

Alan M. Turing: the Enigma

It is impossible to overemphasize the impact of this man not just on science but on all of modern history.

Alan Turing invented computers (both conceiving the theory of computation and actually building them), advanced cryptography, started research in Artificial Intelligence (giving an operative definition of intelligence known as Turing Test, and discussing learning machines very similar to modern neural networks). Furthermore, his work in deciphering German communications during the war actually changed the course of the conflict.

And yet, this man ended his days jailed by his own country because of his homosexuality, and finally died (probably suicided) nearly a madman.

Alan Turing was a brilliant original thinker. Formally a mathematician, in his lifetime he studied and wrote papers over a whole spectrum of subjects, from philosophy and psychology through to physics, chemistry and biology. He graduated from Cambridge in Mathematics in 1934, was a fellow at Kings College for two years, during which he wrote his famous paper which introduced the Turing Machine, went to Princeton for two years to do a Ph.D., and returned to Kings for a year. At the outbreak of war in September 1939 he was drafted to the Government Code and Cypher School at Bletchley Park as a cryptanalyst. Here he made a major contribution to the battle to decode the German Enigma encodings, designing the "Bombe", though he was not directly involved with the later Colossus project.

After the war he went to NPL to design a stored-program computer for them, the ACE. But after delays in starting to build ACE he went back to Kings for a year, before being invited by Max Newman to Manchester.

Turing joined the Department of Mathematics at Manchester as a Reader in September 1948, with the nominal title of "Deputy Director of the Royal Society Computing Machine Laboratory". (The Royal Society Computing Machine Laboratory was the room the Baby occupied; there was no known "Director"!)

Meanwhile, he was continuing his theoretical work and in 1950 published another famous paper "Computing Machinery and Intelligence", which anticipated the subject of Artificial Intelligence.

Alan Turing remained at Manchester till his untimely death in June 1954.

Read more about Alan Turing at: turing.org.uk