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Book review

Karl-Eugen Kurrer. The History of the Theory of Structures: From Arch Analysis to Computational Mechanics. Ernst & Sohn, Berlin (2008). 848 pp., Hardback, ISBN: 978-3-433-01838-5

This book traces the evolution of the theory of structures and strength of materials from the development of the geometrical thinking of the Renaissance to the modern structural-engineering science deeply rooted in classical mechanics. Written with great attention to detail, but always aware of the wider philosophical implications of the subject matter, this volume is a masterly record of the history of structural theory, analysis and engineering thinking as evolved up to the present time. The reader's attention and curiosity are constantly maintained through a lively style and because the book also tells us much about the people who have contributed to this great area of knowledge throughout its development.

The work consists of 12 extensive chapters, all of which contain much more than their brief respective titles suggest. The progress of structural mechanics and of structural forms is thoroughly outlined by reference to the great mechanicians and engineers who laid the basis for the graphical, analytical and numerical theories that underpin the gradual structural-engineering advances since the scientific method was applied in the modern historical era. The great theories and theorems – as well as the frequent and often bitter controversies to which these gave rise among eminent men – are told and analysed, reminding us that scientific 'truth' is not only changeable but sometimes even relative, irrespective of the

'political correctness' imposed by schools of thought that happen to prevail at a particular time.

Some 175 biographies of important personalities (many accompanied by photographs) in structural engineering and mechanics follow the main text as well as a copious bibliography. One can point to some notable absentees from these biographies: for instance, Nervi from among the engineers and Kirchhoff from among the mechanicians, although such eminent personages are rarely excluded from the chapters preceding the biographies.

It is difficult to do justice to this scholarly and massively authoritative book of almost monumental proportions that deserves to rank among its great historical predecessors, such as the works of Todhunter and Pearson, Timoshenko, Truesdall, Heyman and other eminent historians of the subject. It is clear that Dr. Kurrer has succeeded in combining the rigorous and the romantic in a work that should become classic reading for the discerning mechanician, engineer and architect.

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