The Greatest Discovery in Medicine: Alexander Fleming [B2]

Fu per pura casualità, se diventò uno degli scienziati più importanti della storia: una mattina di settembre si accorse che i campioni di laboratorio erano contaminati. Era la penicillina, che ogni anno salva milioni di vite.

The Scottish bacteriologist Alexander Fleming (1881-1955) made one of the most important discoveries in history when he accidentally **happened on** the world's first-ever antibiotic. Penicillin has been described as a "miracle cure" and the "single greatest victory ever **achieved** over **disease**." The discovery, made in 1928, changed the course of medicine by starting the antibiotic revolution, and it has saved the lives of millions of people.

SAVING LIVES

Fleming first started to make history during the First World War, working as a doctor. He saw the death of many soldiers from sepsis resulting from infected **wounds**. In an article in the medical journal The Lancet, he said that antiseptics actually **worsened** some injuries, but he was ignored. He saved many soldiers' lives by washing deep **wounds** with saline solution.

ANTI-BACTERIAL WORK

After the war, Fleming returned to St. Mary's Hospital in London, where he had been investigating anti-bacterial substances. He was a very **untidy** worker, which actually contributed to his success. One day in 1922, clearing up his **mouldy** **culture plates**, he noticed that one was contaminated with bacteria. One area was clear, however, where a **droplet** of mucus had fallen from his nose weeks earlier. He then found that many body fluids contained a substance, an enzyme produced by humans that forms part of our **innate** immune system, which could dissolve certain bacteria. He named it 'lysozyme', and reported the discovery – but **to no interest**.

SERENDIPITOUS DISCOVERY

In September 1928, Fleming returned to the lab after a holiday. He had **carelessly** left some plates containing bacteria on a **bench**. He noticed that one plate was contaminated with a **fungus** and the bacteria around the **fungus** had been destroyed. He famously said, "That's funny". The source of the contaminant came from a colleague's lab below and had entered through an open window. Fleming identified the mould as being a rare **strain** of the **genus** Penicillium. He named the mould's active bacteria-destroying ingredient Penicillin. It would **turn out** to be the most effective life-saving drug in the world! Amongst others, it affected bacteria that caused scarlet fever, pneumonia and meningitis.

A PRACTICAL DRUG

Fleming published his discovery in 1929 but received little attention again. Then, in the early 1940s, a group of scientists in Oxford began studying the antibiotic's molecular structure. Clinical **trials** finally verified its incredible efficacy. American pharmaceutical companies then began producing it in large quantities — enough, in fact, to treat every wounded Allied soldier in the Second World War.

NOBEL PRIZE

In 1945, Fleming received the Nobel Prize. Fleming was a modest man. He once said: “When I woke up just after **dawn** on 3 September 1928, I certainly didn’t plan to revolutionise all medicine by discovering the world’s first antibiotic, or bacteria killer. But I suppose that was exactly what I did.”

Glossary

- **innate** = innato, naturale
- **fungus** = fungo
- **trials** = prove, esperimenti
- **mouldy** = ammuffite
- **culture plates** = piastre di coltura
- **happened on** = imbattersi
- **carelessly** = sbadatamente
- **to no interest** = non destare interesse
- **bench** = banco
- **achieved** = ottenere
- **worsened** = aggravare
- **untidy** = trasandato
- **droplet** = goccia
- **strain** = ceppo
- **genus** = genere, specie
- **turn out** = risultare
- **dawn** = alba
- **disease** = malattia
- **wounds** = ferite