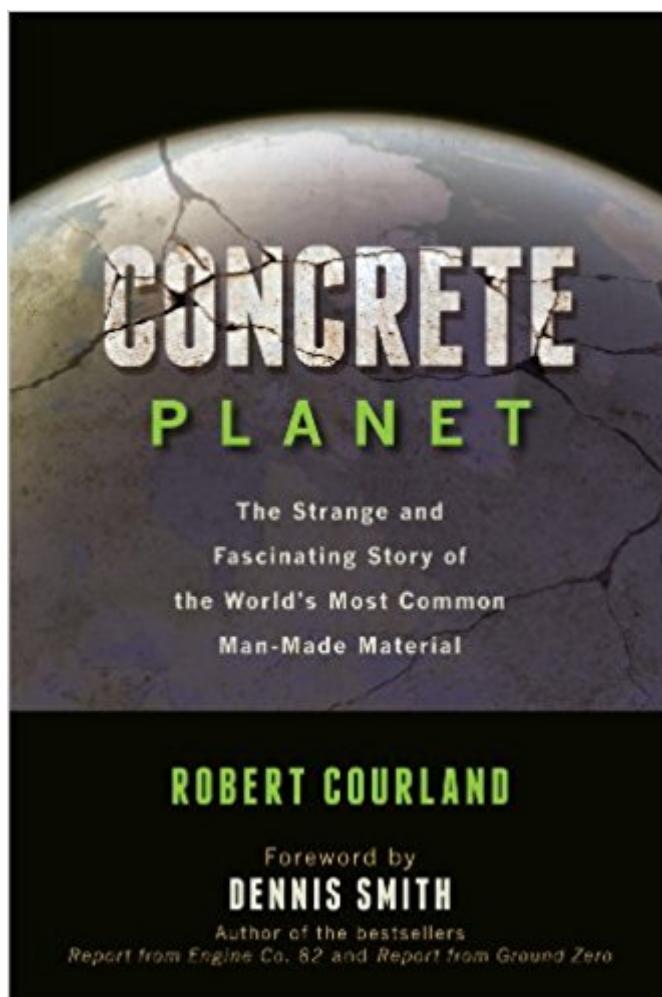


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Concrete Planet: The Strange And Fascinating Story Of The World's Most Common Man-Made Material



Synopsis

Concrete: We use it for our buildings, bridges, dams, and roads. We walk on it, drive on it, and many of us live and work within its walls. But very few of us know what it is. We take for granted this ubiquitous substance, which both literally and figuratively comprises much of modern civilization's constructed environment; yet the story of its creation and development features a cast of fascinating characters and remarkable historical episodes. This book delves into this history, opening readers' eyes at every turn. In a lively narrative peppered with intriguing details, author Robert Courland describes how some of the most famous personalities of history became involved in the development and use of concrete—including King Herod the Great of Judea, the Roman emperor Hadrian, Thomas Edison (who once owned the largest concrete cement plant in the world), and architect Frank Lloyd Wright. Courland points to recent archaeological evidence suggesting that the discovery of concrete directly led to the Neolithic Revolution and the rise of the earliest civilizations. Much later, the Romans reached extraordinarily high standards for concrete production, showcasing their achievement in iconic buildings like the Coliseum and the Pantheon. Amazingly, with the fall of the Roman Empire, the secrets of concrete manufacturing were lost for over a millennium. The author explains that when concrete was rediscovered in the late eighteenth century it was initially viewed as an interesting novelty or, at best, a specialized building material suitable only for a narrow range of applications. It was only toward the end of the nineteenth century that the use of concrete exploded. During this rapid expansion, industry lobbyists tried to disguise the fact that modern concrete had certain defects and critical shortcomings. It is now recognized that modern concrete, unlike its Roman predecessor, gradually disintegrates with age. Compounding this problem is another distressing fact: the manufacture of concrete cement is a major contributor to global warming. Concrete Planet is filled with incredible stories, fascinating characters, surprising facts, and an array of intriguing insights into the building material that forms the basis of the infrastructure on which we depend. From the Hardcover edition.

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Customer Reviews

We tend to see concrete as one of the commonplaces of our modern world; we seldom give this dull white substance a second thought. Many recall that the Romans used it. But its basic ingredient, lime, came into use far earlier. In fact, like the fire which creates it, lime's time of first use is lost in prehistory. Buildings using lime in construction were found at the Fertile Crescent sites of Göbekli Tepe, Nevalı Çori, Çayönü, and Çatal Höyük—the first two being temples, the last two the world's oldest known towns. To those ancient peoples, lime would have seemed magical, releasing heat when mixed with water and turning into hard rock. The Romans learned to mix it with sand and gravel to form concrete, and later to add clay to the mixture. Some buildings built from the resulting "Roman concrete" have lasted through more than twenty centuries, enduring far longer than anything we have today. The secret of making concrete was lost after that, and rediscovered only in the nineteenth century. Robert Courland's history demonstrates a scholar's dedication to research and a raconteur's gift for storytelling. His tale is filled with heroes and villains, commercial successes and failures, brilliant achievements and abysmal tragedies — right up to the present, when Frank Lloyd Wright revolutionized architecture by making use of reinforced concrete's tensile strength. I expected a rather boring book, but I found this one a genuine page-turner. Who knew that mundane concrete was in use so long ago, or had such an illustrious history?

The author makes many great points about the deficiencies in current concrete design but he overlooks two key points. The first is that most structures, particularly buildings, become functionally obsolescent in less than fifty years so why spend additional money extending their life? The second is that improvements in design happen so slowly because design professionals are risk averse. Most see little risk in using designs that are common practice and great risk in trying something new. Frank Lloyd Wright was a brilliant architect who tried new structural designs all the time, often with poor results. Only the creative look and feel of his spaces saved him from the lawsuits that most ordinary buildings would have generated from their deficiencies.

We are "surrounded" by Concrete, yet I knew nothing about its history. I live in North Eastern Ohio and often hike on the Ohio & Erie Canal towpath trails. I always assumed that the surviving ruins of locks and spillways built here in the 1830's were "repaired" using concrete. Thanks to this book, I now know that these were actually designed for and "made" with poured structural concrete in the 1830's....a real engineering marvel! I originally bought this as a Kindle edition, but liked it enough to buy the book for my father for Christmas.

I got drunk at the bar with some old chemistry friends the other night and started ranting about how awesome concrete is and why this is the most important material on the planet. I'm not sure it is, but no one is interested in my drunk rants on monkey penises anymore, so thank you for giving me another science field to get drunk excited about. It covers a good history of the field, has interesting antidotes and poses interesting scenarios. Well researched, easily accessible to non-scientists (and interesting enough for scientists). I had to order my dad a copy because he tried to steal mine, so you know its a good book.

I first learned of this book while listening to NPR. I was struck by the fact that portland cement was not a modern concept; apparently the Romans discovered it before the time of Christ. As a commercial construction superintendent I was very interested in concrete as a component of modern building construction. I thought I knew a lot about concrete construction but I was to discover much more about its history and origins. I'm grateful for the author's research and illumination of this fascinating building material. Wes Hill

I never imagined one could find such an amount of interesting and sometimes humoristic historical facts about a rather 'grey' subject. definitely a good read and a fresh look at concrete and concrete

structures?

I've been in the concrete business for over 40 years and a 3rd generation concrete finisher, form builder, and contractor. This is the best book on the history of concrete I have ever read, and I've read plenty. It should be required reading for every architect and engineering student. Great read, written in way everyone, both academic and layman can understand.

A good history about concrete and where we went wrong. Long on historical uses, the final short chapter give some surprising solutions. Some of the chapters were a bit lengthy but you will leave with a much better understanding of this fascinating and ubiquitous material.

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