

BOOK REVIEW

“Seismic Design for Architects: Outwitting the Quake”

by **Andrew Charleson**

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Review by **Regan Potangaroa**¹

There are few if any books to assist those teaching seismic design to architects and hence Andrew’s Charleson’s book “Seismic Design for Architects: Outwitting the Quake” fills what has been an obvious gap. Andrew’s non-mathematical, heavily visual and practical style makes it accessible to many beyond solely architectural students. And moreover, the generic nature of the text and the inclusion of code references at selected points further make the book “international”. It is a winner.

The title is immediately engaging by assuming that earthquakes are something to be “outwitted”. And for architectural students that engagement is important if they are to successfully incorporate seismic design into their architecture. But moreover, there is the sense after reading his book that seismic design is a central architectural issue. And while this is not news to those that teach it, architecture still appears to be aloof.

The book details those areas of engagement by starting with a background and conceptual design/modeling outline of seismic design. This is followed by chapters on the horizontal and then vertical structure that are pulled together in the seismic design and architecture chapter. These chapters together with a short (but essential) chapter on foundations form a neatly packaged course module which was apparently the intent by the author (albeit using different chapters).

The book then goes into the deeper planning and design detailing of the horizontal and vertical configurations and has a strong message for architects (and engineers) in the two chapters on non structural elements. Such elements fall between the architect and engineer and are often awkwardly positioned in engineering codes. Common potentially damaging examples are seismic separation of infill and partial height walls and stairs but also include other “non structural” items such as cladding, partition walls, and mechanical and electrical equipment. These all constitute areas that the architect needs to be mindful of and by now the reader is beginning to sense the relationship between seismic design and architecture.

The final chapters fill out the seismic design issues for architects and covers urban planning, retrofitting, new technologies and the critical area of professional collaboration.

But for me the central chapter is on issues in developing countries, where the “other 90%” live and unfortunately where the death tolls caused by earthquakes are much greater. Recent events of the 2004 Asian Tsunami, the 2005 Pakistan earthquake in Kashmir and the 2006 Yogyakarta earthquake in Indonesia underline this need. And the more recent earthquake in the Sichuan province of China in 2008 together suggests that we aren’t quite yet outwitting the earthquake.

And what is important from Andrew’s book is the key role that architects could play.

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