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Editorial

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The journal continues exploring the contribution of the modern world in the appraisal of our historical built environment, whether it is with techniques or the actual heritage of those times. As with most papers published in the journal this year, there is an interesting panorama of studies, from the major scale of the public infrastructure (innovation in steel bridges) to the knowledge of the material systems that make private life easier (updates of traditional materials like bricks, prefabrication or their endurance).

This panorama represents many facets of the current research trends in the way we use and interact with historic or even just existing fabric, especially what can be called as utilitarian, where we traditionally assign less high historical, artistic or preservation values. The analysis of existing buildings is often nowadays framed as re-reading that can lead to restructure and re-use, as was the theme of the 2025 International Conference on Structures and Architecture that I recently attended in Antwerp.

The techniques and material systems origins presented therefore in this and previous issues of the journal do contribute as cultural and technical context, as also knowledge to support such modern valuable processes. The first paper of this issue, 'Pixel matching technique used for restoration of Mediterranean historical buildings' highlights the potential of modern technologies to use digital documentation in typological of traditional houses.

The second paper 'Quality degradation evaluation of brick-timber structure houses built before 1950 in Shanghai' builds on research presented earlier in the journal by Bai Xue ('Structural characteristics analysis of brick–timber buildings built before 1950 in Shanghai' – https://www.emerald.com/jenhh/article/178/1/2/1239614/Structural-characteristics-analysis-of-brick) and shows how technical data can be used for a strategic assessment of historical housing pathology. This whole research highlights how the use of just the strength of constituent materials (rather than loads, use patterns, maintenance regime and so on), even for a small sample (15 similar houses from a larger estate) can result in big data, which need to be handled with modern statistical methods – dimension reduction analysis or complex correlation coefficient weighting method. This eventually enabled comprehensive degradation evaluation indexes to be obtained for each house, which proved to be in line with direct/traditional inspection reports. Such processes are very valuable for managers who want to plan maintenance and repair budgets for their housing estates.

At a very different scale, the third paper 'Assessment of heritage value and resistance of a 1935 Vierendeel steel railway bridge' continues the very interesting recent exploration of the world of patents from the previous issue, but once again the focus is how this knowledge is used. There is a broader interest in the patent as construction history, as also highlighted in the recent international conference on 'Architecture & Patents' in ETH Zurich – a specific theme explored what the appreciation of the patent as a design-inherent value means for the preservation and handling of the resulting structures.

The paper deals with a significant group of railway bridges in Mechelen that marks the start of the extensive use of 'Vierendeel' bridges with a parabolic arch in Belgium. The oldest of the group, noted as L25, dates from 1935 and was partially reconstructed after severe damage during WW2. The paper demonstrates the longevity of the evils of war – the effect of the 1940 explosions is still resounding today in a series of cracks that were considered initially as the result of railway traffic fatigue. The extensive testing programme that was followed went hand in hand with historic research to confirm this origin and propose an adequate repair programme.

The journal always encourages this 'applied', practice-based use of construction history which as you can see encompasses structures of all scales. I hope you will enjoy reading these papers and consider publishing work from your own projects at this journal, especially at the 'smaller' scale of building fabric.

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