordon Welchman, Conel Hugh O. Alexander, and Philip Stuart Milner-Barry. "Chapter 7 Letter to Winston Churchill (1941)." Essay. In *The Essential Turing: Seminal Writings in Computing, Logic, Philosophy, Artificial Intelligence, and Artificial Life, Plus the Secrets of Enigma*, edited by Jack B. Copeland, 336–40. Oxford, New York: Oxford University Press, 2004.

This source is a letter sent by head cryptanalysts at Bletchley Park to Winston Churchill which describes an urgent need for more staff at Bletchley Park. I used this source because it highlighted challenges that the cryptanalysts had to face,

which I used in understanding what kind of difficulties were encountered in order for my topic to come into being.

U.S. Navy Cryptanalytic Bombe. National Security Agency/Central Security Service. Accessed February 22, 2024. https://www.nsa.gov/History/National-Cryptologic-Museum/Exhibits-Artifacts/Cryptologic-Museum/Machines/igphoto/2002138770/.

> This is a photo of the U.S Navy's Cryptanalytic Bombe. I believe this photo was taken at the National Cryptologic Museum. I used this in the homepage of my website.

Secondary Sources

"Battle of the Atlantic." Naval History and Heritage Command, January 12, 2021. https://www.history.navy.mil/browse-by-topic/wars-conflicts-and-operations/world-war-ii/1942/atlantic.html.

> This is an article about the Battle of the Atlantic and the U-boat threat. This is useful to me as it provided additional background information on the Battle of the Atlantic.

"Colossus." The National Museum of Computing. Accessed December 12, 2023. https://www.tnmoc.org/colossus.

> This source is an exhibit on the Colossus machine from the National Museum of Computing. This is important to me as I have to consider other factors aside from the Bombe machine that contributed to the war effort, which in this case the Colossus machine is also credited with aiding the Allied war effort.

"Enigma Machine." Central Intelligence Agency. Accessed December 10, 2023. https://www.cia.gov/legacy/museum/artifact/enigma-machine/.

> This source is an exhibit from the CIA which provides background information on the Enigma machine. This source is important to me as it provides more specific information on the Enigma machine which is responsible for encrypting the messages that the bombe is designed to crack, thus it helps me answer my research question.

"Gordon Welchman." GCHQ, July 15, 2019. https://www.gchq.gov.uk/information/gordon-welchman.

This is a biography on Gordon Welchman. Gordon Welchman is important in my topic as he helped with the Bombe, making him an important figure in my topic. I used this source to find background information on Gordon Welchman.

Grimsley, Mark. "What If the Allies Had Not Broken the German Naval Code?" HistoryNet, September 30, 2010. https://www.historynet.com/what-if-the-allies-had-not-broken-the-german-naval-code/.

This source is a description of how Ultra helped the allied war effort within the Battle of the Atlantic and what would have happened had the decryption efforts failed. This source is important to me because it gives me a better understanding of how Ultra, which is composed of the intelligence produced by the bombe, helped in the Battle of the Atlantic, but this source also provides a counter argument to my research question which helps me see my topic from a different and somewhat negative perspective.

"How Alan Turing Cracked The Enigma Code." Imperial War Museum. Accessed December 10, 2023. https://www.iwm.org.uk/history/how-alan-turing-cracked-the-enigma-code.

This source is a biography written about Alan Turing from the Imperial War Museum. This source was important because it highlighted the use of the bombe and its effect in the Battle of the Atlantic which directly contributes to answering my research question.

"How Did Adolf Hitler Happen?" National WWII Museum. Accessed February 5, 2024. https://www.nationalww2museum.org/war/articles/how-did-adolf-hitler-happen.

This is an article from the WWII National Museum website. It provided me with information about WWII, Adolf Hitler, and Nazi Germany. It was useful to me as it provided me the necessary historical context to understand what led up to my topic.

"Marian Rejewski." National Security Agency/Central Security Service, 2014. https://www.nsa.gov/History/Cryptologic-History/Historical-Figures/Historical-Figures-View/Article/1621548/marian-rejewski/.

This is a biography on Marian Rejewski. This was useful to me as it provided me background information on Marian Rejewski which was an important figure in my topic. In addition to content, I also used an image from this source on my website.

Rastegari-Kirk, Branden S, and Mark Baldwin. Cryptanalytic Bombe. Personal Interview, January 16, 2024.

> For my research, I had interviewed Dr. Mark Baldwin, who is also known as "Doctor Enigma." The interview had given me additional information about my topic which allowed me to fill gaps in my research.

Russon, Mary-Ann. "WWII Enigma Codebreakers Dried Their Undies and Bras on Alan Turing's Bombe Machines." International Business Times UK, November 13, 2014. https://www.ibtimes.co.uk/wwii-enigma-codebreakers-dried-their-undies-bras-alan-turings-bombe-machines-1474618.

> This is an article which presents accounts of events from a woman named Elizabeth Balfour, who worked at Bletchley Park. This source is important to me as it provided a different perspective from within the Bletchley Park codebreakers.

U-110 and HMS Bulldog. March 16, 2009. *Wikimedia Commons*. https://commons.wikimedia.org/wiki/File:U-110_and_HMS_Bulldog.jpg.

> This is a photo taken in 1941 of the captured U-110 boat. I considered this source as secondary as although the source claims it originated from history.navy.mil, I was unable to verify it for myself. I used this photo in connection to my section about major breakthroughs in my website.

"U.S. Navy Cryptanalytic Bombe." YouTube, March 10, 2020. https://www.youtube.com/watch?v=zABzEZcdTls.

> This is a short video produced by the National Security Agency which talks about the Bombe and its use in the Atlantic. I used it to provide additional information about my topic within my website. I used the thumbnail image from this video as a background image of my website.

"Wartime Picture of a Bletchley Park Bombe." Wikimedia Commons, September 17, 2018. https://commons.wikimedia.org/wiki/File:Wartime_picture_of_a_Bletchley_Park_Bombe.jpg.

> This source is a photo taken of a bombe machine in 1945 at Bletchley Park. I believe this source to be primary, however, since I could not trace this photo to a reliable source other than Wikimedia Commons, I had to categorize it as secondary. I used this image in association with the Bombe on my website.

Wilcox, Jennifer E. *Solving the enigma: History of the cryptanalytic bombe*. Fort George
        G. Meade, MD: Center for Cryptologic History, National Security Agency, 2002.

        This source is a compiled timeline of the development of the bombe. This source
        is important to me as it has detailed events throughout the development of the
        bombe which contributes significantly to answering my research question. I used
        it to understand what events occurred during the development of the Bombe, as
        well as when said events occurred.

"World War 2: U.S. Navy Cryptanalytic Bombe." National Security Agency, August 4,
        2021.
        https://www.nsa.gov/History/National-Cryptologic-Museum/Exhibits-Artifacts/Exhi
        bit-View/Article/2719214/world-war-2-us-navy-cryptanalytic-bombe/.

        This source is an exhibit from the National Security Agency which gives a brief
        history of the Bombe. This source is important to me as it describes how much
        work came into building it over time and how it contributed to the war effort which
        directly contributes to answering my research question.