Book Reviews


Following the introduction of the Editors, Richard Přikyl from the Charles University in Prague (CZ) and Ákos Török from the Budapest University of technology and Economics (HU), the reader learns more about the structure of the book, as well as about its origin: “This volume brings together one general introductory and twenty original research papers grouped in four sections mirroring the major aims of the volume and dominant trends in the current research field. These are: (1) decay processes, (2) performances and compatibility of natural stone, (3) properties of natural stone and (4) provenance studies and stone databases. Most of the papers were presented during the ‘Natural stone resources for historical monuments’ special session held under the framework of the ‘Energy, Resources, Environment’ program sessions on the General Assemblies of the European Geosciences Union held in Vienna (Austria) annually during 2006–2008” (p. vii). From this point of view the book focuses on Europe: The articles cover aspects from Austria, Germany, The Czech Republic, Slovakia, Italy, England, Ireland, France, the Netherlands, Portugal and even Japan. The geographical aspect is very important for building stones, as different climatic conditions (atlantic influence in Ireland versus continental or mediterranean climate in southern Europe) cause various damages to stones.

In the introduction the editors underline the importance of the availability of traditionally used stone for architects and restorers. This received a new dimension in the late 20th and early 21st century, due to the fact, that great masses of cheap stone were and still are imported (e.g. from China, India ...). As a result many local quarries of smaller dimension had to be closed; as a consequence many local stones are not available any longer. “This lack of locally available stones is a significant drawback in monument restoration practice, since replacement stones are no longer available.” (p. 7).

Some articles deal with special forms of weathering (processes), like: “Alveolar weathering of Cretaceous building sandstones on monuments in Saxony, Germany” (by Heiner Siedel from Dresden [D]) or “Black-crust growth and inter-

action with underlying limestone microfacies” by Gilles Fronteau and coworkers (all from France). Four papers discuss problems with various aspects of sodium and salt crystallization, two deal with recent examples from Japan. In addition to these problems a German team from Munich examined the Teplá monastery (CZ) focussing on the effects of a fire damage in the 17th century to the trachytic building stone. Beside color changes from yellow-beige to red, minerals like goethite and limonite turned into hematite. In this context the Austrian geologist Alois Kieslinger (1900–1975) proves to be a pioneer writing two fundamental papers on fire damage (1932 and 1949).

A Spanish group of authors concentrates on weathering problems of some the widely used varieties of serpentinites from Cabo Ortegal region (Galicia, Spain) which do not meet the requirements for an ornamental stone.

Stephen McCabe and coworkers (“A legacy of mistreatment: conceptualizing the decay of medieval sandstones in NE Ireland”) analyze the complex history of a sandstone and point out what might happen in future with this building stone considering climatic changes.

Among the wide range of building stones, a paper about tuff (“Evaluation of three Italian tuffs (Neapolitan Yellow Tuff, Tufo Romano and Tufo Etrusco) as compatible replacement stone for Römer tuff in Dutch built cultural heritage”) shows the problems of using another stone, when the original stone is no longer available.

Lisa Cooke from the UK entitles her work as: “The 19th century Corsi collection of decorative stones: a resource for the 21st century?” The collection consists of 1,000 polished samples (15 x 7,5 x 4 cm) of natural stone collected by Faustino Corsi (1771–1845) from 1800 to 1827. These stones might even now serve as a resource for the identification of ornamental stone used in historical buildings.

Finally two papers deal with electronic databases which offer experts from various fields information on different aspects of building and ornamental stone.

To conclude: This book illustrates a broad spectrum of aspects which should be kept in mind, when working with historical building stones. Thus geology turns out as a discipline connecting architecture, history, meteorology and many other aspects of science.
The mixture of high quality articles dealing with all aspects of tufas and speleothems including various disciplines, like sedimentology, geochemistry, biology and some others, makes this book with its valuable index an indispensable reference for all researchers.

Thomas Hofmann