

## Hugh Foss

1902 - 1971

*A brief biography, formerly displayed in the 'Hall of Fame' in Bletchley Park mansion.*

**Hugh Foss was a brilliant codebreaker and linguist who led the team working on Japanese naval cyphers at BP in World War 2. He had been the first at GCCS to propose a way of breaking Enigma, and the first to succeed with Turing's technique for reducing the possible wheel orders, Banburismus. He broke two Japanese machine codes in the 1930s, and led the team on Japanese naval codes with very considerable success. His lanky figure, straggly red beard, and absent-minded habits put him in the forefront of the great BP eccentrics.**

Hugh Rose Foss was born in Japan on 13 May 1902, one of five children of the Anglican Bishop of Osaka. He was sent home to school but was able to keep up his Japanese during the summer holidays. He went to Marlborough and then to Christ's College, Cambridge, where he studied mathematics, French and Spanish.

He joined GCCS in December 1924. In 1927 he proposed a way of breaking Enigma that paved the way for Dilly Knox's breaking of the Italian naval Enigma in 1937, and so to the breaking of the German military version of the Enigma machine in 1940. Then in September 1934 Hugh Foss and Oliver Strachey broke the new Japanese naval attaché cypher, soon followed by the Japanese diplomatic machine cypher, the first machine cyphers broken systematically by GCCS.

Under pressure to break German naval Enigma, he was working with Alan Turing in Hut 8 in the spring of 1940. Turing had invented a statistical procedure for ruling out certain code-wheel orders, so that they could make efficient use of the little available bombe time. This technique was known as "Banburismus", as it was carried out using special very long sheets of paper produced in Banbury. It proved to be very difficult to work, but Hugh Foss was not to be beaten and for weeks he worked on an intercepted message for 8 May 1940 in spare moments. Finally in November 1940 it succumbed, 8 May becoming known in Hut 8 as "Foss Day". Now "Banburismus" became a standard procedure in Hut 8.

In March 1941 Hugh Foss went back full time to head the Japanese naval cryptography section, which expanded very fast as the Japanese war approached, and finally reached over 120 people in March 1945, growing even larger for the few months after the end of the war in Europe. Foss established short training courses, primarily for the Wrens who were going out to HMS Anderson in Colombo. There were a considerable number of different Japanese cyphers, and as the books were changed frequently, the work of building up the codebooks was very laborious.

Hugh Foss's forte was as a 'break-in' man into new Japanese cyphers. Towards the end of 1943, BP decided to send him to Washington to work with the US naval codebreakers' team. The Americans got on remarkably well with the tall, red-bearded, sandal wearing, eccentric, dubbing him "*Lease-Lend Jesus*". Hugh Foss & Hugh Alexander made a major contribution to the US team tackling the naval attaché machine, Coral, which was broken in March 1944,

Foss had married Alison Graham in April 1932, and they had two children. For such a shy man, it was remarkable that he was an outstanding Scottish dancer, making it a major off-duty activity at Bletchley. He continued to work for GCHQ after the war, retiring in 1953 and going to live at Glendaroch in St John's Town of Dalry, Kirkcudbrightshire. He continued his

Scottish dancing pursuits, composing, compiling and publishing a number of dances. He died there on 23 December 1971.