

CODEBREAKER

Alan Turing is to computer science what Charles Darwin is to biology. More than any other person, he is responsible for our modern computer age, yet most people have never heard of him and don't know his fascinating and tragic story. 100 years after his birth, we rediscover the man and the mystery.



**"An overdue and thoroughly honourable telling of this dreadful story."
- *The Times***

**"It's a tragedy of Shakespearean proportions."
- *Dermot Turing, Alan Turing's nephew***

**"powerful" and "imaginative"
- *The Sunday Times***

CODEBREAKER tells the remarkable and tragic story of one of the 20th century's most important people. Turing was a hero codebreaker in World War II and the father of the computer age. Instead of receiving accolades, Turing faced terrible persecution. The State forced him to undergo chemical castration as punishment for his homosexuality. This film broadcast on Channel 4 in the United Kingdom in November of 2011, attracting 1.5 million viewers and receiving [good reviews](#).

This drama documentary uses emotional and engaging reconstructions, as we bring Turing's story to life in intricate detail and high colour. This groundbreaking film has at its heart a drama, which takes place almost entirely in a therapist's consulting room. Built on a solid historical foundation of true events, Turing is our storyteller as he defiantly searches for answers. Documentary elements seamlessly interconnect with drama scenes to offer a three dimensional picture of Turing, his accomplishments, and his tragic end. [Watch a two-minute trailer](#).

HOW WE TELL THE STORY

In alternating chapters, this film's drama spills into documentary scenes featuring witnesses who knew Turing and top scientists who bring alive his ideas. The drama and documentary knit together his story in a seamless narrative arc.



Alan Turing

The drama scenes center on the psychotherapy sessions Turing participated in during the last 18 months of his life. In late 1952, Turing undertook voluntary psychotherapy with a German Jewish analyst. Dr. Franz Greenbaum had fled Berlin with his young family in 1939, barely escaping the Nazis. Unlike most psychiatrists and psychoanalysts of the day, Greenbaum had enlightened views about homosexuality. He thought Turing's orientation was natural and didn't need "changing." Greenbaum also took an interest in Turing's mathematical insights with the patient/therapist relationship eventually becoming a friendship, as Turing made social visits to the Greenbaum home.

Viewers will learn these details from interviews with Greenbaum's daughters who remember Turing and his visits to their home. They have fond memories of the games Turing played with them and the kindness he showed toward them. Precise content of the Turing / Greenbaum sessions is lost to history; however the drama scenes are well grounded in historical fact. Aside from testimony of Greenbaum's daughters and Turing's nephew, Turing's own words inform the drama; his letters, papers, transcripts of radio broadcasts, and a short story he wrote about himself. The drama also is informed by other archival records and first-hand accounts of his life.

FURNACE

Anchoring the film in the therapy sessions allows the audience to emotionally engage with Turing; to identify and sympathize with this outsider genius. **The drama scenes immerse viewers in Turing's world, making him a real person.** Equally, as a therapy session, it won't be a straightforward examination of Turing's life and personality. After all, who automatically reveals how they really feel in analysis? It is Greenbaum's job to grapple with this character. He is the decoder of the decoder. As an outlaw in his own country, Greenbaum identified with Turing's anti-establishment, outsider status.



Dr. Franz Greenbaum

The drama stars Ed Stoppard as Alan Turing and Henry Goodman as his psychotherapist, Dr. Franz Greenbaum. Stoppard's credits include the Academy Award winning feature film *The Pianist*, the BBC series *Upstairs Downstairs*, and the highly acclaimed feature film *Brideshead Revisited*. Goodman is an accomplished stage and screen actor with credits including *The Damned United*, *Taking Woodstock*, and the West End production of *Yes, Prime Minister*.



The screenplay is written by Craig Warner (*Maxwell*, *The Queens Sister*, *The Last Days of Lehman Brothers*). The film is directed by Clare Beavan (Emmy award winning director of *Simon Schama's Power of Art* and the BBC drama *Daphne*). Award winning Executive Producer Paul Sen brings to this project two decades of experience in science and historical films for US and UK broadcasters. The film is produced by London based Furnace TV in association with Washington, DC based Story Center Productions, LLC.

The documentary sequences support the drama scenes and provide context to the narrative. Testimony from the most charismatic experts in the world of technology and high science bring Turing's extraordinary scientific contributions into the 21st century. We also include important voices from Turing's own time. This is undoubtedly the last opportunity for us to hear from the men and women who knew him and remember him in all his exuberance, and genius. These accomplished scientific experts, historians, and Turing contemporaries supplement the drama scenes, add context to the story, and create a more complete portrait of Turing.

THE MAN & HIS STORY

Alan Turing was a complicated and eccentric genius – a man ahead of his time. “Turing is one of the great figures of Science of all time,” says his biographer David Leavitt.

In the 1930s, Turing developed the intellectual foundation for modern computer science. This visionary British mathematician’s idea for a Universal Turing Machine described, in essence, every modern computer, with its hardware and software. This revolutionary idea makes him the one person - more than any other - who is responsible for the computer age. His legacy can be seen all around us in today’s modern world – from a super computer to an iPad, to the Xbox to the document you are reading now.



“Alan Turing is one of the greatest scientists of the 20th Century,” says Matt Parker, Mathematics instructor at the University of London. “What’s incredible is, when Turing wrote his paper in 1936, the idea of a computer was just, well, outlandish. It was a theoretical idea. But yet today we’ve got all these computers and all our phones and everything around us, they all behave like Turing machines. He accurately described all our modern computing devices.”

Throughout his life, the British mathematician was a non-conformist. Turing’s mind placed him at odds with colleagues, peers, and a society that emphasized conformity and control. In his personal life too, he charted his own path; openly accepting his homosexuality at a time when such honesty was rare and potentially harmful.

Turing developed a life changing friendship while attending a public boarding school in Southwest England. He developed a very close friendship with another student, Christopher Morcom. They had an intense relationship of mentorship, friendship, scientific discovery, and – from Turing’s perspective – love. The friendship ended tragically when Christopher died of tuberculosis at age 17. His death forever altered Alan’s perception of the universe and it impacted his scientific quest to understand the brain and the potential for artificial intelligence. The film features Morcom’s nephew, who offers important insights about this friendship and its impact on Turing.

Turing became an unlikely hero during World War II - when his work as a codebreaker changed the course of battle. He led efforts to break Germany's naval Enigma code; taking on the responsibility in part because no one else could figure out how to break the code. The Empire's survival depended on breaking this code because Germany was using it to communicate with the U-boats working to strangle Atlantic shipping lanes that formed England's only lifeline early in the War. Eventually, the codebreakers succeeded, with Turing in an instrumental role. Historians credit Turing with helping shorten the war by two years and saving millions of lives. **Churchill called these codebreakers, "the geese who laid the golden eggs and never cackled."**

After the war, in the early 1950s, as the father of artificial intelligence, Turing faced great skepticism from colleagues and the wider public when he spoke and wrote about thinking machines which would one day act like a brain. **The modern computer age proves his foresight and genius every day.**



At the University of Manchester, in the last years of his life, he founded yet another new field of science, called morphogenesis, which today is a vibrant area of scientific research. He used the exacting language of mathematics in a way never dreamt of before - to explain and explore the seemingly inexact and irreducible complexity of the natural world. If Darwin shows us 'what' evolution is then Alan Turing shows us - with morphogenesis - how it happens. **CODEBREAKER** includes a first ever interview with Dr. Bernard Richards, Professor of Computation at the University of Manchester and Turing's graduate assistant during the last year of his life. He tells us what it was like to work with Turing, "I grew to like him because he was a man I could look up to. I felt that he was everything you would expect in a genius."

Turing never saw the modern world he helped create. While investigating a burglary at his home in early 1952, police learned that Turing had a homosexual relationship with a 19 year-old man. Police arrested Turing for breaking the same 1885 statute that had brought down Oscar Wilde. Turing was eventually forced to undergo hormone therapy, which amounted to chemical castration. Turing grew breasts and medical experts say he would have suffered from depression and a loss in intellectual ability. Dr. Allan Pacey, a hormone therapy expert, tells viewers, **"The thought of prescribing this drug to chemically castrate someone fills me with horror."**

As World War II evolved into the Cold War, homosexuals were not only “breaking the law,” they were also seen as “security threats.” Turing’s conviction put an end to his consulting work for the British Government and likely meant an end to his foreign travel privileges. **Evidence shows MI5 and Special Branch had Turing under surveillance during his last years.** Alan Edwards, a gay man who lived in Manchester in the early 50s and knew Turing, tells us, “The 50s was the worst decade of my life. The attitude of the government, the judiciary, the police, and people... all came to one conclusion; they were going to rid England of this plague. And the plague, as they saw it, was homosexuality. They thought they could get rid of it.”

On a late spring day in 1954, Turing made one final act of willful defiance. As he still suffered some effects from the chemical castration, Turing poisoned himself with cyanide – a half eaten apple found by his bedside. He was only 41 years old when he died. The 20th century had lost one its most important people.

Maria Summerscale, the daughter of Dr. Franz Greenbaum, recalls what happened when she found out Turing was dead, “I was in my little bedroom and Mum came in and said, ‘I’ve got something to tell you.’ And she said, ‘Alan has died.’ And I felt very, very upset. I can remember turning over in bed and crying. It was really very, very sad.”



Turing’s legacy is still with us today. **“Turing is one of the great original thinkers of the 20th century,”** says Professor Ian Stewart, Professor of Mathematics at the University of Warwick. “He had thoughts that nobody else was having. He seemed to be able to see further. He’s telling you just a little bit of a much bigger picture and he can see where this picture is going. Not only that, but he does this in several different areas. He’s like four scientists all wrapped up into one – it’s amazing.”

By the end of this entertaining, informative, and captivating journey, viewers will feel outrage by the way Turing was treated. They will also understand just why he sits among history's scientific greats: people such as Isaac Newton, Albert Einstein, and Charles Darwin. Turing lived his life with integrity and on his own terms, so this will be an inspiring story, not a depressing or gloomy tale. With modern technology only just beginning to explore the potential of Turing’s ideas, the 21st century, in many ways, will be Turing’s century.