
Alan Turing

Made by Dima

Early life and education

Family

- Turing was born in Maida Vale, London, while his father, Julius Mathison Turing (1873–1947), was on leave from his position with the Indian Civil Service (ICS) at Chatrapur, then in the Madras Presidency and presently in Odisha state, in India. Turing's father was the son of a clergyman, the Rev. John Robert Turing, from a Scottish family of merchants that had been based in the Netherlands and included a baronet.
-

School

- Turing's parents enrolled him at St Michael's, a primary school at 20 Charles Road, St Leonards-on-Sea, from the age of six to nine. The headmistress recognised his talent, noting that she has "..
-

Christopher Morcom

- At Sherborne, Turing formed a significant friendship with fellow pupil Christopher Collan Morcom (13 July 1911 – 13 February 1930), who has been described as Turing's "first love". Their relationship provided inspiration in Turing's future endeavours, but it was cut short by Morcom's death, in February 1930, from complications of bovine tuberculosis, contracted after drinking infected cow's milk some years previously.
 - The event caused Turing great sorrow.
-

University and work on computability

- After Sherborne, Turing studied as an undergraduate from 1931 to 1934 at King's College, Cambridge, where he was awarded first-class honours in mathematics. In 1935, at the age of 22, he was elected a Fellow of King's College on the strength of a dissertation in which he proved the central limit theorem. Unknown to the committee, the theorem had already been proven, in 1922, by Jarl Waldemar Lindeberg.
-

Career and research

Cryptanalysis

- During the Second World War, Turing was a leading participant in the breaking of German ciphers at Bletchley Park. The historian and wartime codebreaker Asa Briggs has said, "You needed exceptional talent, you needed genius at Bletchley and Turing's was that genius." From September 1938, Turing worked part-time with the Government Code and Cypher School (GC&CS), the British codebreaking organisation.
-

Bombe

- Within weeks of arriving at Bletchley Park, Turing had specified an electromechanical machine called the bombe, which could break Enigma more effectively than the Polish bomba kryptologiczna, from which its name was derived. The bombe, with an enhancement suggested by mathematician Gordon Welchman, became one of the primary tools, and the major automated one, used to attack Enigma-enciphered messages.
 - The bombe searched for possible correct settings used for an Enigma message (i.
-

Hut 8 and the naval Enigma

- Turing decided to tackle the particularly difficult problem of German naval Enigma "because no one else was doing anything about it and I could have it to myself". In December 1939, Turing solved the essential part of the naval indicator system, which was more complex than the indicator systems used by the other services. That same night, he also conceived of the idea of Banburismus, a sequential statistical technique (what Abraham Wald later called sequential analysis) to assist in breaking the naval Enigma, "though I was not sure that it would work in practice, and was not, in fact, sure until some days had

Turingery

- In July 1942, Turing devised a technique termed Turingery (or jokingly Turingismus) for use against the Lorenz cipher messages produced by the Germans' new Geheimschreiber (secret writer) machine. This was a teleprinter rotor cipher attachment codenamed Tunny at Bletchley Park. Turingery was a method of wheel-breaking, i.
-

Delilah

- Following his work at Bell Labs in the US, Turing pursued the idea of electronic enciphering of speech in the telephone system. In the latter part of the war, he moved to work for the Secret Service's Radio Security Service (later HMGCC) at Hanslope Park. At the park, he further developed his knowledge of electronics with the assistance of engineer Donald Bayley.
-

Early computers and the Turing test

- Between 1945 and 1947, Turing lived in Hampton, London, while he worked on the design of the ACE (Automatic Computing Engine) at the National Physical Laboratory (NPL). He presented a paper on 19 February 1946, which was the first detailed design of a stored-program computer. Von Neumann's incomplete First Draft of a Report on the EDVAC had predated Turing's paper, but it was much less detailed and, according to John R.
-

Pattern formation and mathematical biology

- When Turing was 39 years old in 1951, he turned to mathematical biology, finally publishing his masterpiece "The Chemical Basis of Morphogenesis" in January 1952. He was interested in morphogenesis, the development of patterns and shapes in biological organisms. He suggested that a system of chemicals reacting with each other and diffusing across space, termed a reaction-diffusion system, could account for "the main phenomena of morphogenesis".
-

—

Personal life

Engagement

- In 1941, Turing proposed marriage to Hut 8 colleague Joan Clarke, a fellow mathematician and cryptanalyst, but their engagement was short-lived. After admitting his homosexuality to his fiancée, who was reportedly "unfazed" by the revelation, Turing decided that he could not go through with the marriage.
-

Conviction for indecency

- In January 1952, Turing was 39 when he started a relationship with Arnold Murray, a 19-year-old unemployed man. Just before Christmas, Turing was walking along Manchester's Oxford Road when he met Murray just outside the Regal Cinema and invited him to lunch. On 23 January, Turing's house was burgled.
-

Treasure

- In the 1940s, Turing became worried about losing his savings in the event of a German invasion. In order to protect it, he bought two silver bars weighing 3,200 oz (90 kg) and worth £250 (equivalent to over £8,000 in 2022) and buried them in forest which is now Bletchley Park. Upon returning to dig them up, Turing found that he was unable to break his own code describing where exactly he had hidden them.
-

Death

- On 8 June 1954, at his house at 43 Adlington Road, Wilmslow, Turing's housekeeper found him dead. He had died the previous day at the age of 41. Cyanide poisoning was established as the cause of death.
-

Government apology and pardon

- In August 2009, British programmer John Graham-Cumming started a petition urging the British government to apologise for Turing's prosecution as a homosexual. The petition received more than 30,000 signatures. The Prime Minister, Gordon Brown, acknowledged the petition, releasing a statement on 10 September 2009 apologising and describing the treatment of Turing as "appalling":
- Thousands of people have come together to demand justice for Alan Turing and recognition of the appalling way he was treated.