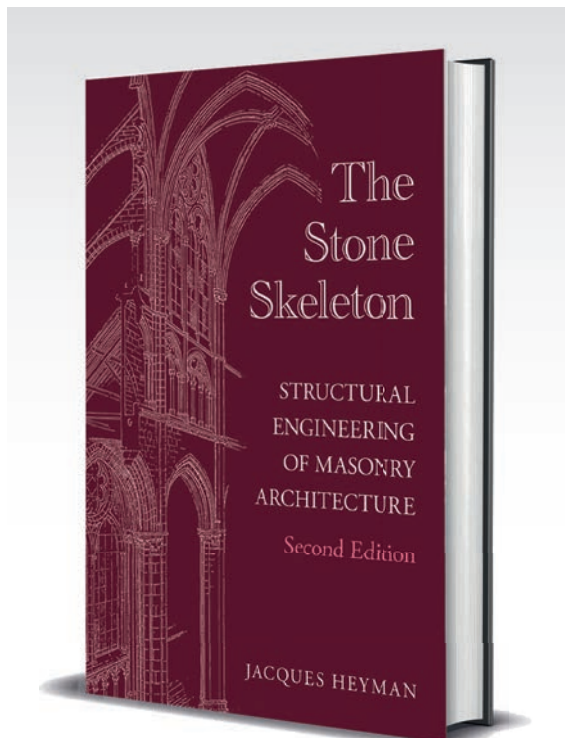


Review

This welcome update after 30 years introduces significant new material while retaining the core of the original edition, writes **Helen Rogers**.

The Stone Skeleton: Structural engineering of masonry architecture (2nd edn.)

Author: Jacques Heyman
Publisher: Cambridge University Press
Price: £28.00 (paperback)
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I HAVE KEPT A COPY of Jacques Heyman's *The Stone Skeleton* within arm's reach for 30 years. My original edition is well-thumbed, and I have gifted numerous copies to colleagues over the years. Its enduring appeal lies in its conciseness and its ability to demystify complex structural behaviour through clear diagrams and accessible prose, without becoming bogged down in excessive algebraic computation.

Heyman reminds us that many of history's most audacious stone structures were conceived long before the advent of modern theories. Instead, they rely on a profound understanding of geometry and the laws of statics.

First published in 1995, the book synthesised Heyman's seminal papers on masonry and plastic theory developed during his distinguished career at Cambridge University. It provides a systematic examination of structural elements: from the fundamental mechanics of the arch to the complexities of domes, vaulting, flying buttresses and spires. The narrative is as much historical as it is technical, providing context on the scientific understanding available to the master builders of the past.

The second edition retains the essential core of the original while introducing significant new material. For the specialist, the additions are invaluable: new sections cover geometrical stairs, rose windows, and the mechanics of fissures in towers. It also includes specific case studies on the dome of St Paul's Cathedral and the sophisticated vaulting of the Henry VII Chapel at Westminster Abbey. While specialists may find room for debate regarding Heyman's specific analysis of certain elements – most notably his treatment of stairs – the text serves as an excellent catalyst for healthy technical dialogue. While most of this material has appeared in the author's disparate papers, having it curated into a single volume is a major benefit to the practitioner.

Crucially, the new edition includes a comprehensive bibliography of



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Heyman's books and articles. This serves as an excellent roadmap for those wishing to dive deeper into the rigorous mathematical proofs that underpin his 'straightforward' conclusions.

At 101 years old, Heyman has produced a worthy successor to a foundational text. It remains an essential read for any engineer who wishes to understand how stone structures actually work. Whether this is a record for the oldest active author in our field is a question for the historians – but for the structural engineer, the value of this update is undisputed.



Helen Rogers

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Helen is a structural engineer with a particular expertise in the geometric and structural analysis of cantilevered stone staircases. Her work encompasses both the design of ambitious new stone structures and the conservation of historic ones.