



Threads of Conservation

Social fabric • Fabric and place • Conserving fabric

Australia ICOMOS Conference
5-8 November 2015
Adelaide Australia



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Elisha Long is a Sydney based architect with a particular interest in masonry conservation. Her post graduate education was with the Society for the Protection of Ancient Buildings (SPAB), in the United Kingdom and she also attended the ICRROM Stone Course in Venice in 2009. From 2000 until 2011, she managed technical advice for the NSW Heritage Office/Branch. She has since been working for government agencies that hold large portfolios of significant historic buildings. The need to specify appropriate conservation actions within a context of limited funds means that the efficacy of maintenance programs must be considered carefully.

David Young OAM is a heritage consultant specialising in building materials conservation. With a background in geology he has been involved in the diagnosis and repair of historic buildings and sites for over thirty-five years, with a particular focus on those of stone.

Trials of biocide cleaning agents on Sydney sandstone

Paper Abstract

Sydney sandstone buildings are particularly prone to the growth of biological organisms like algae, fungi or lichens on parapets, exposed ledges and cornices, or anywhere that water runs down the stone surfaces. The combination of a porous stone surface and a particularly conducive climate means that regrowth after cleaning can be noticeable even after 6 months.

The biological growths, or 'biofilms' require quite different approaches to cleaning other soiling such as dust, dirt and air pollutants.

Industry standard practice has been to use high pressure water blasting. However, there is the risk that this opens up the surface, making it even more porous and more susceptible to future colonisation by micro-organisms.

Less aggressive methods of treating biological growths include the use of disinfectants based on quaternary ammonium compounds such as benzalkonium chloride. Though the use of such materials has become more widespread, we have much to learn about their practical application so that acceptable levels of cleaning can be achieved with minimal damage to stone surfaces.

This paper reports on a series of trials on biological growths on Sydney sandstone using several biocides, with different application conditions. Biocide application in a poultice has produced superior cleaning to other methods, which included brush application onto dry stone, and onto stone that had been pre-wet in two ways. Monitoring of results over a two-year period has enabled observation of changes in the apparent performance of the different techniques over that time. Follow-up work is now required to refine the use of poultices, including choice of poultice materials, application procedures and appropriate biocide concentrations.