

**Building Stone Decay:  
From Diagnosis to Conservation**

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**Building Stone Decay:  
From Diagnosis to Conservation**

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## 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 been 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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Richard Přikryl & Bernie Smith