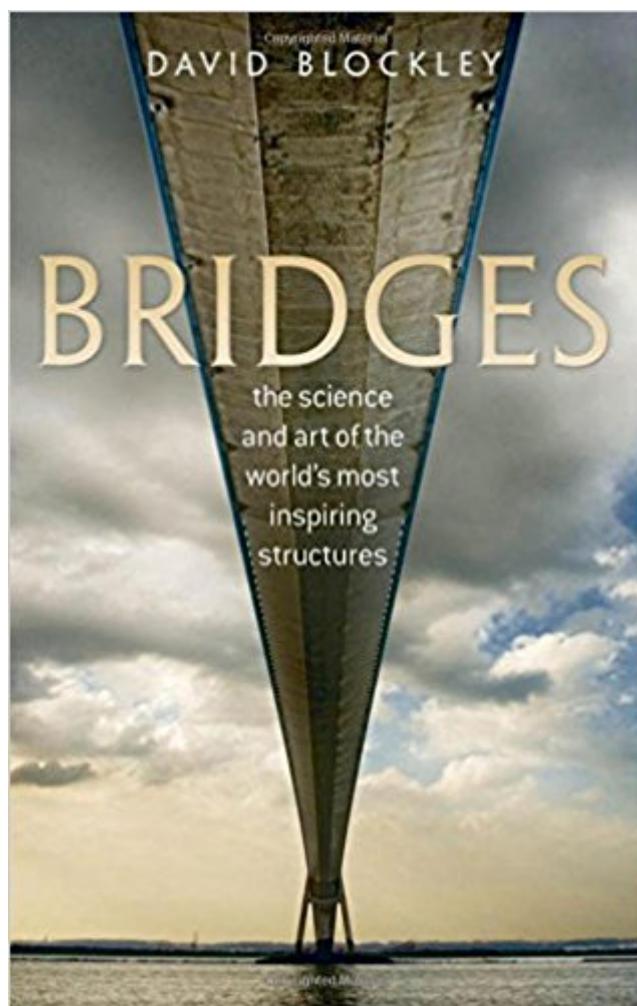


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# Bridges: The Science And Art Of The World's Most Inspiring Structures



## Synopsis

The Brooklyn Bridge, London's Tower Bridge, San Francisco's Golden Gate--bridges can be breathtakingly monumental structures, magnificent works of art, and vital arteries that make life vastly easier. In *Bridges*, eminent structural engineer David Blockley takes readers on a fascinating guided tour of bridge construction, ranging from the primitive rope bridges (now mainly found in adventure movies), to Roman aqueducts and the timber trestle railway bridges of the American West, to today's modern marvels, such as the Akashi-Kaiky? Bridge, which has the largest span in the world. Blockley outlines the forces at work on a bridge--tension, compression, and shear--and the basic structural elements that combat these forces--beams, arches, trusses, and suspensions (or BATS). As he does so, he explores some of the great bridges around the world, including such lesser-known masterpieces as the Forth Railway Bridge (featured in Alfred Hitchcock's *The Thirty-Nine Steps*), and describes some spectacular failures, such as the recent bridge collapse in Minnesota or the famous failure of the Tacoma Narrows Bridge in 1940.

## Book Information

Paperback: 328 pages

Publisher: Oxford University Press; Reprint edition (May 18, 2012)

Language: English

ISBN-10: 0199645728

ISBN-13: 978-0199645725

Product Dimensions: 7.7 x 1 x 5.1 inches

Shipping Weight: 13.4 ounces (View shipping rates and policies)

Average Customer Review: 3.5 out of 5 stars 11 customer reviews

Best Sellers Rank: #909,967 in Books (See Top 100 in Books) #61 in Books > Engineering & Transportation > Engineering > Civil & Environmental > Bridges #897 in Books > Textbooks > Engineering > Civil Engineering #984 in Books > Engineering & Transportation > Engineering > Reference > History

## Customer Reviews

Starred Review. In this fascinating exploration for lay readers, Blockley lucidly explains both the basic forces at work on every bridge--tension, compression, and shear--and the structural elements combating those forces: beams, arches, trusses, and suspension cables. He succeeds in his desire to read a bridge like a book. Following fellow civil engineers and writers David Billington and Henry Petroski, Blockley makes clear that engineers as much as architects and

scientists design bridges and that technology is not merely applied science. The author provides an excellent history of bridge construction, from primitive rope bridges and Roman aqueducts to 19th- and 20th-century railroad bridges and contemporary achievements like Japan's Akashi-Kaiky Bridge, which has the largest central span of any suspension bridge. The author also discusses important bridge failures and the lessons learned from them, including the Minnesota I-35 bridge, and the less seriously damaged London Millennium Bridge, which was closed for two years after opening day's huge crowds caused wobbling. Blockley concludes that bridges do not merely transport people and goods but also help us express some of our deepest emotions. Bold, insightful statements help make this a remarkable work. 50 b&w illus. (Mar.) Copyright © Reed Business Information, a division of Reed Elsevier Inc. All rights reserved. --This text refers to an out of print or unavailable edition of this title.

Bridges vault valleys and leap rivers, but how? British civil-engineering professor Blockley answers in this attempt to help nontechnical readers understand the technical issues bridge builders have to face. Emanating from the engineer's abiding anxiety to ensure against structural failure, such issues are successfully clarified in the author's engaging presentation. Essentially, the bridge engineer calculates the physical forces acting on the materials and shapes used to construct a bridge, but, as Blockley iterates throughout, engineering knowledge about how a bridge will perform has finite or indeterminable dimensions. The bridge collapses he describes were typically caused by some previously unrecognized behavior, and the collection of behaviors learned through bridge-building experience infuses Blockley's arrangement of bridges into four classifications—beams, arches, trusses, and suspensions. If we cross bridges unmindful of the forces they tame, Blockley's text, sketches, simple equations, and photographs instill appreciation for a physical dynamism that the engineer aspires to control. Also discussing the architectural beauty of bridges, this is a model explanation of technological design for a general audience. --Gilbert Taylor --This text refers to an out of print or unavailable edition of this title.

I couldn't understand the engineering or mathematical parts, but that didn't keep me from enjoying the book. I learned a lot about bridges that I didn't know. And, the author also wrote about people and how bridges are like the interactions between people.

Great book if you're interested in all things related to Bridges, specs, techniques and history. It was

a gift, and they're raving about it!!

Nice book used for a school report on bridges...

Thank goodness I had an engineering course 50 yrs. ago. This was not a book for the lay reader. It was poorly organized - facts mixed with philosophy -- what a mix!!! Book needed more and better illustrations. I would definitely not recommend this book for the person seeking a basic understanding of bridges. Sorry - If you have a math/civil engineering background, you'll survive the book otherwise you won't.

Poorly written with horrible illustrations. The author kept using a clumsy analogy of English language grammar to illustrate the componentry of bridges. If there is one thing shrouded in greater mystery than the structure of bridges, it is the structure of the English language. I was able to leap the hurdles of bad writing, and horrible illustrations, and finish the book, only because the subject is deeply interesting to me. A book about bridges should have many large clear beautiful photographs, and drawings of bridges. This book has a few small grainy photographs, and the few very simple drawings are used only to illustrate points of engineering. This book has the distinct feel of a self published work that was choked by a lack of money.

I bought this book because Publisher's Weekly said it was for the lay reader. Actually, it is more like a text book for a math class. I once planned to study engineering at the U of MN but so much math was involved that I changed my major. Now, many decades later, I hoped to see some interesting facts about how bridges are built. I did plow through the book, although at times skipping pages. As far as "interesting" goes, I'd give it one star, but since the author shows he knows his subject, I'm giving it a three. But don't expect to be entertained.

I sometimes read books on a subject in which I don't feel any particular interest and know very little about, just to deepen my understanding of the world, and to see if perhaps it is an interesting subject once you take the time to consider it. That is why I picked up this book, along with several other books about bridges. This is the book that caught my imagination. It was so fascinating! I love how this author was able to take what could be a lot of dry facts about physics, materials, and construction and weave them into such a beautiful "story" about the who/what/where/when/how of bridges. No, I didn't understand every one of the physics concepts, but it didn't take away from the

enjoyment of the book. Also, there were many concepts that I did understand thanks to the wonderful analogies the author used to illustrate them. I also saw that the physics of a bridge is a huge part of what makes a bridge a thing of beauty and wonder. I would suggest reading this book while simultaneously looking at a book of well-done color photographs of the bridges that are discussed in this book. Up till now, I've never even considered the bridges I've crossed. But now that I have a basic understanding of bridges, I will certainly notice them. And knowing how to look at them, I will certainly see their brilliance and beauty. Any book that increases my sense of wonder at some aspect of our world gets five stars!

The product arrived on time safe and sound. The product was covered against any kind of damage. Thanks for the good work!

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