



Words by JAMES DOYLE

THE ENIGMA GIRLS

Spying in the UK goes back many centuries but in the very early days it wasn't really a profession as such and most spying missions were given to men. That was until the Second World War, when the art of spying underwent a dramatic change. At spy HQ – or to give it its full title, the Government Code and Cypher School – there were more than 10,000 employees and, remarkably, two-thirds of the spies were female.

One of the young women was Ruth Bourne. Ruth was recruited to aid the Allied code-breaking efforts at the now famous Bletchley Park. Ruth recalls the excitement of working at Bletchley and the high level of secrecy there. She recounts: 'I was given only one sentence: "We are here to break German codes, end of story".'

It was at Bletchley that the Nazis' famously complex 'Enigma code' was cracked. Moreover, most of the code breakers were young English women just out of school. For many years, the achievements of these young code breakers has been overlooked, focusing instead on the man at the forefront of the project, the brilliant mathematician Alan Turing.

Each day during the war, the Enigma women had to try to pre-empt German plans. They couldn't do this manually as it would be much too slow a process. Instead, they used Turing's revolutionary code-breaking machine named the 'bombe', which worked at lightening speeds. Ruth recalls that code breaking and spying on the Nazis '... was exciting but standing in front of a machine for eight hours was not'. The biggest problem they faced was the sheer volume of codes the Nazi Enigma machine could generate in a single day. Using the machine, German forces could scramble a message in more than 158 million, million, million ways, and at the end of each day the settings used would be

changed and the code breakers would have to start from scratch the next day.

Ruth and her fellow service women were known as the Wrens. Each day they prepared and managed the code-breaking bombes. They turned the drums on the front and plugged up the boards at the back according to settings laid out in Turing's user manual. The bombes used what were called 'cribs' to help break the German codes. If the settings were correct, then the cribs would reveal some of the Enigma settings used to encode a message and act as a starting point for unscrambling the remaining settings. If the crib and initial settings were good, then the bombe could return the information needed to crack the code within a matter of minutes.

Ruth arrived in Bletchley around D-Day and remembers that first day fondly as they were successfully cracking thousands of messages, but she soon learned that despite a marvellously successful day everything reset again the next day. The teams of teenagers found themselves working a punishing schedule, with very little margin for error. Ruth estimates that they could have broken two and a half million messages during the war.

When the war was won, the order came from Prime Minister Winston Churchill to take apart the 200-odd bombe machines. Amazingly, Ruth continues to operate a bombe machine today. It is the only working bombe in the world and is used in demonstrations at the Bletchley Park museum. In 2009, the government also presented the Enigma girls and other Bletchley veterans with a commemorative badge emblazoned with the words 'We also served'. The recognition of the work done at Bletchley was long overdue for the young women who played such a crucial role in the war effort. 