

## Scottish Stone Liaison Group

# NEWSLETTER

## Natural Stone Institute

Issue No. 8 Summer 2004

### NSI Attends 10th International Congress on Deterioration and Conservation of Stone



Members of the NSI participated in the 10th International Congress on Deterioration and Conservation of Stone held on 27 June – 2 July 2004 in Stockholm, Sweden. This Congress, attended by some 250 delegates, was expertly coordinated by ICOMOS Sweden. It was a wide ranging meeting at which there was opportunity to learn about the application of scientific research into a variety of repair and conservation projects. Topics discussed included conservation methodologies, material properties and treatments. On this international stage Scottish presentations were given by Ingval Maxwell (Historic Scotland) who chaired a Workshop on Facade Cleaning Techniques, Andrea Hamilton (Edinburgh University) on mechanics of sodium sulphate crystal growth and Ewan Hyslop (British Geological Survey) on sourcing and supply of replacement sandstone in Edinburgh's New Town. The

Throughout the meeting there was much exchange of ideas and debate on the philosophies and practice of conservation. A number of presentations described interesting state-of-the-art science but there is a great need for the science to be 'translated' for the benefit of a range of practitioners. During the Stockholm meeting the NSI was represented at meetings of the ICOMOS International Scientific Committee on Stone and we are delighted to announce that the NSI has been nominated as an Associate Member of this body. Much effort is currently being devoted to the completion of a multilingual illustrated glossary on stone deterioration which will be made available in the ISCS's web site.

Excellent tours of Stockholm's Old Town and Drottningholm Palace, together with a memorable Reception at the City Hall and an atmospheric Congress Dinner at the Vasa Museum, combined to make this an outstanding event.

*Andrew McMillan,  
Convener, NSI*

BIODAM research (involving many European partners including the Robert Gordon University and Historic Scotland) was also presented.

---

## NSI AGM

The NSI will be holding its 3rd AGM on Thursday 16th September 2004 at 5.30pm (coffee available from 5pm). The event will be held at the Royal Overseas League, Princes Street, Edinburgh.

In addition to the formal meeting there will be a talk by Murdo MacLeod, Principal Conservation Officer with The City of Edinburgh Council, addressing the issue of 'Repairs to Private Property'. The talk will commence at 5.30pm with a buffet to follow. Tickets are priced at £15 (including buffet and coffee on arrival) with NSI members attending for free.

## Inaugural Annual Stone Lecture

Sir William McAlpine, will be presiding over the inaugural NSI Annual Stone Lecture which will take place in Edinburgh later this year. The venue for this event will be 28 Queen Street, home to the Scotch Malt Whisky Society. James Simpson will be speaking about the extensive project to restore this Georgian townhouse to its former glory.

The evening will begin at 6pm on Thursday 11th November and the lecture will be followed with a buffet. This event provides a wonderful opportunity to view this exceptionally beautiful venue with an expert guide! The event is open to members of the public, with discounted tickets available to NSI members. If you require further information or wish to book for either of these events, please contact Sarah Bailey on 0131 440 9473 or [sarahbailey@nsiuk.org](mailto:sarahbailey@nsiuk.org)

---

## Publication Review: "Nordic Stone"



**Edited by Olvai Selonen and Veli Suominen**

There are few towns and cities in the UK where you will not see some variety of Nordic dimension stone used in its buildings. Most new build projects use a substantial amount of stone from Finland, Norway or Sweden for external cladding or decorative internal stonework. This not perhaps so surprising when, as the volume

It is good to see a volume that looks at these stones from both a geological and industry viewpoint. The volume is thankfully free from the broad and hazy generalizations concerning the geological origins of these stones often presented by the industry at the numerous trade shows that now take place. Today, when many users of these stones have to consider their suitability, not just from an aesthetic point of view but also in terms of their longer term durability and mechanical, physical properties, the text provides sufficient information to make more informed choices in stone selection.

The volume also provides a potted history of the industry's development within each country. This makes interesting reading, as many of us perhaps only consider these stones as relatively recent imports and are unaware of their much older usage in the vernacular buildings of their source of origin.

The volume is very well produced with some excellent, though rather small, colour images of both buildings and quarrying operations. The colour panel illustrating in detail the typical textures of the principal stone types would be very useful as a pull out for identification purposes.

shows us, Norway produces from 45 quarries, Sweden from 39 quarries and Finland from 50 quarries, with around 218 different commercial stone names available on the market.

This slim volume provides not only a long needed summary of the principal sources of the main dimension stones exported from these countries, but also provides useful background information on their geological origins and mineralogical characteristics, information that is seriously lacking for many stones imported into the UK from elsewhere in the world.

If I have a small criticism I would like to have seen a brief summary of the export history of these stones. When did they first come on to the export market and where are they principally being used?

All in all, this slim volume is an excellent summary of the present and past Nordic stone industry and well worth its place on the bookshelf of architects and designers or indeed anyone else with an interest in identifying stone types in the marketplace. It is to be hoped that it will encourage further the use of natural stone in buildings as an alternative to the drab concrete, glass and shiny steel structures which are beginning to dominate our major cities.

*Dr G. K Lott  
Stone Specialist  
British Geological Survey*

---

## Dry Stone Walling Techniques and Traditions



DSWA has collected together the wisdom of wallers and dykers throughout the country to produce this long-awaited book. Under the authorship of the group's chairman, Paul Webley, it offers a highly readable yet practical guide to the techniques used in different parts of the country and gives background detail which explains the simple principles involved and shows why walls have developed in their own characteristic ways.

People who wish to build their own walls, to employ a professional or simply to increase their knowledge of this timeless aspect of our countryside, will find this book a great source of guidance and inspiration.

Priced at £8 (£9.75 including p&p), Dry Stone Walling Techniques and Traditions is available from DSWA, Westmorland County Showground, Crooklands, Milnthorpe LA7 7NH or view the website: [www.dswa.org.uk](http://www.dswa.org.uk) for further information.

## BEFS – Built Environment Forum Scotland

The NSI has been accepted as a subscribing member of the Built Environment Forum Scotland. BEFS is a network organisation that brings together non-governmental and professional bodies that work with Scotland's built environment. You can view back issues of BEFS fortnightly Bulletin on their website at [www.befs.org.uk](http://www.befs.org.uk).

## NSI visit to the National Trust for Scotland masonry workshops at Culzean Castle



*Culzean Castle, Ayrshire*

The NSI had an extremely interesting visit to Culzean Castle in May 2004. We were given a most instructive guided tour of the original quarries, stonework, repointing and repairs carried out on the Castle by Kinlay Laidlaw, NTS Area Surveyor and Andrew Bradley a stonemason at Culzean.

Originally built as a tower house in the 1590s, Culzean Castle was remodelled and extended by Robert Adam in the 1780s-90s. The front of the Castle and the Clock Tower were re-faced. Adam also built a 'Roman' ruin of a viaduct and arch.

The original quarries for the sandstone used in the construction of Culzean Castle were on the cliffs above the beach, within a few hundred metres of the Castle. Remains from the quarries and the working of the stone can still be seen – quarried out sections along the cliffs, a boulder with plug and feather marks from masons tools and spoil heaps at the base of the cliffs. This sandstone was of good quality, being resistant to weathering – a necessary quality as the Castle and its surrounding buildings are in a highly exposed location.



*Pitting occurs in the central zone of lichen growth and may be as much as 10mm in depth.*

Severe deterioration of the original stone has necessitated replacement work. During the 1970s Springwell Sandstone was used for replacement and indenting. Since the 1990s Stanton Moor Sandstone has been used.



*On this replacement stone (Stanton Moor sandstone), the original horizontal bands have been strongly reproduced.*





*In some areas stone decay is extreme, especially (as here) where the sandstone contains a high proportion of clay minerals*

The clay-rich sandstone later used by Robert Adam was also local (though its source is not precisely known) but was not so robust and many blocks have decayed very severely in the last 200 years.

The stone used by Adam during the 1780-90s has suffered from weathering in this coastal location. Clay-rich blocks are especially prone to decay caused by expansion and contraction of clay minerals on wetting and drying. Honeycomb weathering, caused by the action of sea salts, is common on many blocks.

The stone is also vulnerable to attack by lichens. Severe pitting caused by lichen (*Ochrolechia parella*) growth can be observed on a few areas.



*Blistered surface attacked by lichens.*



*The stone on the left is original and shows honeycomb weathering. The new stone on the right is Springwell. Tooling on the replacement stone matches the original.*

Replacement of decayed mortar and hard pointing from previous repairs has also been necessary. Lime mortar was made using sand from the beach as this is thought likely to have been the original source of aggregate at the Castle. The presence of sea salt does not interfere with setting of the lime mortar. The lower retaining walls along the driveway were pointed with hydraulic lime since they are continually saturated.

At the end of the tour the NSI group observed slaking of lime from a small, wood fired kiln. The limestone had been burnt on the previous day.

The NSI would like to thank the staff at Culzean for an interesting and informative day and for offering us an insight into the repair and maintenance of this historic property.

*Dr Maureen Young  
Robert Gordon University, Aberdeen*

An extended version of this article with additional photographs is available via the NSI website [www.nsiuk.org/Culzean04.html](http://www.nsiuk.org/Culzean04.html).

## NSI Excursions

There is still time to book for the remaining summer field trips. We are also keen to hear ideas for future visits, particularly outside Scotland.

For further details of the above excursions, or if you have any suggestions, please contact Ewan Hyslop ([e.hyslop@bgs.ac.uk](mailto:e.hyslop@bgs.ac.uk) or 0131 667 1000).

**Saturday 24th July:** Cullaloe Sandstone Quarry, Fife (joint trip with Edinburgh Geological Society).

Visit to the recently re-opened historic quarry which once supplied high quality sandstone to

## Membership benefits 1

### Heritage Masonry Group, University of Paisley

We are pleased to announce that the Heritage Masonry Group within the University of Paisley is offering a 10% reduction to NSI members on the cost of services provided by the Group. These services include:

- Chemical and physical testing of sandstone, slate and mortars
- Identification of source of slate and sandstone

which once supplied high quality sandstone to Edinburgh. Having received planning permission in March 2004, the quarry faces have now been cleared revealing impressive beds of high quality freestone.

**7/8th August:** Slate Islands Weekend; a visit to the historic Easdale slate quarries led by Dr Joan Walsh (University of Paisley).

This weekend excursion will examine former slate quarries on the islands of Easdale and Luing, looking at aspects of the geology, quarrying and industrial heritage. Known in its day as 'the roof of the world', Easdale slate provided the distinctive 'Scots' roofing slate that characterises many of Scotland's cities and towns.

- Weathering properties of natural stone used in buildings

For more details regarding this discount and the services that are available please contact Dr Joan Walsh at:

*Historic Masonry Group  
Advanced Concrete and Masonry Centre  
University of Paisley  
Paisley  
PA1 2BE  
Tel: 0141 848 3262*

---

## Membership benefits 2. Building with Scottish Stone

Stone has been used in construction from pre-history to the present day. Resonating with meaning it is an exciting material for use in new construction.

In Autumn 2004 the NSI launches *Building with Scottish Stone*, a new publication designed to challenge pre-conceptions about the use of stone in new build projects. Published by ARCA Media, whose previous projects include *Designing with Timber* and *Timber Cladding in Scotland*, this full colour, 64-page volume addresses the wide range of possibilities for stone use in modern construction.

*Building with Scottish Stone* is a groundbreaking publication that brings together contributions from national and local government, strategic industry bodies and practitioners. Designed to highlight exemplary projects, the publication lays down Best Practice guidelines for all new build projects in stone across Scotland.

Topics covered in the publication include:

- Introduction to the modern Scottish & UK stone industry
- Historical perspectives
- Environmental and sustainability issues
- Case studies
- Best practice details and cost guide
- Guide to available reference material
- Directory to key industry organisations
- Directory of Scottish suppliers

This publication is an essential reference source for all who specify stone. It will be a valuable source of guidance and inspiration for all who are interested in modern stone construction.

Priced at £9.99 plus p&p, *Building with Scottish Stone* will be available in Autumn 2004. NSI members will benefit from a **35% discount** if they pre-order a copy of the publication.

---

## How do I join the NSI?

By becoming a member of the Natural Stone Institute, you will be able to take full advantage of this and other membership benefits. To request a membership application form or to pre-order a copy of *Building with Scottish Stone* contact Sarah Bailey at the address below.

**Contributions for future editions of this Newsletter should be sent  
to Sarah Bailey at the address below  
or to [sarahbailey@nsiuk.org](mailto:sarahbailey@nsiuk.org)**

**Natural Stone Institute  
Room 133, Pentlandfield Business Park, The Bush, Roslin EH25 9RE  
Tel: 0131 440 9473 Fax: 0131 440 4032**