

NEW BOOKS & MEDIA

which is also a topic most students will be familiar with. But by focusing on the climate system, the authors present the ideas from a fresh perspective. They then turn to time-series analysis, power spectra, and model selection.

The second half of the book is largely concerned with methods to effectively reduce the dimensionality of a system. It's an appropriate topic because the climate is a system with nearly an infinite number of degrees of freedom. One chapter is devoted to principle-component analysis, which is perhaps the mostly widely used approach to reducing dimensionality. Subsequent chapters explore related methods, such as canonical-correlation analysis. Chapters on extreme-value theory and data assimilation round out the book.

Statistical Methods for Climate Scientists does have some weaknesses. Power-spectra estimation is given a rather cursory treatment despite its importance to climate science and to many other fields. That means readers will need to look elsewhere for information about different choices for tapering windows. And it is rather surprising that machine learning receives no attention given its rapidly growing importance to climate science. The index also could be more comprehensive.

Perhaps more curiously, DelSole and Tippett chose not to supply code or pseudo-code in the book even though a computer is required to reproduce nearly every example they discuss. The authors argue in the preface that no code was included because it is essential for students to write their own code instead of using existing software packages so that they can more deeply understand what they are doing. I wholeheartedly agree with DelSole and Tippett, but readers could benefit from some guidance.

Those weaknesses are more than compensated for by the pedagogical value of bringing together disparate methods of statistics into one volume. As more climate scientists venture into such subtle problems as whether to attribute extreme events like prolonged heat waves to climate change, the critical statistical-thinking skills fostered in *Statistical Methods for Climate Scientists* will be of increasing importance.

Brad Marston

*Brown University
Providence, Rhode Island*



Severance

Dan Erickson, creator

Apple TV+, 2022

Can't stop thinking about work on the weekend? What if you could permanently bifurcate yourself so that your work life never impinged on your leisure self? The Apple TV+ series *Severance* envisions such a world. A mysterious corporation, Lumon Industries, requires certain employees to undergo the titular, irreversible procedure. Situated on Lumon's "severed floor," they have no idea what they work on—or what their outside selves are like. Mark Scout, known at work only as Mark S., originally took a job on the severed floor of Lumon to hide from grief after losing his wife in a tragic accident. But when a new employee, Helly R., starts asking questions and tries to quit her job, Mark begins to question his decision. *Severance's* strict devotion to the rules of its universe add gravitas to this taut thriller.

—RD

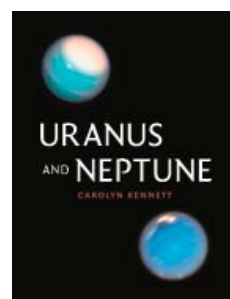
Uranus and Neptune

Carolyn Kennett

Reaktion Books, 2022. \$40.00

Until some three decades ago, not much was known about the two outermost planets in our solar system. That changed with the *Voyager 2* mission, which conducted flybys of Uranus in 1986 and Neptune in 1989. In her recent book, the astronomer Carolyn Kennett provides a comprehensive introduction to both of those distant worlds. She discusses their discovery and origins, *Voyager 2's* flybys, and observations made from space- and ground-based telescopes. Written for a general audience, the text is nontechnical and illustrated with more than 100 images.

—CC



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BOOKS

The One

How an Ancient Idea Holds the Future of Physics

Heinrich Päs

Basic Books, 2023. \$32.00

The key to understanding the universe is to consider it as one unified whole rather than decompose it into increasingly smaller particles, according to Heinrich Päs, a professor of theoretical physics. The philosophy of monism is not new; it dates back some 3000 years. In *The One*, Päs presents the history and science of monism and explores how it can be applied to quantum mechanics and the quest for a theory of everything. Tackling difficult philosophical ideas and scientific concepts, such as quantum entanglement and decoherence, *The One* is a dense and challenging read. —CC



The Skeptics' Guide to the Future

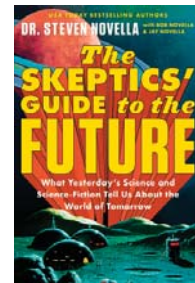
What Yesterday's Science and Science-Fiction Tell Us About the World of Tomorrow

Steven Novella

Grand Central, 2022.

\$30.00

Where are the flying cars, Moon settlements, and robot servants that have been described in so many science-fiction books and movies? In *The Skeptics' Guide to the Future*, the author and clinical neurologist Steven Novella tackles the question of why we're so bad at predicting the future and offers advice on how to do better. Novella, host of the popular podcast *The Skeptics' Guide to the Universe*, applies the critical thinking, logic, and scientific expertise that he is known for to examine current technologies—such as genetic manipulation, robotics, and virtual reality—and make his own predictions on what the future holds. —CC PT



Astronomy Minute

Ata Sarajedini, host

2020–

In this ongoing podcast, Ata Sarajedini, a professor at Florida Atlantic University, provides bite-sized introductions to various topics in astronomy. Episodes focus on celestial bodies, such as neutron stars, spiral nebulae, and the local group of galaxies; astronomical theories like relativity and the hypothetical Big Crunch; and observatories, including the *James Webb Space Telescope*. Although Sarajedini sometimes exceeds the titular minute—some episodes clock in at two and a half minutes!—*Astronomy Minute* is refreshing in its brevity in an era when the podcast sector has become dominated by longer-form content. —RD

Meggers Project Award 2023

The William F. and Edith R. Meggers Project Award of the American Institute of Physics funds projects for the improvement of high school physics teaching in the United States. A limited number of amounts up to \$25,000 are available to be awarded biennially for one or more outstanding projects.

Applications are open now until **June 15.**