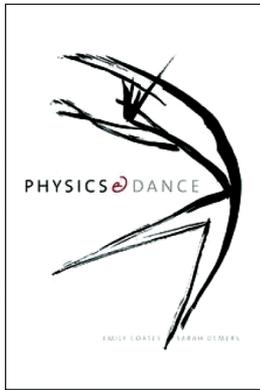




BOOKSHELF

New and Noteworthy Titles on our Bookshelf
April 2020



Yale, 2019, 192 pages.

Physics and Dance
by Emily Coates and Sarah Demers

This book is an unconventional collaboration between two professors at Yale University. The first author, Emily Coates, is a theater studies professor and former member of New York City Ballet. The second author, Sarah Demers, is a physics professor who searches for exotic particles at CERN and Fermilab. Their joint work at the

interface of physics and dance has caught the public eye and has been discussed in venues such as the *New York Times* and the *New Yorker*.

The dust jacket describes *Physics and Dance* as “a fascinating exploration of our reality through the eyes of a physicist and dancer—and an engaging introduction to both disciplines.” Although no knowledge of dance or physics is assumed, this is not a simple popular science title. There is plenty of mathematics involved, and the book assumes a certain amount of seriousness and dedication by the reader. At the end of the book there are about a dozen pages of physics exercises and related choreographic studies.

The book is mostly divided into two parts. The first, “Principles of Movements,” covers gravity, force, motion, friction, momentum, and turning. *Physics and Dance* shines here with many illustrations, photographs, and equations connecting dance movements with classical Newtonian physics. The second part, “Energy, Space, Time,” discusses more modern topics, such as dark energy, relativity, and gravitational waves. Here the connection to dance is less direct, although thought experiments and relevant discussions of dance theory keep contact with the physics throughout the second half of the book.

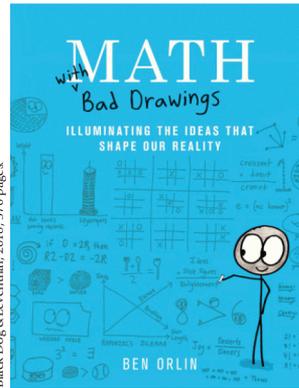
Physics and Dance is an unusual book, bridging two seemingly different worlds. Although it is not for everyone,

The Bookshelf is prepared monthly by Notices Associate Editor Stephan Ramon Garcia.

Appearance of a book in the Notices Bookshelf does not represent an endorsement by the Notices or by the AMS.

Suggestions for the Bookshelf can be sent to notices-booklist@ams.org.

anyone dabbling near one of the two subjects involved will find this title of great interest.



Black Dog & Leventhal, 2018, 376 pages.

Math with Bad Drawings:
Illuminating the Ideas That Shape Our Reality
by Ben Orlin

“Math with Bad Drawings” deftly sums up this peculiar book. Almost every page features a hand-drawn chart or colorful illustration. The ubiquitous stick figures debate and discuss various mathematical issues, from the “irrational geometry” of A4 paper to the

population density of the Death Star. The drawings themselves, while self-deprecatingly described as “bad,” are not unappealing. They have a certain amateur charm, which, along with the vibrant use of color, makes the book a quick and pleasant read.

Math with Bad Drawings contains twenty-four chapters, grouped into five larger sections: “How to Think Like a Mathematician,” “Design: The Geometry of Stuff that Works,” “Probability: the Mathematics of Maybe,” “Statistics: the Fine Art of Honest Lying,” and “On the Cusp: the Power of a Step.” The dust jacket tells us that “truth and knowledge come in multiple forms: colorful drawings, encouraging jokes, and the stories and insights of an empathetic teacher who believes that math should belong to everyone.” This book is perhaps unique in its appeal to math-averse and math-friendly audiences. For the lay audience, it functions just as its publisher describes: “a hilarious reeducation in mathematics—full of joy, jokes, and stick figures—that sheds light on the countless practical and wonderful ways that math structures and shapes our world.” For the mathematician, there are moments of humor and clever anecdotes that one might incorporate into their own teaching. Indeed, *Math with Bad Drawings* could serve as a supplemental text for a basic numeracy course. Certainly, it is a book that math-averse students might actually read.