



International Course on Stone Conservation SC13

SESSION: Stone weathering and decay

INSTRUCTOR: Graham Lott

DATE/TIME: Tuesday, 23rd April/ 9:30-11:00 (1.5 hours) & 11:30-13:00 (1.5 hours)

SESSION OUTLINE

ABSTRACT

Consider mechanisms of stone decay and look at the common patterns produced by stone decay in buildings and other stone structures. Also examine and distinguish the causes and processes of man-made natural stone discoloration.

OBJECTIVES

- Consider the types of stone decay that can occur in the different rock types.
- Understand how the geology of a stone can influence its decay.
- Demonstrate how careful selection of stone might reduce the impact of weathering and decay on a building or structure.

CONTENT OUTLINE

Describe and discuss the main causes of stone decay - wind, water, freeze-thaw, salt precipitation (natural and man-made), thermal expansion, biological effects etc). Consider how modern pollutants can exacerbate stone decay and cause severe stone discoloration (soiling).

Provide examples from various building fabrics to illustrate the different types of stone decay that commonly characterise different stone types - illustrated.



Consider the feasibility of preventing or at least controlling stone decay or damage in a building or structure.

Stone cleaning – does it have beneficial or detrimental effects in the long term.

READINGS

 = Essential reading material

 = Available online

  Vergès-Belmin, Véronique, ed. 2008. *Illustrated Glossary on Stone Deterioration Patterns = Glossaire illustré sur les formes d'altération de la pierre*. English-French ed, Monuments & Sites no. 15. Paris: ICOMOS and (ISCS) International Scientific Committee for Stone.

http://www.icomos.org/publications/monuments_and_sites/15/pdf/Monuments_and_Sites_15_ISCS_Glossary_Stone.pdf

Prikl, R. & Smith, B.J. 2007. *Building Stone Decay from Diagnosis to Conservation*. Geological Society Special Publication 271.

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