Building Stone Decay:
From Diagnosis to Conservation
The Geological Society of London

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# Contents

Preface vii

**Smith, B. J. & Prikryl, R.** Diagnosing decay: the value of medical analogy in understanding the weathering of building stones 1

Prikryl, R. Understanding the Earth scientist’s role in the pre-restoration research of monuments: an overview 9

## Inventorying built heritage and its raw materials

**Calcater, D., Cappelletti, P., De’ Gennaro, M., De Gennaro, R., De Sanctis, F., Flora, A. & Langella, A.** The rediscovery of an ancient exploitation site of Piperno, a valuable historical stone from the Phlegraean Fields (Italy) 23

**Frangipane, A.** Natural stone portals of the town of Udine (Italy): their design, construction and materials between the 15th and 20th centuries 33

**Hoffmann, A. & Siegesmund, S.** The dimension stone potential of Thailand – overview and granite site investigations 43

**Pereira, D., Yenes, M., Blanco, J. A. & Peinado, M.** Characterization of serpentinites to define their appropriate use as dimension stone 55

**Šimunić Buršić, M., Aljinović, D. & Cancelliere, S.** Kirmenjak–Pietra d’Istria: a preliminary investigation of its use in Venetian architectural heritage 63

**Thorburn, M. J. & Viles, H. A.** Photo-based decay mapping of replaced stone blocks on the boundary wall of Worcester College, Oxford 69

## Patterns and monitoring of decay

**McCabe, S., Smith, B. J. & Warke, P. A.** An holistic approach to the assessment of stone decay: Bonamargy Friary, Northern Ireland 77

**Dionísio, A.** Stone decay induced by fire on historic buildings: the case of the cloister of Lisbon Cathedral (Portugal) 87


**Marszałek, M.** The mineralogical and chemical methods in investigations of decay of the Devonian black ‘marble’ from Dębni (Southern Poland) 109

## Processes of decay

**Grossi, C. M. & Brimblecombe, P.** Effect of long-term changes in air pollution and climate on the decay and blackening of European stone buildings 117

**Lefèvre, R.-A., Ionescu, A., Aussat, P., Chabas, A., Girardet, F. & Vince, F.** Modelling of the calcareous stone sulphation in polluted atmosphere after exposure in the field 131

**Sippel, J., Siegesmund, S., Weiss, T., Nitsch, K.-H. & Korzen, M.** Decay of natural stones caused by fire damage 139

**Smith, B. J., McAlister, J. J., Baptista Neto, J. A. & Silva, M. A. M.** Post-depositional modification of atmospheric dust on a granite building in central Rio de Janeiro: implications for surface induration and subsequent stone decay 153

**Thomachot, C. & Matsuoka, N.** Dilation of building materials submitted to frost action 167

## Salt decay testing

**Andriani, G. F. & Walsh, N.** The effects of wetting and drying, and marine salt crystallization on calcarenite rocks used as building material in historic monuments 179

**Rothert, E., Eggers, T., Cassar, J., Ruedrich, J., Fitzner, B. & Siegesmund, S.** Stone properties and weathering induced by salt crystallization of Maltese Globigerina Limestone 189
Contents

Ruedrich, J., Seidel, M., Rothert, E. & Siegesmund, S. Length changes of sandstones caused by salt crystallization 199
Warke, P. A. & Smith, B. J. Complex weathering effects on durability characteristics of building stone 211

Record of decay in rock properties
McKinley, J. M. & Warke, P. A. Controls on permeability: implications for stone weathering 225
Scheffzuk, Ch., Siegesmund, S., Nikolayev, D. I. & Hoffmann, A. Texture, spatial and orientation dependence of internal strains in marble: a key to understanding the bowing of marble panels? 237


Török, Á., Siegesmund, S., Müller, C., Hopers, A., Hoppert, M. & Weiss, T. Differences in texture, physical properties and microbiology of weathering crust and host rock: a case study of the porous limestone of Budapest (Hungary) 261

Vlassenbroeck, J., CNUdDE, V., MasschaeLE, B., Dierick, M., Van Hoorebeke, L. & Jacobs, P. A comparative and critical study of X-ray CT and neutron CT as non-destructive material evaluation techniques 277

Performance in use and conservation
Carò, F. & Di Giulio, A. Rock petrophysics v. performance of protective and consolidation treatments: the case of Mt Arzolo Sandstone 287
Viles, H. A. & Wood, C. Green walls?: integrated laboratory and field testing of the effectiveness of soft wall capping in conserving ruins 309

Index 323
Preface

Stone buildings and monuments form the cultural centres of many of the world’s urban areas. Frequently these areas are also prone to high levels of atmospheric pollution that promote a variety of aggressive stone decay processes. Because of this, stone decay is now widely recognized as a severe and extremely costly threat to much of our cultural heritage. If this threat is to be successfully addressed it is essential that the symptoms of decay are clearly recognized, that appropriate stone properties are accurately characterized and that decay processes are precisely identified. For it is undoubtedly the case that successful conservation has to be underpinned by a comprehensive understanding of the causes of decay and the factors that control them. Parallel to the need for an understanding of decay processes is a requirement for the accurate specification of new and replacement stone linked to its performance, both as predicted from durability tests and as observed via its performance in use. To accomplish these demanding goals requires an interdisciplinary approach that, whilst underwritten by geological expertise, builds on co-operation between geologists, environmental scientists, chemists, materials scientists, civil engineers, restorers and architects.

In pursuit of this collaboration, this Special Publication aims to strengthen the knowledge base dealing with the causes, consequences, prevention and solution of stone decay problems. Most of the papers contained in this volume were presented during the European Geosciences Union General Assembly (‘Volcanology, Geochemistry, Mineralogy 25’ special session) held in Vienna (Austria) on 25–29 April 2005. In addition to these there are a number of invited contributions chosen to fill gaps in the coverage of the meeting’s original aims. Preparation of this volume would not have possible without help from numerous colleagues who provided their reviews. Their in-time work highly improved the level of the papers. The following people were involved in the review process:

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