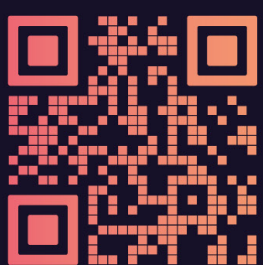
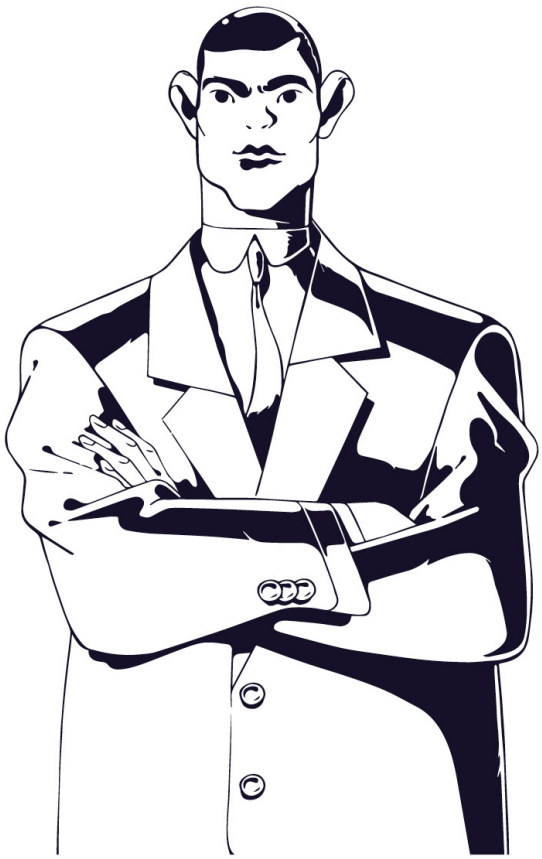
Innovators of Data Science

FROM BAYES TO BAYESIAN NEURAL NETWORKS

Brought to you by data iku

Table of Contents

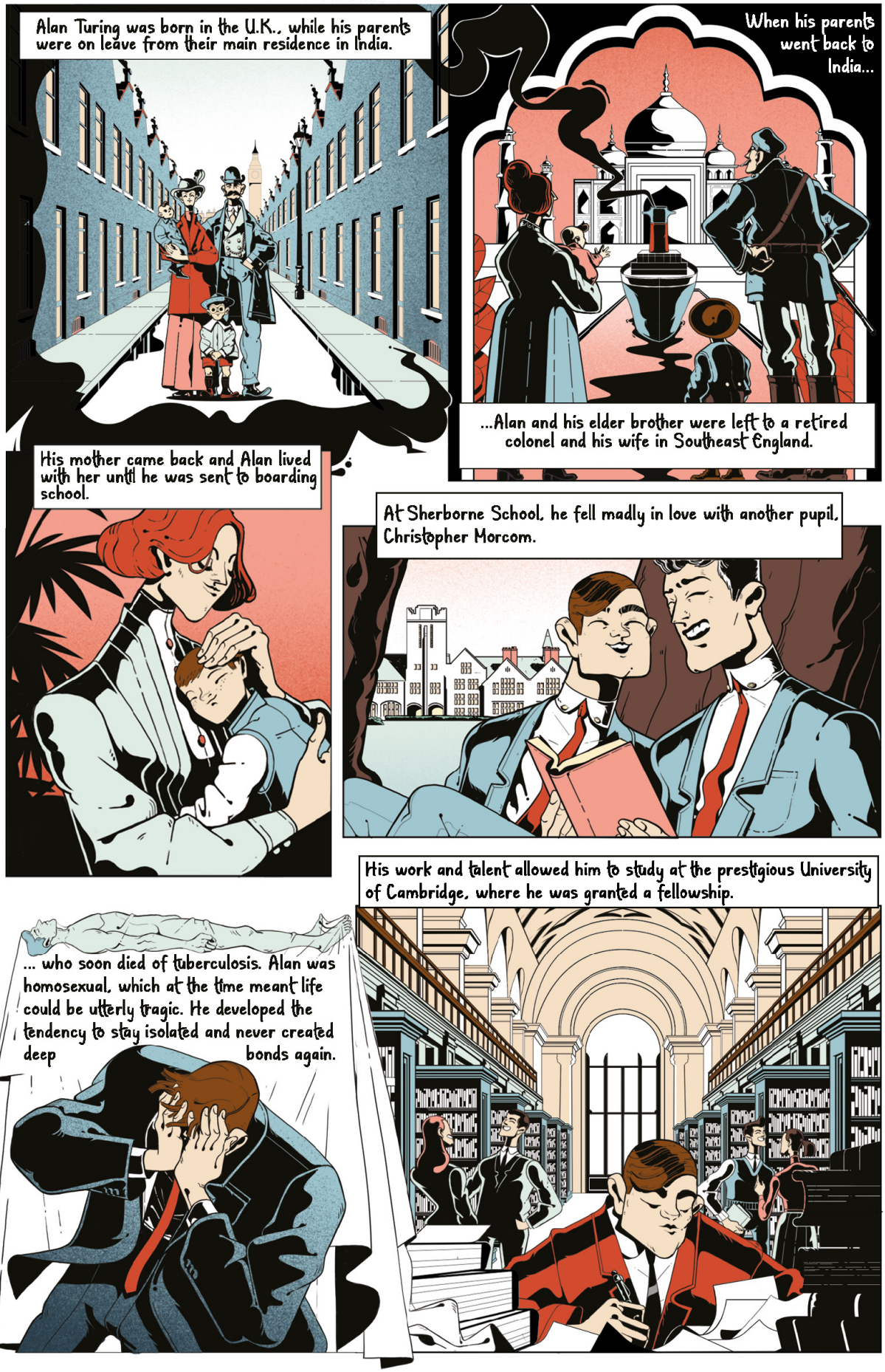


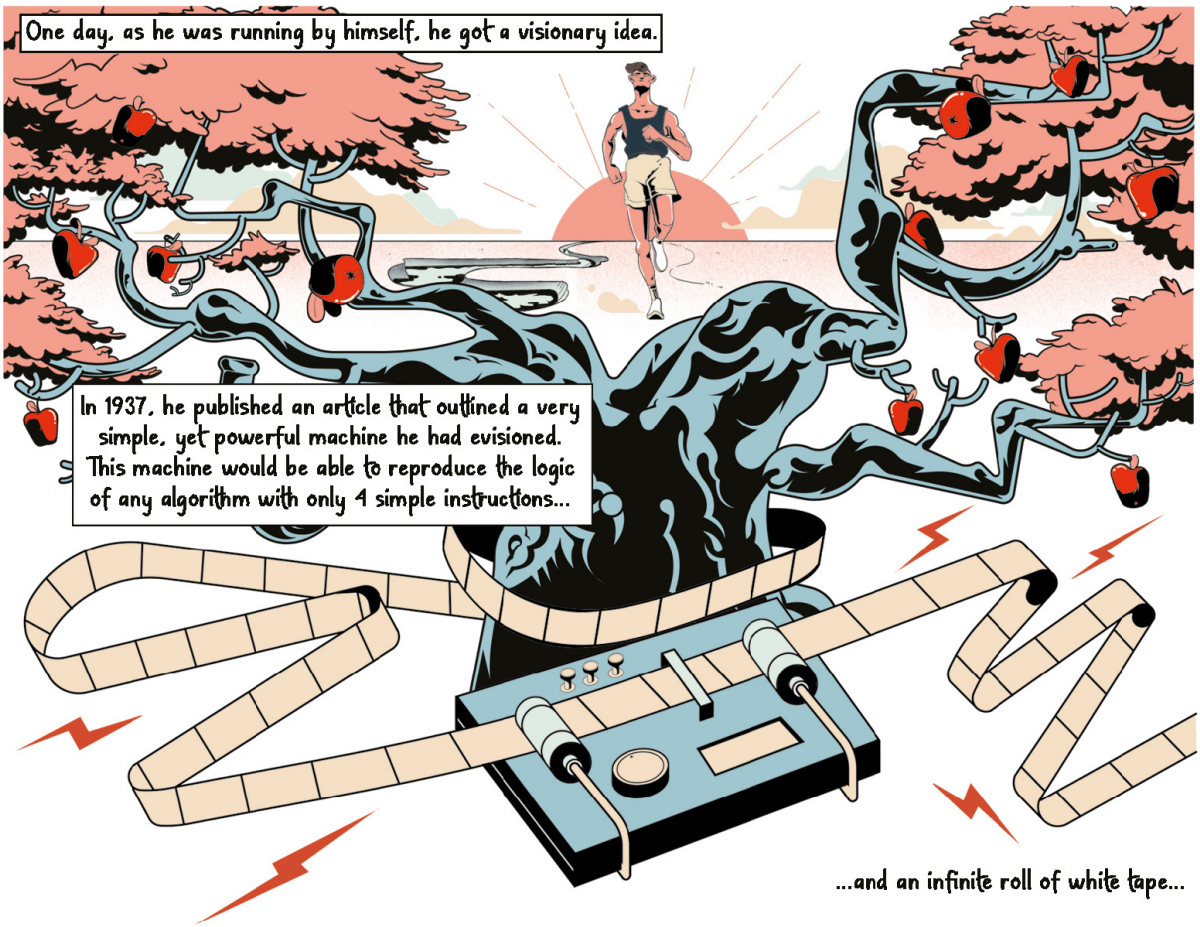


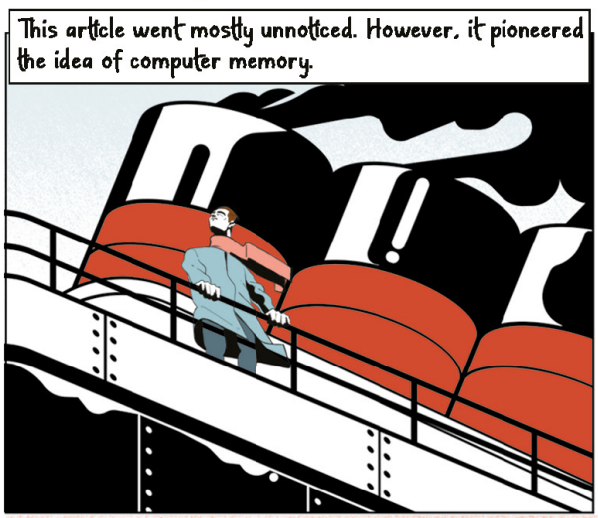
Alan Turing

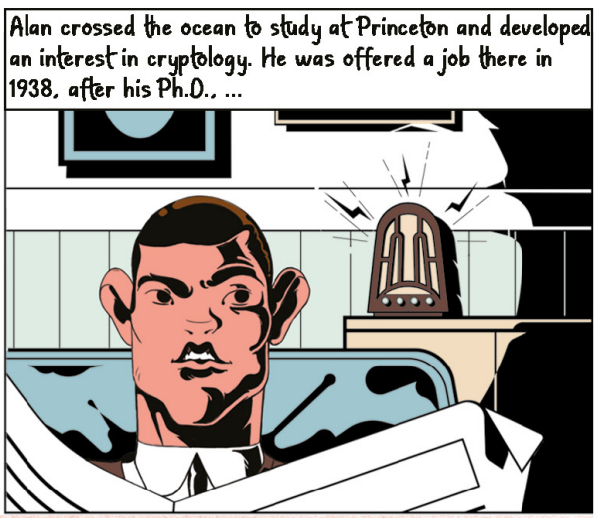
1912-1954

by Gilles Warmoes


Alan Turing was born in the U.K., while his parents were on leave from their main residence in India.
When his parents went back to India...
...Alan and his elder brother were left to a retired colonel and his wife in Southeast England.
His mother came back and Alan lived with her until he was sent to boarding school.
At Sherborne School, he fell madly in love with another pupil, Christopher Morcom.
His work and talent allowed him to study at the prestigious University of Cambridge, where he was granted a fellowship.
... who soon died of tuberculosis. Alan was homosexual, which at the time meant life could be utterly tragic. He developed the tendency to stay isolated and never created deep bonds again.

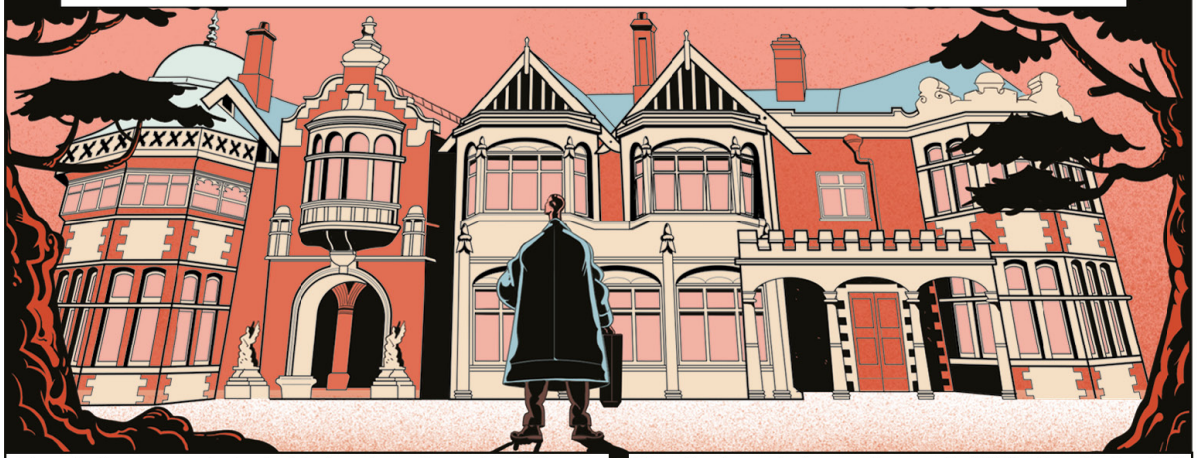

One day, as he was running by himself, he got a visionary idea.
In 1937, he published an article that outlined a very simple, yet powerful machine he had evisioned. This machine would be able to reproduce the logic of any algorithm with only 4 simple instructions...
...and an infinite roll of white tape...


This article went mostly unnoticed. However, it pioneered the idea of computer memory.

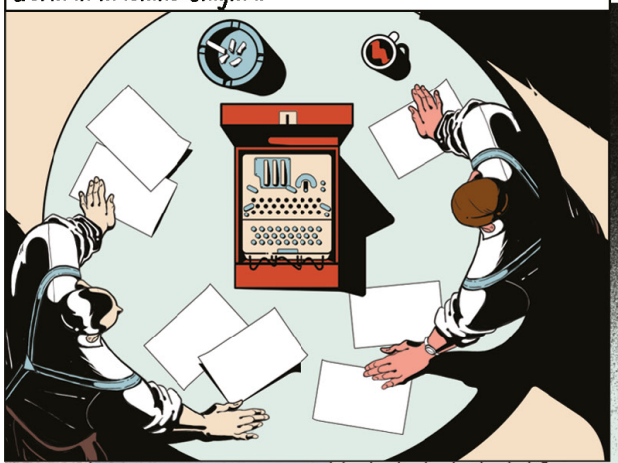

Alan crossed the ocean to study at Princeton and developed an interest in cryptology. He was offered a job there in 1938, after his Ph.D., ...


...but he decided to return to the U.K. to participate in the war effort.

He was recruited by the Government Code and Cypher School. The service was settled in an old manor, Bletchley Park, where he was secretly recruited by counter-intelligence services.



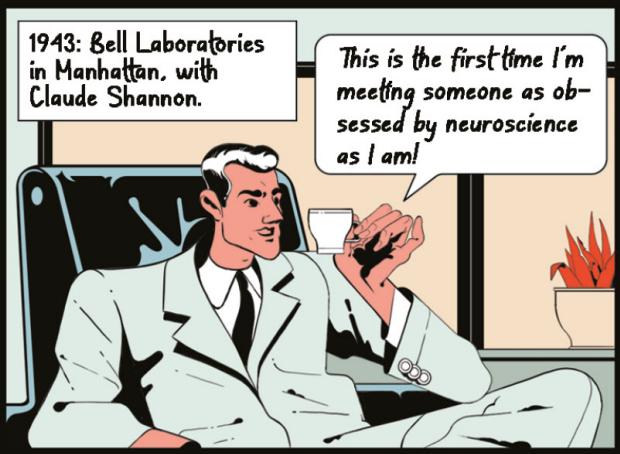
Turing's team was dedicated to breaking the code of the German machine Enigma.



They first created a machine called "The Bombe," which was able to decode the German messages.

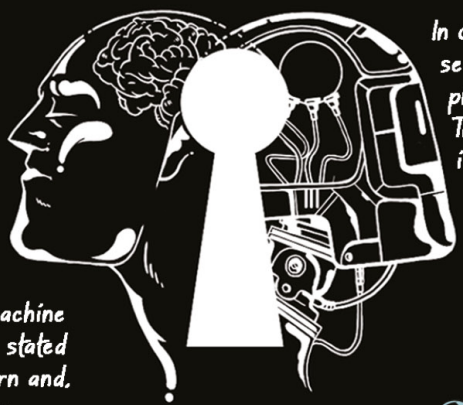
When the Germans changed their way of coding information, they had to build a faster engine. Turing was not part of the team that created "The Colossus," but he contributed to it by finding a statistical approach to analyze text.

The Colossus was the machine that decoded messages from Hitler saying they would not send troops to Normandy in 1944, enabling the Allied victory.



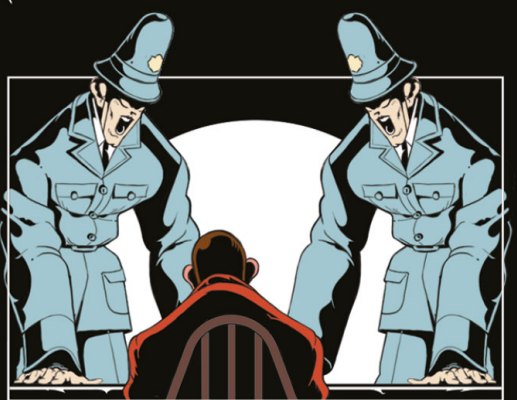
"THE IMITATION GAME"

That thought led Turing to imagine a test called: "The Imitation Game."



In one room, a human interrogator sends messages to another player, placed in another room. The goal of the game is for the interrogator to determine whether the player is another human... or a machine.

Ada Lovelace had declared that a machine would never be able to think. Turing stated that it could have the capacity to learn and, therefore, develop a certain intelligence.



In 1952, after a burglary in his home, Turing confessed to the police he had an affair with a man, which was illegal at the time. He was given the choice to go to prison or to undergo a hormonal treatment to reduce his sexual drive.

He chose the second option.

In June 1954, he committed suicide, biting into an apple infused with cyanide.

Innovators of Data Science

FROM BAYES TO BAYESIAN NEURAL NETWORKS

203, rue de Bercy, 75012 Paris