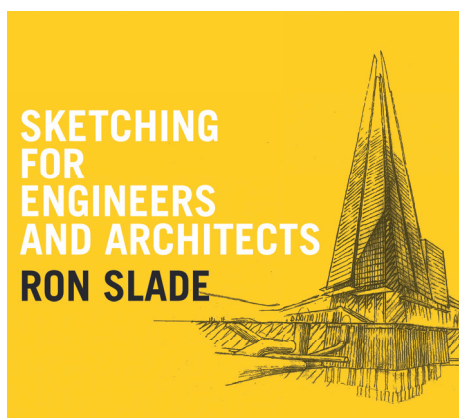


Review



This captivating book on the value of sketching – illustrated with a range of case histories – is a must-have for engineers at any level, concludes **Paul Perry**.

Sketching for Engineers and Architects



Author: Ron Slade

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While this book is about sketching, it includes so much more and should be on the reading list of any aspiring engineer, Chartered Membership (CM) Exam candidate or Chartered engineer. The statement by Terry Farrell in the foreword that this promotes faith in the basics is so true.

Ron assures us early on that drawing remains at the basis of the design process – even, one might say, the Building Information Management (BIM) process – and has a role to play in fast and effective communication. The book is engineer-led, but demonstrates a close affinity with others in the project team, whether architect, ventilation engineer or constructor. The obvious expanse of sketching to detail at connections for architects, the sketch of a duct run on a roof top or the crane strategy for the Shard demonstrates this.

The book is arranged such that Ron deals first with the process of sketching and then how it applies to different structure types. Tunnels are dealt with in an all-too-brief paragraph, but illustrated by a range of sketches showing how development is possible in and around tunnels, and the influences therein.

The first main part, on drawing and sketches, starts from the historical context and from cave drawings. The anecdote

that “if you can draw it, you can build it” is timeless and well located in this section of the book. It continues with extracts of an engineer’s notebook from a design session, how the initial concept is thought through and how the key aspects are wound into the design development of the scheme. Theses could even be interwoven into the project calculation so that the genesis of the design thought is captured through analysis and design.

Ron’s tutorial in sketching in perspective is a helpful reminder to the engineer and is an interesting perspective in these days of drawings “cut” from 3D models. The illustration of this on pages 28–30, with a simple routing of ducting across a structural space, is priceless. He then puts all this in the context of structural form, linking the concept form with a diagram – perfect for those attempting the CM Exam and wanting a briefing for that solution to include in their response to the exam question. Several times, Ron refers to another engineering master in sketch form, Tony Hunt, and his sketchbooks. Perhaps this text could be seen as an update on Tony’s, with an extensive range of actual case histories?

Ron then moves on to illustrate the power of sketching with a range of structure types and case histories. He almost apologises for saying that basement construction has been

included throughout this part of the book due to its very complex nature. This includes tunnels, too, as the reader finds.

From long-span structures to high-rise and low-rise, (foot)bridges to airports, railway stations, stadia and the like, a range of case histories are brought to life by the engineer’s sketch. When commenting on their use for existing buildings, especially dealing with retained facades and troublesome existing foundations and tunnels, these illustrations are captivating. Even those that are old competition sketches or tenders, such as for the MTR (Mass Transit Railway) in Hong Kong, have an interest. The logic, the design concept, the crane strategy and the build sequence that are shown in these sketches are fascinating. There is a slight annoyance that some case histories are repeated, but they have to be read in the context of the section they are included in.

Finally, Ron’s epilogue explains his disappointment at the lack of drawing equipment seen in today’s drawing office, by the level of discussion an engineer still has on design and detail. His view appears to be that if one is not sketching and drawing, then communication is suffering. This book is a great read, a great coffee-table decoration, but first and foremost a must-have for all us engineers! Thank you, Ron, for this fantastic epistle on the power of engineering sketching.

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Paul Perry is a Chartered Civil and Structural Engineer and a Member of the Hong Kong Institute of Engineers. He has

been design team leader for a number of large and complex multidisciplinary projects that have included tunnelling and mass-transit railway stations. He has recently been on secondment to Crossrail and is now Technical Director of Donaldson Associates, in their London Office.

