

# 30 Popular Astronomy Book Recommendations

by Joel Dick

Royal Astronomical Society of Canada

Recreational Astronomy Night

September 16, 2020



# Introduction

- <https://facebook.com/groups/seriousnonfiction/>
- Target audience: beginners and amateurs
- Focus on history, biography, basic science
- I'll stay away from specialized books, technical guides on astrophotography, and sky atlases (though I've included a couple)
- Rated by accessibility and engaging writing style





And now, for a tour of my bookshelf...





Fiction



# The Martian by Andy Weir



- Attention to technical accuracy
- Spark an interest in science in kids
- Available in “censored” version
- Excellent film as well

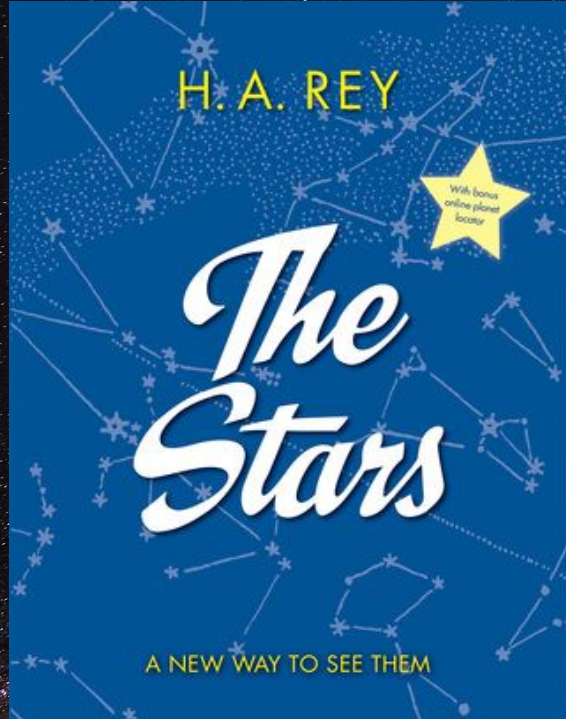




Observing



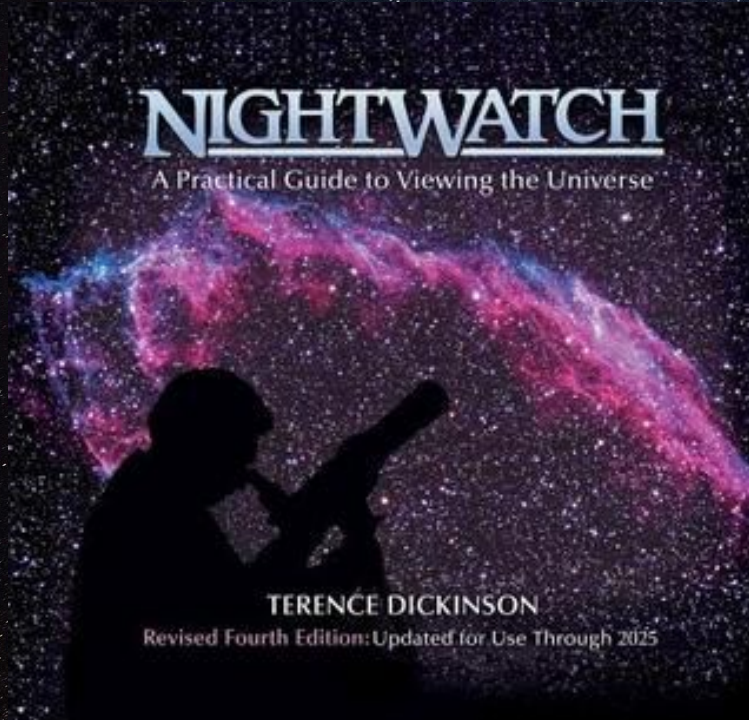
# The Stars: A New Way to See Them by H. A. Rey



- Fun illustrations by the author of Curious George
- Good introduction to the constellations and seasons
- Also includes a good explanation of how the sky works



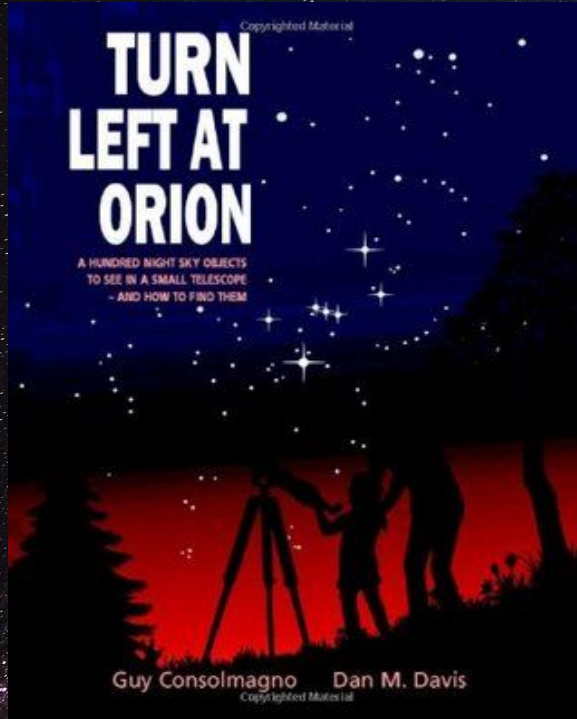
# NightWatch by Terence Dickinson



- Comprehensive guide to beginning observing, covering the basics, from equipment, viewing techniques, objects to look for, to photography
- Spiral bound so you can take it into the field



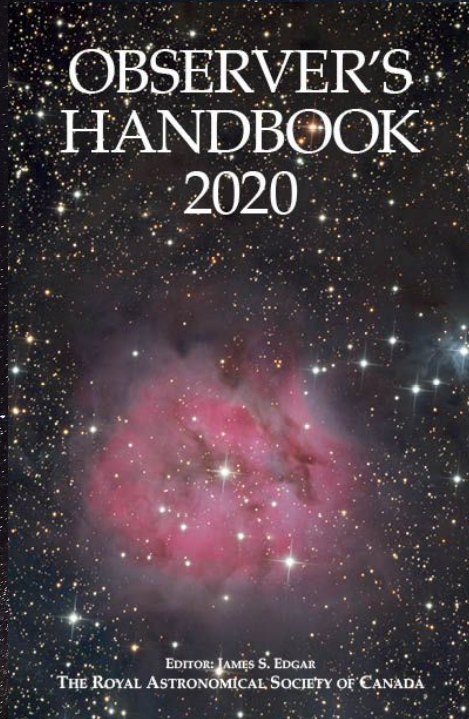
# Turn Left at Orion by Guy Consolmagno



- Very practical reference of objects to look for and how to find them
- Organized by each season
- Also spiral bound



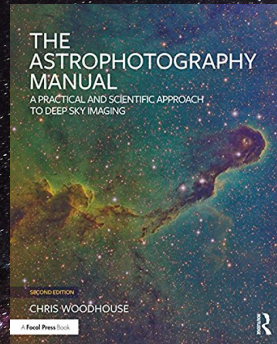
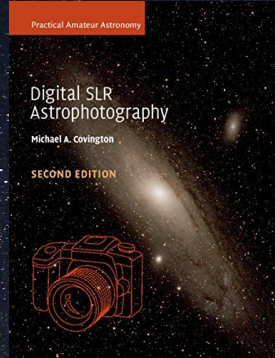
# Observer's Handbook by RASC



- Very detailed and comprehensive reference
- Not designed for beginners to read from beginning to end



# Books on astrophotography



- Technical guides to astrophotography
- Ideas for things in the sky to find and photograph
- Harder to find at discount
- Often most of the information is available online

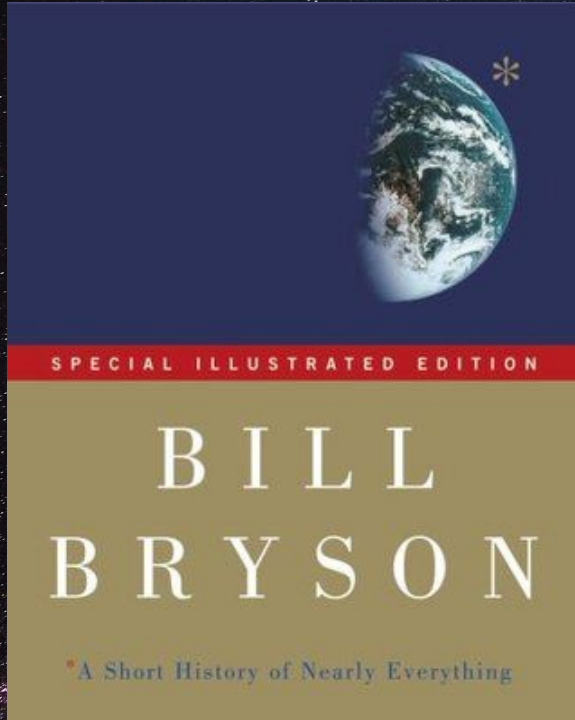




# General History



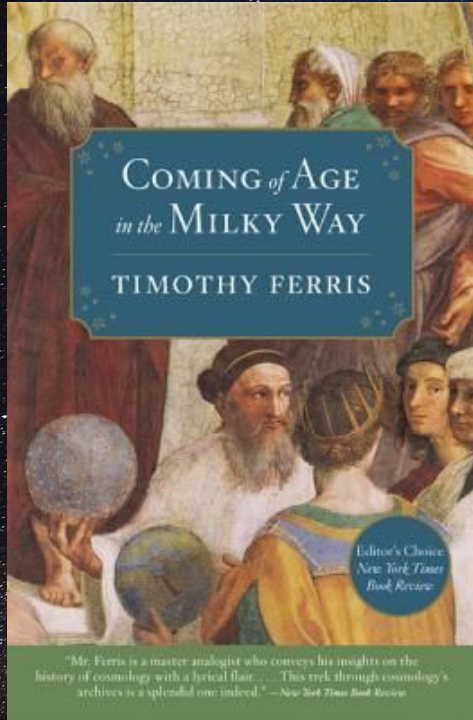
# A Short History of Nearly Everything by Bill Bryson



- Covers the history of astronomy, but geology, paleontology, chemistry, physics, biology, focusing on the Victorian age
- Science is surprisingly accurate for a journalist
- Laugh-out-loud funny



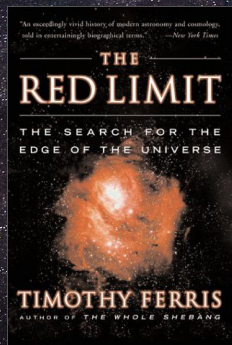
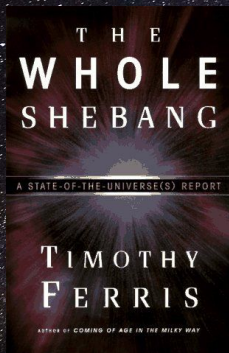
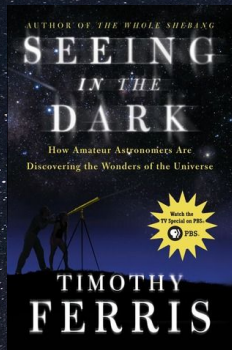
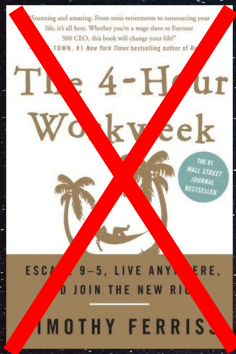
# Coming of Age in the Milky Way by Timothy Ferris



- One of the best books on the history of mankind's understanding of their place in the universe, from ancient times to Hubble and beyond
- A few decades old, but still holds up



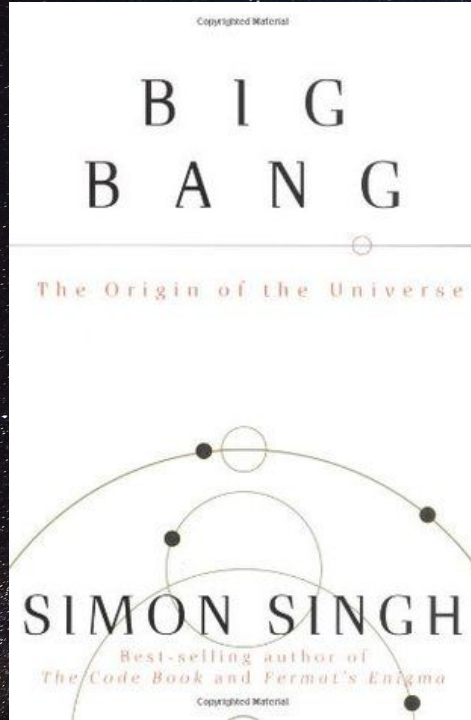
# Other books by Timothy Ferris



- Not that Timothy Ferriss
- The Whole Shebang
- Seeing in the Dark
- The Red Limit
- Seeing in the Dark is a fun book about amateur astronomers
- Somewhat out-of-date, but still excellent histories



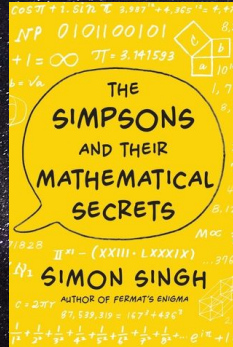
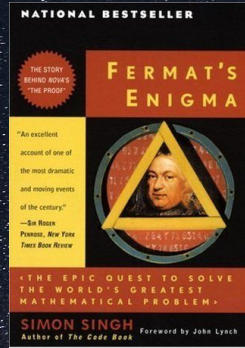
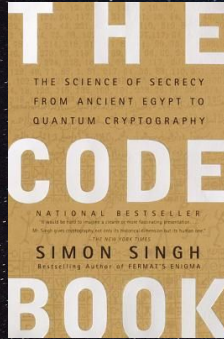
# Big Bang by Simon Singh



- Comparable to Timothy Ferris, but probably a little more approachable
- Also focuses on the Twentieth Century



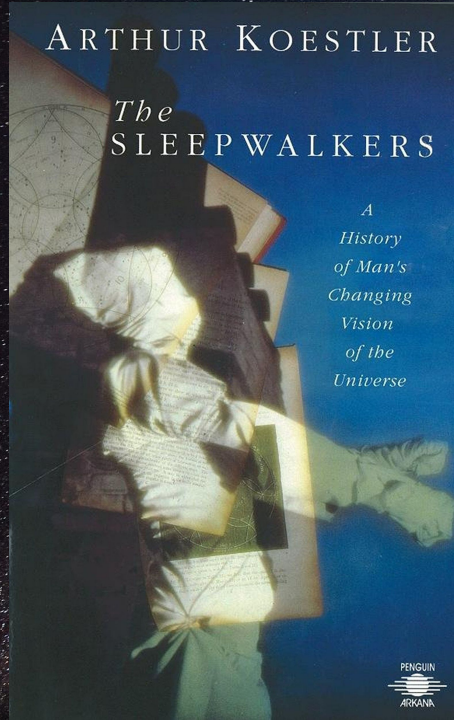
# Other books by Simon Singh



- The Code Book
- Fermat's Enigma
- The Simpsons and Their Mathematical Secrets
- Also appeared on the Numberphile channel a few times:  
<https://www.youtube.com/watch?v=qiNcEguuFSA>



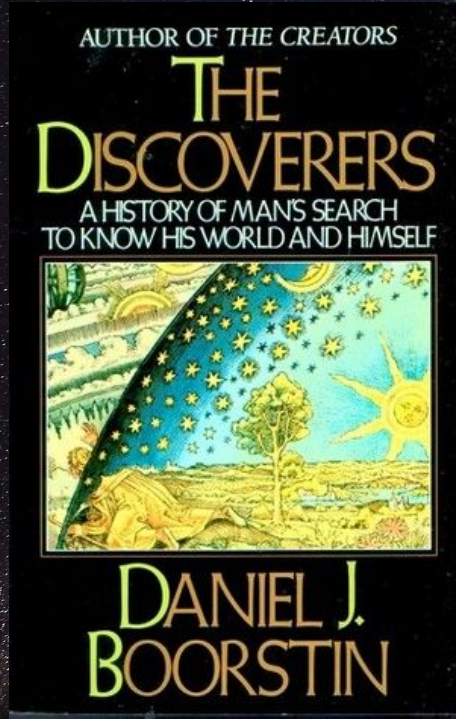
# The Sleepwalkers by Arthur Koestler



- 1959 classic by the great novelist
- Covers the period from ancient times to Newton
- Focuses on the great men like Galileo, Tycho Brahe, and Kepler



# The Discoverers by Daniel J. Boorstin



- Published in 1983
- Focuses on the transition from mediaeval to modern times
- Not exclusively about astronomy - discusses economics and biology as well

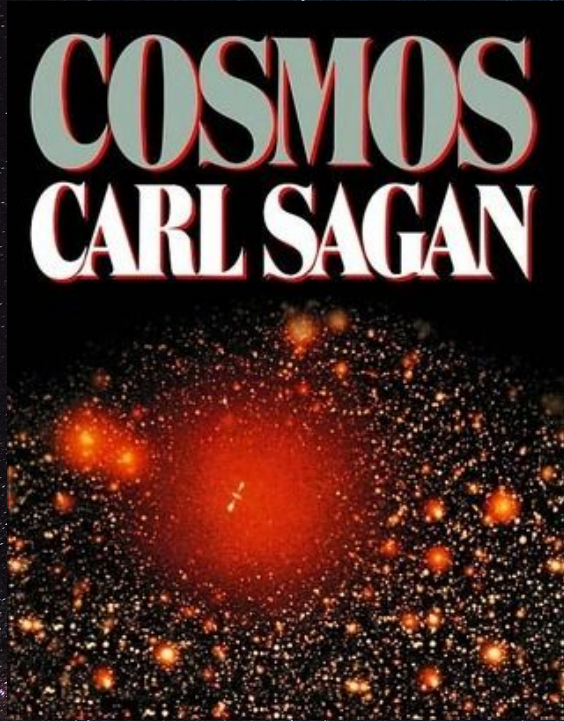




# Tour of the Universe



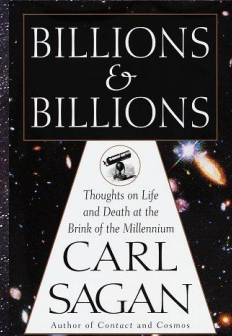
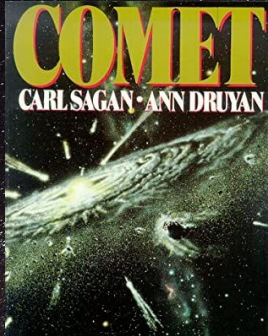
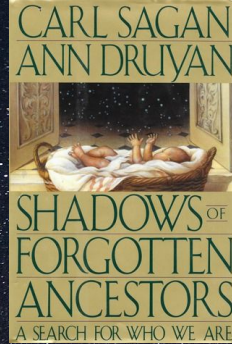
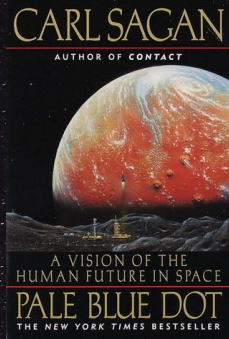
# Cosmos by Carl Sagan



- Classic tour of the universe and man's place inside it
- Also a classic TV series
- Contemplative at times, but inspired many over the decades since its release



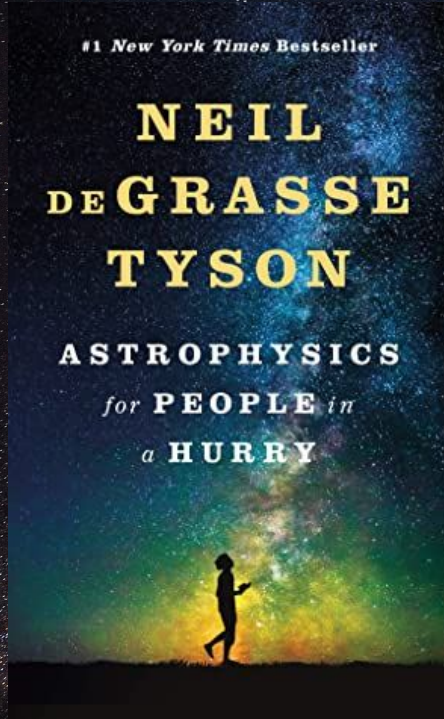
# Other books by Carl Sagan



- Pale Blue Dot
- Shadows of Forgotten Ancestors
- Comet
- Billions and Billions



# Astrophysics for People in a Hurry by Neil deGrasse Tyson



- In the style of Carl Sagan's Cosmos
- Fairly short, quick read
- 3:41 audiobook on YouTube

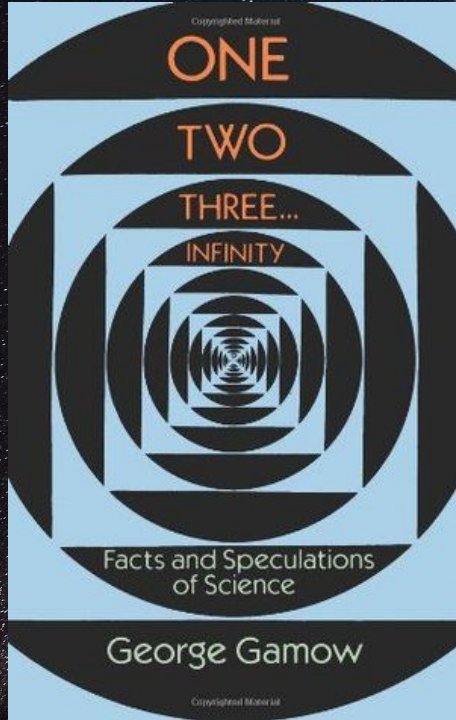




# Relativity, The Big Bang, and Theory of Everything



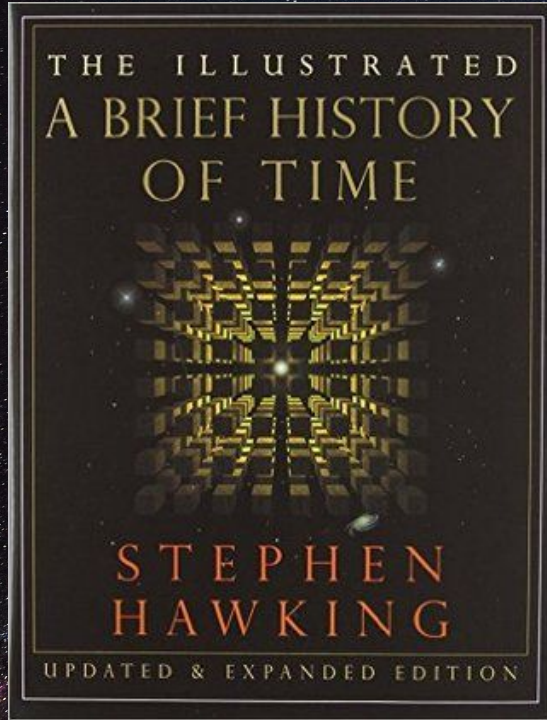
# One Two Three... Infinity by George Gamow



- Makes concepts like Minkowski space, Brownian motion, and CNO cycle almost stupidly simple
- Written with wit and charm



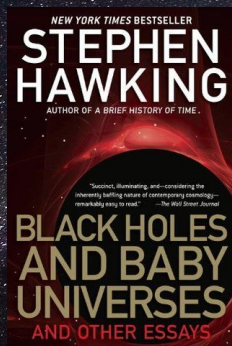
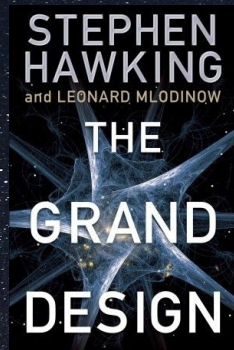
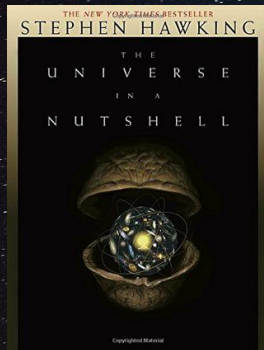
# A Brief History of Time by Stephen Hawking



- Seems a little dated and superseded by others, but still retains its classic status
- Covers several topics fairly well, like “no-hair theorem” and Hawking radiation (obviously)



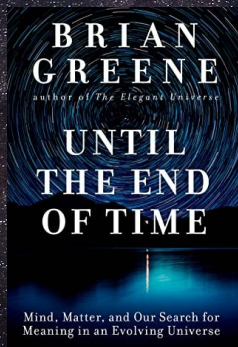
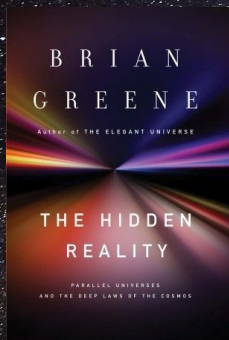
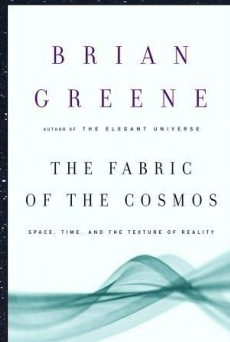
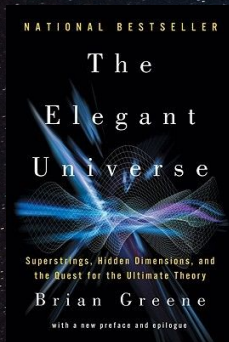
# Other books by Stephen Hawking



- The Universe in a Nutshell
- The Grand Design
- Black Holes and Baby Universes



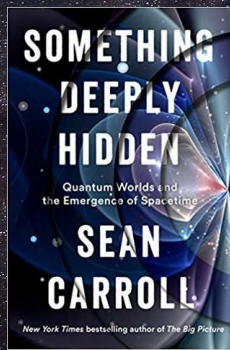
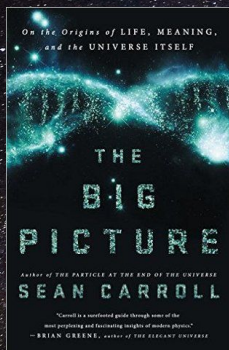
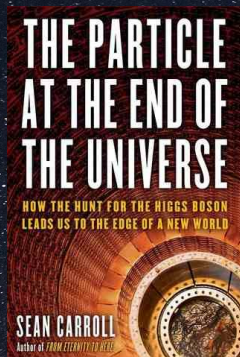
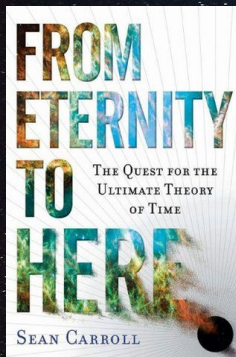
# Books by Brian Greene



- The Elegant Universe
- The Fabric of the Cosmos
- The Hidden Reality
- Until the End of Time



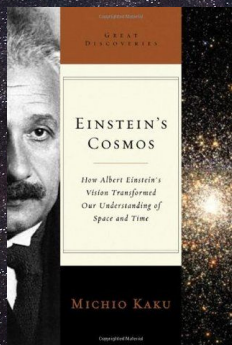
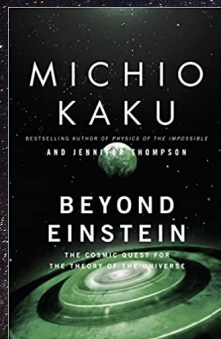
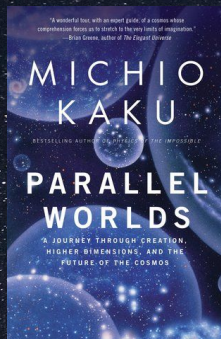
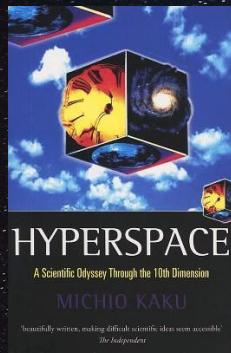
# Books by Sean Carroll



- From Eternity to Here
- The Particle at the End of the Universe
- The Big Picture
- Something Deeply Hidden



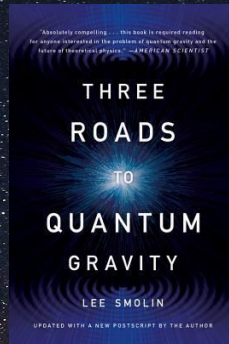
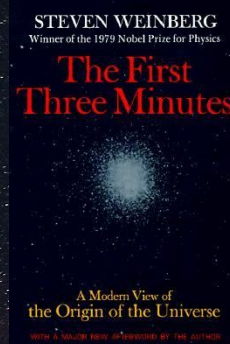
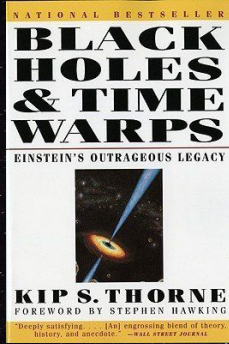
# Books by Michio Kaku



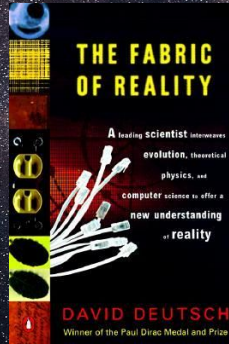
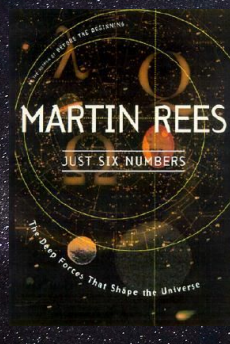
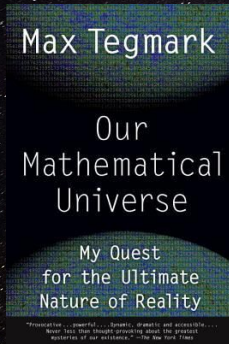
- Hyperspace
- Parallel Worlds
- Beyond Einstein
- Einstein's Cosmos



# More books on Cosmology



- Kip Thorne
- Steven Weinberg
- Lee Smolin
- Max Tegmark
- Martin Rees
- David Deutsch



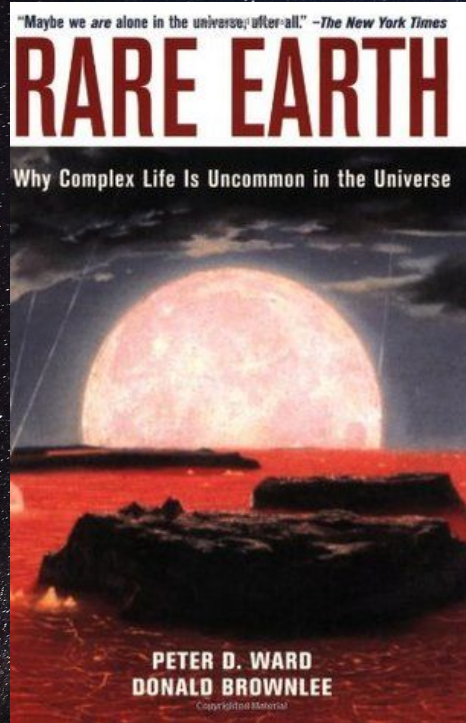




# Origins of Life and Exoplanets



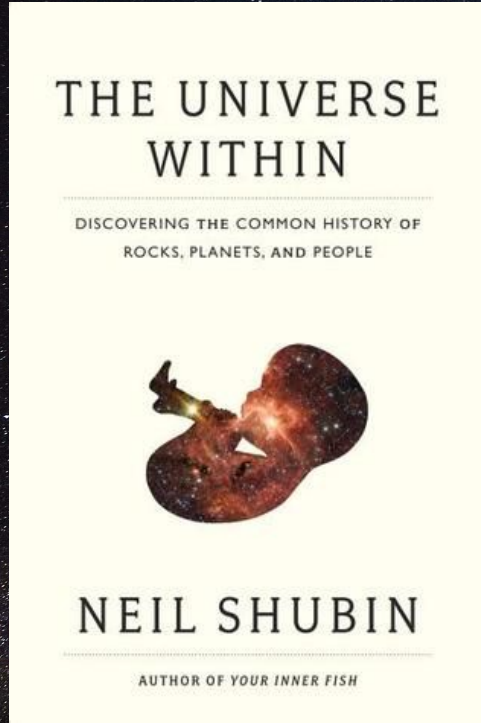
# Rare Earth by Peter D. Ward



- Life on other planets
- Recommended to me by Ian Shelton for his course Life on Other Worlds
- Course textbook was Life in the Universe by Bennett and Shostak



# The Universe Within by Neil Shubin



- Author of *Your Inner Fish*, paleontologist who discovered Tiktaalik
- Stories from the field
- Cosmic origins of life on earth
- Writing style is a bit simple

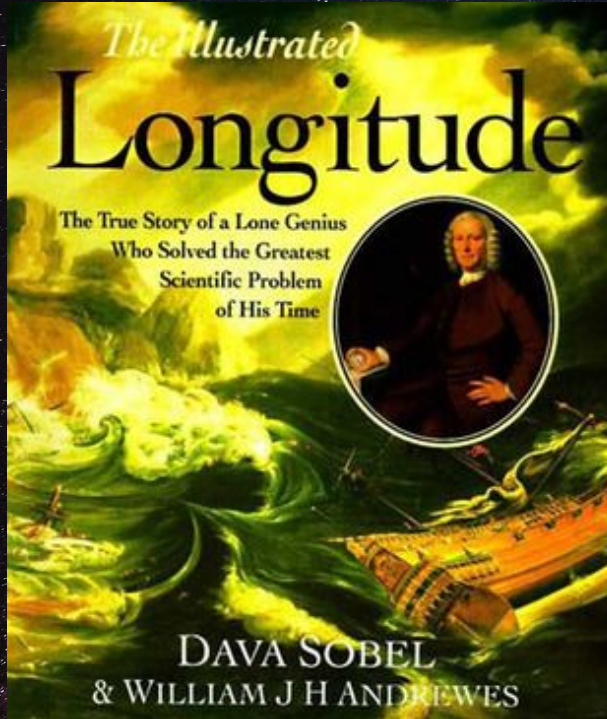




# History and Biography



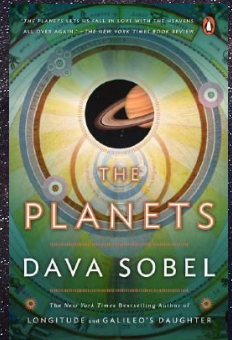
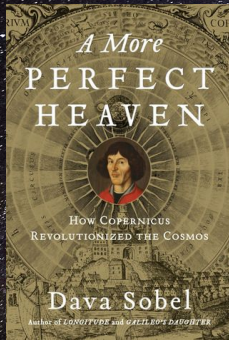
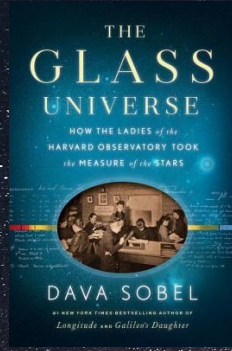
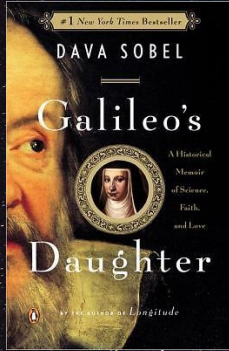
# Longitude by Dava Sobel



- Gripping story by outstanding science writer
- Also an excellent TV miniseries from A&E (available on Amazon Prime)



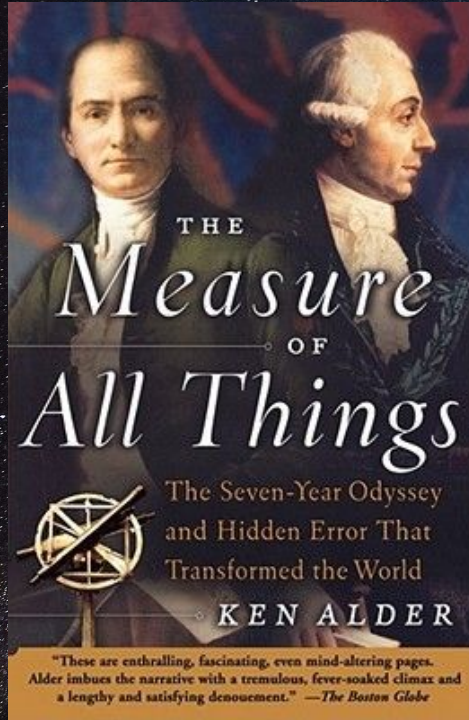
# Other books by Dava Sobel



- Galileo's Daughter
- The Glass Universe
- A More Perfect Heaven
- The Planets



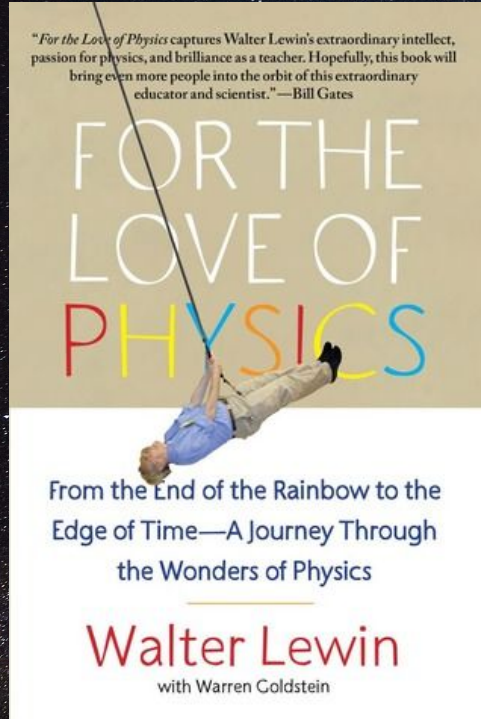
# The measure of All Things by Ken Alder



- Story of Jean Baptiste Joseph Delambre and Pierre Méchain's effort to measure the meridian



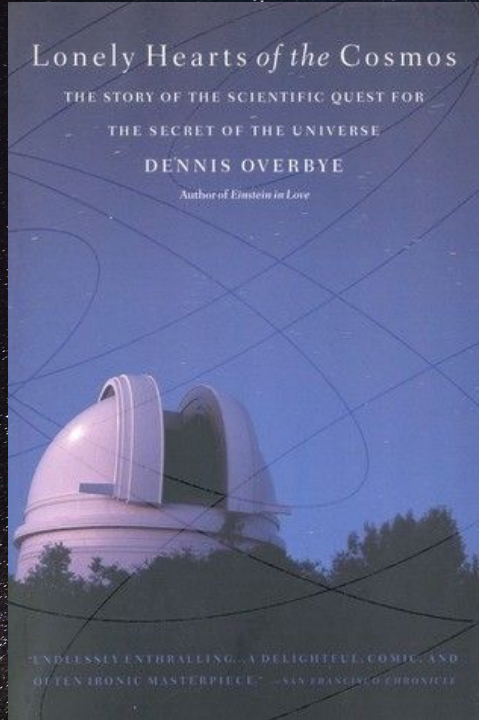
# For the Love of Physics by Walter Lewin



- Full of stories from Lewin's colorful career discovering new x-ray sources using balloons
- Personal reflections captures his passion for science and art



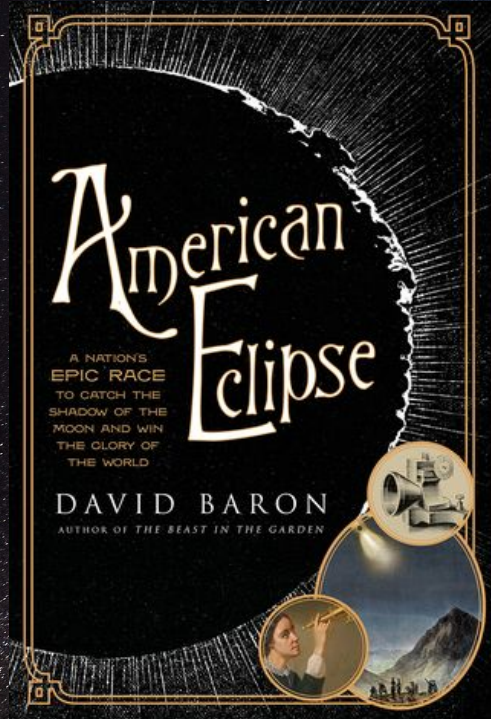
# Lonely Hearts of the Cosmos by Dennis Overbye



- Story of Alan Sandage and the Palomar Observatory and the search for the age of the universe
- Narrative style, similar to James Gleick



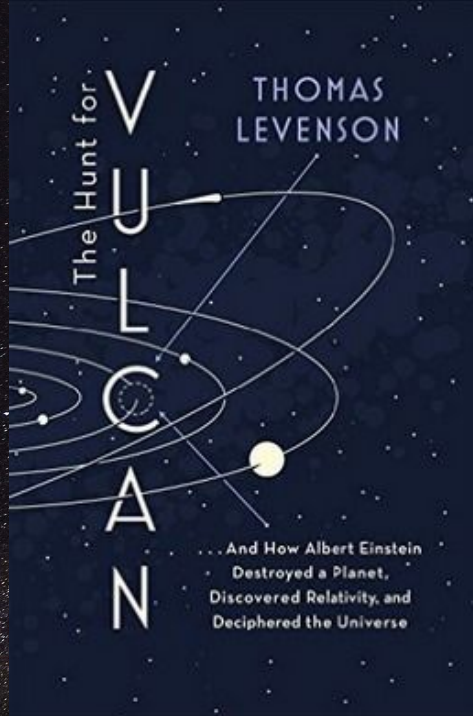
# American Eclipse by David Baron



- Released just in time for the 2017 eclipse
- Story of Thomas Edison and others' adventure to the Wild West to observe the 1878 total solar eclipse



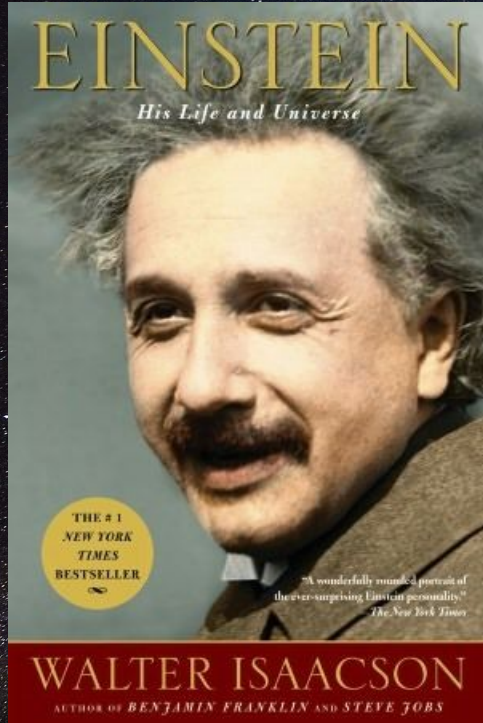
# The Hunt for Vulcan by Thomas Levenson



- Story of Le Verrier's hypothesized planet Vulcan and its ultimate downfall



# Einstein by Walter Isaacson



- Great biography of Einstein's life - really gets inside his mind and personality
- Features the stories of the 1914 and 1919 eclipses





# Complete List



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- Weir, A. (2012). *The Martian*.
- Rey, H. A. (1997). *The Stars: A New Way to See Them*.
- Dickinson, T. (2006). *NightWatch*.
- Consolmagno, G., & Davis D. M. (2000). *Turn Left at Orion*.
- Edgar, J. S. (Ed.) (2020). *Observer's Handbook 2020*.
- Hall, A. (2020). *Budget Astrophotography*.
- Hall, A. (2020). *50 Amazing Things To See With Your New Telescope*.
- Hall, A. (2020). *50 Best Astrophotography Targets For Beginners*.
- Covington, M. A. (2007). *Digital SLR Astrophotography*.
- Woodhouse, C. (2017). *The Astrophotography Manual*.
- Bryson, B. (2003). *A Short History of Nearly Everything*.
- Ferris, T. (1988). *Coming of Age in the Milky Way*.
- Ferris, T. (2002). *Seeing in the Dark*.



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- Ferris, T. (1997). *The Whole Shebang*.
- Ferris, T. (1977). *The Red Limit*.
- Singh, S. (2004). *Big Bang*.
- Singh, S. (1999). *The Code Book*.
- Singh, S. (1997). *Fermat's Enigma*.
- Singh, S. (2013). *The Simpsons and Their Mathematical Secrets*.
- Koestler, A. (1959). *The Sleepwalkers*.
- Boorstin, D. J. (1983). *The Discoverers*.
- Sagan, C. (2013). *Cosmos*.
- Sagan, C. (1994). *Pale Blue Dot*.
- Sagan, C., & Druyan, A. (1992). *Shadows of Forgotten Ancestors*.
- Sagan, C., & Druyan, A. (1985). *Comet*.
- Sagan, C. (1997). *Billions and Billion*.



# Complete List

- deGrasse Tyson, N. (2017). *Astrophysics for People in a Hurry*.
- Gamow, G. (1947). *One Two Three ... Infinity!*.
- Hawking, S. (1996). *The Illustrated A Brief History of Time*.
- Hawking, S. (2001). *The Universe In a Nutshell*.
- Hawking, S., & Mlodinow, L. (2010). *The Grand Design*.
- Hawking, S. (1993). *Black Holes and Baby Universes and Other Essays*.
- Greene, B. (1999). *The Elegant Universe*.
- Greene, B. (2003). *The Fabric of the Universe*.
- Greene, B. (2011). *The Hidden Reality*.
- Greene, B. (2020). *Until the End of Time*.
- Carroll, S. (2010). *From Eternity to Here*.
- Carroll, S. (2012). *The Particle at the End of the Universe*.
- Carroll, S. (2016). *The Big Picture*.



# Complete List

- Carroll, S. (2019). *Something Deeply Hidden*.
- Kaku, M. (1994). *Hyperspace*.
- Kaku, M. (2004). *Parallel Worlds*.
- Kaku, M. (1987). *Beyond Einstein*.
- Kaku, M. (2004). *Einstein's Cosmos*.
- Thorne, K. S. (1994). *Black Holes & Time Warps*.
- Weinberg, S. (1977). *The First Three Minutes*.
- Smolin, L. (2000). *Three Roads to Quantum Gravity*.
- Tegmark, M. (2014). *Our Mathematical Universe*.
- Rees, M. (1999). *Just Six Numbers*.
- Deutsch, M. (1996). *The Fabric of Reality*.
- Ward, P. D., & Brownlee, D. (2000). *Rare Earth*.
- Bennett, J. O., & Shostak, S. (2016). *Life in the Universe*.



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- Shubin, N. (2008). *Your Inner Fish*.
- Sobel, D. (1995). *Longitude*.
- Sobel, D. (1999). *Galileo's Daughter*.
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