
History as Educator and as an Aid to Understanding Structural Engineering

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The following position papers present many valid aspects of construction history. Eugen Brühwiler discusses the sheer intellectual fascination of historical material, so different from ours today, and the inspiration that this can generate. Rob Vergoosen sees historical arguments as a way to convince young engineers that computer programs are tools and not engineering design at all. Eberhard Pelke points out that history proves that mathematical methods are also only tools. He also mentions the inspiration that exemplary professional biographies can exert. Marina Traykova discusses the importance of historical structures to the definition of national culture, and Brühwiler ties their importance to professional culture. And the many interesting case studies of built structures that have been presented at IABSE meetings and symposia over the years illustrate these and further aspects and particularly their usefulness for informed structural evaluation as relevant for the purpose of restoration or adaptation. I would like to expand a little on the interest in historical understanding and its impact on engineering thought and especially on education that both Brühwiler and Werner Lorenz raise.

Understanding is abstract and at first sight, it seems to have little to do with the daily concerns of practitioners, but understanding has the ability to change and to expand professional culture in very concrete ways. I will try to demonstrate through examples how that which we might tend to dismiss as being mere impractical philosophy is actually quite down-to-earth. Understanding, as opposed to a simple accumulation of facts and methods that usually counts as professional knowledge, is deeper and it directly impacts our thinking and approach to everyday problems. Memory is one of the characteristics that make us human, and history is the concretization of memory. It situates us in our world, also in our professional world of engineering, and as Jean-Claude Badoux succinctly wrote and I quoted in the preface to *IABSE the first 80 years*, “no history, no memory, no future”. Engineers are the professionals who create the future structure of our world, and in order to do that, they not only learn from theory, but also from experience, from mistakes and from successes. That is the value of case studies, which are historical by their very nature because they deal with completed design and building processes and thus with the