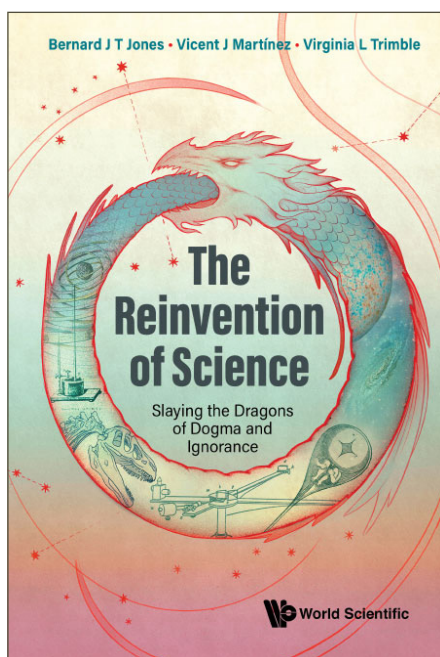


## The Reinvention of Science

Slaying the Dragons of Dogma and Ignorance



By Bernard J T Jones  
(University of Groningen, The Netherlands)

Vicent J Martínez  
(Universitat de València, Spain)

Virginia L Trimble  
(University of California, Irvine, USA)

ISBN 9781800613607

Extent: 418pp, PB

Pub Date: 2023

Price: US\$38

Subject: General

### REVIEWS

“A fascinating tour through the history of science and the sometimes irrational behavior of supposedly rational scientists, by three people who write well and understand what they are writing about.”

— Jim Peebles

*Professor emeritus, Princeton University  
Nobel Prize in Physics (2019)*

“This is a compelling account of some of the most important questions in science, both historical and contemporary, showing how understanding develops, how wrong ideas can halt progress, and how the wrong people sometimes get the credit. Written by experts in a thoroughly engaging style, it is a great read.”

— Alan Heavens

*Professor of Astrostatistics, ICIC, Imperial College London*

### ABOUT THE BOOK

Throughout the history of science, different thinkers, philosophers and scientists postulated the existence of entities that, in spite of their not being visible or detectable in their time, or perhaps ever, were nevertheless useful to explain the real world. We started this book by looking at a handful of these entities. These included phlogiston to account for fire; the luminiferous ether for propagation of radiation; the homunculus to provide for heredity; and crystalline spheres to carry the wandering planets around the earth. Many of these erroneous beliefs had held up progress, like dragons on the edges of a map discouraging exploration. This pattern of science evolution continued through the centuries up to the present day.

The book evolved into a more extensive history of how science evolved through controversy, suppression, and the wish to maintain the status quo. Our story passes from the Babylonians and Greeks through the middle ages, the renaissance and the scientific revolution to almost current events. We discuss the evolution of our

world, the controversy about the extinction of dinosaurs, and open questions in contemporary science such as dark matter, black holes and the origin of the Universe, including how we understand the subatomic world of elementary particles.

Most of the chapters deal with astronomy, cosmology and physics, but there are brief ventures into geosciences (continental drift), biosciences (the homunculus), atmospheric physics (Heaviside layer), paleontology (the extinction of dinosaurs), and computer science (artificial intelligence). The authors present a sequence of how mistakes and fallacies have been purged from our quest to understand nature. The way these changes have come about are skillfully set in their relevant historical contexts.

## READERSHIP

General audience with an interest in Science, History of Science, Astronomy and Physical Science. Especially high school students in their final two years and junior college students. Broad public that enjoys science and general science books.

## CONTENTS

- Ether and Atoms
- The Lost Poem
- Bubbles and Influencers
- The End of Earth, Air, Fire and Water
- Crystalline Spheres
- The End of the Heaven's Immutability
- Tripping the Light Fantastic
- The Girl Who Found Primeval Dragons
- The Backbone of the Ocean
- Great Extinctions
- The Dinosaur Extinction Debate
- The Not-Invented Here Syndrome
- Worldwars and Nobel Prizes
- Black Holes and Gravitational Waves
- Measuring the Universe
- What is the World Made of?
- Our Cosmic Bubble
- Towards Zero
- Machines Reinventing Science

## ABOUT THE AUTHORS

**Bernard J T Jones** is Emeritus Professor at the Kapteyn Astronomical Institute of the University of Groningen. His research has covered many areas of astrophysics, both theoretical and observational, with a strong emphasis on cosmology, where he is widely published and cited. He is the author of the recently highly celebrated book *Precision Cosmology: The First Half Million Years* published in 2017 by Cambridge University Press. He has also developed sophisticated computer imaging systems for diverse mission-critical industrial and surveillance markets.

**Vicent J Martínez** is Professor of Astronomy and Astrophysics at the University of València, where he was the director of its Astronomical Observatory for eleven years. His research is focused on the large-scale structure of the universe. He is the author with Enn Saar of the book *Statistics of the Galaxy Distribution* published by CRC Press in 2002. He received the Savirón Award on Popular Science 2013, and the Award for Teaching and Disseminating Physics from the Royal Spanish Society of Physics and the BBVA Foundation.

**Virginia L Trimble** is Professor of Physics and Astronomy at the University of California, Irvine. She has been working on the structure and evolution of stars, galaxies, and the universe, and of the communities of scientists who study them, and history of science, especially astronomy and physics. She received the 2019 Andrew Gemant Award of the American Institute of Physics and was elected as a Legacy Fellow of the American Astronomical Society (2020) and a Fellow of the Scientific Research Honor Society Sigma Xi (2021). She was President of the Division of Galaxies and the Universe and the Division of Union-wide activities of the International Astronomical Union. She is Doctor Honoris Causa by the University of València (2010).

---

For orders and enquiries, please contact us:



**FEELBOOKS PVT. LTD.**

[www.feelbooks.in](http://www.feelbooks.in)

<b>DELHI</b>	4381/4 Ansari Road, Daryaganj, New Delhi 110002 Pushpendra Kumar	<b>Tel:</b> +91-11-47472630 <b>Mobile:</b> +91 9015043442	<b>Email:</b> <a href="mailto:orders@feelbooks.in">orders@feelbooks.in</a>
<b>BENGALURU</b>	C-22, Brigade MM, KR Road, Jayanagar 7th Block, Bengaluru 560070 Shekar Reddy	<b>Tel:</b> +91-80-26762129 <b>Mobile:</b> +91 9945234476	<b>Email:</b> <a href="mailto:bangalore@feelbooks.in">bangalore@feelbooks.in</a>
<b>MUMBAI</b>	Alok Dube	<b>Mobile:</b> +91 9833435804	<b>Email:</b> <a href="mailto:adube@feelbooks.in">adube@feelbooks.in</a>
<b>CHENNAI</b>	G Srinivasan	<b>Mobile:</b> +91 9003047502	<b>Email:</b> <a href="mailto:gsrinivasan@feelbooks.in">gsrinivasan@feelbooks.in</a>
<b>KOLKATA</b>	Dhrubajyoti Bhattacharjee	<b>Mobile:</b> +91 9836160013	<b>Email:</b> <a href="mailto:dbhattacharjee@feelbooks.in">dbhattacharjee@feelbooks.in</a>
<b>HYDERABAD</b>	Kundan Kumar.S	<b>Mobile:</b> +91 8106726072	<b>Email:</b> <a href="mailto:kundan@feelbooks.in">kundan@feelbooks.in</a>

For any queries, please email us at [marketing@feelbooks.in](mailto:marketing@feelbooks.in)