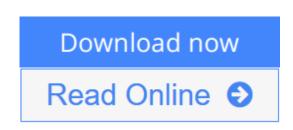


The Difference Engine: Charles Babbage and the Quest to Build the First Computer

By Doron Swade



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Set against the politics and science of the explosive early Victorian era, *The Difference Engine* is a thrilling tale of Babbage's exuberant determination. Like *Longitude, The Difference Engine* is a fascinating portrait of the human story behind a pivotal moment in history and one of the most influential inventions of our time.

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Editorial Review

Amazon.com Review

What a difference a century makes. Doron Swade, technology historian and assistant director of London's Science Museum, investigates the troubles that plagued 19th-century knowledge engineers in *The Difference Engine: Charles Babbage and the Quest to Build the First Computer*.

The author is in a unique position to appreciate the technical difficulties of the time, as he led a team that built a working model of a Difference Engine, using contemporary materials, in time for Babbage's 1991 bicentenary. The meat of the book is comprised of the story of the first computing machine design as gathered from the technical notes and drawings curated by Swade. Though Babbage certainly had problems translating his ideas into brass, the reader also comes to understand his fruitless, drawn-out arguments with his funders. Swade had it comparatively easy, though his depictions of the frustrating search for money and then working out how best to build the enormous machine in the late 1980s are delightful.

It is difficult--maybe impossible--to draw a clear, unbroken line of influence from Babbage to any modern computer researchers, but his importance both as the first pioneer and as a symbol of the joys and sorrows of computing is unquestioned. Swade clearly respects his subject deeply, all the more so for having tried to bring the great old man's ideas to life. *The Difference Engine* is lovingly comprehensive and will thrill readers looking for a more technical examination of Babbage's career. *--Rob Lightner*

From Publishers Weekly

Englishman Charles Babbage (1791-1871), an eccentric, ingenious mathematician, decided that existing tables of computations included far too many errors: the day's textbooks came with errata sheets appended by more errata sheets. The inventive Babbage entered completely new territory in his struggle to design an automatic computing machine that could achieve an "absolute integrity of results," and in the 1820s he completed plans for the "Difference Engine." Swade (coauthor of The Dream Machine), an assistant director at the London Science Museum, offers an engaging biography of Babbage and his milieu (buttressed by 16 pages of b&w photos and illustrations). Babbage convinced the government to invest in his invention, but the technology of the day made it prohibitively expensive to complete the machine to his satisfaction. He went on to design the "Analytical Engine," a quicker, more advanced, more broadly applicable machine that could be programmed with punch cards to do computations and store data. Unfortunately, Babbage never got to build this second machine, either. His life was full of personal tragedy, political confrontations, the personal vendettas of colleagues and the frustration of being unable to build what he designed. In the 1980s, Swade gathered a team of experts and tried to make sense of Babbage's drawings and notes in a modern quest to construct what Babbage could not. Swade's able account of this gifted scientist, his cohorts and their curious endeavors enhances and broadens the growing body of literature on computer history. (Sept. 10)Forecast: The "technological frontier" parallels between Babbage's age and our own are becoming increasingly clear, and Swade's immersion in and love for Babbage's project comes through here (beyond some British reserve). Of all the books this season whose flap copy compares them to Longitude, this title has one of the best shots at a similar breakout.

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From Library Journal

One of the first devices to be considered an automatic digital computer was conceived by the eccentric British mathematician Charles Babbage in 1822. In Babbage's time, teams of mathematicians working around the clock with primitive calculations generated complex logarithmic and trigonometric tables manually. Noting the large number of errors in these tables, Babbage proposed building an enormous mechanical calculator that he called a "Difference Engine" to calculate them automatically. Engineer and historian of technology Swade (coauthor, The Dream Machine) tells the story of Babbage's determined efforts to construct the first computing machine, which was, unfortunately, only partially completed despite financial backing from the British government. Nonetheless, Babbage's story, set against the politics and science of the early Victorian age, is fascinating. More than 150 years after its conception, one of Babbage's Difference Engines was constructed from original drawings by a team headed up by Swade at London's Science Museum. Recommended for an informed audience. Joe Accardi, William Rainey Harper Coll., Palatiane, IL

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Users Review

From reader reviews:

Michael Banks:

The feeling that you get from The Difference Engine: Charles Babbage and the Quest to Build the First Computer may be the more deep you searching the information that hide into the words the more you get considering reading it. It doesn't mean that this book is hard to understand but The Difference Engine: Charles Babbage and the Quest to Build the First Computer giving you excitement feeling of reading. The article writer conveys their point in selected way that can be understood through anyone who read it because the author of this e-book is well-known enough. This particular book also makes your vocabulary increase well. Making it easy to understand then can go to you, both in printed or e-book style are available. We advise you for having this kind of The Difference Engine: Charles Babbage and the Quest to Build the First Computer instantly.

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