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Book review
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Essential Knowledge Text No. 5: Lessons from Failures

A. P. Mann. Institution of Structural Engineers, London, UK, 2016, Ebook as PDF, http://shop.istructe.org/essential-knowledge-series.html, free to students and academics, £9·00 – member, £19·00 – non-member, 34 pp.

The Institution of Structural Engineers (IStructE) has produced the Essential Knowledge series, which covers a wide range of construction topics. They are online publications primarily developed for students and academics. However, they merit much wider circulation among construction professionals at all stages in their careers. Their availability to non-members of the IStructE will help other specialists understand the structural aspects of problems that arise in construction.

Forensic engineering inevitably involves a wide range of structural, materials, construction, contract and human factors, which lead to risks and failures in fitness for purpose. Most engineers' experiences are focused on their particular specialties, and they face a steep learning curve when confronted with the diverse aspects of construction which need to be considered in forensic investigations. The full set of these Essential Knowledge texts will be invaluable in providing an understanding of the range of specialist aspects that can arise during forensic engineering investigations.

Essential Knowledge Text No. 3: Historical Development of Structural Form, Essential Knowledge Text No. 4: the Historical Development of Structural Theories and Methods of Analysis — Context of Modern Computer Analysis and *Essential Knowledge Text No. 5: Lessons from Failures* by Allan Mann are particularly relevant in understanding the performance of structures. The interrelated histories of the evolution of structural forms and the development of methods of analysis in texts 3 and 4 include examples of how failure investigations have led to a deeper understanding of the real behaviour of structures and materials, in contrast to the oversimplifications in many analyses. These historical reviews are of particular value as they clarify for young engineers the very different basis on which much of society's infrastructure was designed and built.

In text 5, *Lessons from Failures*, Allan Mann brings the benefits of his long career to highlight the importance of lessons from important failures in the twentieth century of which many younger generations of engineers are unaware. The 30-year cycle in which failure patterns recur results from engineers failing to teach the lessons of failure to the next generation. Even the most experienced engineers will gain a broader and better insight of what can go wrong from reading Allan Mann's texts.

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