

**Sara Turing: Alan M. Turing, Cambridge University  
Press, 2012, ISBN:9-78-110-7020-58-0**

REVIEWED BY VLADIMIR DOTSENKO

When one tries to describe the impact of the legacy of a single mathematician, that of Alan Turing is hard to overestimate. Even if one ignores his work in cryptanalysis during the World War II that resulted in breaking the Enigma code, it is obvious that his contributions shaped both a whole new area of fundamental research, now known as theoretical computer science, and the applicable “practical computer science”, the art of using computer programs to effectively solve problems that can be *in principle* solved by mathematical methods. In his foundational papers, Turing came up with a rigorous notion of computability, proved that some computational problems cannot be successfully solved in finite time, and also proved that those problems that can be solved, can actually be solved altogether by a “universal computer program”. This elaborate study of computability and its limits has had the most profound impact on both blue-sky research and applications of science in the past decades.

With the year 2012 marking the centenary of the birth of Alan Turing, there is no surprise that there has been an increase in interest in his persona, and in the clear intent scientific publishers have demonstrated to satisfy that interest. The book under review is a very unusual instance of a biography. It consists of three parts. The main part was written by Turing’s mother Sara a few years after his death. It is based both on her very elaborate personal recollections and on letters she received from various people whom she had asked to comment on their encounters with Turing. Martin Davis, one of Turing’s biographers, has written a very detailed and helpful foreword which covers some intentional gaps in Sara Turing’s narrative and which adds a contemporary perspective which she would not

---

1991 *Mathematics Subject Classification*. 01A60, 01A70.

*Key words and phrases*. biography.

Received on 12-11-2012.

have been able to provide. The afterword which completes this collection is a previously unpublished essay by Turing's brother John, who felt that their mother's account of Turing's life was somewhat idealistic and hence wrote, in the decades that followed the publication of their mother's memoir, an essay intended to incorporate the information he felt should be available to the reader.

It is very interesting to see how the three layers of this book, written from three different perspectives in three different periods of time, create a genuinely three-dimensional picture of Turing. At the moment when Sara Turing was putting together her manuscript, she, being both a daughter of her time and, more importantly in terms of how it affected her book, an elderly woman mourning a great loss and seeking closure by trying to describe Turing's life in a way that would also provide a clean and "safe" explanation for his death, chose to be most detailed and unapologetic of his "eccentric scientist" side but completely ignored the issue of his sexuality and its effect on his life and his untimely death. When John Turing was writing his memoir, being a homosexual was no longer a crime, and Section 28 had not yet been introduced (although one can be reasonably sure that John Turing would not disagree with the sentiments endorsed by Section 28). His account of Turing's eccentric behaviour and unwillingness to conform to common behavioral norms, as well as of Turing's sexuality, is rather negative and patronising, although he of course recognises Turing's standing as an absolutely outstanding scientist. In general, John Turing's views, presented in his memoir in their unashamed obscurity, provide a much better portrait of *his* personality and upbringing than those of the person about whom he was writing. Martin Davis's foreword serves to increase the reader's understanding of Turing's work and its legacy, as well as provide comprehensive and unprejudiced information on his sexuality and death. It is worth noting that while contemporary Western civilisation has become more open-minded and verbal regarding sexuality, it is somewhat less open-minded with regard to any lack of behavioral conformity: it is not a common occurrence to hear someone being critical or ironic about small talk (while, according to Sara Turing, Alan once referred to small talk as "working with rope and pickaxe").

The reviewer was genuinely pleased with the part of the three-dimensional image created by this book which describes Turing as a

scientist: the way various sides of the scientist persona are presented through his natural curiosity, his enthusiasm for both grasping difficult concepts and conveying the beauty of complicated things he understood to people around him, his eccentricity, is absolutely wonderful. It is worth noting that when the reader faces the necessity to understand the meaning and impact of Turing's scientific results, that goal is achieved remarkably well too. Words such as "algorithm" and "computability", as well as the essence of Turing's works on computable numbers and universal computing machines, are explained in a way accessible to readers with hardly any mathematical background. This of course is a shadow of a yet another talent of Turing, the talent of explaining things in a simple a coherent way. Throughout his life, Turing eagerly informed his mother of both new things he learned somewhere and new things he discovered, and her account of both shows that he had been very successful in explaining her core ideas of various subjects.

When it comes to Turing's personal life, the three-dimensional effect becomes somewhat futile. Naturally, both Sara Turing and John Turing regale the reader with anecdotes about Alan Turing's idiosyncratic personality traits, about his generosity towards people he cared for, and even about his athletic achievements. However, any biographer of Turing, let alone a biographer related to him, faces an important problem; as André Gide wrote in his diary in 1892, *Je m'agite dans ce dilemme: être moral; être sincère* (I am torn apart by a dilemma: to be moral or to be sincere). A part of Turing's persona which neither his mother nor his brother is capable of understanding, let alone embracing, is his sexuality. It is a fact that Alan Turing was gay, and it is widely believed now that the events that took place in last couple of years of Turing's life, mainly his arrest for being a practising homosexual and the chemical castration he eventually underwent, led him to commit suicide. Calmly informing the reader about this part of the story is important in order for them to understand Turing's persona fully, and it is therefore crucial that the foreword of Martin Davis approaches that task, completing something of which Sara and John Turing were surely not capable. It is interesting though that the understanding of homosexuality that John Turing attributes to their mother is somewhat more sensible than his own, equating it to colour-blindness rather than a "disability" acquired during a troubled childhood. Unfortunately,

an even more sensible idea that it is rather akin to an unusual eye colour did not occur to either of them, although it seems to be close to the understanding Turing himself had.

**Acknowledgements.** The reviewer is most grateful to James Cook and Cyril Messaraa; discussions of a preliminary version of this review he had with them ended up being extremely helpful.

**Vladimir Dotsenko** is an assistant professor in pure maths at Trinity College Dublin. His main research interests are combinatorics, homotopical algebra, representation theory, and symbolic computation.

SCHOOL OF MATHEMATICS, TRINITY COLLEGE, DUBLIN 2  
*E-mail address:* `vdots@maths.tcd.ie`