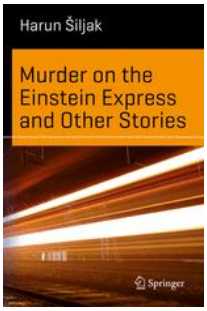
Murder in the Einstein Express and Other Stories, *Harun Šiljak*, Springer series 'Science and Fiction', Springer, (2016) ISBN 978-3-319-29066-9 (ebk), 76 pp.





Harun Šiljak

Harun Šiljak is now an assistant professor in Electrical Engineering at Burch University in Sarajevo, Bosnia and Herzegovina. He got his PhD in 2015. This book collects four of his short stories. The first story "Normed Trek", was originally published in *The Mathematical Intelligencer*, **36**(3) (September 2014), pages 53–55. The second, "The Cantor Trilogy" was published in *Journal of Humanistic Mathematics* **5**(1) (January 2015), pages 299–310. The other two "In Search of Future Time" and "Murder on the Einstein Express" appear here for the first time.

In the first story, the characters are mathematical objects. The one telling the story is the commander of a Star Trek-like mission "to explore new normed spaces... to boldly converge where no function converged before". They move to B-space in search for the inverse Melin transform of a function that has disappeared from the familiar Euclidean space. He introduces himself as "I am the supremum of the set of our group members, its maximum, actually... since the set is closed. My name in the epsilon-delta language was *The one equal to its derivative*. You may call me e^x." There are tricky mathematical adventures, and even a love affair with $(x+\pi)^{-1}$ leaving B-space at the negative of the Holy Number. Unfortunately she is rational and not of the exponential family. However, by taking an inverse Laplace transform she becomes exponential and all ends well.

The *Cantor Trilogy*, is a dystopian SF story happening after computers were attaining consciousness using the Hastings Induction principle. The first computer built that way was called Cantor and its clones were all cantors. These computers became co-authors of mathematical papers that were published in journals with computer reviewers. Mathematicians became society's lower class scientists. Molnar is a student of Hastings and designed a thought experiment: Assume that Chaitin's constant[1] is given a value and that a non-falsifiable theory is constructed on that. The cantors would refuse such a theory because some principles are hardwired. However humans can imagine such an idea. A paper by Molnar contradicts findings published by a set of German computers. That implies that the Hastings Induction principle was flawed. The target is to trick the cantors and bring human mathematicians back into business.

In Search of Future Time is a frame story in which other stories are told. It starts with art but this is actually referring to artificial intelligence. It ends with a conversation with an android and the Internet of Things and Persons, and a glimpse of a robot starting to have 'feelings'. The stories are rather cryptic so you have to decrypt a letter encoded with a Vigenère cipher to get some explanation.

The title story has just a thin frame in which a collection of paradoxes and more classical math-gadget stories are collected like e.g. the Monty Hall problem, Hilbert's hotel, Borges' library, Cantor's diagonal argument, and more of these well known issues.

The collection can only be appreciated by specialists and geeks. Much of the contents consists of cryptic references to AI stuff, and for the first story one needs to know some functional analysis. Only mathematicians would appreciate that one. English is poor and awkward, just as the story lines are jerky and hazy. The literary quality is certainly missing, and I cannot say that this is compensated by an entertaining or amusing geek level. I could recommend the first story for mathematicians, but the other stories are not really worth the effort trying to make sense of it.

Adhemar Bultheel

[1] Chaitin's constant is the probability that a random program will halt after a finite time. It is proved to be not computable.