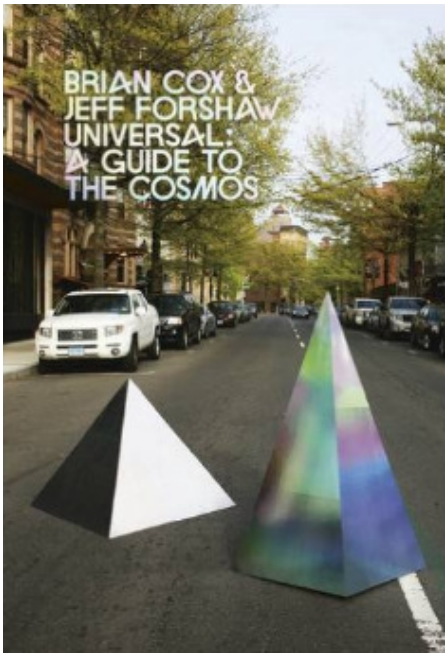

Universal: A Journey Through the Cosmos

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An awe-inspiring, unforgettable journey of scientific exploration from Brian Cox and Jeff Forshaw, the top ten bestselling authors of *The Quantum Universe*.

We dare to imagine a time before the Big Bang, when the entire Universe was compressed into a space smaller than an atom. And now, as Brian Cox and Jeff Forshaw show, we can do more than imagine: we can understand. Over the centuries, the human urge to discover has unlocked an incredible amount of knowledge. What it reveals to us is breathtaking.

Universal takes us on an epic journey of scientific exploration and, in doing so, reveals how we can all understand some of the most fundamental questions about our Earth, Sun, Solar System and the star-filled galaxies beyond. Some of these questions - How big is our solar system? How fast is space expanding? - can be answered from your back garden; the answers to others - How big is the Universe? What is it made of? - draw on the astonishing information now being gathered by teams of astronomers operating at the frontiers of the known universe.

At the heart of all these questions - from the earliest attempts to quantify gravity, to our efforts to understand what dark matter is and what really happened at the birth of our universe - is the scientific process. Science reveals a deeper beauty, connects us to each other, to our world, and to our Universe; and, by understanding the groundbreaking work of others, reaches out into the unknown. What's more, as *Universal* shows us, if we dare to imagine, we can all do it.

Universal: A Journey Through the Cosmos Details

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From Reader Review Universal: A Journey Through the Cosmos for online ebook

Dan Cohen says

Very nicely written and produced, this feels a bit like a coffee-table book but it's also a good read. I really liked the central idea of demonstrating how things are known - using, wherever possible, experiments and calculations that anyone can do. By doing this, the authors provide readers with a much better understanding of scientific method than has been achieved by just about any other book I've read. The second focus on trying to find multiple independent derivations for each result (for example, the age of the universe) is also very effective and generally convincing.

The bit that surprised me most was the section making connections between the theory of inflation and the analyses of both the CMB data and observable galaxy distributions. Reading this was the first time that I have found any popular science book or article to be convincing on inflation.

A very good book that (like one of Prof Cox's other books I've read) does a good job of moving from a level 1 understanding to a level 2, without jumping into the deep-end of level 99.

Bettie? says

Guardian article

Christopher says

Came to this via Brian Cox's numerous TV appearances, he being the soft-spoken moppet head who's the heir apparent to Degrasse-Tyson when it comes to publicly championing complex ideas.

It's hard to beat his easy-going charm and inquisitiveness on TV.

When it comes to Universal though, it's likely best to stick with Cox's podcasts.

This one is a bit of a slog, as there are sections about difficult ideas (gravitational waves and radioactive decay of Caesium-137) which shouldn't be hampered by a difficult layout (minuscule white font on dark grey background)

And it's also a nearly paper-sized tome, which only uses three quarters of a page for text (and 8 or 9 point font in sidebars).

But that's just an argument from design - zing.

A. O. K. Simpson says

Think they oversell it a bit with how accessible this book is supposed to be to the layman. None of the maths is that straightforward unless you’re a physicist but it’s interesting nonetheless, especially the end, where the authors discuss possible origins of the universe...

William Marler says

Along with A Brief History of Time by Stephen Hawking, this was an amazing read. It allowed me to better understand how science can comprehend something as mad as the size of the universe or even how you measure the distance between planets. Admittedly I didn't understand the entirety of the book, but it'll just give me an excuse to re-read it at a later date. I'll certainly be reading more from these two.

Carl Barlow says

Excellent working-class science, surprisingly clear on subjects that are usually considered anything but (in this *Universal* is much like the author's earlier book covering quantum mechanics). A quick, thoroughly interesting and engaging read that informs without looking down its knowledgeable nose at you. Naff cover, though.

Sud666 says

Universal: A Guide to the Cosmos is amazing. Broken into several different chapters, it is a journey through time to explain some of the most important scientific cosmological concepts out there. Written by two Physics Professors from the University of Manchester it is at once mind boggling, witty, relatively easy to read (an undergraduate level of science and math help) and engagingly written.
While the book does not expect anyone to have a graduate school level of familiarity with the concepts presented-at least an undergraduate, non-major of course, understanding of the subject matter. If this is too much for you and words like calculus or certain basic math is anathema to you-then you will most likely not appreciate this book. Trying to read a science book without getting math/science seems rather redundant to me.
But for those of you wondering if your science background holds up- do not worry. This really is a non-technical explanation of high end science. But, even the non-technical version can be daunting to someone with a poor science background. That having been said, I can now state that complexity aside there are truly no other complaints with this superb book.

Starting with the Story of the Universe, our authors then break the book into chapters that all revolve around a central point. Each chapter is full of additional notes, graphs and charts along with some basic variants of the math equations. This is done to show that anyone can do these same calculations and get the same answer.The big questions are as follows:
How Old Are Things?

Weighing the Earth
The Distance to the Stars
Einstein's Theory of Gravity
The Big Bang
Weighing the Universe
What Happened Before the Big Bang?
Our Place

This entire book is superbly written and full of dry humor and fascinating facts. The complex science is explained as easily as is possible and a whole new vista of ideas spill out. each chapter has plenty of side information, especially in regards to the actual equations being used. Not to mention gorgeous photos and engaging charts/graphs make this a truly attractive book.

The authors seem to realize that the majority of their readers will not be Physics students, so they always approach their subject from the standpoint of an ordinary person. Their use of everyday concepts and the vital questions they answer are the main reasons for buying this book. A truly wonderful book and one I can highly recommend to anyone who has an interest in science and in our amazing universe.

Pak says

Great walkthrough of how we deduce the nature of the universe

A good primer about cosmology, the book takes you on a journey through our current theories of the universe, and how we deduced those theories. It requires little more than basic mathematics (mostly arithmetic, but some algebra} with some simple experiments that anyone can replicate. There are experiments that aren't so easy to replicate at home as well, but that's the nature of the more advanced topics.

The book is written in an approachable, informal, occasionally chatty, style, with plenty of diagrams and call-out boxes that go into some of the more complex ideas in more detail. The authors keep it fairly easy to read and make few assumptions about the reader's knowledge of the subject. There are some minor typos, but they're obvious enough that you can work out what is being described and don't detract from the book as a whole.

Ryan van Zyl says

Excellent read. Fantastic use of basic concepts in both maths and science in explaining seemingly complex ideas dealing with the universe we live in. At numerous points in the read I was left speechless in comprehending the scale of our universe as I slowly began to understand new ideas as well as come to terms with that which we do not know. Becomes quite a technical read when you get stuck into the application of the maths and science that is introduced, however, the pages turn easily thanks to the beautiful use of imagery created by the authors. Approaching the read with a fresh mind also helps!

Luis Farrolas says

Helps to have some basic understanding of mathematics and physics. Very good read - learned a lot.

Martin says

I’ve been waiting to get some time to read this for months. While the authors a engaging writers, find they, like nearly all physicists really on a lot of assumptions. I got frustrated by how many sentences start with the phrase “let us assume...” what if that assumption is incorrect? It seems to me that theoretical physics is a faith based system wrapped up in mathematics. It leaves me wanting evidence- which to be fair may come one day, but at the moment there appears to be a lot of snake oil.

Wendy says

In "Universal: A Guide to the Cosmos" Brian Cox and Jeff Forshaw take readers on a journey of discovery, enhancing our understanding of the Universe using science, logical reasoning, and careful observations. It answers questions about our Solar System, Sun, and Earth, looks at Einstein's theory of gravity, and explores whether or not the Universe has continued to expand after the Big Bang.

Well thought out, backed by research and uniquely presented with illustrations while highlighting the work of groundbreaking pioneers this book boosts an interest in science as it gives an easy-to-understand explanation about the wonders beyond our Earth's frontier. Impressive with an eye-catching cover and captivating in content although it took time to understand and appreciate some of the more technical parts, I highly recommend it.

Stephen Flanagan says

I took my time with this one as it covers a lot of ground. From weighing the Earth to string theory, this book is a journey through human discovery about our solar system, galaxy, universe, and the possible multiverse.

As usual with anything Brian Cox is involved in, these complex subjects are never represented laboriously, and it was a joy to read. long with this, it is a beautiful book, nicely illustrated and it has a unique style of presentation.

Highly recommend.

Nikki says

This is really clearly written, it covers fascinating subjects, and the authors have tried really hard to equip

readers with the ability to think things through for themselves. They don’t just state conclusions: they lead the reader through how those conclusions were reached, until they are also inevitable for the reader. It’s a smart way to write, although the right people — the people who look at the conclusions and decide they’re wrong without any evidence — probably won’t actually go through the evidence.

Unfortunately, a lot of this evidence involves thinking mathematically, which is not a strong point for me. I can hammer something into my head for practical purposes (I can now do a bunch of statistical tests using paper and a calculator!) and I can remember how to calculate something I find interesting (the number of base pairs in a fragment of DNA from how far it travelled during gel electrophoresis), but I’m not good with big concepts. And Cox and Forshaw tackle some of the biggest here.

At another time, I might be in the mood to work through this more thoroughly. As it is, I didn’t finish it — not because I think it’s bad (it’s not), but just because this is not the time. Too much for me to learn that’s more immediately relevant.

(Remember that my ratings denote enjoyment, not usefulness or interestingness per se. It’s just… maths. Not for me, not right now.)

Reviewed for The Bibliophibian.

Marwa Shafique says

A month or so ago, I felt the urge to discover more about our universe. The picture itself was quite unclear, and I wanted to delve more into cosmology and astrophysics.
But I didn't know where to start...until I found this book. And I'm glad I did.

It's essentially a beginner's guide to what lies beyond our imaginations: the universe as a whole. I was pleasantly surprised by how much I enjoyed reading it, although I did realise how dumb I am when it comes to physics when reading the theories and the like.

Highly recommended to those fascinated by Physics; it was quite an enthralling read.
