Natural Stone Resources for Historical Monuments
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Although many of the books result from meetings, the editors are expected to commission papers that were not presented at the meeting to ensure that the book provides a balanced coverage of the subject. Being accepted for presentation at the meeting does not guarantee inclusion in the book.

More information about submitting a proposal and producing a book for the Society can be found on its web site: www.geolsoc.org.uk.

It is recommended that reference to all or part of this book should be made in one of the following ways:


Natural Stone Resources for Historical Monuments

EDITED BY

R. PŘIKRYL
Charles University in Prague, Czech Republic

and

Á. TÖRÖK
Budapest University of Technology and Economics, Hungary

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The Society is the UK national learned and professional society for geology with a worldwide Fellowship (FGS) of over 9000. The Society has the power to confer Chartered status on suitably qualified Fellows, and about 2000 of the Fellowship carry the title (CGeol). Chartered Geologists may also obtain the equivalent European title, European Geologist (EurGeol). One fifth of the Society’s fellowship resides outside the UK. To find out more about the Society, log on to www.geolsoc.org.uk.

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For information about the Society’s meetings, consult Events on www.geolsoc.org.uk. To find out more about the Society’s Corporate Affiliates Scheme, write to enquiries@geolsoc.org.uk.
Preface

The Earth’s own building material – rock – has provided an excellent raw material for construction purposes from the very beginning of civilization. Rocks, termed natural stone in construction industry, are often incorrectly regarded as an everlasting material that can be extracted from any place and used for any purpose. If properly handled or dressed, natural stone can impart ‘value’ to the structure in a much broader way than any other building material. Natural stone, similar to other nature-derived materials, can be highly prone to deterioration, both due to improper use and/or deterioration in the quality of the environment to which it is exposed. This is followed by loss of its integrity and function. The knowledge of stone properties, their development through time and under weathering conditions therefore constitutes a crucial part of natural stone research. Replacement of once deteriorated parts of stone construction raises important issues concerning the compatibility of fresh versus weathered and/or original versus new (alien) stone varieties. The restoration of monuments also requires solid knowledge on the past resources that have ceased to be available over the past century. Although most of the papers within this volume were provided by geologists, the content of their contributions addresses a wider audience anchored in the field of cultural heritage care, monument conservation, civil engineering and architecture.

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 current research in the field. These are: (1) decay processes, (2) performance 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’ programme session on the General Assemblies of the European Geosciences Union held in Vienna (Austria) annually during 2006–2008.

The preparation of this volume would not have been possible without help from numerous colleagues who kindly provided reviews: Mónica Alvarez de Buergo, Michael Auras, Thomas Bidner, JoAnn Cassar, Wim Dubelaar, Howel G.M. Edwards, Rafael Fort, Klaus Germann, Ciriaco Giampaolo, Andrew Goudie, Gabriele Grassegger, Ewan Hyslop, Jennifer M. McKinley, Vladimir Machovič, Radek Mikuláš, Derek Mottershead, Urs Müller, Dawn Nicholson, David Robinson, Carlos Rodriguez-Navarro, Jörg Rüdrich, Ricardo Sandrone, Oliver Sass, George W. Scherer, Barbora Schulamnnová, Heiner Siedel, Siegfried Siegesmund, Bernard Smith, Michael Steiger, Heather Viles, Patricia Warke, Tim Yates, Maureen Young, Konrad Zehnder and Fulvio Zezza. Their volunteer work significantly improved the quality of the papers.

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Richard Přikryl & Akos Török