
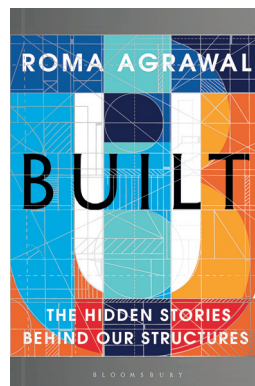


Review

 **Rob Bell** is inspired by this insightful and highly personal account of the engineering behind our built environment, which offers the public a window onto the secrets of the structural engineering profession.

Built: The Hidden Stories Behind our Structures

Author: Roma Agrawal
Publisher: Bloomsbury
Price: £20.00 (hardcover); £9.99 (e-book)
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Before you read any further, just take a minute to acknowledge where you are and what you can see. Go on. Just a quick glance... Now, because of the publication you're reading this in, it's likely you'll be acutely aware of your built surroundings; the shelter above you, support beneath you, infrastructure around you supplying basic needs like fresh air and water.

And because of that, this book isn't for you. In this inspiring and highly satisfying read, Roma Agrawal writes for the non-engineering mind.

She brings to life the physical reality of our built world that so many non-engineers take for granted and have possibly never given a moment's thought. Tut-tut. This is no bland lecture though. It's much more personal than that.

Starting with her very first project, a contemporary cable-stayed footbridge across the multi-lane A167(M) in Newcastle, Agrawal breaks down complex structures and interactions to provide accessible explanations through her own experiences and emotions; both at work and through her somewhat profession-led travels and research.

She describes how she's been found stroking concrete before. I've been known to grasp steel and thumb stone; but never concrete. I've always had a difficult relationship with it – it's something I don't

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fully understand. Embarrassingly, I'm not sure I could have convincingly explained the difference between concrete and cement before reading this book. Awkward.

She tells of the insatiable curiosity that leads her to nose through the little inspection windows punched in the hoardings around construction sites whenever she passes one. I bet non-engineers don't do that. They don't know what they're missing – and that's exactly the point of this book.

For such a concise volume, there's a remarkable amount of detail and insight into some of history's most fascinating and influential feats of structural and civil engineering. From Ancient Egyptians to modern Middle Eastern metropolises, the Roman Empire to Aztec mythology; Roma uses these examples to great effect, describing how structural and material advances over millennia have all played huge roles in how we live our lives today.

Some of the places I'd never heard of and now desperately want to visit. Other examples

are somewhat less appealing. There's a slightly eyebrow-raising story about how the 'turd trade' (yes, that's the trading of human waste) of mid-17th century Japan led to a serious lack of sanitation by the 1980s. Maybe I'm childish (I definitely am), but I had to read this chapter twice as my mind was amused and distracted thinking up other alliterations for this rather amusing industry ('crap commerce', 'dung dealings', 'meadow-muffin merchantry').

Most poignant for me was Roma's description of how well-considered and progressive structural engineering directly led to her uncle's and father's lives being saved when the Bombay Stock Exchange building was viciously attacked with a car bomb in 1993. Thanks to lessons learned in the construction of tower buildings, her father and uncle were structurally protected from the explosion as they worked on one of the floors directly above. Another insight into the uncelebrated work of the engineers behind buildings and structures we all frequent and depend upon daily.

I'm not a structural or civil engineer. I'd say I'm fairly inquisitive and technically-minded though. As such, I regularly notice engineering around me. But now that I'm equipped with this read, I've more knowledge and intrigue to look a little closer at the structures I encounter and think through the forces and components at play. It's fun.

But this book isn't for you.

That said, you'll have a fantastic time losing yourself in it – and letting non-engineer friends and family into the secrets of your profession through it, too.



Rob Bell

Rob Bell is an engineering TV presenter who likes to explore and get up close to the subjects of his programmes. In his most recent series on Channel 5, he was seen above, beneath, inside, and sometimes hanging off the side of The World's Greatest Bridges.