Alan Turing: The Father of Modern Computing [B2]

Considerato una delle menti più brillanti del XX secolo, questo matematico visionario è stato determinante per la vittoria degli alleati nella Seconda guerra mondiale, contribuendo nel campo della crittografia e gettando le basi per i principali progressi dell'informatica.

The mathematical genius Alan Turing was the key figure in Britain's successful efforts to **break Nazi Germany's military codes** during the Second World War. His crucial wartime work at Bletchley Park Code and **Cypher** School **shortened** the conflict and saved millions of lives. Importantly too, his **groundbreaking** scientific work before and after the war made him the father of modern computing and artificial intelligence.

UNRECOGNISED WORK

Turing's work was never recognised during his lifetime as it was protected by Britain's Official Secrets **Act**. The brilliant scientist died in obscurity. However, in 2019, sixty-five years after his death, BBC TV viewers named him the greatest person of the 20th century!

SEMINAL CAMBRIDGE IDEAS

Turing's scientific career began when he entered Cambridge University in 1931 as a student. During the 1930s, he produced **seminalpapers**, including his vision of a "universal computing machine" — a Turing machine — which received an algorithm for a computation and was then able to apply it. It **encapsulated** the logical principles of the digital computer. Turing's paper was called "easily the most influential math paper in history" by Princeton University professor Avi Wigderson, and was fundamental in the development of today's computers.

CODEBREAKING

In September 1938, Turing started work at Bletchley Park, the centre of Britain's codebreaking operations, which produced the country's top secret so-called Ultra Intelligence. After war **broke out**, Turing led a team which used an electromechanical machine to break German cyphers protecting messages about the country's naval operations. This involved finding the **settings** for Germany's Enigma machines, which encoded naval messages. Enigma is considered the greatest encryption device in history. Turing's work was crucial in the defeat of the Axis powers in the Battle of the Atlantic.

THE TURING TEST

After the war, Turing worked at the National Physical Laboratory, where he designed the first **stored-program** computer. He then worked in the University of Manchester's computing lab. In 1950, he proposed an experiment that became known as the Turing Test, which was an **attempt** to define a **standard** which would determine whether a computer could 'think'. Turing's idea, which he called the Imitation Game, consisted of a conversation between a human interrogator and two interlocutors, another human and a computer. If the interrogator could not **reliably tell the machine from** the human, the machine would be said to have **passed** the test and be capable of thinking.

A TRAGIC END

In 1952, Turing's personal life intruded into his brilliant career. He was **prosecuted** for homosexual acts — which were illegal then — and convicted of **gross indecency. He underwent** a course of hormonal injections, chemical castration designed to reduce his libido. In 1954, aged just forty-one, he was found dead at his home in an apparent suicide, although it is possible that it was an accidental death. Almost sixty years later, in 2013, the Queen signed a posthumous pardon for Turing in recognition of the importance of his work and the terrible injustice of his legal treatment.

Glossary

- **prosecuted** = perseguire
- **gross indecency.** = atti osceni
- **settings** = configurazioni
- **attempt** = tentativo
- **standard** = norma
- **stored-program** = programma memorizzato
- **passed** = superare
- **He underwent** = sottoporsi a
- **break Nazi Germany's military codes** = decifrare un codice
- **Cypher** = codice, messaggio cifrato
- **papers** = articoli accademici
- **reliably** = in modo affidabile
- **groundbreaking** = rivoluzionario
- **encapsulated** = racchiudere
- **broke out** = scoppiare
- **tell the machine from** = distinguere ... da ...
- **shortened** = accorciare, ridurre
- **Act** = legge
- **seminal** = influente