

beacons of light in the night sky. Powell might have done well to consult two other resources on the origins of astronomy: *The Roots of Civilization: The Cognitive Beginnings of Man's First Art, Symbol, and Notation* (1971) by the late Peabody Museum scholar Alexander Marshack and the documentary *Lascaux, le ciel des premiers hommes* (*Lascaux, the sky of the first men*; 2007) depicting the work of archaeoastronomer Chantal Jégues-Wolkiewicz. Marshack meaningfully demonstrated that prehistoric humans etched and painted lunar and seasonal time-factored markings on cave walls and portable objects during the Upper Paleolithic. Jégues-Wolkiewicz's work argues that the cave art at Lascaux depicts details of specific constellations as they were seen in the night sky during that epoch.

Powell regains his footing when he moves from Lascaux and Göbekli Tepe to a host of other astronomical artifacts: the Nebra Sky Disk of the German Bronze Age, the Dendera Zodiac from ancient Egypt, and the Roman Farnese Atlas. Although those artifacts have been thoughtfully analyzed by scholars in a range of disciplines, they are not often discussed

in books about astronomy or the history of science, which makes them a valuable addition to Powell's work. In those passages, *From Cave Art to Hubble* convincingly ties the ancient past to the present by introducing readers to artifacts that have been astronomically dated and that we can relate to our own night sky.

Powell then takes the reader to the area of his core expertise. *From Cave Art to Hubble* covers historical records of supernovae from around the world; observations on the movements of planets from ancient times; astronomical timekeeping among the ancient Chinese, Egyptians, and Persians; the global historical observation of comets; and an overview of the great observatories in the past four centuries. The depth of this material reflects the author's clear knowledge of the subject matter.

Powell finishes the book with a discussion of the Younger Dryas impact hypothesis, which suggests that a comet or disintegrating asteroid struck Earth some 12,800 years ago in the Northern Hemisphere. That terrestrial impact is proposed to have dramatically shifted the climate into a harsh winter period that led to the extinction of Pleistocene megafauna, in-

fluenced the course of civilization, and may be connected to Göbekli Tepe.

The connections between modern discoveries and ancient astronomical observations allow us to ponder all of the intellects that enabled astronomy to be not just science for the sake of science, but a reflection of our inherited interconnectedness to the cosmos. Powell includes a comprehensive glossary that may be of value to both the specialist astronomer and the general audience. However, the book does not include a bibliography, which would have been helpful for further exploration and for ascertaining the strength of the author's sources.

From Cave Art to Hubble is a book to be read and then reread for further reflection as new data and artifacts from our past are uncovered. Powell's work scatters beams of light in the darkness of our astronomical heritage, showing us the rich history of humans exploring the planets, stars, and comets that fill our night sky. The book is a must-read that enables readers to explore both where we have come from and the possibilities that lie ahead.

Bernie Taylor

Portland, Oregon

NEW BOOKS & MEDIA

Fly, Fly Again

Katie Jaffe and Jennifer Lawson, illustrated by Tammie Lyon

Greenleaf Book Group Press, 2020. \$15.95

Neighbors Jenny and Jude combine their knowledge of lift and steering to build a flying craft in this colorful book aimed at young elementary school students. Like many children's books, *Fly, Fly Again* is written in rhymes, but their meter often feels a beat or two off and can be awkward to read aloud. But the charming illustrations and the encouraging message about learning and trying again make this a good choice for young tinkers. Astronaut Buzz Aldrin contributes a short foreword.



—MB



Thinkrolls

Logic Puzzles for Kids

Avokiddo

iTunes, 2019 (version 1.4.3). \$3.99

Aimed at children ages 3–8, this physics-based tablet and cellphone game challenges players to solve increasingly difficult mazes by avoiding or overcoming obstacles. Players have to climb, bounce, and roll their way through the puzzles and use basic physics concepts like momentum and force to advance. There is an easy mode for kids under six and a hard mode for older children. The game is also available for Android and Kindle devices.

—MB

Ghost Road

Beyond the Driverless Car

Anthony M.

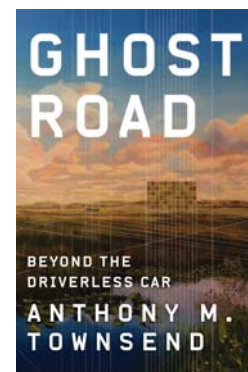
Townsend

W. W. Norton, 2020.
\$27.95

Like the magical flying carpets of Arabian lore, driverless cars could promise a wondrous future of care-free transportation—or they could hasten the decline of civilization as we know it.

That uncertain future is the theme of *Ghost Road*, in which Anthony Townsend, an urbanization and digital technology consultant, discusses how automated vehicles (AVs) could transform not only transportation but also daily life, city planning, commerce, and more. Whether AVs lead to safe, energy-efficient vehicles affordable to all or ever-increasing traffic congestion, carbon emissions, and class inequalities, Townsend argues, is entirely up to us and the corporate and public policies we put in place.

—CC



The Fab Lab with Crazy Aunt Lindsey

Lindsey Murphy

YouTube and Facebook Live, 2010–present



Science communicator Lindsey Murphy hosts the long-running and beloved YouTube series *The Fab Lab with Crazy Aunt Lindsey*. Murphy encourages her young viewers to get hands-on by making lemon batteries, baking doughnuts, and creating eco-friendly play dough. She also highlights scientists and inventors of color, such as carbon filament inventor Lewis Latimer and Alfred Cralle, who created the first one-handed ice cream scoop. Murphy's newest offering, *Digital Daycare*, is aimed at

parents and children under stay-at-home orders during the COVID-19 pandemic. It's a series of two-hour videos in which Murphy guides kids through science and craft projects. —MB

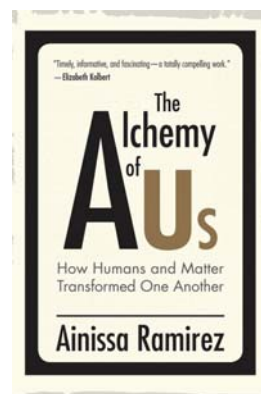
Entangle

Physics and the Artistic Imagination

Ariane Koek, ed.

Hatje Cantz, 2019. \$32.00 (paper)

The companion catalog to an art exhibition mounted at Bildmuseet at Sweden's Umeå University, *Entangle* presents the work of 14 contemporary artists who have been inspired by particle physics. Among the themes they incorporated were entropy, gravity, light, matter, space, and time. The pieces span various media, including painting, sculpture, photography, and fashion. In addition to full-page color images of the artworks, the catalog includes scholarly essays by such leading science writers as Philip Ball and Carlo Rovelli and interviews with artists and physicists. Ariane Koek, founder of the Arts at CERN program, served as curator of the exhibition and editor of the catalog. —CC



The Alchemy of Us

How Humans and Matter Transformed One Another

Ainissa Ramirez

MIT Press, 2020. \$27.95

In this readable and entertaining popularization, materials scientist Ainissa Ramirez uses eight inventions—steel rails, photographic film, and silicon chips among them—to show how materials development has been shaped by human interests and how new materials can, in turn, shape society. Ramirez includes both well-known figures such as Thomas Edison and lesser-known scientists. The section on the development of Pyrex, which highlights the work that many women scientists put into creating the bakeware, is especially fascinating. —MB

Paracelsus

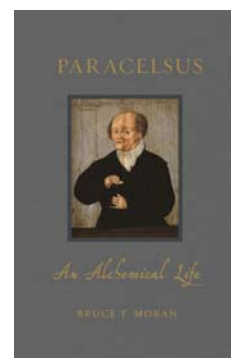
An Alchemical Life

Bruce T. Moran

Reaktion Books,

2019. \$22.50

In his latest book, historian of science Bruce Moran focuses on the life of Theophrastus von Hohenheim, better known as Paracelsus, a 16th-century scholar, physician, and alchemist. Although very few of his writings were published during his lifetime, once they were in print, Paracelsus became a major influence on Renaissance medicine. He advocated for the importance of observation in developing new and better medical techniques, but his beliefs were also infused with mysticism and religion. Moran argues that to understand Paracelsus, we must discard modern notions about divisions between magic and science and approach his beliefs on his own terms. —MB **PT**



MARTIN W. ANGLER

TELLING SCIENCE STORIES

Reporting, Crafting and Editing for Journalists and Scientists



Telling Science Stories

Reporting, Crafting and Editing for Journalists and Scientists

Martin W. Angler

Routledge, 2020. \$44.95 (paper)

"Everybody loves stories," writes science journalist, storyteller, and science blog editor Martin Angler. In his latest book, Angler encourages journalists and scientists alike to embrace the use of fiction-writing techniques to convey the latest science discoveries in a way that is both informative and compelling. In addition to chapters on such topics as story selection, narrative structure, language and style, and literary devices, Angler discusses the scientific method and how to locate story elements in scientific papers. A list of review questions, references, and links to online articles and tools rounds out each chapter. —CC