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COLOSSUS

The Secrets of Bletchley Park's
Codebreaking Computers

Edited by B. JACK COPELAND AND OTHERS



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the development of experimental equipment for Y work. Following successes against European traffic, the police operators received *carte blanche* to investigate ‘any curious type of transmission’. In the mid-1930s the section expanded and relocated to buildings in the grounds of the Metropolitan Police Nursing Home at Denmark Hill in south London.

Police operators first intercepted German non-Morse transmissions in 1932, on a link between Berlin and Moscow. These transmissions, which went on for ten months, were clearly experimental, and the police monitored them in conjunction with the Post Office’s Central Telegraph Office. It seems that the pre-war transmissions were unenciphered. Y’s first wartime encounter with non-Morse transmissions came in the latter half of 1940, when two stations broadcasting enciphered teleprinter code were intercepted. Sadly the intercepted material was put aside, owing to a shortage of cryptanalysts. The transmissions were monitored and after a time they ceased.

Probably the two stations had been carrying out tests. The British operators intercepted further non-Morse transmissions during the early part of 1941. These consisted both of teleprinter code and *Hellschreiber*, an early form of fax. Some transmissions were supersonic—what appeared to the intercept operator to be a steady tone was revealed by the monitoring equipment to consist of a stream of characters.

The first experimental Tunny traffic was intercepted in June 1941. The messages were distinctive, beginning with a plaintext list of 12 German names, such as ‘Anton’, ‘Berta’, ‘Caesar’, and ‘Dora’. These lists turned out to be the message indicators, revealing the wheel start positions (see Chapter 3). Early Tunny transmissions were sent via *Hellschreiber*, but from March 1942 each of the Tunny machines on the experimental link was wired to a tone transmitter. As the name implies, this transmitted tones—somewhat like those produced by the keys of a modern touch-tone phone.

Denmark Hill was instructed to pay special attention to the newly discovered Tunny traffic. Assistance was provided by a small outstation with special aerials that was set up on the south coast near Dover. The Admiralty, Air Force, and Army all loaned first-class operators. But by February 1942, it was clear that a large intercept station dedicated to Tunny was required. A search was made for a suitable location and eventually, in May 1942, a farmhouse about 15 miles south-east of London was requisitioned, at Knockholt in Kent. Situated on top of a rise, the farmhouse had an altitude of about 600 feet—ideal for snooping on radio transmissions from across the Channel. There were 160 acres of land to accommodate aerials and new buildings.