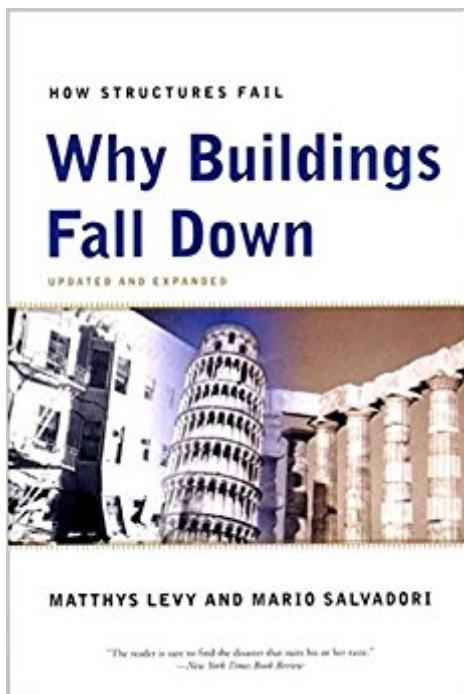


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# Why Buildings Fall Down: How Structures Fail



## **Synopsis**

The authors examine buildings of all kinds, from ancient domes like Istanbul's Hagia Sophia to the state-of-the-art Hartford Civic Arena. Their subjects range from the man-caused destruction of the Parthenon to the earthquake damage of 1989 in Armenia and San Francisco. The stories that make up *Why Buildings Fall Down* are in the end very human ones, tales of the interaction of people and nature, of architects, engineers, builders, materials, and natural forces all coming together in sometimes dramatic (and always instructive) ways. B/W line drawings

## **Book Information**

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## **Customer Reviews**

Structural engineers Levy and Salvadori have written a well-paced, highly informative, nontechnical work describing failures in a variety of structures such as buildings, bridges, and dams. Salvadori wrote *Why Buildings Stand Up* (Norton, 1990), so this is a natural complement. The subject, somewhat grisly in nature, is presented here with respect for the tragedies involved, and yet with a lighthearted pursuit of the truth as to the cause of the failure. Analysis of the failure is discussed and recommendations for improvement are offered, but without the usual condescension hindsight allows. Profuse illustrations by Kevin Woest, well labeled and explained, and several appendixes aid access. An index (not seen) is provided, but no glossary. This fascinating book is easily accessible to laypersons. Highly recommended.- Alex Hartmann, Bloomsburg Univ. Lib., Pa.Copyright 1992 Reed Business Information, Inc. --This text refers to an out of print or unavailable edition of this title.

The reader is sure to find the disaster that suits his or her taste. -- New York Times Book Review

"WBFD" explains engineering with clarity, architectural philosophy with simplicity, and structural events with a sharp, incisive wit. Line drawings are frequent and presented in situ with text. This does not rise to the technical level of a textbook, but the divisions between chapters are a little disorienting for a popular book and occasionally seem arbitrary. For example, the authors discuss the Tacoma Narrows suspension bridge failure in one chapter, then cover another suspension bridge failure alongside airplane failures in a subsequent chapter. Of course technically this is a sensible layout- one chapter is on torsion failures and the other covers metal fatigue- but it also makes for a jumpy narrative between seemingly dissimilar objects. Jumpiness aside, this is a fantastic piece of nonfiction. The "court transcripts" included are comically real- I have heard similar things from other expert witnesses with degrees from European institutions older than the USA being "called out" on the witness stand for having the temerity to lack an American doctorate.

Quick review: two architectural engineers write about building failures. Why? Because on their aunts' response to their earlier work about why building stand up was that this would make for a much more interesting book. She was right.

This is one of the best books I've read on the engineering behind structural failures. The authors teach by example, exploring fallen apartment buildings, stadiums, bridges and other structure, and using each to illustrate an important engineering principle. The illustrations are also an invaluable aid to understanding the problems in each structure (particularly for readers who, like me, may find it difficult to follow verbiage on the orientation of struts, the direction of braces, etc.). I only had two gripes: a glossary provided the only introduction to many basic concepts; and political/historical/personal context would have made for a livelier account. The glossary was a very helpful resource for understanding basic things like, what "load" is, and how it effects structures. It might have been better to also work those descriptions into the text as the concepts arose - this would have made it easier for me to assimilate them. Also, I enjoyed it when the authors gave context for many of the engineering decisions made - for instance, that a stadium rooftop was designed, in part, because flaws in the city sewer system prevented the efficient disposition of significant rainfall. However, more of this kind of context - particularly historical and personal facts that had bearing on design decisions - would have made each example into a better story, and

improved the reading experience for me. Overall, a highly recommended book.

Great condition!

The companion to this book (Why Buildings Stand Up) was a textbook for one of my classes when I was in architecture school in the 80s. I still have my old, dog-eared copy on my bookshelf in my office. I purchased this book, along with a new edition of Why Buildings Stand Up, to give to an 11-year-old (super intelligent) friend who would like to be an architect. I was worried that it might be too complex for him, but his mom assured me that it would not be.

Why Buildings Fall Down gives the reader many examples of factors that lead to structural failure. This book is made for the layman and engineering concepts are explained so everyone can understand. The edition I received had hand-drawn pictures which I thought was not the best way to show existing structures. I don't know if the later editions have been updated with newer pictures or examples of failures.

I am not an architect or engineer, but I found this book really fascinating. The authors explain things so that those not in the field could understand, but sometimes get too technical. The illustrations were great, but there should have been more, and some color photos would have been nice. One thing the authors did not point out, is that hindsight is 20/20. It is almost as though they believe they would never make any errors like those they describe (though some designs they discuss really do sound irresponsible), that buildings they designed would stand forever regardless of environmental factors like earthquakes, floods, etc.

Fascinating case studies of dramatic failures in structural engineering. The type of book that can be enjoyed one chapter at a time by folks who don't have a degree in structural engineering, but are fascinated by the engineering marvels of our modern world.

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