A madman dreams of Turing machines

Janna Levin

*A Madman Dreams of Turing Machines* by Janna Levin is a fictionalised biography of Alan Turing and Kurt Goedel. The book takes us from Turing’s days as a school boy at Sherbourne School to his death in 1954, and from Goedel’s life in Vienna at around the time he proved his Incompleteness Theorems, to his death in the US in 1978.

The lives of both men were tragic. The main facts of Turing’s life — his involvement with the war-time code breaking at Bletchley Park, his being charged with homosexual practices and his suicide by eating a poisoned apple — are well known and have even become a part of popular culture. But what came as news (to me, at least) were the circumstances leading to Goedel’s death. As portrayed by Levin, from his early manhood Goedel displayed an unusual degree of concern about possible poisons in his environment. He was worried that burning coal gave off harmful fumes. As he got older, these worries deepened into paranoia. He became convinced people were trying to poison him. Eventually, he stopped eating altogether and died of self-inflicted starvation. Turing died from deliberately eating poison, Goedel from not eating due to a fear of poison.

Levin’s book interweaves the lives of the two mathematicians. She spends a few chapters, or even just a few pages, on one of them and then switches to the other. But I never found this to be at all confusing or disturbing: it gives an impression of the two lives progressing in parallel.

Although Levin does sketch, in very broad outline, some of their mathematical ideas, this is not a book about mathematics. It is a book about their personal lives, but also about the broader intellectual and cultural environment in which their thought developed. Goedel was a member of the Vienna Circle, a passionately anti-metaphysical group of thinkers centred around Moritz Schlick. Goedel’s Incompleteness Theorems, and his Mathematical Platonism, were not congenial to the general intellectual mood of this group. Later in his life Goedel developed a variant of the Ontological Argument for the existence of God and, according to Levin, also believed in the immortality of the soul. Turing, by contrast, was a dyed-in-the-wool materialist who firmly believed that human beings were nothing but machines. But, oddly enough, there is also a letter written by Turing in which he expressed the view that an early school boy love who had died of tuberculosis was in some sense still alive.
As portrayed by Levin, both men had very unusual personalities. Although in his early years Goedel was something of a dandy and a ladies’ man, as he got older he became increasingly difficult and paranoid. He had to be spoon fed by his wife and would wear many layers of clothing even in warm weather. Turing is portrayed as a strange man, indifferent to personal grooming and almost blind to the emotional sub-text in social interactions.

One thing that I (as a philosopher) found surprising was the extent of the (not always entirely benign) influence that Ludwig Wittgenstein had on both men. Wittgenstein’s ideas dominated the Vienna Circle. Turing attended Wittgenstein’s lectures at Cambridge, and Levin gives a detailed account of their exchanges.

It seems to me that Levin’s book is very well written. The prose is finely polished. She sometimes achieves a strange, dream-like quality in her writing in which the distinction between past and present somehow becomes unimportant, and events in the natural world seem to take on something of the ‘timeless’ quality of mathematics. She has a fine feeling for language. It is worth noting that Levin is a Professor of Physics and Astronomy at Columbia University, and is also an accomplished visual artist and award winning novelist(!).

This is an impressive, in some ways beautiful, but also very sad book about two great thinkers. I strongly recommend it.

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