

# Newsletter

## Australian and New Zealand Chapter of The Building Limes Forum

Comments and articles published in this Newsletter do not necessarily reflect the views of the membership or the editor.

The Building Limes Forum is a 'community of lime enthusiasts and practitioners, most of whom are producers, suppliers, specifiers or users of lime' which exists to encourage expertise and understanding in the appropriate use of building limes and education in the standards of production, preparation, application and after-care. The Building Limes Forum hosts a page for the Australian and New Zealand Chapter on the website [www.buildinglimesforum.org.uk](http://www.buildinglimesforum.org.uk) which includes copies of this Newsletter and information about our events.

### 2019 Gathering and Conference in Stirling: lime finishes and lime in extreme climates

This year's Gathering was held from 20-22 September in Historic Environment Scotland's Conservation Centre in Stirling; The Engine Shed. Historic Environment Scotland also sponsored the conference dinner in the Great Hall of Stirling Castle.

The Gathering had 182 attendees including guests and 35 bursary places. Delegates came from the UK, Ireland, the US, Canada, Norway, India, France, the Czech Republic, the Isle of Mann and four from Australia. Ben Waller, Nicola Ashurst, and Brad Rimmer's reflections on the event are below.

#### Reflecting on Stirling - Ben Waller

I spent a very brief day visit to the Dublin Gathering some years back now, so when I realised the Stirling conference, by coincidence, was being held perfectly in the middle of a trip back to Sweden visiting family, I knew straight away I needed to make the time for a visit to Scotland.

Landing in Edinburgh, and taking a tram through the city, on route to Stirling, the mind absolutely boggles at the built environment, steeped in history on every street and corner. You couldn't imagine a more perfect prelude to, and setting, for a gathering of likeminded individuals, passionate about the history of building techniques and preservation of building fabric.

Attending the 3 day conference proved extremely eventful, and personally fulfilling. It was an opportunity to really mingle with compatible professionals and artisans from all walks; rubbing shoulders in lectures with stone masons and conservators; stopping for morning tea with Architects and PhD Students; and chatting over a pint with Cob builders and conservation officers.

An absolute highlight would have to be listening to David Wiggins deliver his talk on the functional performance of harling with his jovial delivery and simple diagrammatic breakdowns of the complex performance of lime applications on a molecular level. He is a man with real passion for conserving, and an excellent teacher.

I suppose the main reason for me choosing to attend the conference was really to refresh my interest, and understanding of lime, and to familiarise myself with the direction discussions are taking surrounding practices and specification of lime in all its applications in the UK currently. At the end of 3 days I felt a complete, new found, passion for lime, with my head filled with ideas to bring back to Sydney. For anyone with an interest in lime and in historic building practices, the conferences are so fulfilling and given the opportunity to attend, I couldn't recommend them more.



Stair at Doune Castle Photo Ben Waller

## Pre-Conference Visits to the Inner Hebrides

On the Wednesday and Thursday, 18 and 19 September, before the conference a group of members met up in Oban to visit two castles on islands in the Inner Hebrides.

The ruins of Gylen are on the south end of the Isle of Kerrera, a short ferry ride from Oban, but a 3 mile walk from the ferry. Gylen was built in 1587 but a ruin by 1647. Consolidation work is grant aided by Historic Scotland. Works started because of the efforts of Miss Hope MacDougall and her sister and brother-in-law, Dr and Mrs Hadfield.

Duart Castle on the Isle of Mull, on the other hand, is occupied but had been ruinous for 250 years before being 'repaired,' from 1910 - 1915, by the renowned Scottish Arts and Crafts architect John James Burnet. As the architect for the current work, Martin Hadlington, reminds us this 'repair' is really a work of architecture in its own right and not a restoration. Unfortunately however it effectively sealed the building, trapping water inside. Burnet is probably best known to Australians and New Zealanders for his firm's (Sir John Burnet and Partners) design of the pylons for the Sydney Harbour Bridge and the Lone Pine Memorial at Gallipoli.

The current work began in 2012, although investigations with Bill Revie into the continual water ingress began earlier.

See Volume 25 (2018) of the *Journal* (pages 35-52) for the full story of the work at Duart.



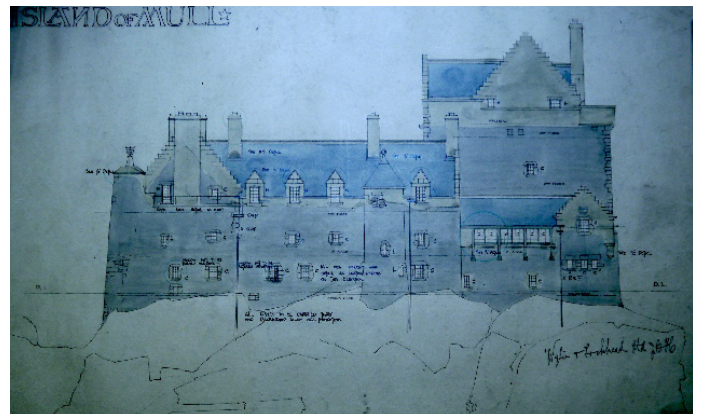
Gylen Castle c1995 Photos courtesy of Martin Hadlington



The Duart project team. From left Bill Revie, CMC Ltd, Analyst and Technical Adviser; Andy Bradley, Main Contractor; Sir Lachlan MacLean, Chief of the Clan MacLean and resident of Duart; Andrew Allan, Harper & Allan masons; Martin Hadlington, Architect. Photo Nicola Ashurst



The ruins of Duart Castle, north elevation photo thought to be dated 1909/1910 Image courtesy of Martin Hadlington.



North, or Sound of Mull, elevation of Duart Castle by Burnet Image courtesy of Martin Hadlington



Duart Castle ruin Image courtesy of Martin Hadlington



## Visits to Gylen and Duart Castles - Nicola Ashurst

Two days before the Conference a tour was led by Architect Martin Hadlington and Contractor Duncan Strachan to their project at Gylen Castle on the island of Kerrera. Those of us who missed the recommended little ferry onto the island from Oban, had to make do with a glimpse of Gylen from the wee-est, most strategically located tea room ever.

Fortunately, the excellent lime mortar repair and stabilisation works, undertaken over 10 years ago, were described in Martin and Duncan's talks at Stirling.



A glimpse of Gylen Castle over the hill from the Kerrera Tea Garden and Bunkhouse Photo Nicola Ashurst



Gylen Castle c.1995 Photos courtesy of Martin Hadlington

The next day it was a trip on the big ferry to Duart Castle (Caisteal Dhubhairt in Scottish Gaelic) the seat of the Clan MacLean on the Isle of Mull.

The day at Duart was led by Martin Hadlington, analyst Bill Revie and the contractors, Harper & Allan Masonry with input from the owner, Sir Lachlan MacLean. Sir Lachlan spoke about living at Duart and his family's long struggle to look after it. He reminded us all about the importance of an owner fully dedicated to the longevity and health of the building.



A plan showing the chronology of Duart Castle, and a piece of early mortar which is being matched in a hot mix in the current work. Some of the walls are 5 metres thick. Photo Nicola Ashurst



The north elevation at Duart under scaffold Photo Jacqui Goddard

**Editor's postscript:** The history of Duart Castle also reminds us all that we all work within the confines of the best information available to us at the time. Burnet was a good and well respected architect. The additions are carefully and sensitively designed. He won the RIBA Gold Medal in 1923 and was knighted for his design of the new wing for the British Museum. He didn't set out to trap water in the building. His intention was to keep water out but the result was the opposite.

There is an interesting article about Burnet and his link to Australia and New Zealand in the *Proceedings of the Society of Architectural Historians Australia and New Zealand* Volume 33, 2016, pp700-709 by Dennis Waddleworth 'The RIBA Gold Medal of 1923 and London Architecture Medal of 1934: John Burnet and Thomas Tait, Early British Modernism, and the Pylons of the Sydney Harbour Bridge'

## The 2019 Gathering at Stirling: A Personal View - Nicola Ashurst

It is always worth the effort to go to an annual gathering of the Building Limes Forum. These events are attended by people and organisations involved in the specification, preparation and use of lime, who meet and talk *ad nauseam* about their experiences with all the facets of lime. The value of 3 days of interaction between contractors (management and craftsmen), conservators, engineers, architects, researchers, property owners, analysts, grant givers and other statutory bodies is invaluable. There are always site visits and practical demonstrations which further enrich the experience. And people are refreshingly generous in sharing their experiences, both good and bad.

This year the BLF gathering was in Stirling, Scotland, a favourite city of mine where I worked on the Old Town Cemetery, at the foot of the castle, before transportation back to Sydney in 2010.

The first day's lectures were sharp, both technically and philosophically:

- Mark Thacker (University of Stirling) kicked off with a talk on 'Mortar archaeology & historic landscapes.'
- Tom Addyman (Addyman Archaeology) spoke on 'Historic Lime Harl, render & plaster in Scotland.'
- Tim Meek (contractor and now a PhD student) introduced us to 'Harl-as-you-go! Integration of mortars and the implications for robustness and longevity in an exposed environment.'
- David Wiggins (Heritage Accredited Structural Engineer from Curtins, Cumbria), spoke in his outstandingly clear style, about the 'Functional Performance of lime harling.'
- Steven Harper & Andrew Allan (Harper & Allan Masonry) gave us the contractor's view on 'Lime Harling Practice,' how to prepare and apply hot mix lime mortars on a large scale, at Duart Castle in particular.
- Richard Fraser (Limerich, contractors) gave extremely valuable insights on the preparation, application and 'Best practice for maintenance of limewashes,' showing examples of limewashes which have lasted 20 years, which he attributes largely to good application practice.
- Traditional plaster research that is currently under way was presented by William Napier (Adams Napier Partnership), Callum Graham of the HES laboratory. Steven Blench spoke on his research into the Chalk Plaster at Blair Castle where he has been able to draw on some fabulous archives.
- Rory Young (sculptor and stone specialist) engaged us with the story of a boundary wall - 'from foundations to flush finish.'

In the afternoon site visits there was a choice of site visits. The choices included Doune Castle, the Scottish Lime Centre Trust workshop and kilns at Charlestown, the Cathedral and Leighton Library in Dunblane. I went to Charlestown for a very rewarding afternoon learning how to polish clay balls from Becky Little (Rebeath Ltd).

On day 2 we heard from:

- Roz Artis (Director of the Scottish Lime Centre Trust) on the achievements of the centre on its 25th birthday.
- Roger Curtis, Historic Environment Scotland (HES), spoke about their research projects.



Some of the beautiful clay balls, ready to be polished, that Becky had made earlier. Photo Nicola Ashurst

- Andrew Bradley (Stonemason) gave a heartfelt presentation on 'Lime vs. severe wind driven rain at Duart Castle, Isle of Mull'.
- Kinlay Laidlaw (Laidlaw Associates) talked on 'Micro-grouting to resolve water ingress at Burns Monument, Alloway', where the mortar had washed out of the very fine joints.
- Duncan Strachan (Stonemason) has the well-earned reputation of being able to handle working with lime in the extreme weather of the west of Scotland. For example at Gylen Castle, which is extremely isolated, everything had to be brought in and out by helicopter.
- Martin Hadlington (Architect), currently working on Duart Castle, also worked with Duncan at Gylen. Martin spoke on '25 years of adventure – learning from exposed buildings on the west coast of Scotland'.
- Philip Scorer (Vitruvius Conservation) described the challenges of projects where rope access has been used to apply lime washes and mortars.
- Lucie Façade (University of Oxford) described her research on 'Drying response of lime-mortar joints in granite masonry'.
- I spoke next on the challenges we have in using lime mortars and washes on the very porous stones of Sydney and the extent of protection we need to adopt in the extremes of heat and drying we often work in. Focus on the correct materials, good preparation, application and tending of lime mortars is international although often for very different reasons.
- Steve Waite (Waite International Conservation Architects) spoke on 'Lime Projects in Cuba & Hawaii'.
- And to finish the session we heard from Chris Pennock (Nidaros Cathedral, Norway) on 'Lime projects in Norway'.

On the second afternoon the site visit choices were Kinneil House and Bannockburn House, Stirling Castle or a return to the cathedral and Library in Dunblane. All very rich experiences. Part of the evening dinner was an auction of lime paraphernalia (books, whiskey, marmalade, work experience days with contractors and professionals, wild Canadian smoked salmon) and this raised an impressive amount sufficient to fund over 25 bursaries for young people for the next Building Limes Forum gathering in Exeter, England.





Kinneil House, owned by Historic Environment Scotland, situated close to the royal centres of Edinburgh and Stirling, with masonry dating from the 1400s. After partial demolition in the 1930s it was saved from destruction by the discovery of remarkable wall paintings.



The remains of lime mortar and harl at Kinneil House, with evidence that coal was used to burn the limestone. Photo Nicola Ashurst

On Day 3 we heard from:

- Alison Henry (Historic England) on the 'Project/research updates and the Corfe Castle wallhead trials'.
- Keith Blades (Masonry Conservation Consultant, Ontario) on the 'Challenges of 'like for like' approach: from hot limes to early Portland cements', at various projects including the Ottawa Parliament Building.
- Jessica Hunnisett (Historic Environment Scotland) spoke on 'Lime in a Changing Climate'.

I was particularly impressed with Jessica's bullet point warnings on the current use of lime mortars:

- o Climate change making everything wetter (the rainfall statistics in Scotland are staggering and not to be ignored);
- o The culture of minimal maintenance. We don't like maintaining our buildings but we must.
- o Underlying building detailing issues – we don't understand, don't address or ignore the contribution of building detailing in masonry failure.
- o Lack of skill and experience leading to failures on site (contractors).
- o Confusion over how and what to specify (professionals).
- o Gaps in knowledge (everybody, not understanding the complete picture).
- o The legacy of cement mortars.
- o Limited access to traditional masonry skills.
- o Reliance on hydraulic mortars in lieu of lime mortars.
- o Lime (material, mortars) being sold as the panacea for all building defects.

The Q & A session, entitled Question Lime, was chaired by Will Napier (building surveyor, Adams Napier Partnership, Peebles) and had the following panellists:

Nigel Copsey (builder & trainer, Yorkshire); Ashley Pettit (Architect, Isle of Mann); Roz Artis (building surveyor, Scottish Lime Centre Trust); David Wiggins (Structural Engineer, Curtins, Cumbria); and Laurent Tedeschi (lime supplier, St Astier, France).

Both questions and answers were top level and I look forward to the transcription of the recording made.

The final talks were:

- Cecilia Pesce (Northumbria University) on her PhD topic 'Investigation on the effects of steam slaking on the characteristics of Portlandite crystals in hot-mixed lime mortars'.
- Nigel Copsey (Earth, Stone & Lime Company) on 'Lime slaking and mortar proportions'. You can read all about in his recently published book 'Hot Mixed Lime and Traditional Mortars' (The Crowood Press, 2019, [www.crowood.com](http://www.crowood.com), ISBN 978-78500-555-8).
- William Skinner (Cliveden Conservation) on 'Structural repairs at Bradwell Abbey – earth and earth/lime mortars'.

The final afternoon was farewells, Stirling Castle or a walking tour around Stirling Town.

Once again, the Building Limes Forum Gathering was the perfect way to get up to date on the theory and practice of all things lime mortar (non-hydraulic, hydraulic, hot mixed).

Again, it has been reinforced in my mind that we must not separate materials and practice. For successful work which benefits buildings in the short and long term they need both to stay full wedged.



Historic Environment Scotland hosted a spectacular dinner on the first night in the Great Hall of Stirling Castle Photo Jacqui Goddard

## Reflections on Stirling by Brad Rimmer

I didn't arrive until the late afternoon of 20 September when I picked up my programme and other info from the Engine Shed so my first day was the Saturday, 21 September which began with a presentation by Roz Artis, Director of the Scottish Lime Centre Trust (I was really keen to listen to her presentation as I was going to be attending the Scottish Lime Centre for 2 weeks of training straight after the Conference in Stirling). Roz proudly spoke about the Scottish Lime Centre Trust's 25 year history and its significant contribution to the conservation industry and promotion of lime in the UK.

The two main themes of the Conference were lime finishes and lime in extreme climates (two great topics!). Many of the following presentations provided insight into these two areas and also gave me a lot of 'food for thought'.

The presentations by fellow stonemasons Duncan Strachan and Andrew Bradley were of particular interest to me as they discussed issues such as the curing of lime pointing and site access and establishment in remote locations in Scotland (which I could definitely relate to having undertaken several conservation projects in remote Northern Territory).

During morning tea break I was lucky enough to meet a few fellow Sydneysiders - Jacqui Goddard, Nicola Ashurst and Ben Waller. It was great to have a chat to them and discuss the conservation industry in Australia and how lime is being used comparatively to the UK (as there are obviously some differences in climatic conditions etc).

I found the presentations in the lead-up to lunch to be of particular interest. I really enjoyed Nicola Ashurst's case study about a project involving conservation work to the front wall at Hyde Park Barracks, Sydney. She talked about the importance of retaining as much of the original fabric as possible when undertaking lime patching.

Steve Waite did a presentation about recent lime related projects in Cuba and Hawaii and Chris Pennock's reporting on several projects he had been involved with in Norway. It was fantastic to listen to people speaking about completely different parts of the world and the projects that they had been working on!

My afternoon was spent doing site tours at Dunblane Cathedral and Leighton Library (the oldest library in the UK). It was great that the conference incorporated these guided site excursions as it gave everyone the chance to stretch their legs and have a chat with other attendees.

This was followed by dinner at the Stirling Highland Hotel. Surprisingly, the highlight of the meal was the haggis - it was unexpectedly delicious! After dinner there was an auction of lime-related items in support of the Bursary Fund. There was some pretty aggressive bidding with the auction eventually raising over £2,000 (which will be going towards providing financial assistance to young people wishing to attend future BLF events).

22 September - Sunday was another big day at the Engine Shed with lots of lime related information to process. The morning presentations were very interesting, with the earth's changing climate and its impact on how we use lime in the conservation industry once again a key theme. While these discussions mainly focused on the Northern Hemisphere becoming wetter, it did make me wonder what impact a changing climate may have on the way we use lime in Australia in the future, especially if our climate is becoming drier.

Question Lime was a highlight for the day. It allowed attendees

to submit questions in advance to an expert panel who then answered them up on stage. The questions that were selected were well thought out and having such a knowledgeable panel of lime experts it made for some really thought provoking and lively discussions.

### GENERAL COMMENTS ABOUT THE BLF CONFERENCE

I really enjoyed the diversity of speakers at the Conference. It was great to have such a wide range of people from varying professional backgrounds (architects, academics, stonemasons, surveyors, plasterers, heritage consultants etc - a good cross section of the industry!) and different countries come together to share their knowledge, ideas and perspectives on all things lime. The project case studies used in the presentations were also varied in nature (different types of structures, architectural styles, environmental climates etc) which made it very interesting listening.

I also picked up on a common theme in many of the project case studies presented by the diverse bunch of BLF speakers - good communication between the specifiers (architects, heritage consultants etc) and contractors (stonemasons, plasterers, builders etc) is a key element to a project's success. The relationship between specifier and contractor is a very important one and can't be underestimated. Regular communication where both parties are able to openly discuss the details of the project seems to be a good approach and encourages mutual respect.

In addition, it was also noted several times that appropriately qualified and experienced specifiers and contractors are also essential ingredients in achieving 'best practice' outcomes. As conservation projects can be quite diverse in nature, specifiers and contractors need to be chosen based on their previous relevant experience and the areas where they possess specialised training in (for example, a proven sound knowledge of building limes in conservation would be essential for both the specifier role and the contractor role in projects where lime is being utilised).

Lastly, it was really evident that there was a common purpose among everyone who attended the BLF conference - to continue to raise awareness of the different applications of lime in the conservation industry and to share current 'best practice' knowledge. I think it is great that the BLF organises this event every year and hopefully it continues to generate the same level of passion amongst its current members but also foster a sense of intrigue in the minds of new members (particularly young professionals/contractors) to go out and learn more about lime. Attending this year's conference has definitely made me want to learn even more about lime! I'm really glad I had the opportunity to attend as part of my George Proudman Fellowship trip to the UK.



Stafford Holmes autographing his book *Building With Lime* after it was bought at the auction Photo Jacqui Goddard





Attendees at Stirling from around the globe - Steve Waite, USA, Nicola Ashurst, Australia and Ivor McElveen, Ireland Photo Jacqui Goddard



Andy Bradley conducting the auction Photo Jacqui Goddard

## George Proudman Fellowship

Brad Rimmer's attendance at the 2019 BLF Stirling Gathering was made possible by the George Proudman Fellowship which was established to honour the legacy of the late Master Mason George Proudman, and administered by NSW Public Works Advisory (PWA).

The Fellowship press release describes Brad as a 'regional mason based in Kiama. Brad is a mid-career stonemason who is working proactively to enhance heritage masonry skills and projects in regional NSW and remote areas of Australia. Brad, who is a qualified stonemason, has a Bachelor of Science degree and is currently finalising his TAFE teaching qualifications in stonemasonry.'



Brad Rimmer wins George Proudman Fellowship Photo Australia ICOMOS E-news No. 871, Item 12, 5 April 2019

## 2019 George Proudman Fellowship Experiences in the UK - Brad Rimmer

16-20 September - From Monday to Friday I worked at York Minster Cathedral, England. The gothic style cathedral was built in several stages over a 250 year period, starting construction in the mid 1200s. The Cathedral is a real landmark. It is huge in scale with vast amounts of beautifully cut/carved stones and has several amazing tracery/stained glass windows. My week included a couple of behind the scenes tours of the building, some banker work, a little bit of carving, and numerous discussions about lime! Two of the masons from York Minster Cathedral actually attended the BLF Conference in Stirling too (so it was nice to see some familiar faces when I arrived in Stirling).

23 September - 4 October - I attended several lime related courses at the Scottish Lime Centre Trust's training facility in Charlestown, Scotland. This was then followed by a week of intensive training and assessment to complete a formal qualification in the UK's National Units 1, 2 & 3 in Conservation Masonry. Over the fortnight in Charlestown I learned a lot about preparing lime mortars, using lime mortars, carrying out surface repairs, hot mixes, and also a lot of the science behind lime mortars (binders, sands, additives, curing etc). It was also interesting to see the famous Charlestown lime kilns built in the 18th century which were used up until the mid 1900s.

7 -11 October - Back at York Minster Cathedral to continue my work placement for more stone carving followed by some lime-based patching to a few tracery windows.

## The 2019 Baker Memorial Lecture by Tim Meek

Every year someone eminent in the world of lime is invited to give a lecture in memory of Professor Robert and Eve Baker, who pioneered the revival of the use of lime for the repair of historic buildings in the UK with their work on the conservation of the west front of Wells Cathedral between 1975 and 1984.

This year it was Tim Meek and fittingly it was held in the Great Hall at Stirling Castle which he and his team conserved and, controversially at the time, harled and lime-washed in the late 1990s.

Trained as a bricklayer, Tim is a SPAB Fellow, has a first degree in Combined Studies (archaeology and history of architecture), a Masters Degree in Building Conservation at York, he is currently studying for a PhD at Stirling on cultural and physical factors of surface finishes in Scotland.

The talk warned us all of the dangers in being distracted by what he called 'romantic twaddle' and 'lime bollocks' in identifying 'lime facts'.



The Great Hall at Stirling Castle. Photos Jacqui Goddard

## THE HILL HOUSE, HELENSBURGH (GLASGOW), CHARLES RENNIE MACINTOSH

A Post-Conference Visit by Nicola Ashurst

Hill House, designed in 1904 by Charles Rennie Macintosh for the Glasgow book publisher William Blackie, is considered the architect's domestic masterpiece. It is now managed by the National Trust for Scotland.

A large box has been erected over Hill House, to prevent further water ingress into the cracked external cement render. The box is fully accessible and enables you to walk over and around the house walls and roofs.

Macintosh is often described as a visionary architect and he did design the most beautiful buildings. However, at Hill House, the structure of the wall is made of poor-quality stone which is coated in a cement render. The Macintosh design does not employ any water shedding details and the inevitable has happened – water entry through cracks and flashings leading to breakdown of the red sandstone and soft bricks of the wall structure and damage of interior finishes.

It will be interesting to track the debate, which interpretive sign boards on the box promise, to see how the project develops and what repairs are undertaken to this original construction and original materials.



The Hill House Photo Nicola Ashurst



# Building Limes Forum Traditional Mortars Symposium, York, 10-12 June 2019

A Report from Ken Ellis, Director, Artisan of Stone

The York Symposium was held at St Anthony's Hall in Jewbury York 10-12 June 2019.

## Monday 10 June

We started with talks from representatives of the Earth and earth-lime community:

Alex Gibbons, a mudworker plaster in Solway and beyond, talked about the importance of finding the the right consistency of mud to use as a plaster. His website [www.stickinthemudconservation.com](http://www.stickinthemudconservation.com) has information about his work.

Alison Henry, from the Historic England conservation research team, talked about the guidance and research that is taking place.

From Spain we heard from Fernando Vegas and Camilla Mileto, Escuela about their work in Iberia and surrounding areas.

Roger Curtis, from Historic Environment Scotland, talked about the conservation works going on on the coastal regions of Scotland.

Stafford Holmes showed the lime stabilised earth buildings in Pakistan that he is working on after a village was flooded.

Becky Little, mudmason, and Tom Morton, architect, showed their past and present mud building projects.

Ben Gourly told us about how the use of earth-lime mortars were used in the past and present and the similarities in technique and materials in western Canada and Europe.

Nigel Copsey gave an introduction to hotmix lime and mortars and the question why earth buildings demand lime-rich mortars.

## Tuesday 11 June - Hot Mixed Lime Mortars

Alison Henry talked about the research into NHLs and revised guidance.

Roger Curtis talked about the importance of like-for-like repairs.

Bill Revie, a material scientist, looked closely at the magnified sections of mortar and compared hotmixed lime and NHLs.

David Wiggins, a structural engineer, talked about the functional performance of traditional lime mortar versus today's use of Hydraulic mortars (Portland cement mortars).

Craig Frew, conservation surveyor, talked on the use of NHL gauged hotmixes in Scotland.

Richard Jordan, traditional roofer, told his story of how hotmix lime and crushed slate was used in roofing.

Thom Kinghorn-Evan, Coestone from West Wales, talked about working with hot mixed air limes in a wet climate.

William Skinner a conservator with Cliveden Conservation, Reading showed Abbey Ruins and other hot mix mortar projects.

Philip Scorer, stonemason and conservator from Vitruvius Conservation, talked about working with hotmixes in the West Country (Cornwall and Devon area).

Nick Durban, stone conservator, told use about the use of hotmix mortar repairs and shelter costs.

William Napier, plasterer and surveyor, reported on HES traditional plaster research.

Chris Pennock, stonemason working on Nidaros Cathedral, Trondheim, told us about traditional mortar research and use in Norway.

## Wednesday 12 June - Practical Day at York Minster Stone Yard

Throughout the day we built cob brick walls with a mixture of hot-mixed lime and hot-mixed lime/ mud mortars.

We got the 'how-to' on mixing mud plaster and its application on timber lath alongside hotmixed plaster.

We also looked at the application of hotmix shelter coats on exfoliating stone elements, as well as hot-mixed limewash and its application.

The day also included a tour by the team of masons working there of the areas in the cathedral that you normally do not get to see.



York Minster - The Cathedral and Metropolitan Church of Saint Peter in York Photo Ken Ellis



York Minster Photo Ken Ellis

## Historic Environment Scotland Publications

Five of the six publications promised by Historic Environment Scotland on lime research and are now available as free PDFs from the Historic Environment Scotland website. While some specifically discuss examples and practice in Scotland they are all applicable to wider international experience, in particular David Wiggins' examination into the microstructure and functional performance of hot-mixed lime provides invaluable hard research into the way different limes perform.

Also of note is Technical Paper 30, Nigel Copsey's *Historic Literature Review of Traditional Lime Mortars* which looks at texts from 160BC to 1955 from Britain, Europe and North America.

### *Technical Paper 27 Hot-mixed Lime Mortars: microstructure and functional performance* by David Wiggins



*'This paper presents technical evidence for the use of hot-mixed lime mortars in the conservation of masonry structures.'*

*'It examines how lime mortars function in practice, looks at historic lime mortars and highlights key characteristics of hot-mixed lime mortars.'*

### *Technical Paper 28 Specifying Hot-mix lime mortars* by Roz Artis



*'This report examines the use of hot-mixed lime mortars for the repair, conservation and restoration of traditional masonry structures in the UK and Ireland.'*

*'It also explores the evidence for the historic use of hot-mixed mortars and why these materials are still relevant.'*

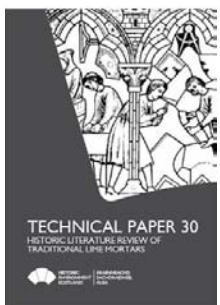
### *Technical Paper 29 A Review of Hot-mixed external lime coatings in Scotland 1997-2016* by Craig Frew



*'This paper presents a range of case studies that help to establish an evidence base for the use of hot-mixed lime mortars on an array of buildings and structures, in various geographical locations and levels of exposure.'*

*'The 24 case studies consider how these external coatings have performed and what factors have affected their performance over time.'*

### *Technical Paper 30 Historic Literature Review of Traditional Lime Mortars* by Nigel Copsey



*'Technical Paper 30 is a review of the historic literature relating to lime mortars. It is based on the reading of historic texts from 160BC - 1955 that describe the preparation of lime mortars in varying detail.'*

*'This paper and the others in our series are a result of an identified need to better understand the performance, qualities, materials, preparation techniques, and applications of traditional mortars. It is hoped and intended that these insights will critically engage with and help inform current practice.'*

### *Technical Paper 31 Historic External Lime Finishes in Scotland* by Tom Addyman and Tim Meek

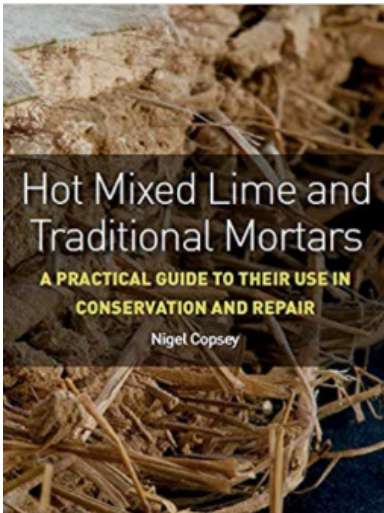


*'Technical Paper 31 sets out the historical background to external lime coatings on traditional buildings. It presents a series of illustrated examples of buildings with surviving original finishes.'*

*'The paper includes 75 case studies where the historic finish remains, either substantially or in part, and considers the evidence for how and why these finishes were applied.'*



## Other Lime Publications



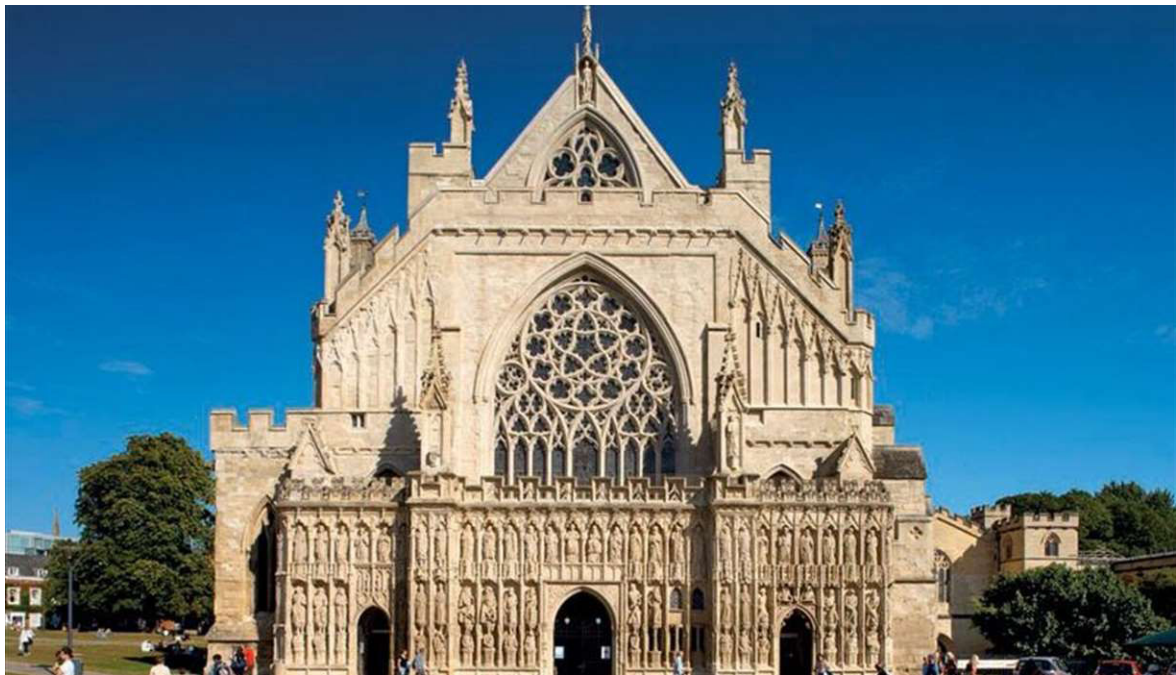
*Hot Mixed Lime and Traditional Mortars: A Practical Guide to Their Use in Conservation and Repair* by Nigel Copsey

Published in February 2019 by the Crowood Press

I thoroughly recommend this book. It isn't available as a free download but worth every penny of its purchase price. It is at the same time informative, well illustrated and readable. It is an essential for anyone interested in conservation practice. Of particular importance is the discussions about earth and earth-lime mortars with cultural and technological significance. These have been overlooked, or dismissed, for a long time and have often fallen foul during conservation processes.

## 2020 Conference and Gathering - 4-6 September 2020 in Exeter

Next year's Gathering will be in Exeter, in SW England. The theme is 'Looking Back, Looking Forward: learning from the past to inform the future.' Details are not available as yet but please note the time and place and mark them on your calendar.



Exeter Cathedral Photo Visitexeter.com

### Lessons and Questions

One of the benefits of seeing what is happening in other parts of the world is that it opens your eyes to both what you know, and importantly, what you do not know.

As Brad Rimmer and Nicola Ashurst mentioned in their summaries of the recent Gathering in Stirling what became obvious throughout the talks and events is that changing weather patterns and extreme weather events are effecting the behaviour of buildings and ground conditions. What we need to discover is how that is playing out in Australia and New Zealand.

What was also obvious is that splendid research, on climate change, traditional lime and earth practice and the way non-hydraulic, hydraulic and gauged limes behave, is being done internationally. What is not clear is what is being done in Australia and New Zealand. If research is occurring, and I'm sure it is, it isn't being shared. Occasionally an historic report or thesis is found but these are not readily accessible and the information within them is confined to individual's, or institution's, shelves. Hopefully we can begin to share this information and prompt further research so **PLEASE SHARE**. We can publish what we find in this Newsletter and make contributions to later editions of the Technical Paper 30 *Historic Literature Review of Traditional Lime Mortars* discussed above.

# Committee of the Australian and New Zealand Chapter of the Building Limes Forum

Currently the Committee of the Australian and New Zealand Chapter is self appointed and anyone willing to put their hand up for a job will be most welcome!

- Nicola Ashurst, NSW
- Jacqui Goddard, NSW, Convenor and Editor
- Brian Maxwell, Queensland
- Maurie Potzreba, Queensland

If you are interested in taking part please don't hesitate to be in touch.

## Contributions to the Newsletter and Journal

Please send contributions to the Australian and New Zealand Chapter Newsletter to Jacqui Goddard at [jacquig@mac.com](mailto:jacquig@mac.com)

Please send contributions to The Journal of the Building Limes Forum to Alison Henry c/o [admin@buildinglimesforum.org.uk](mailto:admin@buildinglimesforum.org.uk)

The intent of the Newsletter is to inform but also to encourage debate and discussion. There will no doubt be differences of opinion and while we seek to cover a wide range of topics and opinions we will not publish personal criticisms. Please note that as it says on page 1 *'Comments and articles published in this Newsletter do not necessarily reflect the views of the membership or the editor'* and comments and articles that appear are not a recommendation or endorsement.

The next Newsletter will be issued in May 2020 Please submit contributions by 30 April 2020.



'Quarrelling is Taboo' A message on the Boys Brigade building, Stirling Photo Rosemary Mann

## Building Limes Forum Committee 2019-2020

- Roz Artis
- Phil Brathwaite
- Phi Brown
- Maria-Ellena Calderon
- Jacqui Goddard
- Alison Henry
- Stafford Holmes
- Ashley Pettit
- Ian Prince
- Lewis Proudfoot
- Philip Scorer
- James Simpson, Chair
- Steve Waite
- David Wiggins

## Letters to the Editor

A number of people have suggested that a 'letters to the editor' section should be included in the Newsletter so if anyone wants to comment on articles in here or in the Journal please forward them and they will be included in the next issue.

## Membership

### Please encourage others to join!

Membership of the Building Limes Forum offers:

- the opportunity to participate in conferences, courses, workshops, demonstrations and visits organised by the Forum;
- an informal network of contacts who are prepared to share information and to discuss matters relating to building limes with other members. The list of members is on-line (password protected and encrypted for security) and details are available to members at a few clicks of a mouse;
- the annual Journal and regular newsletters;
- discounts on training courses at West Dean College and the Scottish Lime Centre;
- membership of the Australian and New Zealand Chapter;
- a means of supporting the stated aims.

There are four categories of membership:

**Individual** (£50, £45 if paying by standing order\*). Members have access to the on-line list of members and receive the regular newsletter, the annual Journal of the Building Limes Forum and can attend the annual conference and other BLF events at preferential rates.

**Corporate** (£125, £115 if paying by standing order\*). Corporate members have access to the on-line list of members and receive the regular newsletter, two copies of the annual Journal of the Building Limes Forum, additional copies of the Journal at a discount, and can send people working for the organisation to the annual conference and other BLF events at preferential rates. For organisations with more than one office, additional addresses can be added for £30 each. Each additional address has access to the on-line list of members and receive the regular newsletter, the annual Journal of the Building Limes Forum and can send people working for the organisation to the annual conference and other BLF events at preferential rates.

**Concession** (£25, £20 if paying by standing order\*). Anybody in full-time education, scholarship, internship or apprenticeship, anybody aged 25 or under and anyone unwaged is eligible for concession membership. Concession members receive the same benefits as Individual members.

**Institutional** (£50, £45 if paying by standing order\*). Institutional members, who are usually libraries of universities or similar, receive the annual Journal of the Building Limes Forum.

*\*Note that you may only pay by standing order if you have an account with a UK bank.*

The membership form may be downloaded by clicking on the link in the right-hand column under 'Useful Documents'.

Pay on-line!

You may join the Building Limes Forum or pay your annual subscription on-line using the secure site [workwithus.org](http://workwithus.org) which will accept payments to the BLF by PayPal, credit or debit card

**Join Today - [www.buildinglimesforum.org.uk](http://www.buildinglimesforum.org.uk) or [www.buildinglimesforumireland.com](http://www.buildinglimesforumireland.com) and follow the links.**