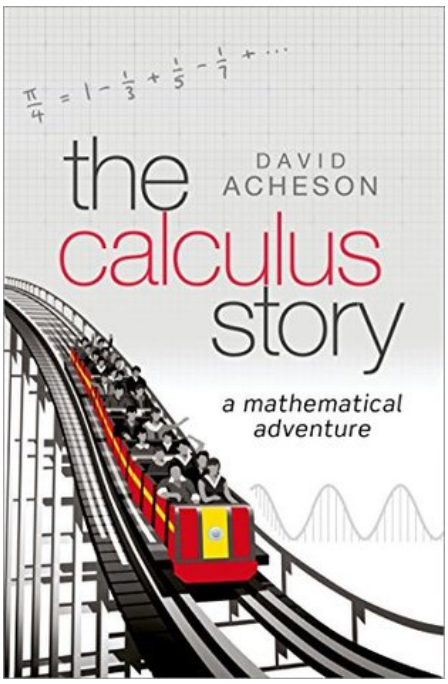

The Calculus Story: A Mathematical Adventure

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Calculus is the key to much of modern science and engineering. It is the mathematical method for the analysis of things that change, and since in the natural world we are surrounded by change, the development of calculus was a huge breakthrough in the history of mathematics. But it is also something of a mathematical adventure, largely because of the way infinity enters at virtually every twist and turn...

In The Calculus Story David Acheson presents a wide-ranging picture of calculus and its applications, from ancient Greece right up to the present day. Drawing on their original writings, he introduces the people who helped to build our understanding of calculus. With a step by step treatment, he demonstrates how to start doing calculus, from the very beginning.

The Calculus Story: A Mathematical Adventure Details

Date	:	Published November 16th 2017 by OUP Oxford
ISBN	:	
Author	:	David Acheson
Format	:	Kindle Edition 208 pages
Genre	:	Science, Mathematics, Nonfiction

From Reader Review The Calculus Story: A Mathematical Adventure for online ebook

Hashem says

The author says it’s a book about the history of calculus and that’s why I bought it but that’s not the case. Yes, some anecdotes are thrown here and there but the author can’t bother to verify them and build a “historical story” behind limits, infinity and imaginary numbers and how they came into life, which is what I thought the book is about.
Not a dull read though and hence the two stars.

Olivia says

I was expecting a bit more about calculus' interesting history, or at least a bit more mirth. A lot of results were presented without enough detail to really understand where they come from or why they're interesting, and too much focus was placed on complicated real-life connections and applications. I thought it was a bit dry and theory-heavy for beginner readers...it could have been a much more exciting brief romp through calculus and motion. But, if you're looking for a quick sweep through the basic concepts and simple proofs thereof...it might be a good addition to your collection.

Alex Linschoten says

I wish I understood more of the details of the maths. Aside from that, it was actually a pretty well-written and exciting story, all things considered. Calculus is cool!

Jim says

An ok attempt to make calculus easier to understand and to give it context in terms of the types of problems it and differential equations can solve. The author starts well enough, but keeping the explanations clear to non-mathematicians proves a difficulty. I wanted to recommend it to my students, but I think it would frustrate them more than enlighten.

Jack says

This was fun

I really enjoyed the author’s integration of history and mathematical concepts. His explanations don’t require a lot of mathematical background but they do provide some practical insights. I think I’ll pull out my calculus boo from fifty years ago and work some problems. That will be way more fun than reading the news

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Brian Clegg says

According to the back cover 'This little book is more ambitious than it looks.' Apart from a distinct feeling of damning with faint praise, there's an element of truth in this, which proves both a negative and a positive, depending on what you're looking for from a book on calculus.

Let's get the negative out of the way first. To make it a mathematical adventure, as the subtitle suggests, it would need rather more story and rather less calculus. Although David Acheson does get some history of maths in, this is much more 'getting your head around calculus for beginners' than it is 'the calculus story.' So, yes, you will discover, for instance, the battle between Newton and Leibniz - and Bishop Berkeley's magnificently titled 'the Analyst, or a discourse addressed to an infidel mathematician' - but only in a few passing lines.

What we get instead is a step by step introduction to calculus from first principles, which builds on Ancient Greek concepts through to limits and far more. Along the way readers will discover why there is such a relationship between calculus and infinite series and how pi and e come into the mix. We even get a spot of calculus using imaginary numbers.

There's frankly far too much grunt work here for this to really qualify as popular maths. But, equally, this little hardback lacks the dull writing style and worked examples of a textbook. It's far too readable to be one of those.

I'd say there are broadly two types of people who may find this book interesting. If you've done some calculus but just crunch the numbers according to the rules without thinking about why it works, the book will be extremely enlightening. And if you have a general interest in mathematics but don't really understand how many apparently unrelated components come together, it should go down very nicely. But don't expect that promised adventure. This book a far too practically minded for that.

Sergio Valverde says

Excellent and clear explanation of derivation, integration, differentiation, and infinite series. I had to read slow to make sense of the equations.

Savir Husain Khan says

I found this book, simple and comprehensible, however, there was some part where I had to reread.
This book is about, how the calculus formed, And the story behind various calculus formulas.
As I have a moderate understanding of calculus, so it was not very hard for me to relate to the material, but it could be for the person who's understanding of calculus is not that good.
I Expected this book to be more about the history of calculus, but sometimes it goes into equations only.
However, it was very informative to read, and cleared most of my doubts.

Sean says

Too short. The brevity early in the book still fully explained the concepts being discussed, as they were simpler. But with later more complex topics, a very quick equation was shown with very little explanation. Fortunately, I teach Calculus and Physics, so I appreciated the topics being discussed. Once a person is hooked early in a book, on a technical topic, I think you can appeal to their technical side and keep the explanations stronger. Very quick read for me.

Uge Saurio says

I keep finding great books that would've helped me a lot when I first started learning (in this case) Calculus. (Although the Spivak -like it or hate it- is very well written and clearly motivated.) I believe this book would make a great difference in explaining the historical background, the intrigue, and being all around very clear on why we do some things, why they might seem shaky and how to fix it, how to apply and motivate some of the most common results -the examples given are fairly classic, although I'd confess no one had explained me that the optimization problem explains the refraction of light-. I'm sure I'll use this book as an important resource if I ever get to teach Calculus.

Michael Cayley says

An excellent book giving the reader an outline of the development of calculus and its relevance to the world around us. Chapters are short, with simple explanations, so someone with relatively little mathematical knowledge but a willingness to concentrate a little, and sometimes reread, should be able to understand most of what is being said. The style is attractive.

David Acheson successfully takes the reader into some quite advanced maths. In the final chapters, if you are a non-mathematician or non-physicist you will have to take a certain amount on trust, but you should still be able to follow the gist of what is being said.

As an introduction for lay readers to calculus and why it matters, this book is excellent. The historical approach (and the history is interesting in its own right) helps in the building-up of understanding. For most readers it is likely to be a book to read slowly, perhaps one or two chapters a day, which is how I read it.

Everson Luis de Campos Moura says

Short book about the calculus

This is a very short book about the calculus history. It is interesting. But, it is very superficial. I had no problem to understand it because I'm an engineer. However, I think it may be hard to understand to someone without any calculus background.

Deb says

A little bit short, but did take go through the history of calculus and its applications. I had to stop and work out the height of cone in a cylinder that has the maximum volume for myself, but I enjoyed doing that as it made go back over using the derivative and I got there eventually.

Vaughan says

A great little read that brought back plenty of memories of Calculus classes. I admit, this might have been easier to read in print, rather than on a Kindle, as the formulas appeared quite small, and the layout was all over the place.

Fun to get the brain reactivated after the holidays, and a great foundation for more math and science exploration to come!
