Contexts: the enigma of war

Dr Chris Holt brings to light Churchill's secret 'silent soldiers'

During the D-Day landings and the Allied advance into France, German military coded messages were continually intercepted and dispatched to England where they were decoded and sent back to the Allied commanders in the field, often within 30 minutes of the original intercept. During the height of the invasion, 4,000 German army, navy and air force messages per day were being decoded and relayed to the Allies. Even before D-Day commenced the Allies knew, from decrypted messages, the location of virtually every German division in Northern France. The invasion of Normandy was supported by a level of intelligence that was unprecedented in military history. How was this possible?

The main front of Bletchley Park, now a museum in Milton Keynes, as it is today

The decoding was taking place at Bletchley Park, a country house 80 km north west of London. Bletchley Park was a house built in a strange mix of architectural styles, Dutch Baroque, Tudor and Victorian Gothic; an unlikely setting for the most successful intelligence agency in history. In 1939, the government moved the Code and Cypher School from London to Bletchley Park, where it was considered to be safer in wartime. In addition, a very large number of men and women was recruited from Industry and Academia to join the Bletchley Park codebreakers in the run-up to the war.

The backbone of German military communications was the Enigma code, which was used for nearly all their military radio transmissions. The Germans believed it to be unbreakable. Each letter in the original message was transcribed to another letter of the alphabet by putting it through a series of rotating wheels and electrical contacts. The wheels and contacts could be set up in very many different ways and the settings were changed daily to make breaking the code even more unlikely.

Hugh Sebag-Montefiore, in *Enigma: the Battle for the Code*, wrote that it was a 22-year-old History undergraduate, Harry Hinsley '… who in the course of his medieval studies, had become adept at making the most of scant historical evidence' who made a seminal contribution to the Bletchley Park work and the mathematicians. Of the latter, the most well known was Alan Turing. He succeeded in devising a means of breaking the Enigma code. The method still entailed checking thousands of possible Enigma settings and, in order to speed up the codebreaking process, Turing developed electro-mechanical machines to perform the task.

Hitler and his high command used a highly sophisticated cypher called Lorentz. Many weeks were needed to decipher the Lorentz messages and the team at Bletchley Park constructed a decoding machine called Colossus, which was effectively the first ever electronic computer.

Breaking the Enigma code made a huge contribution to the war effort. Eavesdropping on German military communications enabled the minimisation of losses from U-Boat activity and allowed the Allies to control the Atlantic. It contributed to air defences and so helped to foil bombing raids. It allowed the identification of new weapons and aircraft and gave important information on the state of the German economy. It is estimated that the work of the Bletchley Park codebreakers shortened the war in Europe by at least two years.

Bletchley Park left another legacy. It is now recognised as the birthplace of the Information Age. The theoretical foundations for the modern computer were laid down, and the first programmable electronic computer was built there. Computer scientists today still refer to Turing's papers on mathematics and computing machines.

At the end of the war the codebreaking stopped and the thousands of people who worked at Bletchley Park left but remained silent about their wartime activities. All evidence of codebreaking was removed and the computing machines and their designs were destroyed.

Alan Turing continued his work on artificial intelligence at The National Physical Laboratory and elsewhere. He received a number of honours including an OBE for his contribution to the war effort. Later, Alan Turing, a homosexual, was prosecuted under the law as it was in the 50s. He was regarded as a security risk and was harassed and humiliated by the country whose freedom he had helped to secure. His life ended on the 7 June 1954 when, aged 41, he committed suicide by eating an apple laced with cyanide.

Note. Bletchley Park, now a museum, is open to the public. For admission details please see www.bletchleypark.org.uk

Illustration acknowledgements, Vol 13, No 2, Dec 2007

Courtesy of William Simpson, front cover (right) and pages 6 and 7 (left and right); *Illustrated London News,* pages 1 and 4 (right); Sempringham, front cover (left), pages 4 (left) and 14. The map on page 10 is from Wikipedia; maps on pages 12 and 16 were generated inhouse by Sempringham *publishing.*

The production of the September issue of the journal

We apologise to our subscribers for the quality of the binding of the last issue (Vol 13, No 1). It was the poorest work for us in 20 years of business but too late to correct without severe delay to our subscribers. We have terminated our business with the printer. We seek to deliver only the highest quality.