

# How Alan Turing Helped Win WWII ...

by David DiSalvio - 05/27/2012



## And Was Thanked With Criminal Prosecution For Being Gay

During this Memorial Day celebration, somewhere between barbecuing and beach time, give a thought to Alan Mathison Turing. You know him best as the inventor of the Turing Machine—the conceptual precursor of the modern computer—but we owe him a debt of gratitude well beyond his pioneering efforts in computer science.

During World War II, Turing served the Allied forces by breaking German military codes, particularly those used by the German navy. Germany's naval prowess was well known and rightfully feared. German U-boats didn't only strike terror throughout Europe, but U.S.

shores were also well within the German submarines' attack range. During the first three months of 1942, German U-boats sank more than 100 ships off the east coast of North America, in the Gulf of Mexico and in the Caribbean Sea. Many of those ships were within site of land.

Turing was in charge of Hut 8, a section at Bletchley Park (the British World War II codebreaking station) tasked with solving encoded German naval messages. He devised a range of code-breaking tools for cracking German ciphers, including an electromagnetic device called the Bombe, which countered the infamous German Enigma machine. The Enigma machine was developed in Germany shortly after World War I to encode and decode messages, and for the next 20 years the German military refined the technology until it became the Nazis' primary means of ciphering messages during WWII. Enigma technology was continuously altered throughout the war, making the challenge of breaking German ciphers extremely difficult. [...]

Without Turing's efforts and those of his Hut 8 team, the Allies would have continued to face a severe disadvantage against the German military's superior ciphering technology. Though it's impossible to quantify the exact impact of Turing's contributions, some military historians estimate that the war would have continued for at least another two years, and two million more lives would have been lost. [...]

After the War, Turing went on to invent and improve technologies that sparked a technological revolution he would never see. Not only did he develop two of the first modern computers, but he also pioneered what we know today as artificial intelligence. [...]

In 1952, Turing's home was burglarized, and a subsequent police investigation turned up evidence that Turing was having a homosexual relationship with a 19 year old man. Homosexuality was still illegal in Britain, and Turing was arrested under the same law that was used to convict Oscar Wilde in 1895. [...]

Turing's reputation continued to suffer after his arrest and he was permanently disqualified from government code-breaking work. A year later, he committed suicide by taking a lethal dose of cyanide. He was only 42.

(Source : <http://www.forbes.com/sites/daviddisalvo/2012/05/27/how-alan-turing-helped-win-wwii-and-was-thanked-with-criminal-prosecution-for-being-gay/2/>)