

Harmony

Key Technologies & Structural Preservation

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Abstract

In order to preserve historic structures, it is necessary to understand their structural design and performance and preserve both as our technical heritage. Only this will provide a solid basis for any structural intervention, if it is needed at all. Such interventions may require modern key technologies, considering that often enough, such structures are not complete anymore or the ancient builders did not consider certain loads properly, especially earthquakes. Modern key building technologies may not harmonize with ancient ones. Applying them can lead to destruction rather than preservation, as we are now painfully aware.

There is no magic potion that ensures this harmony, but for seismic protection of masonry and stone block structures, the Tendon System has a lot of promise. This is demonstrated in applications and research involving the 18th c. AD Collegiata di San Michele in Solofra, Italy, the 12th c. AD bell tower San Giorgio in Trignano, Italy, the 13th c. AD Madrasa in Erzurum, Turkey and the 5th c. BC Temple of Neptune in Paestum, Italy.