Newsletter

Building Limes Forum Ireland

Comments and articles in this newsletter do not necessarily reflect the views of the board or editor.

Building Limes Forum Ireland is a community of lime practitioners, specifiers, suppliers and producers of lime. The Forum exists to encourage expertise and understanding in the appropriate use of building limes, and education in the standards of production, preparation, application and aftercare. Building Limes Forum Ireland is connected and affiliated to Building Limes Forums across the world.

Editorial

Welcome to the first Building Limes Forum Ireland Newsletter of 2017. It's been almost a year since the last issue so we have endeavoured to include as many topics as possible to demonstrate what's been keeping you all busy; we also include information on upcoming events that may be of interest and reviews of events you may have missed. As usual thanks to those who have contributed articles, all of which serve to demonstrate the great variety of lime work ongoing throughout the country, from the renovation of a farm building with earth and lime mortar in Tipperary, to the south inner city of Dublin where an important early 18th century house has had its neglected brick façade carefully repaired. See how the BLFI Bursary helped another SPAB Scholar, read an update from EBUKI and SPAB Ireland, two organisations 'on the move' and plenty more. Hopefully you'll be inspired and ready to face the year ahead with a renewed enthusiasm for all things lime!

Oiseen Kelly

Stay in touch with us on @BLF_ie

Training & Education Events

Here are details of some upcoming events which may be of interest. However, remember there are many other training and educational opportunities available throughout the country, all year round. See the following links in particular for further information on some of these. Please contact us if you know of any events that may benefit members or indeed have any proposals for training opportunities you think are needed.

www.traditionallime.com/
Traditional Lime Company, Rath, Shillelagh Road, Tullow, Co Carlow ph:059 9151750 fax:059 9152113 email:info@traditionallime.com.

www.stonewarestudios.com/
Stoneware Studios Ltd. Pillmore, Youghal, Co. Cork, ph:024 90117 · email:mail@stonewarestudios.com

www.thelimestore.ie/
The Lime Store, Unit B1 Ballymount Drive, Walkinstown, D12 ph:01 450 8624 email:info@thelimestore.ie

Historic Environment Scotland

Hot Mixed Mortars 14th February 2017 Edinburgh University. Hosted by Historic Environment Scotland a one day seminar announcing the Hot Mixed Mortars Project with partners from England, Wales and Ireland including an update on the initiatives that will be taken forward and details of new Historic Environment Scotland Publications. There will also be a discussion session to conclude. More information and an agenda will be released soon.

See www.historicenvironment.scot or contact wendy.malkin@hes.scot

BLFI Lime Mortar Workshops Mortar Mixes for our Built Heritage

Hosted by OPW the next workshop is on the 8th March in the OPW Depot, Kilkenny and in the Autumn, in Killarney & Athenry, lead by practitioner and specifier Pat McAfee (stonemason) and Lisa Edden (engineer.)

(See page 2 for more detail.)

Comment From The Chair:

A whole year has gone by since our last newsletter and when I first looked back I questioned what have we done of significance? But then I think about our events and also achievements of others, where we have been advisors or contributors, and realise that for a voluntary group we achieve so much and that the contributions of individuals, for no apparent return, is stupendous. We all realise when we do meet and spend some time together that being part of a group is much better than slogging (or is it slaking) away individually and that sharing our experiences creates limelight. You'll see plenty of information about our various activities and those of individual members in this newsletter. However just to mention those that didn't make these pages:

- An extremely successful Lime Slam at the beginning of March 2016 in a venue new to us at No.63 Merrion Square
- We were delighted with the congenial atmosphere of the first floor space where so much un planned talk got talked
- Issue and launch of the Hot-mix lime mortar guide
- Culmination of the Erasmus "Train the trainer" venture with Heritage Council
- Mulranny Stone wall and Lime festival - a joint venture with Mayo County Council
- Field tests and Mortar mixes Workshop bench demonstrations at Drimnagh 5th May
- The AGM that evening with a wonderful talk from Chris Pennock about the works at Nidaros Cathedral, Norway
- The usual input from hard working members at the IGS traditional Skills weekend 8th and 9th May
- Richmond Barracks tour November 12017

The rest you can catch up on in this newsletter.

Across the Irish Sea our friends, whilst intent on leaving Europe are keeping themselves warm with Hot-mix and we are in included in that pot. The OPW and Heritage Council have signed Memorandum of Understanding with Historic England and Historic Environment Scotland amongst others. As a precursor we have just rolled out "Lime Mortars update" workshop with the OPW. We hope this is the first of many and will form part of our remit within the bigger picture of bringing Hot-mix to the fore. So, I would encourage all of you to come to events and get to meet other limeys and find out that you are not alone. If sometimes that is too difficult to fit into the schedule or you are at a distance please do share as much of your projects as possible by sending articles for newsletters and photos with captions for newsletters and our webpage. Wishing you all success in all your lime projects 2017. Lisa Edden, Chair 2015-2017

Your current hard working board members are:

Lisa Edden	Chair
Grellan Rourke	Company Secretary
Una Ni Mhearain	Treasurer
Shane Nolan	Membership
Manfredi Anello	CPD / Training
Kevin Blackwood	Bursary
Helen Hossack	Northern Ireland
Oiseen Kelly	Events & Newsletter
Joe Kirwan	Technical & Standards
Patrick McAfee	Training
Also Eszter Nádas	Administrator
James Powell	Webmaster

Thank you to Ivor McElveen who stepped down from the board in 2016. He has since taken up a position on the board of the Heritage Council and continues to play a key role in the Hot-mix Lime Mortars Project. We wish him well, no doubt we will be calling on his expertise in future! We would also like to welcome Manfredi Anello back after a short absence, he was greatly missed and we look forward to his return.

Finally just to note that the AGM is scheduled for early May and this year we will need some new members to join the board. If anyone is interested and would like some more information, please get in touch with any of the current board members or email info@blfi.ie

The BLF Conference & Gathering 2017

The 2017 Conference and Gathering will be held in Trondheim (7th to 10th September) where the Nidaros Cathedral and Cathedral Workshops will be the focus of lectures and visits throughout the weekend. See www.buildinglimesforum.org.uk/2017-conference

BLFI Lime Mortar Workshops— Mortar Mixes for our Built Heritage

These workshops will be of interest to those specifying or working with mortars for the repair and benefit the architect / mason making the transition into working on heritage structures and serve as an update for those already working in conservation but who may not have used hot-mixes and earth mortars, both of which will be included. It will also be a forum for those wishing to share their understanding of pozzolans and other aids to carbonation and how to test in the field. Participants should go away knowing how to interpret an existing mortar and to specify a good repair mortar; learn how pozzolans enhance hydraulic set, how to carry out field tests and about the importance of understanding the materials. For more information and to book (opening soon) see www.buildinglimesforumireland.com or email info@blfi.ie

BLF Liverpool Conference LF 2016

Cupola Liverpool town hall

The following conversation was generated by the BLFI attendees at BLF Liverpool Conference. It may serve to give a brief synopsis of the weekend which by all accounts was a great success.

"How to chair sessions and deliver at conferences" or "Lisa Edden's learning outcomes from the BLF conference at Liverpool".

The Saturday practical demonstrations rang particularly true for me. Phillip Gaches (master plasterer and teacher through SPAB and other organisations) led us through a wonderful set of craft-skill practical presentations. With the lightest touch he asked strategically placed questions, queries that were in the audience heads but that were only beginning to formulate. In this way, he enhanced the delivery of the craftsperson, maintained a high level of audience attention and allowed a natural understanding of the craft skill to occur. David Wiggins, (Curtins Consulting Engineers) gave an outstanding lecture was given on Sunday morning by a remarkable young Engineer What made David's talk so exceptional was its technical content presented in a simple manner, clear diagrams on well-presented slides with a punchy spoken delivery – it all sounds obvious really doesn't it? But through the haze of a Sunday morning, after a late night and two previous days of conference the message contained, and the projection of a strong local accent with perfect articulation made us all sit up. There was a distinct rush from some eminent players in the dissemination of lime education to sign David up for future deliveries. So look out for David Wiggins and his perfectly formed arguments, backed by significant research, of the importance of re-pointing with mortars that contain a significant quantity of free air Limes and why lean NHLs and mixes with cement cannot save the masonry units nor solid masonry construction.

Colm Murray had a particular comment about misplaced interpretation of damage to the eye from lime. 'I think showing photographs of traumatically damaged eyes wasn't necessary for the transmission of the speaker's message. I think there is a reasonable level of consciousness about health and safety issues of working with lime among all those who were present and being exposed to injuries that were not suffered as a result of lime was unnecessary'.

Ivor McElveen reiterated: **'**Would most definitely second Colm's observation. It was unnecessary and inappropriate. Indeed, somewhat ghoulish to say the least and added a sour note to the proceedings. As LE mentioned, this 'medical' approach was a point of controversy at a prior BLF Committee meeting, it was requested that consideration be given to focusing on prevention and immediate action, not to dwell unduly on consequences, which is irrelevant to site conditions. That is; good H & S Practice! Further, on returning from Liverpool and re-checking with the medical source which I used when preparing the Phase I HLM Report (2014); he was surprised that the medical eye expert did not know about sugared water (understood to be the prime ingredient of Diphoterine). Sugared water is far superior to plain water which should only be used when nothing else is available. (A precise flushing methodology to be observed as described by the expert). A saline solution, which the lecturer mentioned, should be avoided in alkali related eye accidents unless the risk of bacterial contamination is evident, although this would be better treated in the hospital to which the victim should be immediately going. Apparently, sugared or saline waters were fairly standard industrial stand-by for immediate eye treatment in the case of accidents, which has been largely replaced by the more sophisticated Diphoterine or similar. Diphoterine is standard CRH issue for PPE.'

Triona Byrne concurred: 'Agree with all that's been said re; H&S talk and David Wiggins excellent talk -he stated so clearly what others seemed to say in a roundabout way over the rest of the weekend. It would be great to have an Irish talk next year to highlight the current practice in work being carried out in Ireland or simply to see some interesting Irish projects. Maybe this has happened in other years, but it would be nice to assert the Irish presence at the conference! I'd also add that having heard an extended version of Nigel Copsey's talk last week, it was disappointing that he had such a short time on Friday to deliver such significant research. I don't think the importance of what he had to say came across, as he seemed to be rushed off stage also! I look forward to his upcoming publication for HES. An excellent weekend, lots of interesting discussion and a great chance to catch up with all.

Pat McAfee summarised: 'Simon was an excellent chairman. 'The use of Local Aggregates', Ben Boscence

Back: Ivor McElveen; Lisa Edden; Tríona Byrne. Front: Richard Mc Loughlin; David Maher; Paul Marlow; Pat McAfee. Missing in action = Colm Murray!

revealed how re-cycled aggregates of every sort within widening 5km concentric circles to where he lives can be used with lime for new builds. He has conducted tests including the use of earth. Roger Curtis of HES outlined in a very specific and logical manner the goals and objectives of HES' leadership role in the HLM Project, with Historic England, The Heritage Council and others, including four new publications scheduled for Spring 2017. He said 'We pay a lot for mortar analysis to reveal hot mixed mortar only to receive a specification recommending a NHL5 mortar mix'. Nigel Copsey in 'What we can learn from old texts on lime mortars' barely revealed the scope and breadth of his research. As others have said, too little time was allocated to him. His 3 traditional methods of mixing and mention of Vicat, much revered in the earlier days of the lime movement decrying fat lime, the same time building a hydraulic lime factory outside Paris was interesting. Nigel has a lot more to offer than this. Possibly he should have spoken on each of the days with his subject matter split accordingly. Alison Henry in 'Hot-Mixed Mortar -current perspectives' gave a brief intro to the lime revival at Wells Cathedral and then the failure/part failure of 1:3 lime putty mixes. The coming of NHL's with an example of a semi collapsed cob house. She outlined the 3 historic mixing methods using hot mixed mortars. Issues requiring further investigation were outlined such as etching of aggregates, continuing expansion, steam creating pores and enhanced durability. An interesting result from a recent test revealed mixes with less lime carbonated quicker because there was less lime to carbonate. Also that mixing methods effect test results. She stated that the 'Magnitude of enhancement is not fully understood' Alison of HE is moving cautiously here but at the same time believes that the hot mixed mortars of the past are a key to future repairs. Cristiano Figueiredo of Bath University outlined the Bath Project on NHL mortars, noting that BS EN 459 inappropriate for the testing of mortars and therefore meaningless. Inigo Mencchatorre of St Astier in 'A better use of lime leads to better use' gave a talk similar to another St Astier one in Dublin earlier this year. Statements like 'mortars with a compressive strength less than 2N/mm2 will fail because of frost damage' does not reflect the multitude of extant lime and earth mortars throughout Europe that are weaker than 2N/mm2. Also the reference to free lime acting as cholesterol and clogging pores leading to failure makes little sense when free lime is seen as an essential and beneficial process in most lime mortars. Maybe this process would not be beneficial in tidal zones etc and this is maybe where some NHL's belong. William Napier re McIntosh's, Hill House, explained problems associated with original cement renders and lack of weathering details. 'Authenticity rather than materiality', referencing their inevitable decision: Bill Revie and Andrew Bradley spoke of Duart Castle off the west coast of Scotland and an annual rainfall of 4.5M with previous earlier repairs carried out by others causing problems. Deep raking, vacuuming of dust, gauged hot mixed mortars and on gable barges the use of lead wool all form part of the new repair regime which is working. A number of years went in to examining, testing, discussing etc before any work was carried out so this job represents the pinnacle of high rainfall, edge of the sea, hard stone projects. Marianne Suhr in 'Insulating Solid Walls' explained how up to 40% more heat is lost in damp walls, so fixing problems associated with this is going to make a big difference. The pros and cons of internal and external insulation were covered including interstitial condensation. Wood fibre board, reeds, hemp, lime and vermiculite were all discussed. Using wood fibre board externally would require adequate detailing to avoid prolonged wetting. Bill Sargent (pargeter, south of England) had us all laughing while modelling his creation of a pregnant mermaid with a lion's head in lime mortar. He never used oak laths rather chestnut or other woods. Everything was 'wet on wet' including all coats of lime and sand. Nylon chicken wire made a good reinforcement. His team mixed hot mortars in November to be used the following March onwards. He needed the stickiness they produce to create his work, some of which was applied by hand in balls like bread dough. Wooden stamps (pear wood) applied to wet mortars at times formed part of the process but otherwise images were created by free modelling of lime mortar. Feebly hydraulic lime was sometimes added to external mixes. Up to 10 coats of lime wash were applied to the

Nigel Copsey Saturday Demonstrations

finished work. Andrew Fawcett demonstrated frescos using a process that locks in pigments through carbonation. Martin Brown created a flower in relief using lime mortar, a good demonstration, lots of explanation. Polyester fibre was used as reinforcement as easy to disperse throughout the mix compared to natural hair. Chalk (2mm down) was a key ingredient, highly porous and used instead of sand. CL90 as a hydrate was his preferred binder and cellulose as a retarder. Philip Gaches, emphasised the importance of 'wet on wet', a probable reason why nothing ever falls off Early English ceilings. Chalk (a common theme), non-hydraulic lime, nylon fibre all come pre-mixed as a stiff putty from Singleton Birch (Fibre Lime). He demonstrated a ribbon type ornament in this material applied to a pre-plastered board first rolling out the ribbon as a long thin sausage, flattening it and applying with expert manipulation to the board. Nigel Copsey demonstrated doing a hot mix excellently while explaining the process, citing his own personal experiences with reference to 19th century writers. Peter Glasman, Specialist Register of Ophthalmology at Chester Hospital had not been briefed on the audience, material in question (lime) and first aid regime already established and found best by industry - unfair to him and to his audience. David Wiggins of Curtins 'Lime mortar and sacrificial weathering' explained in simple terms the interconnected small pore structure of lime mortar resulting in wicking moisture from larger pored sandstone. Importantly he said, cement : lime mortars can have as large an overall pore structure as some lime mortars but the pores are not interconnected and therefore do not behave similarly. Hot mixed mortars best replicate older successful mortars. Limestone aggregates and chalk can increase porosity and carbonation. Throughout the emphasis was, salts are the primary source of decay throughout the UK and transported with the mechanism of moisture from larger pores in stone to the interconnected smaller pores in mortar. Finally he said 'anything above an NHL 2 is not going to work sacrificially'. An excellent talk put across effectively.'

Coventry HLM, BLF and Historic England

On 20th October 2016 at the Chapter House, Coventry Cathedral the BLF and Historic England held a Hot Mixed Lime Seminar & Workshop. This was a one-day course which included talks and practical demonstrations for

Nigel Copsey, UK's hottest demonstrator!

contractors, professionals and their clients. Speakers and demonstrators included Alison Henry, Historic England; Nigel Copsey, stonemason & building conservator; Pat McAfee, stonemason; David Wiggins, structural engineer, Curtins; Alan Gardner, chartered building surveyor; Nick Durnan, stone conservator; Richard Jordan, master roofer; Simon Swann, stone conservator; Bill Revie, building materials scientist; and Craig Frew, Historic Buildings Consultant. It was an opportunity for this diverse team of crafts-people and consultants from across the UK & Ireland, to share their knowledge and experience.

Nick Dunan, Stone Mason, Carver & Conservator hot mixes with pozzolans and hot mix shelter coats.

Stone Cutting & Stone Masonry Apprenticeship

This course is being delivered in Tralee by the Kerry ETB in conjunction with the OPW and SOLAS (formerly FÁS). The duration is a minimum of 4 years, provided all phases are successfully completed. The award is a Level 6 Advanced Certificate Craft—Stonecutting & Stonemasonry. See www.solas.ie or contact 066 7149600 email training@kerryetbtrainingcentre.ie

No.10 Mill Street – A Tale of Façade Restoration & Raddle Coats by John Beattie, Conservation Consultant with Carrig Conservation

No. 10 Mill Street, Dublin 8 is undoubtedly one of the most important surviving houses in the Newmarket area; it has for many years, been the subject of neglect and vandalism. Works are currently underway to refurbish the building including an ambitious programme of brickwork restoration to the principal north façade. Built during the early 18th century as a 'Dutch Billy', the building was remodelled in a gothic fashion in 1891 to designs by George P. Beater. The late 19th-century alterations saw the complete replacement of the cruciform roof and second floor, including its iconic double-curvilinear gables. Further works saw the construction of a single-storey porch, replacing a fine pedimented stone door-case. During the mid-to-late 20th century the building's façades were cocooned in a thick cement-based render. Only the late 19th-century brickwork at second floor remained exposed, though this had not escaped completely unscathed, having been re-pointed in an impervious cement mortar. Investigative works during the early stages of the project indicated that entrapped moisture had led to significant saturation of the masonry, and in some extreme cases had caused the soft Georgian brick to disintegrate. While the removal of the cement render risked damage to the face of the underlying brick, it was clear the condition of the sub-strate was such that its structural integrity had already been significantly compromised. The only viable option was to remove the 20th-century render and carry out extensive structural repair to the facade. Test trials were conducted to establish the most sympathetic method of render removal with operatives tackling small sections at a time to allow for the structural consolidation of the substrate in a phased and controlled fashion. In the meantime, thoughts turned to final presentation of the façade with two options on the table: (1) to re-render the building in a breathable lime-based material or (2) to reinstate a brick façade. While option 1 would technically have addressed both the consolidation of the façade and the issues surrounding breathability, archival photographs documenting the building at the turn of the 20th century indicated that the principal north-facing elevation had been intended to be read as an exposed brick façade. Following the application of in-situ sample render and brick repair panels, there was a strong desire and consensus among the design team - in consultation with the Conservation Officer - to reinstate the principal elevation in brick as a character-defining façade. Nolans MPC heritage contractors were appointed to carry out the considered and labour intensive works, which included a mixed repair approach of 'red rubber' brick replacements and the application of 'plastic' repair mortars. Evidence suggested that the Georgian brickwork had initially carried a wigged pointing treatment, though it was decided, given the significant intervention that had been carried out to the façade during the late 19th century (including patch repairs in a contrasting brick), to apply a unifying 'raddle coat'.

Principal (North) elevation prior to façade restoration.

'Raddle' or 'Ruddle' coats are a red coloured lime wash, which were used historically to unify brick-work within elevations and have, in more recent years, been used by Historic Royal Palaces at Kew Palace, London, and locally by James Kelly at Tailors' Hall, Black Lane, Dublin. The use of a raddle coat at No.10 Mill Street, not only served to unify the brickwork but also offered a further layer of shelter coat protection to the soft Georgian brickwork.

Raddle coat being applied to the façade of Tailors' Hall. James Kelly, Architect & Old Stone, Masonry Specialists (Ref. Nicki Matthews, C.O.)

Only the brick headers to the window opes have been picked out in a wigged pointing. The raddle coat was taken to first floor level, while the 19th-century brickwork at second floor level received new pigmented pointing, based on analysis of the original. This was to ensure that a contrast between the 18th- and 19th- century brickwork and the building's layered construction history remain clearly discernible. At the time of writing, scaffolding has been only partially dropped to the north elevation, revealing a glimpse of how the reinstated façade will look. Works are currently progressing on the raking and re-pointing of the brickwork to the single-storey porch (pigmented red pointing) and it is envisaged that the project will be completed by the end of March 2017.

Partially unveiled façade following application extensive restoration. Note the raddle coat to ground and first floor with pigmented exposed brickwork to second floor.

2016 Walking Tour – Derry City

The 2016 BLFI Walking Tour took place in Derry City on June 25th. It was a fine day to see the city and absorb the surprising outcome of the Brexit vote, held the previous day. Our hosts, the Environment & Regeneration Department, Derry City and Strabane District Council included Karen Phillips (Director of Environment and Regeneration) and Tony Monaghan (Regeneration Manager). We were met in the Guildhall and received a wonderful warm welcome to start the day; we concluded

The Guildhall, Grade A listed building, completed c.1890

our walk there, with a lovely lunch and a chance to net-work with members of the Foyle Civic Trust. The day proved to be friendly, informative, interactive and interesting as we discovered the many wonderful buildings of Derry and the great works the council, and its many partners, have been carrying out over the last few years. Bronagh Lynch and Patricia Crossan gave a tour of the Guildhall (Grade A listed building c.1890) describing in detail the extensive conservation works completed in 2003. Walking within the vicinity of the city walls, Ronan O'Donnell (Walled City Partnership) showed us the many smaller but key regeneration schemes that link a city together; from precinct / shop front / façade improvement and paving schemes, to infill developments with financial incentives e.g. living over the shop etc. Karl Pedersen and Dean William Morton welcomed us to St Columb's Cathedral where we got a detailed description of the various repair works and decision making process. The essence of the day was summed up by Lisa Edden in a thank you letter to our hosts, *'It is hard to imagine what Derry looked like only 40 years ago and reassuring that a city can be so well cared for now and have experienced such significant regeneration despite political and economic hurdles. Thank-you for pointing out bomb blasted bricks (which to anyone from a non-conflict city would have assumed was miss-placed sand blasting!); the problem of building fabric management during annual celebratory bonfires; the love that has made St Columb's warm and welcoming and the attention to detail that has made the Guildhall a bustling user friendly civic building'.*

My Bursary Experience by Triona Byrne SPAB Scholarship 2016 - All About Lime

From March to December 2016, I took part in the Society for the Protection of Ancient Buildings scholarship programme in the UK. This involved travelling all over the UK for nine months, visiting craftspeople, professionals and anyone working with the conservation and repair of historic buildings. A large part of this time was spent learning about all things lime.

Early in the scholarship, I spent a week in the Centre for Alternative Technologies (CAT) in North Wales with Stafford Holmes. The aim of our time at CAT was to carry out some maintenance works to the lime kiln, further our knowledge of lime and its uses, and to fire up the lime kiln to burn and slake lime. Stafford was able to teach us about the different types of lime and their appropriateness in different contexts. The first-hand experience of the process of burning and slaking lime really helped me to understand the fundamentals of lime and its use in traditional buildings. We experienced another lime kiln build and burn in Scotland with Andy Bradley and members of the BLF in Scotland. This time we built a 3-minute kiln with scrap material, although it took a bit longer than that in the end, mainly due to the perfectionism of the practitioners involved!

We also spent time on the Isle of Mull experimenting with different mixing methods - it was eye-opening to see how the workability of the mortar changed so much just by adding the ingredients in a different order.

I attended the BLF conference in Liverpool in September, where it was great to meet some familiar faces from BLFI. The weekend conference was full of excellent talks and it was refreshing to meet so many other anoraks with such a burning interest in lime!

On the hot topic of hot mixed mortars, I spent a day with Nigel Copsey hearing about his recent research into historic mixing methods. It was fascinating to learn about the hundreds of historic texts he unearthed describing hot mixing methods from centuries ago, whilst acknowledging that this vital information was lost/ignored in the past hundred years, only to be resurfacing again now. Nearly everyone we visited during the nine months mentioned hot mixed mortars at some point of our visit, and it was heartening to see that people are finally returning to such a traditional mixing method.

I finished the scholarship with a week in Kato Drys, Cyprus on an EU-funded cultural exchange programme. Seven of us, including us three SPAB scholars, a senior technical officer and an earth building specialist from Historic Environment Scotland, a building surveyor and a green woodworker, joined forces with the ultimate aim of repairing the only remaining arch left in the ruinous Venetian church of Apliki. We began by building a lime kiln from salvaged local materials and over the week, we carried out two separate ten-hour burns with limestone gathered from the surrounding fields. We used the quick-lime produced to make a hot mixed mortar which we then used to stabilise the arch and surrounding masonry. Local residents and builders were invited along to watch us work and hopefully learn something about how to use lime in traditional building repair.

It was great to be able to put what I had learned through-

3-minute kiln in Scotland

Clay-rendered kiln in Cyprus

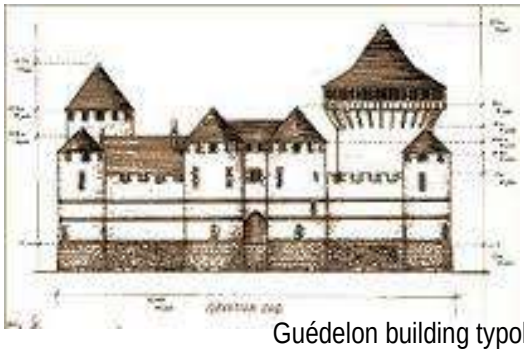
Learning to lime plaster

Lime pointing with fellows & 2014 SPAB Fellow Eoin Madigan

out the duration of the scholarship to good use and to end the nine months with such a successful project. I really enjoyed spending so much time studying lime and getting to grips with one of the most important components of traditional buildings.

Scholars & Fellows at CAT with Stafford Holmes

Finally, many thanks to the BLFI for awarding me a bursary, which was a great help to me with my nine months on the lime trail!



Guédelon building typology

SPAB Ireland

A branch of the Society for the Protection of Ancient Buildings (SPAB) is being established in Ireland this year. The SPAB was founded by William Morris in 1877, as the first building conservation organisation in the UK, in response to the unsympathetic and over zealous restoration of buildings during the Victorian era. It campaigns, advises, runs training programmes and courses, conducts research and publishes information on the conservation and repair of historic buildings. There will be an open meeting on February 8th, 6.30pm in the Maxwell Lecture Theatre, Hamilton Building, Trinity College Dublin, to introduce the SPAB and discuss how it might fit into the existing sphere of heritage organisations in Ireland and aid with efforts to protect our unique built heritage. All welcome, if you wish to attend please RSVP spabireland@gmail.com
(Note venue change from previous notices, no longer being held at IAA Merrion Sq)

Guédelon, France

In October 2017 Tom Pollard returned from Guédelon Castle in the Burgundy region after taking part in what is considered a 21st-century medieval adventure and experimental archaeology in action. 'The people, sights and creativity there are just exceptional. We received a very warm welcome into the project and were trusted to get on with building, stone cutting, mixing, quarrying and overseeing a dry-stone wall build - Guédelon's first dry-stone wall for their small farm. The build is beautiful, the methods are all fantastic and we all feel very privileged for having laid stone into such an important historic recreation. For more information see www.guedelon.fr/en Or contact: Tom Pollard tphandcrafts@ hotmail.com if you are interested in going to work in Guédelon.

EBUKI Update by Feile Butler

23rd January 2017

More and more we are finding that the worlds of lime and earth intersect. Sometimes quite literally, such as adding quicklime to earth mortars to improve buildability and performance or, as in some recent experiments, adding powdered clay to a hot lime render to introduce a hydraulic set. Even where it is not so literal, the comparisons are many. So at Earth Building UK and Ireland (EBUKI), we are delighted to get this chance to let you know what has been going on in the earth world and what is coming down the (muddy) track. Ireland joined forces with Earth Building UK in 2015. We have a shared culture of earth building. Much of our heritage along the northern and western seaboard echoes historic Scottish styles of construction. Inland, and heading east and south, our old earth buildings share much in common with England (and even Brittany). Although, it must be stressed that there are many, many regional variations and local peculiarities. By pooling the knowledge, experience and resources of stakeholders in both countries, we hope to move all of our aims further along – to promote the valuing and conservation of our earth-built heritage and to encourage the use of earth as a sustainable new-build option. Very similar aims to those of BLFI, in fact. There have been two national events in Ireland to date. The first, Earth Building Ireland 2015, took place at I.T. Sligo in November. This day of talks, scientific demonstrations and workshops, was attended by more than 100 people. We were delighted with such an encouraging turn-out for our inaugural event.

Earth Building Ireland 2015, Sligo

Last year, EBUKI linked up with the Heritage Council for Heritage Week, organising Mud Fest 2016. One Saturday in August, seven different earth-based workshops were delivered across seven counties to 180 people. From Cork to Sligo and from Dublin to Tipperary, the public got up close and personal (and mucky) with earth. There were cob building, light straw clay and mud-wall repair workshops. There were earth plastering and clay paint workshops. There were earth mortar and culm (a fuel made from a combination of clay and coal dust) workshops. It was inspiring to see how varied the subject matter was, how willing our workshop leaders were to share, how much knowledge is out there, that it is spread right around the country and that the public have an appetite for it. We are not sure yet what we will be doing in Ireland in 2017, but it will be a key year for our organisation. To carry out our work properly and to be able to access Irish and EU funding, we need to register the charity in Ireland. This is only going to become more important following Brexit. There will be a meeting in Assembly House, Dublin 2, in early February, to set this in motion. We are looking for board members with a broad range of skills and experience, not only in earth-related fields, but also in charity-friendly disciplines such as accounting, fundraising or law. If you think you might be interested in joining us, please contact me at feile@ebuki.co. Our aim is to be in a position to host

Culm, Co.Tipperrary

A Cob-Oven, Killkenny

Cob building, Co. Laoise

Earth Plaster, Co. Leitrim

Cob repair, Laois

Lime render on cob, Cork

Clayfest 2018 in Ireland. This is an annual travelling festival which celebrates all things earth and attracts people from all around the globe. Clayfest was born from feedback that not all of our members necessarily enjoyed the format of conference, that a more hands-on way to share and compare skills and ideas was needed. An extended event would also allow participants to spend lots of downtime together; not only during lunch breaks or in the pub, but also at the campsite and across a range of activities. Clayfest has been hugely successful in facilitating the establishment of connections and friendships among earth practitioners from around the world. We are looking towards the southeast as our venue for Clayfest 2018. So if you have links to that area, we would love to hear from you. We want to talk to stakeholders in education, from primary school all the way up to third level, stakeholders in heritage, practitioners, earthen home-owners, artists who might be interested in working with earth in its many forms, local community leaders, local authorities, etc. We will be making contact shortly ourselves, but if you know anyone we should talk to, or *are* someone we should talk to, let us know! If you think you could help us in our aims to register the charity in Ireland or have connections in the southeast with an eye towards Clayfest 2018, then it might be an idea to come along to our meeting in February. Please contact me to follow up on either of these call outs. This year, EBUKI Clayfest 2017 is being hosted in Lincoln from 12th to 17th June. All are welcome and I really encourage you to come along. So far, the following leaders and workshops are confirmed:
Cob / Mudwall with Colin Ritchie and Féile Butler (Mud and Wood); Earth Lime Mortars with Nigel Copsey (Earth Stone and Lime Company); Earth Plaster with Peter Coch and Nyja Maya (Organica); Earth and Fibre with Becky Little (RebEarth) and Tom Morton (Arc Architects); Light Earth with William Stanwix (The Hempcrete Book); Rammed Earth with Rowland Keable (Rammed Earth Consulting); Earth Ovens with Maria Brown (ESTEPA). The workshops will run from Monday to Thursday. At each Clayfest, we also try to focus on a topic that is particularly relevant to the area and dedicate a full-day symposium to it. In Scotland, we focussed on turf construction. In Lincoln, we will be focussing on the local vernacular – mud and stud. The symposium will be held on Thursday, 15th June. The EBUKI annual conference has been running since 2009. This year's theme is "Building Bridges". This could relate to bridging the gap between disciplines and trades, it could be about exploring the marriage of other materials with earth. Really, the theme is wide open, we are still welcoming submissions if you would like to make a 15 minute presentation, contact me. The conference will be held on Friday, 16th June. We end the week of workshops, symposium and conference with dinner, music and dancing. The following day, there will be self-guided tours to a range of historic and contemporary earth buildings. It really is an inspiring event, a real highlight and great for recharging the batteries for another year. So please mark it in your calendars and come along to Lincoln this June. The EBUKI website is currently under reconstruction, but we hope to have the Clayfest Page up and running in the very near future. Keep an eye on www.ebuki.co for more details or please contact me directly. The earth world is alive and kicking. In my own practice, Mud and Wood/Roots Architecture, we have some great conservation and new-build projects ongoing. We are delighted that a 150m² cob family home in Sligo was granted planning permission last week. We have just completed stage one of the restoration of an earth-mortared stone cottage, also in Sligo. The renovation & extension of an earth-mortared cottage and out-building, earth-plastered, will be starting in Leitrim next month. If you are working on any earth-related projects we would love to hear from you. Our doors (and inbox) are always open!

Earth-mortared stone cottage, Sligo

Clayfest 2015, Scotland

GLAS Traditional Farm Buildings Grant Scheme 2016**—Tipperary. 1830's shed** renovation using earth and lime mortars. By Tom Pollard

As a smallholder with 23 acres I supplement my farm income by working as a stonemason and as a stone-mason I supplement my income by running a small sheep farm. The farm has been in our family for many a generation and the first walls of the original and now abandoned cottage are made from earth and date back as far as the 1680's. I remember visiting my great uncle and aunt many a time there and remember the open fire and all its implements and ironwork under a very well maintained thatch, unfortunately the cottage became uninhabited by 1982 and fell into terrible disrepair after the roof collapsed in the mid 1990's. Another of many gone forever. A small addition to the West gable of the cottage still standing was the "Sheep Shed" built around 1830 going by land maps studied. It is a small cobble floored stone shed with faded whitewash and a damaged gable to the prevailing wind side, the damage being a missing third of the gable which provided light, wind and moisture to the sheep in lamb and when not used for lambing to store the timber for winter. The roof had remained and is testament to the solid workmanship and quality of materials, most probably thatched originally it always had a corrugated roof in my memory which seems to have been fitted in the 1960's. the corrugated sheet is still in very good order albeit aged looking and discoloured. With a successful application and generous funding of 75% of the renovations costs through the Dept of Agriculture GLAS Traditional Farm Building Scheme and The Heritage Council we started works in July 2016. This stone shed was mortared with an earth mortar and luckily having both yellow and grey earth as sub-soils on our holding we were going to have the advantage of matching the existing mortars and all from the immediate area. With our conservation advisor Julia Gebel we set about analysing the mortar before a full raking out and clean of the masonry. I had worked with earth mortars previously and enjoyed them; all vary and all react differently in relation to the ratios of aggregates and additions after mixing and in conjunction with the weather conditions at the time of their application. We took samples and let them settle in jars of water along with sieving to identify aggregates and sand, discovering we needed to use two types of mortar. The most interesting being the mortar for the re-point of the west gable which was the original wall of the cottage the shed extends from. This mortar utilised Marl or Grey clay as it

The 'Sheep Shed 'before the works commenced

is commonly referred to. Along with this earth which is very dense and hard compared to yellow earth were quite an aggressive aggregate ranging from 15mm to 5mm and the inclusion of crushed culm in small amounts.

Existing Mortar Analysis

Culm is a by-product of the now abandoned coal mining industry locally and was the fine remains of coal after washing and grading. In the main it was mixed with yellow earth, 7 parts earth to 1 culm, hydrated and shaped into balls , dried and burnt in the home fire or in limekilns. It provided great heat and burned slowly and consistently, we estimate at about 0.2 parts. In original tests we found heavier inclusions which was surprising however after a thorough and evenly studied range of samples we were happy with it being 0.125. Was it a pozzolan? An aggregate? Did it get mixed in by accident or does it work well in conjunction with Marl/grey earth? The jury is out and further experiments will follow but according to Michael Conry an author on the uses of culm it was used in the mortar in the building of Carlow Cathedral which was built in 1833. The mix we used finally was 5 parts grey earth, 5 parts well graded sand 5-7mm, 1 part quicklime kibble and 0.2 culm. The second earth mix we were to replicate was with the yellow earth which is softer and sandier, our mix was 6 parts yellow earth, 4 parts well graded sand 5-7mm, 1 part quicklime kibble. These mixes were chosen after Julia Gebel and I

Gable with missing top-section

had made many sample blocks of mortar with variations in terms of aggregate and lime. Raking out had revealed some very large voids in the core of the wall and as the stone was small on average this resulted in a lot of joints to fill per square metre. A lot of earth was required so two pits were opened in two areas with a JCB so plenty of yellow and grey clay were available . All earth was crushed by hand using a large block of oak tenoned onto a stout hazel stick and then sieved to create a powdery clay which was mixed with the sand on an 8x4 board and heaped for mixing and adding lime when required. Earth mortars are by nature extremely sticky so mixing required wellington boots and stamina. Two of us, once the earth and sand was placed on the board (20 small buckets) would create a hollow in the middle, add the lime kibble (2 small buckets) and add the water as required then clamp the sand and earth around the lime quickly, keep patting it down with the back of the shovel to seal cracks caused by the expansion of the lime on hydration. After three to four minutes the clamp is opened and mixed as quickly as possible to get the powdered lime into the earth and sand as evenly as possible. Then the job of

Mortar block samples

mixing by foot would take place while the other person added small amounts of water at a time and shovelling the mix into the path of the perspiring wellington boot wearer. Once satisfied with the consistency of the mix,

Hand-crushing and sieving earth to powdery clay

pointing and core filling could commence. A drier mix is preferable to a wet and free mix as less slumping and cracking would have to be dealt with. Dampening down was a very important part of the work and old earth mortars are very thirsty even after old joints have been blown out with a compressor. We would soak all prepared areas first thing before mixing and use a knapsack sprayer while pointing to make sure proper contact was made with the stone and remaining mortar. To fill the voids, pieces of timber of varying sizes were used to compact the new mortar and to make sure stone used in filling the voids was fully bedded. Internally we used earth mortar right up the face of the joints and we would constantly spray down finished surfaces to address any cracking that might occur and employed a "less is best" approach when spraying. Any cracks that would appear were sprayed and compacted with a pointing bar. Using a well mixed and dry enough mortar helped a lot in minimising cracks and the overall finish inside was very successful. The grey earth mortar with culm inclusions was a revelation as it had such a solid set. As requested by Heritage we left a number of openings and small voids in two of the walls to allow for any possible nesting of bats in future. Outside. re-pointing utilised the yellow earth mixes and some huge voids and a bulge in the east gable were repaired. It was incredible how this gable remained standing, but for the fact that air was moving freely through the structure via cracks and voids the remaining mortar was holding well where it had not been washed out or removed by nesting jackdaws, rats and mice over the nearly two hundred years it had stood. In order to protect the exterior masonry and its

clay mortar from excessive moisture ingress a lime mortar of 3:1 sand to quicklime was used. Once cured, a lime wash was applied. The lime wash was made 6:1

Preparing dry-mix on boards

water to lime putty. This old building has an overall floor area of 19.8 m^2, small by any modern farm building standards, it had been built with field stone and local slig which is a hard and angular stone with few natural beds for the builder to utilise. Earth mortar being so sturdy and tacky made this stone's use that bit easier and this mortar has kept the building from collapse without a doubt. As a final note I would like to commend The Heritage Council and Anna Meenan who granted aid and oversaw this project in conjunction with the Dept of Agriculture GLAS Traditional Farm Buildings Grant Scheme. As small as this building is it has an integral future as part of the years farming activities, it created worthy employment for three masons and two carpenters, educated all practitioners in the use of traditional materials and practices and has left a building for many to visit and be informed and inspired by. It was a pleasure to renovate even with the aching muscles from mixing and applying the tackiest mortar yet handled by all involved.

Mixing mortar on boards

Rear view on completion of re-pointing

Lime wash on completion, 6:1 water to lime putty

The GLAS Traditional Farm Buildings Grant scheme is run by the Heritage Council in partnership with the Department of Agriculture, Food and the Marine and only farmers approved in the GLAS scheme are eligible to apply. A grant award will not be for more than 75% of the cost of the works with grant amounts varying from €4,000 to a maximum of €25,000. The grant is available for the conservation of traditional farm outbuildings, including roof, walls, structural repairs, windows and doors. The grant is also available for other related structures including historic yard surfaces, walls, gate pillars and gates. The process is highly competitive and it is expected that 50-70 projects will be supported in 2017. The emphasis is on essential repairs with restoration works having a low priority. For further information and the application form: www.heritagecouncil.ie/architecture/our-initiatives/traditional-farm-buildings-scheme/
or contact: Anna Meenan, Project Manager, Farm Buildings Grant Scheme, The Heritage Council, Áras na hOidhreachta, Church Lane, Kilkenny

A Member Query

These 'nests' are about 13" x 15" in a wall of an outbuilding in Kerry, just outside Tralee. Anecdotally the building was called 'the cow house' but has been derelict in recent memory. They are beautifully constructed and it has been suggested that they are bird roosts. If any member has come across similar structures please let us know. info@blfi.ie

Works to begin on Dublin Civic Trust conservation project

Dublin Civic Trust will shortly begin works on its flagship conservation project at 18 Ormond Quay Upper. The four-storey over basement building, positioned in the heart of the city overlooking the river Liffey, will undergo a comprehensive programme of structural stabilisation and consolidation of its exterior fabric during 2017 following grant of planning permission in late 2016. Comprising two interlinked buildings, the front portion constructed in 1842-43 and the rear dating to the 1760s, the initial phase of works will focus on the river-fronting building, returning residential use to its upper floors and public access to the ground floor. The project will include a diverse array of lime and masonry works such as cementitious render removal, brick repair and replacement, wigged jointing, Roman cement works, and stripping, cleaning and repair of granite ashlar to the rare arcaded Georgian shopfront. A network of structural steels, tie fixings and new masonry walling will be used to brace the side elevation and shopfront to prevent further structural movement and to resolve 20th-century interventions that weakened the building's cellular integrity. The works will be made accessible to building professionals and the public through a series of on-site demonstrations and seminars to be announced shortly, while progress on the development can be followed through the Trust's dynamic new website at www.dublincivictrust.ie to be launched in February 2017.

BLFI Bursaries 2014-2018

The application must have an educational nature, practical or theoretical, and must relate to the use of lime. For example it could be used to attend a specialist course, either short-term or long-term, be theoretical and/or practical. It could also be used to undertake a specialist internship or a practical experience master class, and so very flexible in remit. The result should lead to better qualification and/or experience and a better understanding in the use of lime in construction. It should be relevant to the applicant's work or future direction.

Bursary

Up to €2,000 will be available per annum for a period of 5 years from 2014. €10,000 will be set aside as a special fund so the bursary will be guaranteed for this period. It is important to demonstrate to the Charities Office that the BLFI have a commitment to relevant specialist education in the broad sense, not just on a year-to-year basis. There will be two bursaries of €1,000 each although the Selection Committee reserves the right in a special case to award one bursary of €2,000. The process will be reviewed by the BLFI Committee after a 3-year period. If applications are not compliant with the terms of the bursary, it may not be awarded in a particular year. In such cases any monies will go back into the fund for future bursaries.

Who can apply?

All members of the BLFI with at least 2 years' membership. In the 5-year period a bursary cannot be awarded more than once to the same person.

What does it cover?

The bursary must be used to cover course fees / internship costs, travel & accommodation.

Timescale for application

Application by 1st April of the relevant year. A decision by the Selection Committee will be made by the 30th April. The Selection Committee will be made up of the full BLFI Committee and 2 externs.

Application Submission

Successful applicants must submit a report, presentation, organise a demonstration or as otherwise agreed upon completion of the proposal for which the bursary is awarded.

Application Form

There is no application form as such. Please make a written application detailing the proposal with a one page CV including contact details. Canvassing the Selection Committee with disqualify any application.info@blfi.net

Newsletter
Building Limes Forum Ireland

Comments and articles in this newsletter do not necessarily reflect the views of the board or editor.

2017 Calendar of Events

February 7th	Lime Slam Helen Roe Theatre, RSAI, 63. Merrion Sq., Dublin
February 14th	Historic Environment Scotland Hot Mixed Mortars Edinburgh University
March 8th	Lime Mortar Workshop Mortar Mixes for our Built Heritage, OPW Depot Kilkenny
May	BLFI AGM with Guest Speaker (To Be Confirmed)
June 3rd / 10th /17th	Walking Tour Location to be confirmed—suggestions welcome!
June 12th—17th	Earth Building UK & Ireland Clayfest 2017 Lincoln, England
August 19th - 27th	National Heritage Week (Natural Heritage Theme)
September 7th - 10th	BLF Annual Conference & Gathering, Trondheim (Nidaros Cathedral), Norway
September 15th - 17th	Feile na gCloch Inis Oírr (Date to be confirmed)
October	Plasterwork Seminar & Advice Publication Launch (Details pending)
October	Lime Mortar Workshop Mortar Mixes for our Built Heritage, OPW Depot Athenry

Further Education Updates

Decorative Painting Skills course: Cork Training Centre (21 weeks) providing students with skills & competence to pursue a career in Decorative Painting. Modules include History & Influence, Tools, Materials & Preparation, Glazes, Colour, Distressing Techniques & Trompe L'oeil. Contact 021 4856200 or admissions@corktrainingcentre.ie

Waterford I.T. BSc in Conservation Skills: Run in conjunction with Waterford City Council this unique 1 year, Level 7 course acts as an accelerated programme for up-skilling qualified construction trades people / operatives in building conservation. For more information contact .051 845640 or prenderville@wit.ie or see www.wit.ie

What is Building Limes Forum Ireland?

The Building Limes Forum encourages expertise and understanding in the use of building limes. It aims to achieve this goal by:

- exchanging, collating and disseminating information, through publication of a regular journal and by holding meetings and conferences;
- encouraging practical research and development through field studies, trials, monitoring and analysis;
- encouraging development of appropriate industrial and craft skills and techniques;
- educating building professionals, builders, conservators, craftsmen and women, and property owners in the appropriate use of lime in building through demonstrations, publications and courses;
- developing contacts with institutions and individuals outside the forum and in other countries that have relevant experience or knowledge.

Communicating With Your Forum

If you would like to respond to any of the topics on this or future newsletters or if you would like to get involved please contact us by post or by email on info@blfi.net

Buildings Limes Forum

The Building Limes Forum was established in the UK in 1992. The Irish regional branch was established in 1999, and formally constituted as the Building Limes Forum Ireland in 2005. It is affiliated with the BLF UK. It is a voluntary organisation with no commercial ties, the majority of members being actively concerned with the repair of historic buildings and some in new build. The Forum acts as an information network, and publishes newsletters and an annual journal of the BLF.

Membership

The BLFI is currently looking for new members. 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 that is prepared to share information and to discuss matters of general interest to members;
- a means of supporting the stated aims.

An application form for membership of the BLFI can be downloaded on www.buildinglimesforumireland.com