Editorial

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In December 2017, the International Association for Bridge and Structural Engineering (IABSE) published a book entitled *Engineering History and Heritage Structures – Viewpoints and Approaches* (Pelke and Brühwiler, 2017). The book was one of the outcomes of IABSE's working group on construction history and contains a collection of case studies from around the world related to the history of structural engineering and interventions on both heritage structures and structures of high cultural value.

This book also includes personal statements from 11 academics and practitioners, which provide an interesting overview of opinions on why construction and structural engineering history are important disciplines and should be studied in sufficient detail by all engineers.

- (i) Knowledge of one's history can be a tool for everyday engineering as it helps to evaluate the performance of existing buildings, to upgrade them, to show their cultural and engineering worth and to protect them. By helping to promote rehabilitation more than demolition and new construction, construction history is also a key element for a more sustainable world. These points are perfectly reflected by the papers published in this issue that show how the combination of history and modern tools are of great value for the conservation and upgrade of (a) some of the most iconic constructions in the world such as the Great Wall of China or the Taj Mahal in India, and (b) exemplary heritage buildings of a community or a country such as the Fábrica do Paleão in Portugal.
- (ii) Examples from history are basic elements for teaching creativity and conceptual design. They show the passion and the intention of the personalities behind the designs and help to unfold an engineer's creativity; this enables new, innovative engineering solutions for actual engineering challenges. Therefore, they are a source of inspiration and apprenticeship for new designs.
- (iii) Knowing the history of engineering makes it possible to understand the multidimensional character of structures. The word 'learning' involves looking not only at the best examples from the past, but also looking at examples which were not so good. By doing so, the virtues of our profession are promoted, mistakes from the past are not repeated and a more critical profession and general public are promoted.

(iv) Construction history is a source of enjoyment that comes from the discovery of how our predecessors could design, build and create a legacy that provokes respect and admiration for the work of the engineer.

(v) Knowing a profession's history is crucial to develop self-esteem for it and to identify role models to inspire young engineers. Disseminating knowledge on the history of engineering and construction also increases awareness of the engineer's contribution in a society at large.

While the book focused on examples of interventions in existing structures, the work of IABSE's task group now entitled 'Construction History and Design' will continue in two directions. Firstly, and as a direct continuation of the first book, the group intends to propose guidelines on how to deal with existing structures that will focus on maintaining what is already there with the greatest respect of the work done by engineers and builders before us.

Unfortunately, there are too many engineers neither interested in nor aware of what has been done before and would rather demolish and rebuild than know about the fantastic achievements of the past. A survey of the status and knowledge of construction history and related issues within IABSE showed that knowledge outside our working group was significantly lacking and that interest in the subject seemed very low within IABSE. Our task group's second goal will therefore be to increase awareness of our profession's history and how it can inspire new designs just as much as it helps engineers when intervening on existing structures. Through video interviews with practicing engineers who value history and use it as inspiration for their own work, we intend to create oral histories that support our argument. Our group plans on using all the possibilities and media at our disposal nowadays. We will primarily try to increase awareness within IABSE but through social media we hope to create some reach beyond the association and perhaps even beyond our profession.

We know that this is will be a difficult task and would invite your help and cooperation in achieving our goals.

REFERENCE

Pelke E and Brühwiler E (2017) *Engineering History and Heritage Structures – Viewpoints and Approaches*. Structural Engineering Document 15. International Association of Bridge and Structural Engineering, Zürich, Switzerland.